HOOKS STREET EXTENSION
DESIGN PROJECT FROM HANCOCK ROAD TO HARTLE ROAD

Project № 19142, v1.1
November 2021

DESIGN TRAFFIC TECHNICAL MEMORANDUM
LAKE COUNTY
FLORIDA

Prepared by:

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EXECUTIVE SUMMARY

Project Information

Name:	Hooks Street Extension Design Project
Location:	Hancock Road to Hartle Road
Jurisdiction:	Lake County, Florida
Roadway Design:	Extend Hooks Street from Hancock Road to Hartle Road as a 2-lane divided roadway with a 35 MPH posted speed limit.

Findings

Roadway Segment:	Hancock Road from Hooks Street to Hartwood Marsh Road is projected to have insufficient capacity in interim year 2035 and in design year 2045 as a 2-lane roadway. The remaining study roadways including Hooks Street Extension will have adequate capacity in the 2025, 2035 and 2045 conditions.
Intersections:	All Study intersections are projected to operate at LOS E or better in the 2025, 2035, and 2045 conditions. Hooks Street Extension and Emil Jahna Road intersection is project to operate adequately with either a roundabout control or signal control in all study years. Hooks Street Extension and Hartle Road is projected to operate adequately as a stop-controlled intersection in 2025 opening year. The intersection will require a signal control in 2035 interim year.

Recommendations

Hancock Road & Hooks Street Extension:	The existing turn lane lengths on Hancock Road should remain the same in 2025 opening year with the additional westbound right turn lane. In 2035 interim year, the eastbound approach will require a dual left turn lane.
Hooks Street Extension & Emil Jahna Road:	A roundabout is recommended for Hooks Street Extension and Emil Jahna Road intersection, which fits better with the proposed corridor characteristics.
Hooks Street Extension & Hartle Road:	The intersection will require exclusive turn lane on eastbound and northbound approaches in 2025 opening year through 2045 design year. Southbound right turn lane should be provided prior to 2035 interim year.

PROFESSIONAL ENGINEERING CERTIFICATION

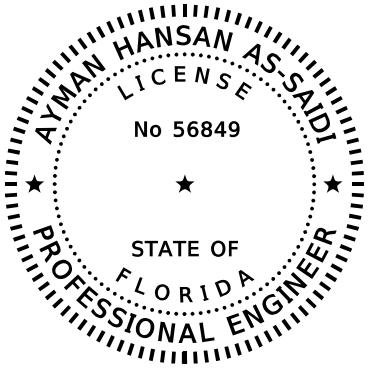
I hereby certify that I am a Professional Engineer properly registered in the State of Florida practicing with Traffic & Mobility Consultants LLC, a corporation authorized to operate as an engineering business, CA-30024, by the State of Florida Department of Professional Regulation, Board of Professional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

PROJECT: Hooks Street Extension

LOCATION: Lake County, Florida

CLIENT: METRO Consulting Group, LLC

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



THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY

AYMAN H AS-SAIDI
2021.11.16 13:30:05 -05'00'

ON THE DATE ADJACENT TO THE SEAL

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

TRAFFIC & MOBILITY CONSULTANTS LLC
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CERTIFICATE OF AUTHORIZATION CA-30024
AYMAN H. AS-SAIDI, P.E. NO 56849

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1.0 INTRODUCTION

This Design Traffic Technical Memorandum (DTTM) documents the traffic projections and operations along the Hooks Street Extension, as part of the Hooks Street design project. Currently, Hooks Street is a four-lane divided segment from Lakeshore Road to Hancock Road and is planned to be extended to Hartle Road. **Figure 1** illustrates the project location. Furthermore, this DTTM will provide the directional design-hour volumes (DDHV) required in the future condition analysis.

This DTTM presents the forecasted opening (2025), interim (2035) and design year (2045) AM and PM peak hour and daily traffic volumes prepared for the Hooks Street Extension and for the facilities within the influence area as directed by Lake County. **Figure 2** illustrates the project study limits, which include the following roadway segments and intersections:

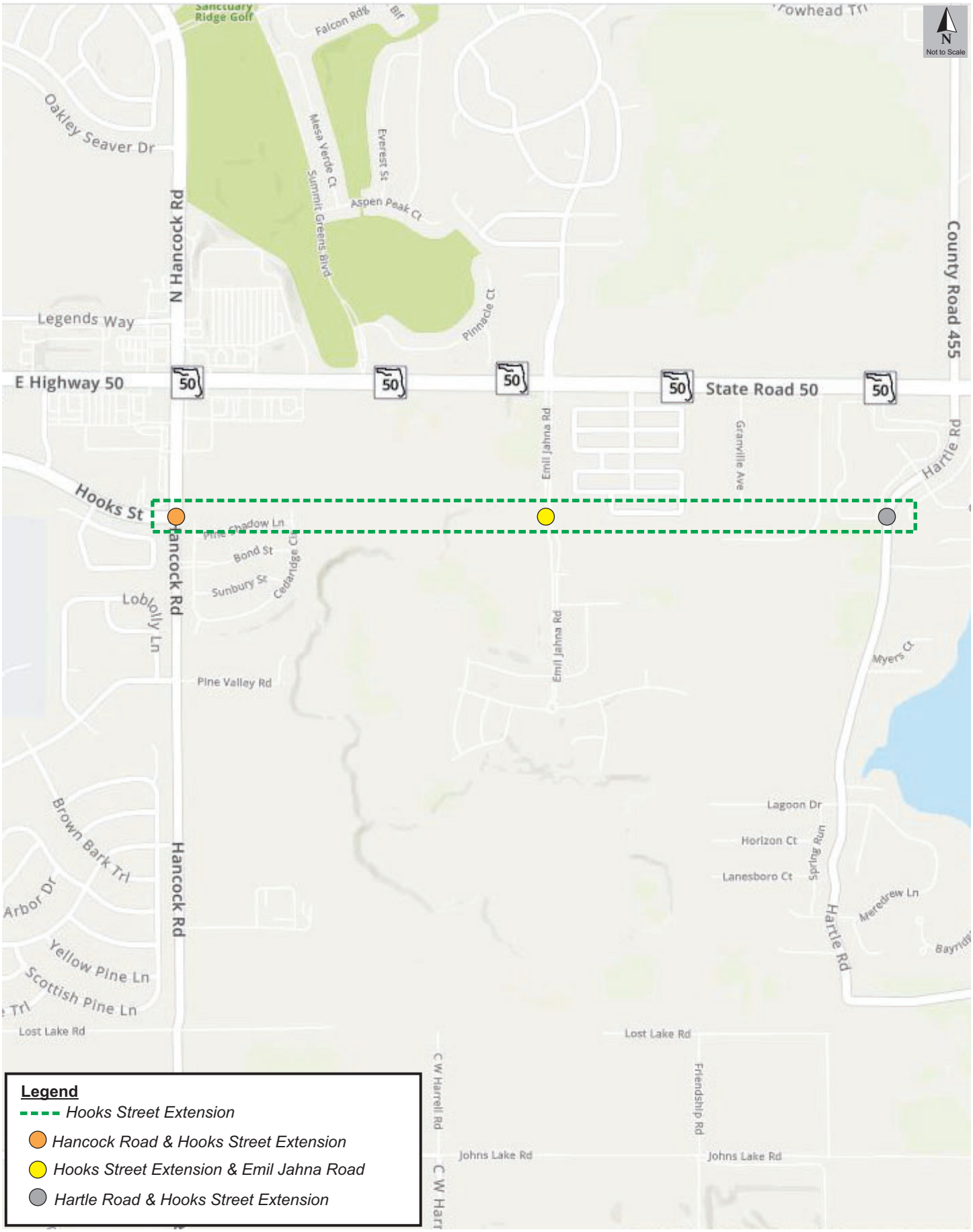
Study Roadway Segments:

- Hooks Street
  - Citrus Tower Boulevard to Hancock Road
- Hooks Street Extension
  - Hancock Road to Hartle Road
- Hancock Road
  - SR 50 to Hooks Street
  - Hooks Street to Johns Lake Road
  - Johns Lake Road to Hartwood Marsh Road
- Hartle Road
  - SR 50 to Hooks Street Extension
- Emil Jahna Road
  - SR 50 to Hooks Street Extension
- SR 50
  - Citrus Tower Boulevard to Hancock Road
  - Hancock Road to Hartle Road
- Granville Ave
  - SR 50 to Hooks Street Extension

Study Intersections:

- Hancock Road and Hooks Street
- Hooks Street Extension and Emil Jahna Road
- Hooks Street Extension and Hartle Road

This DTTM documents the future operating conditions of the major intersections along the corridor. This report includes the development of the design traffic characteristics including peak hour Factor (K), Directional Distribution Factor (D), and percentage of trucks for both the design hour and daily demand (DHT, T). This DTTM summarizes the traffic data collection, traffic forecast methodology, and presents the results of the future condition analyses.



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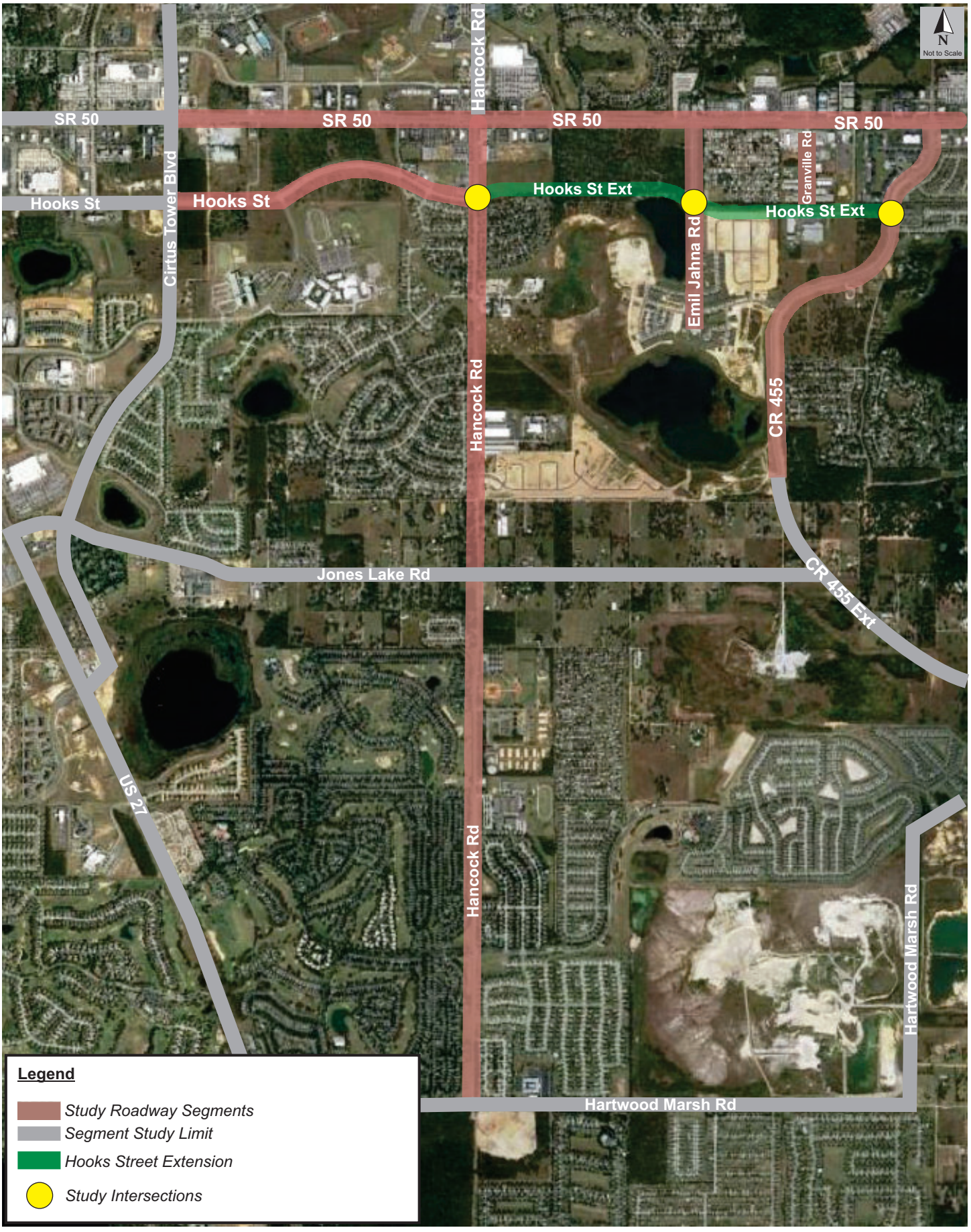
Project Location Map

Hooks Street DTTM
19142, v1.1

Figure 1



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Project Study Limits
Hooks Street DTTM
19142, v1.1

Figure
2

2.0 DATA COLLECTION

The existing peak hour traffic volume and historical Annual Average Daily Traffic (AADT) for the study roadways were obtained from Lake County and FDOT Traffic Information (FTI). Additionally, Turning Movements Counts (TMCs), 72-hours and 24-hours traffic volume were based on the field counts. Data collection source, location and type of counts are explained in detail below.

The historical AADT for the roadway segments managed by Lake County were gathered from the *2019 Lake County Annual Traffic Counts*, as follows:

- Map Station No.165 – Hancock Road, south of SR 50
- Map Station No. 180 – Hancock Road, north of Hartwood Marsh Road
- Map Station No.185 – Hooks Street, west of Hancock Road
- Map Station No. 301 – Hartle Road, south of SR 50

The historical AADT on SR 50 were gathered from the FDOT FTI, as follows:

- Count Station No.390 – SR 50, west of Hancock
- Count Station No.301 – SR 50, east of Hancock

Supplementary traffic counts collected in the field including the existing TMCs and Hourly traffic volume:

- Four hour AM (7:00-9:00 AM) and PM (4:00-6:00 PM) TMCs at the Hancock Road and Hooks Street Intersection were collected on August 26, 2020

- Hourly bidirectional classification traffic volume was gathered at the following locations from August 25 to August 27, 2020:

    - Hooks Street, west of Hancock Road
    - Granville Avenue, south of SR 50
    - Emil Jahna, south of SR 50

Lake County and FDOT Historical AADT and TMCs data are included in **Appendix A**.

2.1 Seasonal Correction Factor

The field traffic data were seasonally adjusted by applying a 1.04 seasonal factor obtained from FTI. The seasonal factor considers the variation in traffic throughout the year. Seasonal factor data are included in **Appendix B**.

2.2 Data Adjustment for COVID-19

Due to COVID-19 pandemic, current traffic volumes are not representative of normal conditions; therefore, the AM and PM peak hour traffic count data were adjusted using 1.22 and 1.20 adjustment factors, respectively. The adjustment factors were based on a comparison of the field data collected on Hancock Road and Hooks Street intersection, before and during the COVID-19 pandemic as presented in **Table 1**. 2019 and 2020 traffic counts used for the comparison are included in **Appendix C**

Table 1
Data Adjustment Factor

Scenario	2020	2019	Reduction	Adjustment
AM	1,595	1,947	22%	1.22
PM	2,055	2,459	20%	1.20

Notes:
1.Traffic during the COVID-19 pandemic, colledted by TMC on 08/26/2020
2.Traffic before the COVID-19 pandemic, colledted by TMC on 09/26/2019

The adjustment due to COVID-19 was made for both the AADT, AM and PM peak hour traffic volume.

3.0 BASE YEAR CONDITIONS

3.1 Existing Roadway Features

Under the 2020 base year conditions, Hooks Street, from Citrus Tower Boulevard to Hancock Road, is a four-lane divided roadway with a posted speed limit of 40 mph. **Figure 3** provides the base year 2020 AADTs for the Hooks Street Extension study area. The intersection of Hancock Road and Hooks Street is currently a signal controlled intersection with exclusive turn lanes in all approaches.

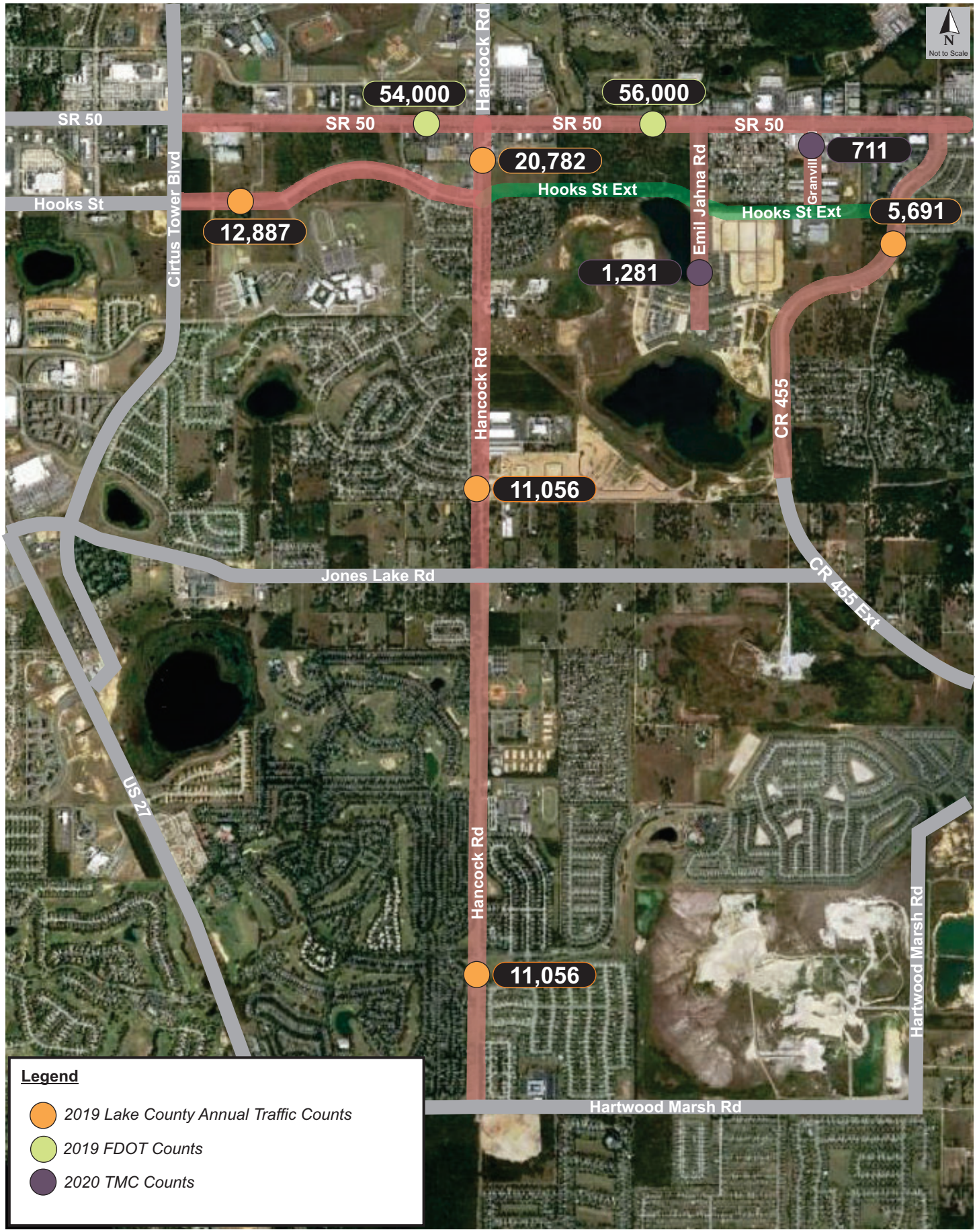
3.2 Roadway Capacity Analysis

Roadway capacity analysis was conducted by comparing the existing roadway's PM peak traffic volume with their respective capacities. Roadway capacity was obtained from *Lake County TMS Segment Report* and *FDOT QLOS Tables*, included in **Appendix D**. The existing AADT and peak hour traffic volume on the roadway segments were obtained from various sources as explained in previous section. The results of the analysis summarized in **Table 2**, indicates that all roadway segments are currently operating within their capacity with Level of Service (LOS) C.

Table 2
Roadway Capacity Analysis

Roadway Segment	Map Sta #	Area Type	# of Lns	LOS Std	Daily			PM Peak Hour			
					Cap	Vol	LOS	Cap	Vol	Dir	LOS
Hooks St[1]											
Citrus Tower Blvd to Hancock Rd	185	U	4	D	35,500	12,887	C	1,800	1,106	WB	C
Hancock Rd[2]											
SR 50 to Hooks St	165	U	4	D	35,500	20,782	C	1,800	1,666	WB	C
Hooks St to Johns Lake Rd	180	U	2	D	16,200	11,056	C	792	499	WB	C
Johns Lake Rd to Hartwood Marsh Rd	180	U	2	D	16,200	11,056	C	792	499	WB	C
Hartle Rd/CR 455[3]											
SR 50 to End of Hooks St Ext	301	U	4	D	35,500	5,691	C	1,638	254	WB	C
Emil Jahna Rd[4]											
SR 50 to End of Hooks St Ext	--	U	4	D	16,200	1,281	C	1,467	122	SB	C
SR 50[5]											
Cirtus Tower Blvd to Hancock Rd	390	U	6	D	59,900	54,000	C	3,020	2,481	WB	C
Hancock Rd to Hartle Rd/CR 455	301	U	6	D	59,900	56,000	C	3,020	2,064	WB	C
Granville Ave[6]											
SR 50 to Hooks St Ext	--	U	2	D	14,400	711	C	800	146	NB	C

Sources
1.2020 TMC counts and Lake County TMS Segment Report
2.2019 Lake Annual Traffic County Counts and Lake County TMS Segment Report
3.2019 Lake Annual Traffic County Counts and 2020 FDOT QLOS Tables
5.2019 FDOT counts and 2020 FDOT QLOS Tables
6.2020 TMC counts and 2020 FDOT QLOS Tables



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Base Year 2020 AADT

Hooks Street DTTM
19142, v1.1

Figure 3

3.3 Intersection Capacity Analysis

Capacity analysis on Hancock Road and Hooks Street intersection was performed using Synchro 10 software package, which incorporates the *Highway Capacity Manual (HCM), 6th* edition methodologies. The existing intersection geometry and signal timing data were incorporated in the analysis, the peak hour factor (PHF) of 0.94 and 0.95 based on the field data was used for the AM and PM peak hour analysis, respectively. Raw intersection counts were adjusted by 1.04 seasonal factor and 1.22 and 1.20 COVID-19 adjustments for AM and PM peak hours, respectively, calculation sheet is included in **Appendix E**. The existing and adjusted (seasonally and COVID-19) intersection volumes are shown in **Figure 4**.

Table 3 summarizes the findings, Hancock Road and Hooks Street intersection is currently operating at an adequate LOS. The *Synchro 10* output sheets and signal timing data are provided in **Appendix F**.

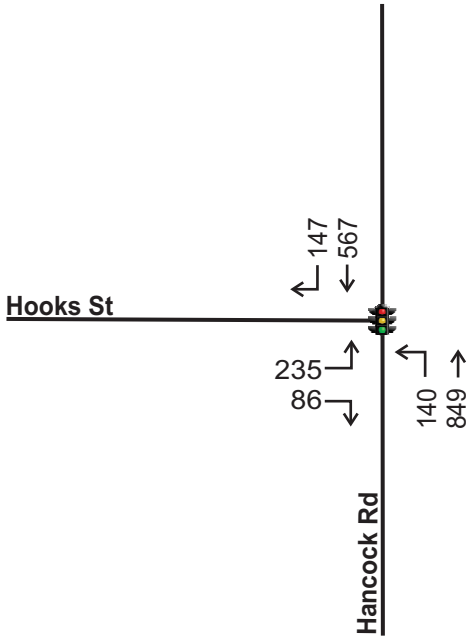
Table 3
Existing Intersection Analysis Summary

Intersection	Traffic Control	Scenario	EB		WB		NB		SB		Overall	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Hooks St & Hancock Rd	Signal	AM	38.5	D	--	--	19.6	B	23.5	C	24.0	C
		PM	42.6	D	--	--	17.6	B	66.3	E	44.6	D

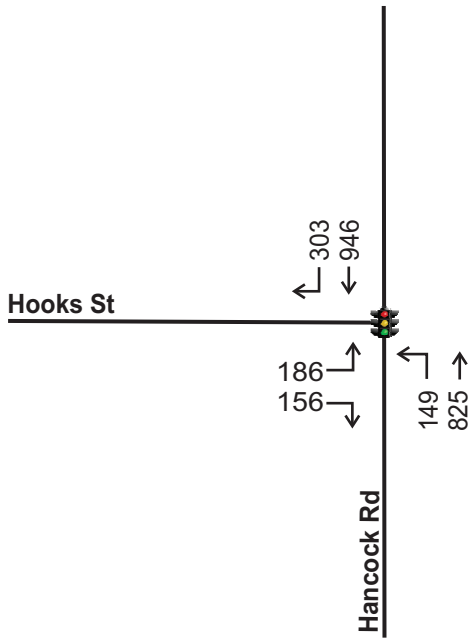
Average delay is in seconds for Signalized Intersection. Delay for the minor approach of the Usignallized Intersection reflect left turn movement

AM Peak

N
Not to Scale



PM Peak



Base Year 2020 Intersection Volumes
Hooks Street DTTM
19142, v1.1

Figure
4

4.0 FUTURE TRAFFIC ANALYSIS

The development of traffic projections for the study corridor required the examination of historical growth, proposed development levels as reflected in the socio-economic data developed for future travel forecasting purposes, and a basic understanding of local traffic circulation patterns and travel characteristics. In arriving at the volume forecasts for the Hooks Street Extension study, various growth rates were examined. As such, the following sources were used to derive reasonable future traffic forecasts for the study corridor:

a) Travel Demand Models: The model used for the traffic forecasting process was the *Central Florida Regional Planning Model* (CFRPM V6.1) recently updated by Central Florida Expressway Authority (CFX), which includes the US 27 to SR 429 Connector and land use updates within the southwestern Lake County area, known as Wellness Way Area Plan.

b) Historical Traffic Trends Analysis: Percent-Root-Mean-Square analysis was conducted for the study roadways using traffic data from *2019 Florida Transportation Online* (FTO), and *2019 Lake County Annual Traffic Counts*.

c) Population Projections: The population estimates obtained from the most current Bureau of Economic and Business Research (BEBR), *Florida Population Studies, Volume 52 Bulletin 183*, dated April 2019, was used.

4.1 Travel Demand Model

The Central Florida Expressway Authority (CFX) is currently conducting the design of the East-West Connector from SR 429 to US 27, south of Wellness Way. During the PD&E stage of this project, CFX has modified CFRPM V6.1 to incorporate all roadway projects and several developments planned in that area. This model was validated by a CFX consultant for the year 2017 and was provided in January 2019. For the purpose of this DTTM, the CFX modified CFRPM model was used to develop traffic projections for the Hooks Street Extension study corridor.

4.2 Programmed and Planned Improvements

The 2025, 2035 and 2045 model networks were reviewed to ensure they included programmed and planned capacity improvements within the study corridor.

The following programmed and planned improvements, shown in **Table 4**, are based on the review of the latest Lake- Sumter Metropolitan Planning Organization (MPO) adopted *2040 Long Range Transportation Plan* (LRTP) and *Transportation Improvement Program* (TIP) and the 2020-*2024 Lake County Transportation Construction Program* (TCP) within the vicinity of the study area. An excerpt of the *Lake County TCP* is included in **Appendix G**.

Table 4
Programmed and Planned Improvements

Road Name	From	To	Improvement	Completion Year
CR 455	Hartwood Marsh Rd	Lost Lake Rd	New 2 lane Rd	2023
	Lost Lake Rd	Hartle Rd	Final 2 Lanes	2023

Source: Lake County Transportation Construction Program

4.3 Historical Trends Analysis

Based on the historical count information obtained from the FDOT 2019 FTO, and the 2019 Lake County Annual Traffic Counts, linear regression trends were performed for the roadway segments within the study area using historical AADT volumes. Simple annual growth rates were calculated using Percent-Root-Mean-Square regression for each location. **Table 5** summarizes the trends analysis results for these roadways segments. Note that only locations with R-Square values greater than 70% were utilized for this study. The trends analysis sheets are provided in **Appendix H**.

Table 5
Historical Traffic Trends Summary

Roadway	Segment	Source	Trends Analysis	
			R^2 Value	Annual Growth Rate
Hooks Street	Citrus Tower Blvd to Hancock Rd	Lake County	39.96%	8.60%
Hancock Rd	SR 50 to John Lake Rd	Lake County	98.77%	3.59%
Hancock Rd	John Lake Rd to Hartwood Marsh Rd	Lake County	88.58%	5.84%
SR 50	Cirtus Tower Blvd to Hancock Rd	FDOT	99.00%	4.03%
SR 50	Hancock Rd to Hartle Rd/CR 455	FDOT	67.00%	3.92%
			Average	**4.49%**

Source: 2019 FDOT FTO website & 2019 Lake County Traffic Counts
Average Annual Growth Rate calculation was based on R square > 70%

4.4 Population Estimates

Low, medium, and high population projections for Lake County were obtained from the most current population projections from BEBR *Volume 52, Bulletin 183*, dated April 2019. **Table 6** shows the growth rates derived from the population estimates for the year 2045. As illustrated in the table, the low, medium, and high population estimates for Lake County obtained from BEBR reported an annual growth rate of 0.74%, 1.53%, and 2.20% per year. The BEBR projections are provided in **Appendix I**.

Table 6
Population Growth Rates

Projection Type	2018 Estimate	2045 Projectio	Annual Growth
Lake County BEBR Low Projection	342,917	418,900	0.74%
Lake County BEBR Medium Projectio	342,917	517,200	1.53%
Lake County BEBR High Projection	342,917	617,700	2.20%
		Average	**1.49%**

BEBR 2020-2045 Population Projections Volume 52 Bulletin 183, April 2019

4.5 Model Growth Rates

Simple annual growth rates were calculated using the CF2025 and CF2045 model networks' AADT volumes on the roadway segments within the project corridor. **Table 7** summarizes the segment model growth rates. The model printouts are provided in **Appendix J.**

Table 7
Model Growth Rates

Roadway	Segment	Model AADT		Model Growth Rate
		2025	2045	
Hooks Street	Citrus Tower Blvd to Hancock Rd	9,115	13,816	2.58%
Hancock Rd	SR 50 to John Lake Rd	17,571	21,542	1.13%
Hancock Rd	John Lake Rd to Hartwood Marsh Rd	15,009	18,307	1.10%
Hartle Rd/CR 455	SR 50 to Hartle Rd South End	14,483	29,629	5.23%
Emil Jahna Rd	SR 50 to Waterbrooke Development	3,782	4,786	1.33%
SR 50	Cirtus Tower Blvd to Hancock Rd	40,031	49,414	1.17%
SR 50	Hancock Rd to Hartle Rd/CR 455	46,829	58,633	1.26%
			Average	**1.97%**

Source: CFRPM V6.1 - CFX Model

4.6 Final Growth Rates

Table 8 summarizes the Final growth rates which is the average of historical growth, model growth and population growth.

Table 8
Final Growth Rates

Growth Rates	Annual Growth
Historical TRENDS	4.49%
BEBR Population Projections	1.49%
CFX-CFRPM Model	1.97%
Average	**2.65%**

4.7 Future Traffic Forecast

This DTTM analysis will rely primarily on the traffic volume projections obtained from the model runs. The CFRPM model better reflects the development trends and future capacity increases, due to the major roadway improvements proposed along competing parallel corridors. The model is an evaluation tool that represents land use and transportation interaction to assess the capability of the region's highway and transit networks to support anticipated growth.

The CFRPM model has a 2017 base validated model, a 2025 opening year, a 2035 interim year and a 2045 design year model. The year 2018 model network is based on the CFRPM 2017 base year network.

4.8 Sub-Area Model Validation

CFX provided the CFX-CFRPM model which was already validated with a Base Year 2017. Per Lake County, this validated model was used in the Hooks Street Extension DTTM analysis. Therefore, this DTTM does not include any validation procedures.

4.9 Development of Design Characteristics

The design traffic characteristics established in this section will be used in developing design hour volumes (DHV's) for the intersections and directional design hour volumes (DDHV's) for the roadway segments for the future conditions. These characteristics are determined based on the procedures outlined in the FDOT's *Project Traffic Forecasting Handbook*, dated January 2014. The K and D factors obtained from the traffic counts collected on Hooks Street is shown in **Table 9**.

Table 9
K, D, T and DHT Factors

Roadway	Segment	Source	K	D	T	DHT
Hooks Street	Citrus Tower Blvd to Hancock Rd	TMC	8.58%	57.79%	3.29%	1.65%

Source: 2020 Traffic & Mobility Consultants Traffic Counts

4.10 K Factor

The percentage of daily traffic occurring during the peak hour was determined based on a review and analysis of existing and historical traffic counts information as well as the minimum FDOT standards. The K factor is defined as the proportion of AADT occurring in the peak design hour. FDOT has developed a standard that replaces the K30 factors with Standard K factors. This has occurred primarily due to roadways located within urbanized areas that cannot be cost-effectively designed based on the 30th highest hour demand volumes. In addition, potential issues that impact the use of the K factors is the comparison and/or relationship between the overall demand traffic versus the actual measured traffic.

Table 10 shows the historical K factors for the last 5 years obtained from FDOT 2019 FTO.

Table 10
FDOT FTO Historical K Factors

Year	Hancock Rd	Hartle Rd	Hooks St	SR 50
2015	9.00%	9.00%	9.00%	9.00%
2016	9.00%	9.00%	9.00%	9.00%
2017	9.00%	9.00%	9.00%	9.00%
2018	9.00%	9.00%	9.00%	9.00%
2019	9.00%	9.00%	9.00%	9.00%
Average	**9.00%**	**9.00%**	**9.00%**	**9.00%**
			Overall Average	**9.00%**

Source: 2019 FDOT FTO

Table 11 shows the historical K factors for the last 5 years from Lake County Traffic Counts.

Table 11
Lake County Historical K Factors

Year	Hancock Rd	Hancock Rd	Hartle Rd/CR 455	Hooks Street
2015	8.14%	9.57%	8.11%	8.67%
2016	8.49%	9.05%	8.58%	9.13%
2017	8.04%	8.36%	9.70%	9.37%
2018	8.27%	8.70%	8.23%	8.44%
2019	8.02%	8.23%	7.85%	8.20%
Average	**8.19%**	**8.58%**	**8.59%**	**8.76%**
			Overall Average	**8.53%**

Table 12 shows the recommended range of K factors from the FDOT Traffic Forecasting Handbook.

Table 12
Recommended Range of K Values

Area	Facility Type	Standard K Factors	Representative Time Period
Urban	Freeways	10.5	100th highest hour of the year
	Arterial & Highways	9.0	Typical weekday peak hour

Source: FDOT Traffic Forecasting Handbook 2014

The average measured K from the 2020 traffic counts on Hooks Street is 8.53 % and the average of the historical K factors is 8.53% and 9.00% based on Lake County and FDOT 2019 FTO, respectively. As the Hooks Street Extension is not built and the surrounding parcels are not developed yet, the projected traffic should be calculated using the K factor close to the K factor recommended by FDOT for urban areas. Accordingly, a K factor of 9.0% was used for the Hooks Street Extension corridor analysis.

4.11 D Factor

The directional distribution factor, D, is based on the median value of the directional factors for the highest 200 hours of volumes for each continuous count station. In determining this factor for Hooks Street Extension, statewide guidelines (*Figure 2.9* from the *2014 PTF Handbook*) for D factor were compared to D factors obtained from the field collected traffic counts and historical information contained in the FTO.

The historical D factors obtained from FDOT 2019 FTO for the roadways on the surrounding area of the study corridor are shown in **Table 13.**

Table 13
FDOT FTO Historical D Factors

Year	Hancock Rd	Hartle Rd	Hooks St	SR 50
2015	54.60%	54.60%	54.90%	54.60%
2016	53.90%	53.90%	53.90%	53.90%
2017	54.20%	54.20%	54.20%	54.20%
2018	54.20%	54.20%	54.20%	54.20%
2019	54.30%	54.30%	54.30%	54.30%
Average	**54.24%**	**54.24%**	**54.30%**	**54.24%**
			Overall Average	**54.26%**

Source: 2019 FDOT FTO

The average of the FDOT FTO historical D factors for the surrounding roadways of the Hooks Street Extension corridor is 54.26%.

The historical D factors obtained from *Lake County Traffic Counts* for the roadways on the surrounding area of the study corridor are shown in **Table 14.**

Table 14
Lake County Historical D Factors

Year	Hancock Rd	Hancock Rd	Hartle Rd/CR 455	Hooks Street
2015	58.45%	51.04%	53.87%	57.76%
2016	59.40%	52.73%	53.95%	57.70%
2017	55.79%	50.11%	52.43%	55.05%
2018	54.97%	52.16%	52.07%	62.89%
2019	57.74%	53.20%	59.48%	60.96%
Average	**57.27%**	**52.05%**	**54.48%**	**58.87%**
			Overall Average	**55.67%**

Source: Lake County Annual Traffic Counts

Table 15 provides the recommended range of D values from the *FDOT Project Traffic Forecasting Handbook* (2014).

Table 15
Recommended Range of D Values

Road Type	Low	D	High	Standard Deviation
Rural Arterial	51.1	58.1	79.6	6.29
Urban Arterial	50.8	57.9	67.1	4.60

FDOT Traffic Forecasting Handbook 2014

The average measured D from the 2020 traffic counts is 57.79%, and the average of the Lake County historical D factors is 55.51%. The average of the historical D factors is 56% and is recommended for the Hooks Street Extension corridor analysis.

4.12 T & DHT Factors

The daily truck factor, T represents the composition percentage of medium sized and heavy trucks occurring in the traffic stream for a 24-hour period. The design hour truck, DHT is the percentage of truck traffic during the peak hour and is recommended as one-half of the T factor in the *2014 FDOT Project Traffic Forecasting Handbook*.

Table 16 contains the historical T factors from the 2019 FDOT FTO for the five years between 2015 and 2019.

Table 16
Historical T Factors

Year	Hancock Rd	Hartle Rd	Hooks St	SR 50
2015	12.60%	4.90%	12.60%	5.50%
2016	12.60%	4.90%	12.60%	7.40%
2017	10.70%	5.60%	10.70%	7.40%
2018	13.00%	5.60%	13.00%	6.40%
2019	9.90%	5.60%	9.90%	12.70%
Average	**11.76%**	**5.32%**	**11.76%**	**7.88%**
			Overall Average	**9.18%**

Source: 2019 FDOT FTO

The average of the historical T factors for the surrounding roadways of the Hooks Street Extension corridor is 9.18%. Therefore, the average of the historical DHT factor (one-half of average T Factor) is 2.5%.

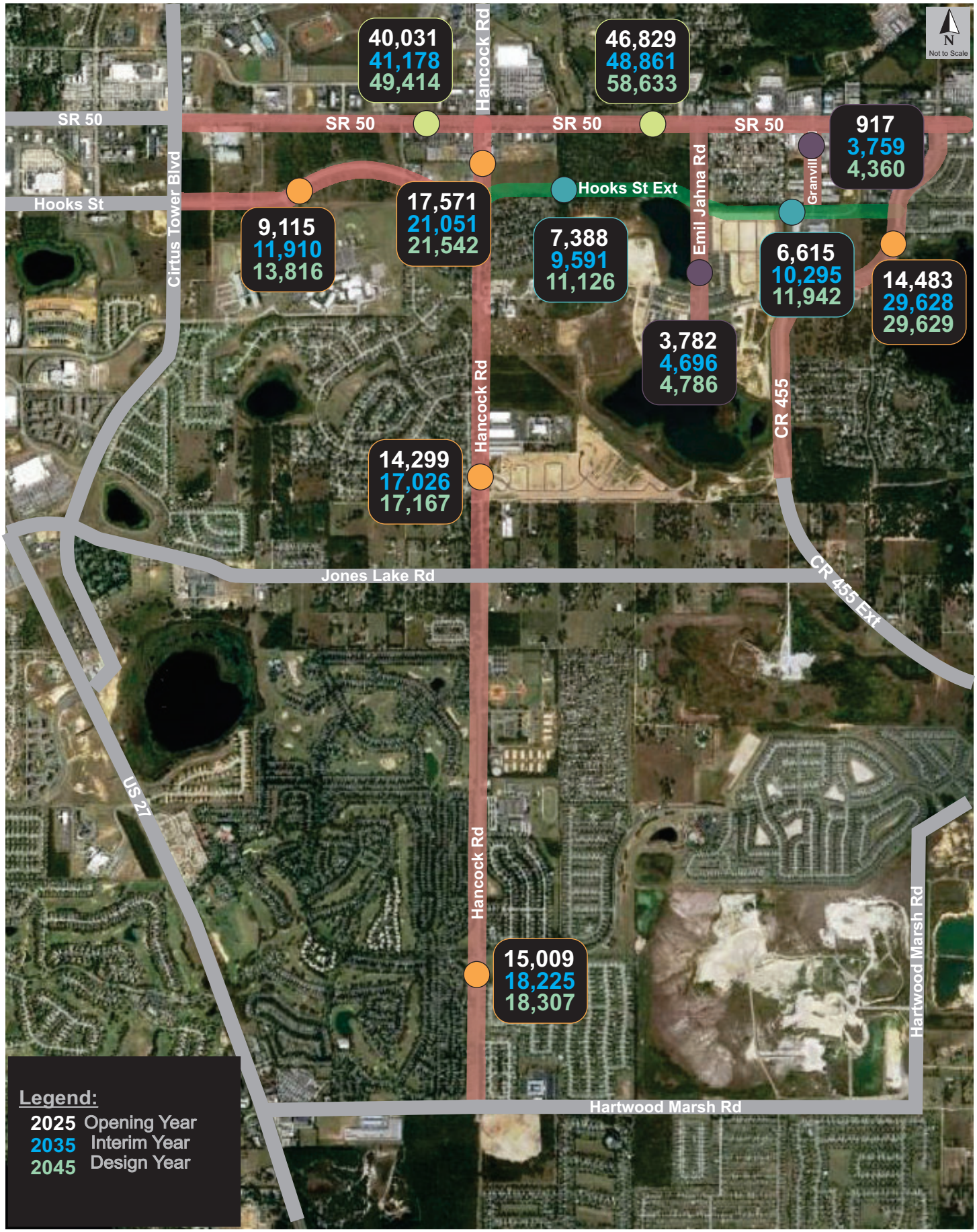
The average measured T and DHT from the 2020 traffic counts are 3.29% and 1.65%, respectively. The truck factors from the 72-hour counts are more realistic to be used in the future years' analysis; therefore, a T factor of 4% and DHT factor of 2% is recommended for the Hooks Street Extension intersection analysis.

4.13 Future Daily Traffic Projections

Based on the traffic forecast analysis performed, the AADTs obtained from the CFRPM Model CF2025, CF 2035 and CF2045 validated networks are the recommended volumes for the Design Traffic analysis on Hooks Street Extension. These model volumes (Peak Season Weekly Average Daily Traffic - PSWADT) were converted to AADT using the Model Output Conversion Factor of 0.94 for Lake County obtained from 2019 FTO. The future year AADTs are shown in **Figure 5** for the opening year 2025, interim 2035 and design year 2045.

The following adjustments were made to the future years model networks:

- Hooks Street Extension was realigned based on existing and projected configuration from Hancock Road to Hartle Road. It was also coded into the model network as a 2-lane road.
- Hartwood Marsh Road was coded as a four-lane road from US 27 to CR 455.
- Hancock Road Extension was added as a 2-lane road, from Hartwood Marsh Road to Schofield Road based on Lake County Public Works Department.
- Wellness Way was added as a four-lane road from US 27 to the Orange County Line.
- US 27 was coded as a 6-lane facility from US 192 in Osceola County to SR 50 in Lake County.



Projected AADT
Hooks Street DTTM
19142, v1.1

Figure 5

4.14 Projected Developments Within Hooks Street Extension Study Area

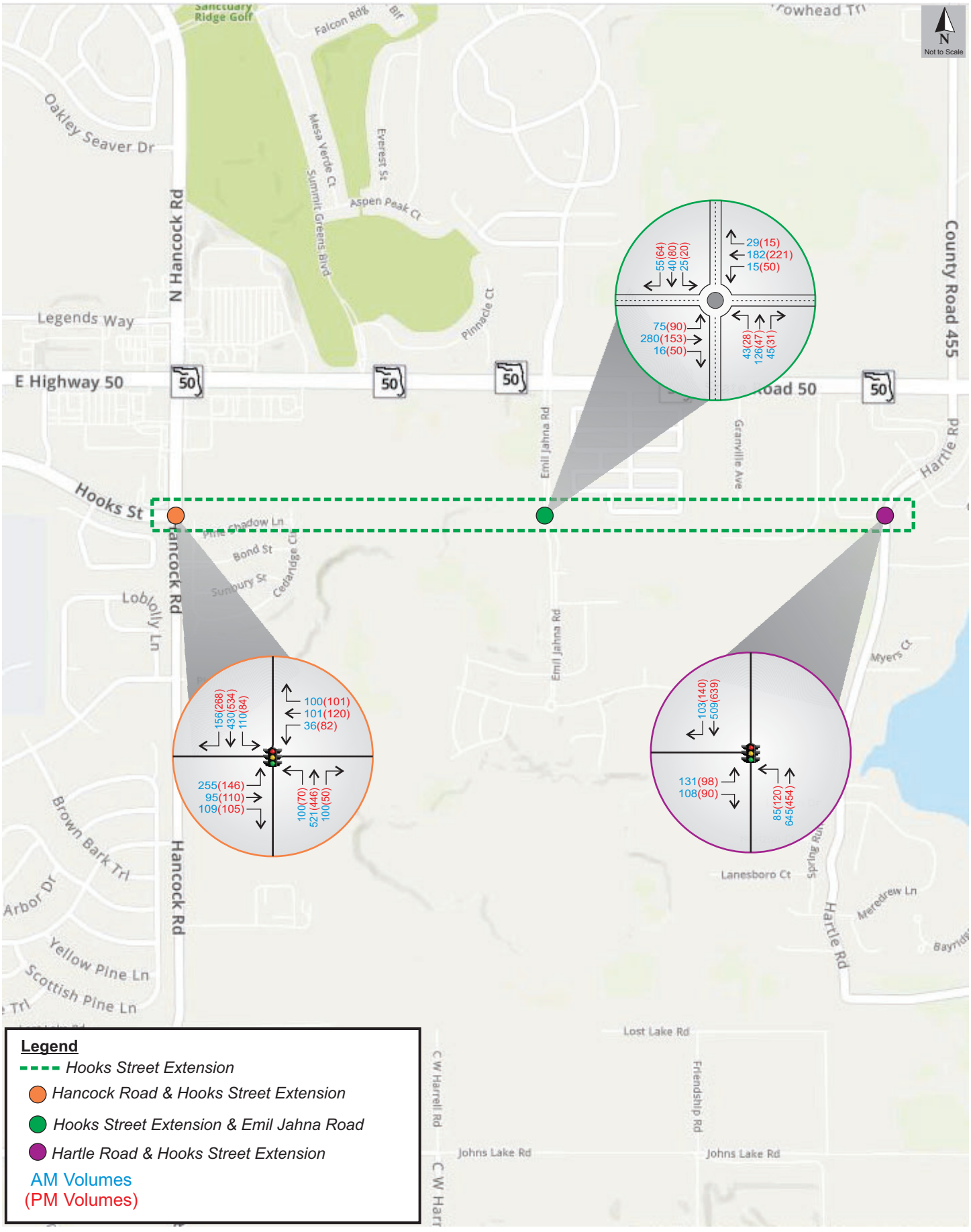
Lake County requested an evaluation of future land uses within the study area that will impact Hooks Street Extension design traffic. The planned future development along Hooks street extension corridor were included in this DTTM analysis. The 2025, 2035 and 2045 CFX-CFRPM model socioeconomic data (ZDATA) files were updated to include the planned projects. The future model networks were developed using the CFX model future years cost-feasible networks including this socioeconomic data update. The development programs summary spreadsheet is included in **Appendix K**.

4.15 Future Intersection Directional Design Hour Volumes

The future opening year 2025, interim 2035 and design year 2045 AADT along with the recommended design traffic characteristics were used to develop the proposed directional design hour volumes (DDHV's) for both the AM and PM peak design hours at the study intersections.

The future year DDHV's for the intersections were developed by balancing inflow and outflow AADTs and calculating DDHVs based on the recommended K and D factors of the intersecting roadways. Intersection DDHVs were balanced and adjusted to obtain reasonable inflows and outflows between upstream and downstream intersections. Engineering judgment was also applied to ensure reasonable growth was achieved for all turning movements between the opening year 2025, interim 2035 and design year 2045 projections.

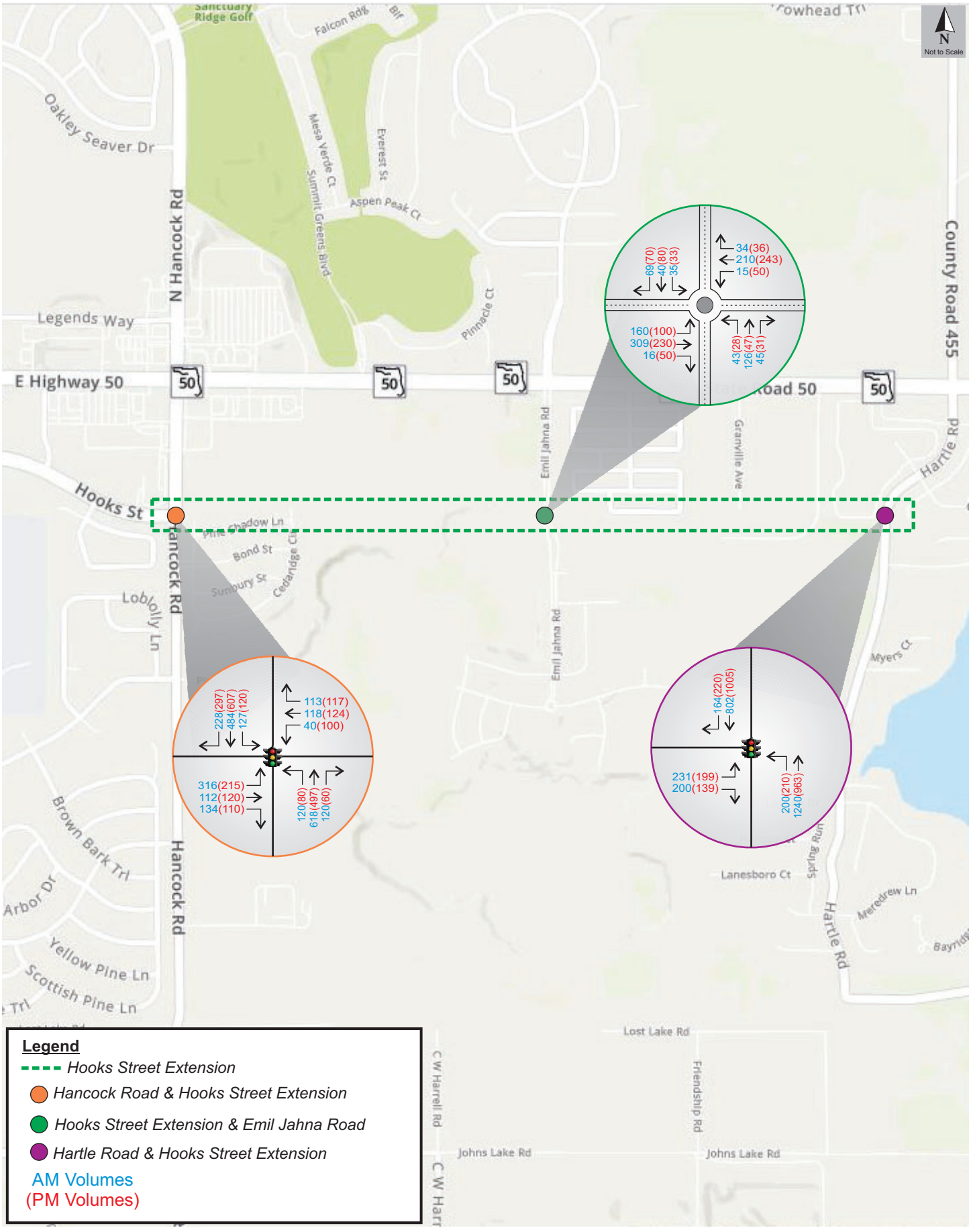
The future year AM and PM design hour volumes for the Hooks Street Extension study intersections are shown in **Figure 6**, **Figure 7** and **Figure 8** for the opening year 2025, interim (2035) and design year 2045, respectively.



2025 AM and PM Intersection Volumes

Hooks Street DTTM
19142, v1.1

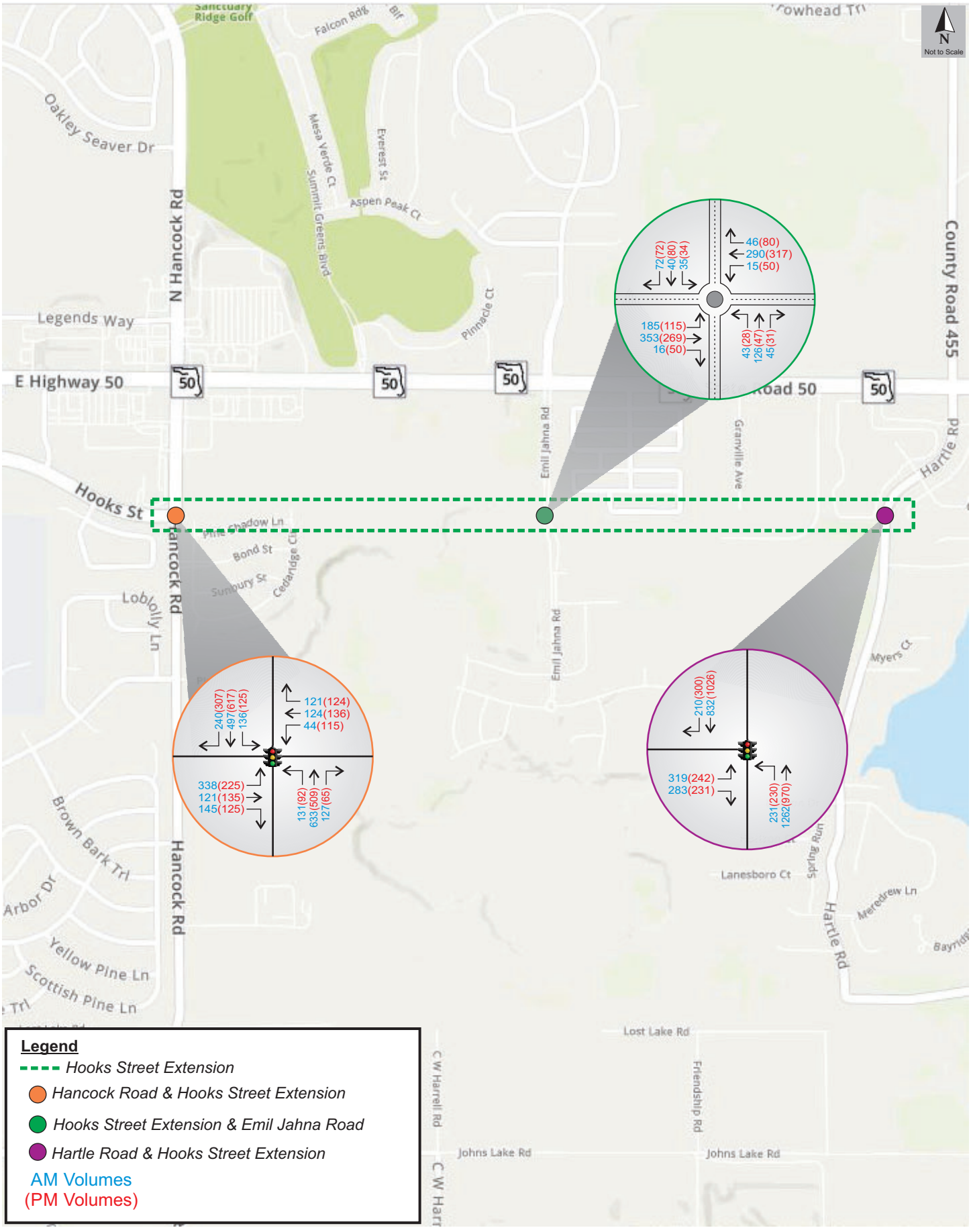
Figure 6



2035 AM and PM Intersection Volumes

Hooks Street DTTM
19142, v1.1

Figure 7



TMC Traffic & Mobility Consultants

2045 AM and PM Intersection Volumes

Hooks Street DTTM
19142, v1.1

Figure 8

5.0 FUTURE CONDITIONS

This section presents the results of the traffic operational analysis for the Hooks Street Extension. Hooks Street Extension corridor was evaluated based on future geometric configuration, from Hancock Road to Hartle Road. The analysis includes all future intersections and their proposed configuration.

Future roadway capacity analyses based on the PM peak design hour was performed for the opening year 2025, interim 2035, and design year 2045. For the analysis purpose, the Hooks Street extension corridor was categorized in two segments listed below:

- Hancock Road to Emil Jahna Road
- Emil Jahna Road to Hartle Road

The intersections capacity analyses were based on the AM and PM peak design hours for the opening year 2025, interim 2035, and design year 2045. Hooks Street extension and Emil Jahna Road intersection was analyzed with a roundabout control and with a signal control. Likewise, the intersection of Hooks Street extension and Hartle Road was analyzed under two scenarios, as a Two Way Stop Control (TWSC) and as a signal control intersection. Below is the list of future intersections on Hooks Street extension:

- Hancock Road & Hooks Street extension
- Hooks Street Extension & Emil Jahna Road (Roundabout)
- Hooks Street Extension & Emil Jahna Road (Signal Control)
- Hooks Street Extension & Hartle Road (TWSC)
- Hooks Street Extension & Hartle Road (Signal Control)

5.1 Roadway Segment Analysis

Roadway segment LOS analysis was performed on the proposed Hooks Street Extension corridor for the peak design hour utilizing the *Level of Service Lake County Transportation Management System (LCTMS) Segment Report* and *FDOT QLOS*. Peak directional design hour volumes were compared against the LCTMS or FDOT QLOS service volumes to determine roadway segments LOS in the opening year 2025, interim year 2035, and design year 2045. The results of the analysis are summarized in **Table 17**, **Table 18** and **Table 19** for the opening, interim, and design years, respectively.

Table 17
Hooks Street Extension 2025 Roadway Segments

Roadway Segment	Area Type	# of Lns	LOS Std	AADT	LOS Cap	K Factor	D Factor	Volume	
								Pk Dr	LOS
Hooks St									
Citrus Tower Blvd to Hancock Rd	U	4	D	9,115	1,800	9%	56%	460	C
Hooks St Extension									
Hancock Rd to Emil Jahna Rd	U	2	D	7,388	792	9%	56%	370	C
Emil Jahna Rd to Hartle Rd	U	2	D	6,615	792	9%	56%	330	C
Hancock Rd									
SR 50 to Hooks St	U	4	D	17,571	1,800	9%	56%	890	C
Hooks St to John Lake Rd	U	2	D	14,299	792	9%	56%	720	C
John Lake Rd to Hartwood Marsh Rd	U	2	D	15,009	792	9%	56%	760	D
Hartle Rd/CR 455									
SR 50 to End of Hartle Rd	U	4	D	14,483	1,800	9%	56%	730	C
Emil Jahna Rd									
SR 50 to End of Emil Jahna Rd	U	4	D	3,782	1,467	9%	56%	190	C
SR 50									
Cirtus Tower Blvd to Hancock Rd	U	6	D	40,031	3,020	9%	56%	2,020	C
Hancock Rd to Hartle Rd/CR 455	U	6	D	46,829	3,020	9%	56%	2,360	C
Granville Ave									
SR 50 to South of Granville Ave	U	2	D	917	675	9%	56%	50	C

Directional capacity is based on the Lake County TMS Segment Report and the 2020 FDOT QLOS Tables

Based on the results shown in **Table 17**, all roadways for the opening year 2025 are projected to operate at acceptable LOS D or better.

For the interim year 2035, as shown in **Table 18**, Hancock Road from Hooks Street to Hartwood Marsh Road will have insufficient capacity. The remaining roadways are projected to operate at LOS D or better.

Table 18
Hooks Street Extension 2035 Roadway Segments

Roadway Segment	Area Type	# of Lns	LOS Std	AADT	LOS Cap	K Factor	D Factor	Volume Pk Dr	Volume LOS
Hooks St									
Citrus Tower Blvd to Hancock Rd	U	4	D	11,910	1,800	9%	56%	600	C
Hooks St Extension									
Hancock Rd to Emil Jahna Rd	U	2	D	9,591	792	9%	56%	480	C
Emil Jahna Rd to Hartle Rd	U	2	D	10,295	792	9%	56%	520	C
Hancock Rd									
SR 50 to Hooks St	U	4	D	21,051	1,800	9%	56%	1,060	C
Hooks St to John Lake Rd	U	2	D	17,026	792	9%	56%	860	**F**
John Lake Rd to Hartwood Marsh Rd	U	2	D	18,225	792	9%	56%	920	**F**
Hartle Rd/CR 455									
SR 50 to End of Hartle Rd	U	4	D	29,628	1,800	9%	56%	1,490	C
Emil Jahna Rd									
SR 50 to End of Emil Jahna Rd	U	4	D	4,696	1,800	9%	56%	240	C
SR 50									
Cirtus Tower Blvd to Hancock Rd	U	6	D	41,178	3,020	9%	56%	2,080	C
Hancock Rd to Hartle Rd/CR 455	U	6	D	48,861	3,020	9%	56%	2,460	C
Granville Ave									
SR 50 to South of Granville Ave	U	2	D	3,759	675	9%	56%	190	C

Directional capacity is based on the Lake County TMS Segment Report and the 2020 FDOT QLOS Tables

For the design year 2045, as shown in **Table 19**, Hancock Road, from Hooks Street to Hartwood Marsh Road will continue to have insufficient capacity in 2045 design year. The remaining roadways are expected to operate at LOS D or better.

Table 19
Hooks Street Extension 2045 Roadway Segments

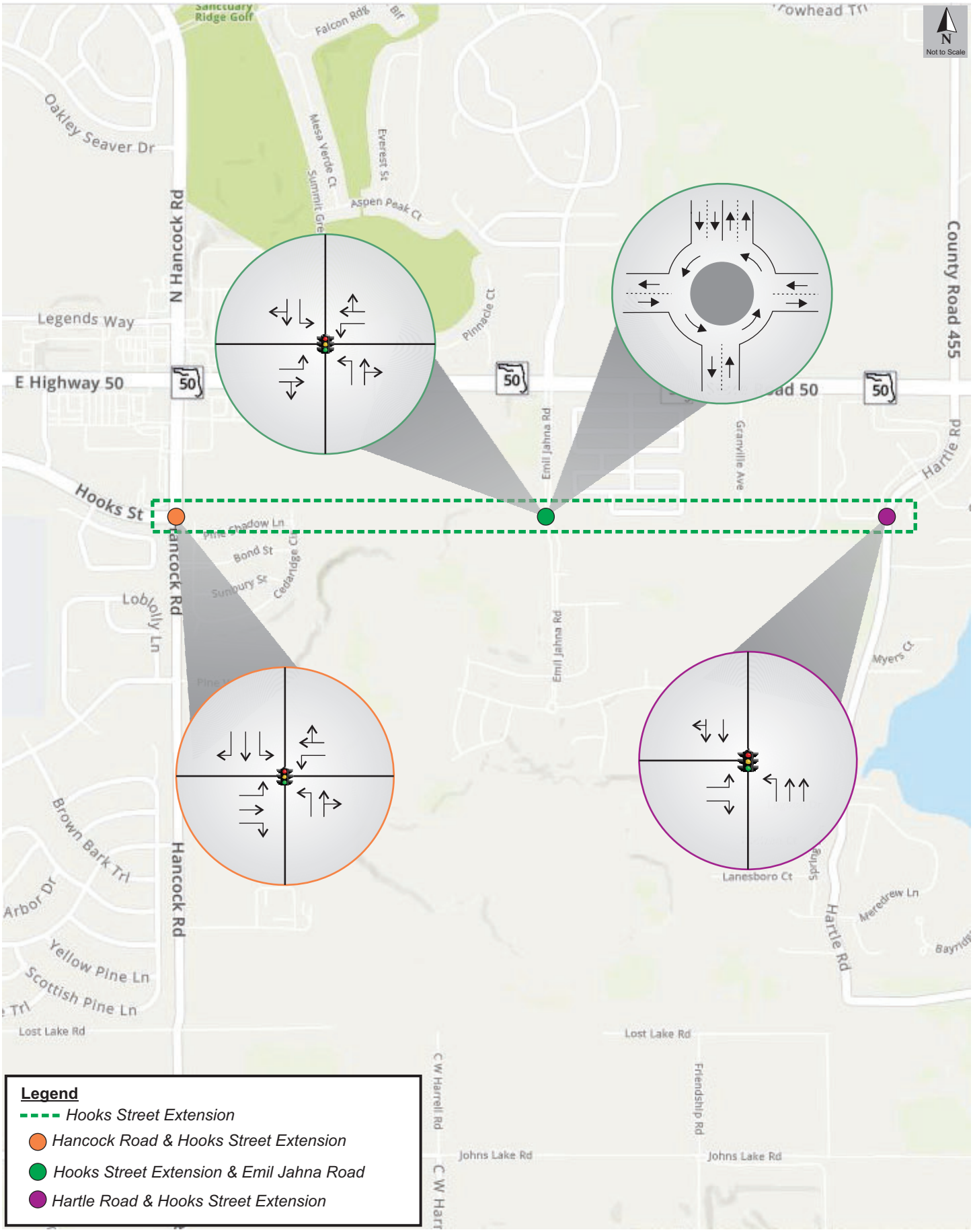
Roadway Segment	Area Type	# of Lns	LOS Std	AADT	LOS Cap	K Factor	D Factor	Volume	
								Pk Dr	LOS
Hooks St									
Citrus Tower Blvd to Hancock Rd	U	4	D	13,816	1,800	9%	56%	700	C
Hooks St Extension									
Hancock Rd to Emil Jahna Rd	U	2	D	11,126	792	9%	56%	560	C
Emil Jahna Rd to Hartle Rd	U	2	D	11,942	792	9%	56%	600	C
Hancock Rd									
SR 50 to Hooks St	U	4	D	21,542	1,800	9%	56%	1,090	C
Hooks St to John Lake Rd	U	2	D	17,167	792	9%	56%	870	F
John Lake Rd to Hartwood Marsh Rd	U	2	D	18,307	792	9%	56%	920	F
Hartle Rd/CR 455									
SR 50 to End of Hartle Rd	U	4	D	29,629	1,800	9%	56%	1,490	C
Emil Jahna Rd									
SR 50 to End of Emil Jahna Rd	U	4	D	4,786	1,800	9%	56%	240	C
SR 50									
Cirtus Tower Blvd to Hancock Rd	U	6	D	49,414	3,020	9%	56%	2,490	C
Hancock Rd to Hartle Rd/CR 455	U	6	D	58,633	3,020	9%	56%	2,960	D
Granville Ave									
SR 50 to South of Granville Ave	U	2	D	4,360	675	9%	56%	220	C

Directional capacity is based on the Lake County TMS Segment Report and the 2020 FDOT QLOS Tables

5.2 Intersection Analysis

Intersection capacity analysis was performed to determine the projected LOS and delays for the proposed intersection geometry and control in opening year 2025, interim year 2035, and design year 2045 conditions. The analysis was conducted using *Synchro* software and the methods of the *Highway Capacity Manual (HCM), 6th Edition* based on the forecasted turning movement volumes (as shown in Figure 6 through Figure 8).

Initially, the proposed intersections geometry and control were estimated based on the forecasted intersection volume and the Hooks Street Extension corridor alignment. Hooks Street and Hancock Road intersection geometry for the existing approach remained unchanged for the opening year 2025. However, due to the traffic growth, new configuration is recommended for the interim year 2035, and design year 2045 conditions. The proposed intersections geometries for the opening year 2025 are displayed in **Figure 9** and the final intersection geometries for the interim year 2035 and the design year 2045 are illustrated in **Figure 10**.

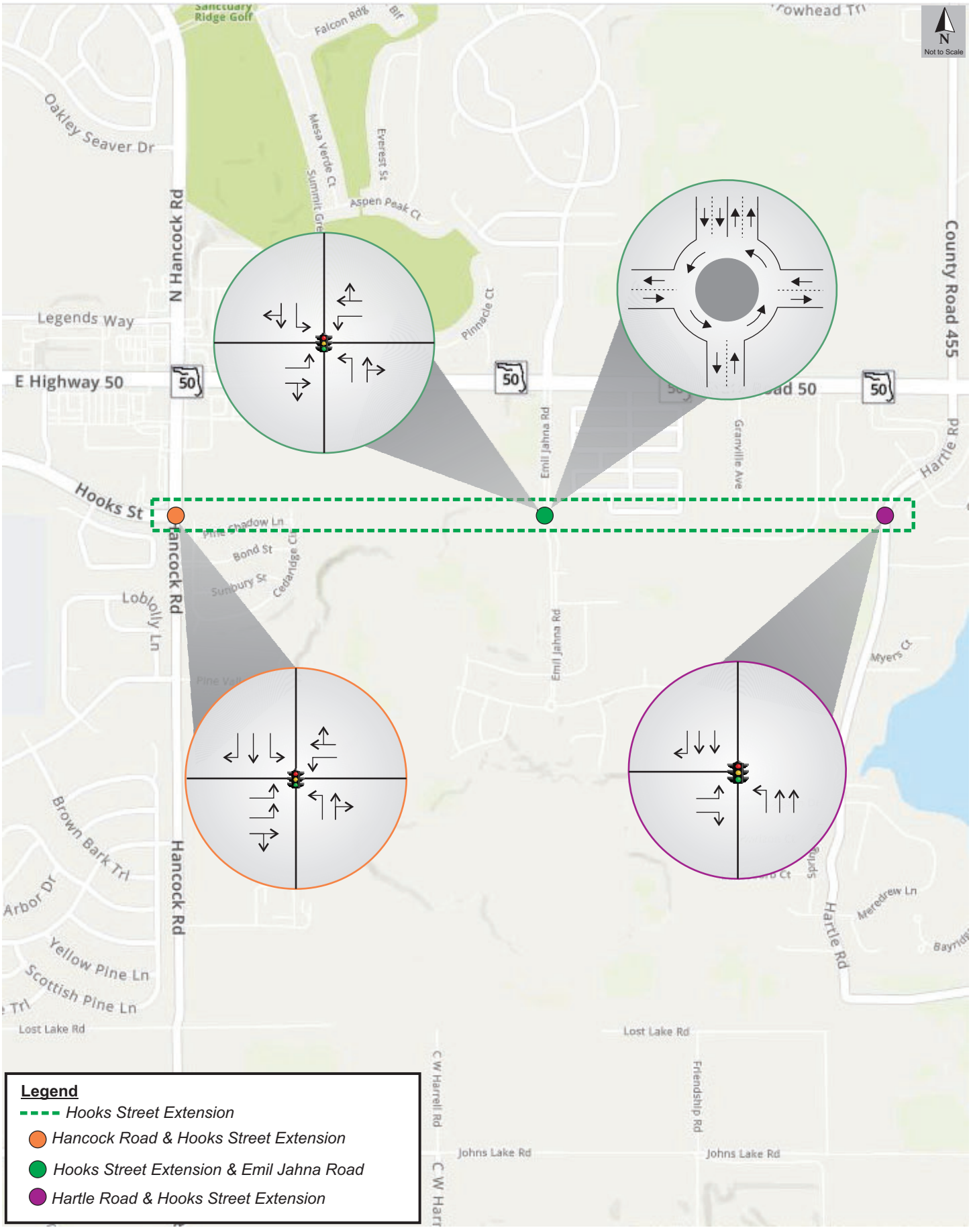


TMC Traffic & Mobility Consultants

2025 Geometry

Hooks Street DTTM
19142, v1.1

Figure 9



TMC Traffic & Mobility Consultants

2035 / 2045 Geometry

Hooks Street DTTM
19142, v1.1

Figure 10

The results of the future year intersection analyses for the opening year 2025, interim (2035) and design year 2045 are summarized in **Table 20, Table 21,** and **Table 22**, respectively. The relevant *Synchro* outputs are provided in **Appendix M**.

Table 20
2025 Hooks Street Extension Intersection Future Operational LOS

Intersection	Traffic Control	Scenario	EB		WB		NB		SB		Overall	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Hooks St Ext & Hancock Rd	Signal	AM	44.5	D	76.8	E	53.2	D	32.2	C	47.0	D
		PM	39.8	D	66.1	E	29.5	C	28.0	C	35.9	D
Hooks St Ext & Emil Jahna Rd	Roundabout	AM	5.5	A	5.8	A	5.4	A	3.8	A	--	--
		PM	4.4	A	5.8	A	3.9	A	4.3	A	--	--
Hooks St Ext & Emil Jahna Rd	Signal	AM	39.5	D	51.5	D	9.4	A	9.3	A	31.6	C
		PM	35.0	D	48.9	D	9.6	A	10.6	B	31.8	C
Hooks St Ext & Hartle Rd	TWSC	AM	19.8	C	--	--	9.3	A	--	--	--	--
		PM	21.2	C	--	--	10.5	B	--	--	--	--
Hooks St Ext & Hartle Rd	Signal	AM	32.7	C	--	--	3.0	A	3.0	A	7.5	A
		PM	33.1	C	--	--	2.8	A	2.9	A	6.6	A

Average delay is in seconds for Signalized Intersection. Delay for the minor approach of the Usignallized Intersection reflect left turn movement

As shown in **Table 20**, during the opening year 2025 conditions, all intersections are projected to operate at an overall LOS D or better. Hooks Street Extension and Emil Jahna Road intersection is projected to have a better LOS as a roundabout control than a signal-controlled intersection.

Table 21
2035 Hooks Street Extension Intersection Future Operational LOS

Intersection	Traffic Control	Scenario	EB		WB		NB		SB		Overall	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Hooks St Ext & Hancock Rd	Signal	AM	50.9	D	74.6	E	43.5	D	26.6	C	42.1	D
		PM	52.3	D	38.9	D	35.0	D	36.2	D	39.1	D
Hooks St Ext & Emil Jahna Rd	Roundabout	AM	6.9	A	7.0	A	6.2	A	4.0	A	--	--
		PM	5.5	A	6.4	A	4.4	A	4.5	A	--	--
Hooks St Ext & Emil Jahna Rd	Signal	AM	34.0	C	50.1	D	13.0	B	12.6	B	30.9	C
		PM	33.7	C	50.0	D	11.5	B	12.1	B	32.8	C
Hooks St Ext & Hartle Rd	TWSC	AM	255.3	F	--	--	13.1	B	--	--	--	--
		PM	334.6	F	--	--	17.5	C	--	--	--	--
Hooks St Ext & Hartle Rd	Signal	AM	32.7	C	--	--	7.5	A	4.8	A	10.4	B
		PM	32.0	C	--	--	8.0	A	4.6	A	9.4	A

Average delay is in seconds for Signalized Intersection. Delay for the minor approach of the Usignallized Intersection reflect left turn movement

Table 21 presents the projected intersection LOS and delays during the interim year 2035 conditions; all intersections were found to operate at overall LOS D or better, except for the intersection of Hooks Street Extension and Hartle Road (Stop Control), which is projected to have excess delays on the minor approach of Hooks Street Extension. Therefore, stop control is not recommended at the intersection during the interim year 2035. Hooks Street Extension and Emil Jahna Road is projected to operate adequately as a roundabout as well as a signal-controlled intersection.

Table 22
2045 Hooks Street Extension Intersection Future Operational LOS

Intersection	Traffic Control	Scenario	EB		WB		NB		SB		Overall	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Hooks St Ext & Hancock Rd	Signal	AM	52.1	D	79.8	E	42.6	D	29.8	C	44.8	D
		PM	42.6	D	48.3	D	62.2	E	37.1	D	46.2	D
Hooks St Ext & Emil Jahna Rd	Roundabout	AM	7.8	A	14.7	B	6.8	A	5.5	A	--	--
		PM	6.1	A	8.1	A	4.7	A	4.9	A	--	--
Hooks St Ext & Emil Jahna Rd	Signal	AM	29.9	C	53.9	D	16.7	B	16.2	B	32.8	C
		PM	28.7	C	55.9	E	15.6	B	16.4	B	35.9	D
Hooks St Ext & Hartle Rd	Signal	AM	35.7	D	--	--	12.2	B	6.9	A	15.0	B
		PM	35.1	D	--	--	14.0	B	6.0	A	13.8	B

Average delay is in seconds for Signalized Intersection. Delay for the minor approach of the Usignallized Intersection reflect left turn movement

As shown in **Table 22**, during the design year 2045 conditions, all intersections were found to operate at overall LOS D or better.

Table 23 presents the recommended lengths of turn lane in opening year 2025 and design year 2045 conditions which were estimated based on the projected 95% queue lengths and the *FDOT Design Manual (FDM) Exhibit 212-1*, included in **Appendix L.**

Table 23
Intersection Turn Lane Length

Intersection	Traffic Control	App	Mvmt	Existing	FDM Decel Distance	Opening (2025 PM)		Design (2045 PM)		Recommended	
						# Cars in Queue	95% ile Queue Length*	# Cars in Queue	95% ile Queue Length*	2025	2045
Hancock Rd & Hooks Street	Signal	EB	Left	240'	185'	8.1	200'	6.1	150'	385'	335' Dual Left
			Right	240'	185'	3.8	100'	--	--	285'	--
		WB	Left	--	155'	4.1	100'	4.3	110'	255'	265'
		NB	Left	220'	240'	1.9	50'	2.3	60'	290'	300'
		SB	Left	--	240'	2.3	60'	4.0	100'	300'	340'
			Right	100'	240'	9.1	230'	9.1	230'	470'	470'
Hooks St Extension & Emil Jahna Rd	Signal	NB	Left	--	145'	0.5	25'	0.7	25'	170'	170'
		SB	Left	--	145'	0.4	25'	0.8	25'	170'	170'
Hooks St Ext & Hartle Rd	Signal	EB	Right	--	145'	2.9	70'	10.4	260'	215'	405'
		NB	Left	--	240'	1.1	30'	8.9	220'	270'	460'
		SB	Right	--	240'	--	--	2.7	70'	--	310'

** Queue Length = No. of Cars in Queue x 25 feet for Standard Car Length*

6.0 CRASH ANALYSIS

Hooks Street is a planned 2-lane divided roadway from Hancock Road to Hartle Road, approximately 1.4 miles. It is a new facility with no historical crash data. Therefore, the Highway Safety Manual (HSM) predictive method for estimating expected average crash frequencies was conducted for analysis years 2025, 2035, and 2035. The Federal Highway Administration (FHWA) *Interactive Highway Safety Design Model (IHSDM)* software program was used to assess the safety of proposed design decisions for Hooks Street based on known information about the typical section, horizontal alignment, intersections, and traffic control. The *IHSDM* reports and crash rates reports are included in **Appendix N**.

The entire corridor was evaluated. **Table 24** shows the predicted crash summary of the crashes and severity to occur for each analysis year along the corridor. **Table 25** shows the predicted crash rate summary in relation to Lake County and Statewide. Lake County and Statewide crash rates are based on the 2013 -2017 average which are likely to increase in the analysis years.

Table 24
Corridor Predicted Crash Summary

Analysis	2025			2035			2045		
	Total	F + I	PDO	Total	F + I	PDO	Total	F + I	PDO
Alternative A	10.740	3.390	7.350	17.230	5.540	11.700	23.190	7.530	15.650
Alternative B	11.370	3.540	7.830	18.600	5.840	12.760	25.300	8.020	17.280
Alternative C	10.530	3.100	7.420	16.650	5.090	11.560	22.380	7.000	15.380
Alternative D	11.150	3.240	7.910	18.020	5.400	12.620	24.490	7.480	17.010

Note: Fatal and Injury (F+I) Crashes and Property Damage Only (PDO) Crashes do not necessarily sum up to Total Crashes because the distribution of these three crashes had been derived independently.

Table 25
Corridor Predicted Crash Rate Summary

Analysis	Crash Rate				
	2025	2035	2045	County*	State*
Alternative A	4.532	7.270	9.784	10.816	7.435
Alternative B	4.796	7.849	10.674		
Alternative C	4.441	7.026	9.444		
Alternative D	4.705	7.605	10.333		

**2013 - 2017 Average Crash Rates*

The results indicate that Alternative C has the least amount of crashes and crash severity in each analysis year. Additionally, Alternative C has the lowest crash rate that is below the Lake County average. All alternatives crash rates are above the 2013 – 2017 statewide average for analysis years 2035 and 2045.

Four (4) alternatives for Hooks Street Extension were evaluated for analysis years 2025, 2035, and 2045 with the following traffic control at each intersection:

- Alternative A: Hancock Road (Signal), Emil Jahna Road (Signal) and Hartle Road (Signal)
- Alternative B: Hancock Road (Signal), Emil Jahna Road (Signal) and Hartle Road (TWSC)
- Alternative C: Hancock Road (Signal), Emil Jahna Road (Roundabout) and Hartle Road (Signal)
- Alternative D: Hancock Road (Signal), Emil Jahna Road (Roundabout) and Hartle Road (TWSC)

Table 26 shows the predicted crash summary of the crashes and severity to occur for each analysis year per intersection. **Table 27** shows the intersection predicted crash rate summary in relation to Lake County and Statewide. Lake County and Statewide crash rates are based on the 2013 -2017 average which are likely to increase in the analysis years.

Table 26
Intersection Predicted Crash Summary

Alternative A										
Location	Traffic Control	2025			2035			2045		
		Total	F + I	PDO	Total	F + I	PDO	Total	F + I	PDO
Hancock Road	Signal	4.465	1.481	2.984	7.349	2.516	4.832	10.354	3.633	6.721
Emil Jahna Road	Signal	1.614	0.510	1.104	2.283	0.737	1.547	2.671	0.871	1.800
Hartle Road	Signal	1.825	0.655	1.169	3.640	1.212	2.428	5.496	1.757	3.739
Total		7.903	2.646	5.257	13.272	4.465	8.807	18.520	6.260	12.260
Alternative B										
Location	Traffic Control	2025			2035			2045		
		Total	F + I	PDO	Total	F + I	PDO	Total	F + I	PDO
Hancock Road	Signal	4.465	1.481	2.984	7.3485	2.5164	4.8321	10.354	3.6327	6.7213
Emil Jahna Road	Signal	1.614	0.510	1.104	2.2833	0.7368	1.5466	2.6706	0.8707	1.7999
Hartle Road	TWSC	1.614	0.510	1.104	5.0127	1.5204	3.4922	7.6044	2.238	5.3663
Total		7.693	2.502	5.192	14.645	4.774	9.871	20.629	6.741	13.888
Alternative C										
Location	Traffic Control	2025			2035			2045		
		Total	F + I	PDO	Total	F + I	PDO	Total	F + I	PDO
Hancock Road	Signal	4.465	1.481	2.984	7.3485	2.5164	4.8321	10.354	3.6327	6.7213
Emil Jahna Road	Roundabout	1.400	0.220	1.180	1.7043	0.2938	1.4105	1.8627	0.3331	1.5296
Hartle Road	Signal	1.825	0.655	1.169	3.6399	1.2118	2.4281	5.4958	1.7566	3.7391
Total		7.689	2.356	5.333	12.693	4.022	8.671	17.713	5.722	11.990
Alternative D										
Location	Traffic Control	2025			2035			2045		
		Total	F + I	PDO	Total	F + I	PDO	Total	F + I	PDO
Hancock Road	Signal	4.465	1.481	2.984	7.3485	2.5164	4.8321	10.354	3.6327	6.7213
Emil Jahna Road	Roundabout	1.400	0.220	1.180	1.7043	0.2938	1.4105	1.8627	0.3331	1.5296
Hartle Road	TWSC	2.450	0.797	1.653	5.0127	1.5204	3.4922	7.6044	2.238	5.3663
Total		8.314	2.498	5.816	14.066	4.331	9.735	19.821	6.204	13.617

Note: Fatal and Injury (F+I) Crashes and Property Damage Only (PDO) Crashes do not necessarily sum up to Total Crashes because the distribution of these three crashes had been derived independently.

Table 27
Intersection Predicted Crash Rate Summary

Alternative A						
Location	No. Legs	Crash Rate				
		2025	2035	2045	County*	State*
Hancock Road	4	0.51	0.58	0.63	N/A	0.62
Emil Jahna Road	4	0.43	0.47	0.49		
Hartle Road	3	0.33	0.39	0.43	0.19	0.66
Alternative B						
Location	No. Legs	Crash Rate				
		2025	2035	2045	County	State
Hancock Road	4	0.51	0.58	0.63	N/A	0.62
Emil Jahna Road	4	0.43	0.47	0.49		
Hartle Road	3	0.44	0.54	0.60	0.19	0.66
Alternative C						
Location	No. Legs	Crash Rate				
		2025	2035	2045	County	State
Hancock Road	4	0.51	0.58	0.63	N/A	0.62
Emil Jahna Road	4	0.37	0.35	0.34		
Hartle Road	3	0.33	0.39	0.43	0.19	0.66
Alternative D						
Location	No. Legs	Crash Rate				
		2025	2035	2045	County	State
Hancock Road	4	0.51	0.58	0.63	N/A	0.62
Emil Jahna Road	4	0.37	0.35	0.34		
Hartle Road	3	0.44	0.54	0.60	0.19	0.66

**2013 - 2017 Average Crash Rates*

There was no identified Lake County crash rate. The results indicate that overall Alternative C has the least amount of crashes and crash severity in each analysis year. All alternatives crash rates are below the 2013 – 2017 statewide average for each analysis years except 2045.

7.0 SUMMARY OF FINDINGS

This Design Traffic Technical Memorandum (DTTM) documents the traffic projections and operations for roadway segments and intersections along Hooks Street Extension from Hancock Road to Hartle Road, as part of the Hooks Street Extension PD&E Study. This DTTM summarizes the traffic data collection, traffic forecast methodology, and presents the results of base year and future condition analyses. This DTTM presents the forecasted opening year (2025), interim year (2035), and design year (2045) peak hour and daily traffic volumes prepared for the Hooks Street Extension. The results of the analysis are summarized as follows:

- Hooks Street Extension roadway segment analysis reveals that Hooks Street Extension corridor will operate at an adequate LOS for the year 2025, 2035 and 2045 as a 2-Lane roadway.

- Hancock Road from Hooks Street to Hartwood Marsh Road is projected to have insufficient capacity for year 2035 and 2045 as a 2-Lane roadway.

- Hooks Street Extension and Emil Jahna Road intersection is projected to operate adequately as a roundabout, as well as a signal control.

- Hooks Street Extension and Hartle Road intersection is projected to operate adequately as a stop-controlled intersection for the opening year 2025. However, for the interim year 2035 and design year 2045, the intersection will fail as a stop-controlled but will function adequately with a signal control.

- Recommended intersection geometries are presented in Figure 9 for opening year 2025 and in Figure 10 for interim year 2035 & design year 2045.

APPENDICES

Appendix A
Traffic Count Data & FDOT Seasonal Factor

2019 Lake County Annual Traffic Counts

MAP STA #	ROAD NAME	LOCATION	Map Sheet	TMS ID	SEC	TWP	RNG	ANNUAL ADJUSTED DAILY TRAFFIC (AADT)						5-YEAR ANNUAL AVERAGE GROWTH RATE PERCENT	ADJUSTED PEAK HR VOLUME 2019	BEGIN PEAK HOUR 2019	ADJUSTED 2019 PM PEAK HOUR VOLUME (3-7 PM reported as 15:00-18:45)				
								2014	2015	2016	2017	2018	2019				Total	NB/EB	SB/WB	Pk Dir	Time
165	HANCOCK RD	0.228 Mi S OF S.R. 50	A	911	27	22	26	17,586	19,328	18,478	19,542	20,087	20,782	3.40%	1,666	17:00	1,666	704	962	SB	17:00
166	ROLLING ACRES RD	0.17 Mi N OF C.R. 466	C	845	17	18	24	17,210	16,113	15,627	15,585	16,347	16,851	-0.42%	1,529	12:30	1,435	779	656	SB	15:00
167	C.R. 466B	0.20 Mi S OF EMMAUS RD	C	308	2	19	24	4,375	4,852	4,415	4,843	4,615	4,585	0.94%	399	16:45	399	157	242	NB	16:45
168	DAVID WALKER DR	0.20 Mi S OF U.S. 441	C-1	423	22	19	26	6,860	7,505	7,612	7,672	8,369	8,220	3.68%	727	14:15	666	367	299	NB	16:15
169	CITRUS TOWER BV	0.14 Mi N OF S.R. 50	A	833	28	22	26	17,147	15,715	16,110	15,791	15,478	15,581	-1.90%	1,262	12:45	1,191	577	614	SB	15:00
170	JOHNS LAKE RD	0.34 Mi E OF U.S. 27	A	487	32	22	26	6,936	10,411	8,489	7,929	6,104	6,160	-2.34%	718	7:15	505	247	258	WB	16:00
171	C.R. 466A	0.10 Mi W OF U.S. 27/U.S. 441	C	315	4	19	24	6,464	6,400	6,399	6,453	6,512	6,474	0.03%	536	16:00	536	271	264	WB	16:00
172	C.R. 44A (GRIFFIN RD)	0.165 Mi W OF U.S. 27 (14th ST)	C	407	22	19	24	7,932	9,933	6,845	9,222	9,157	8,722	1.92%	784	15:45	784	316	468	EB	15:45
173	C.R. 473	0.083 Mi S OF C.R. 44	C	337	2	19	25	5,746	5,655	6,066	6,893	7,355	7,042	4.15%	590	15:30	590	303	287	NB	15:30
174	RADIO RD	0.084 Mi S OF C.R. 44	C	500	3	19	25	3,118	2,220	3,029	3,269	3,301	3,484	2.25%	517	16:45	517	252	265	SB	16:45
175	SLEEPY HOLLOW RD	0.064 Mi S OF U.S. 441	C	0	20	19	25	3,039	3,428	3,531	3,943	4,263	3,819	4.67%	322	17:00	322	144	179	SB	17:00
176	C.R. 561	0.08 Mi S OF S.R. 50	A	720	24	22	25	5,515	5,871	6,142	6,165	6,728	6,364	2.91%	575	16:45	575	274	301	SB	16:45
177	LAKESHORE DR (CLERMONT)	0.122 Mi N OF LOG HOUSE RD/ OSWALT RD	A	92	12	23	25	8,756	9,321	10,248	11,405	11,323	10,954	4.58%	976	16:45	976	610	366	SB	16:45
178	CITRUS TOWER BV	0.113 Mi E OF U.S. 27	B	135	19	22	26	11,752	12,303	12,177	12,067	12,548	12,888	1.86%	1,079	16:45	1,079	630	448	WB	16:45
179	N HANCOCK RD	0.102 Mi N OF S.R. 50	A	150	27	22	26	15,491	16,901	14,533	17,100	20,939	17,171	2.08%	1,395	16:15	1,395	673	722	SB	16:15
180	HANCOCK RD	0.113 Mi N OF HARTWOOD MARSH RD	A	153	10	23	26	8,359	8,513	8,483	10,600	11,175	11,056	5.75%	945	7:15	938	439	499	SB	15:45
181	C.R. 437	0.105 Mi S OF C.R. 44A	D	247	31	18	28	4,816	2,702	5,178	5,661	6,011	5,967	4.38%	591	16:30	591	201	391	NB	16:30
182	C.R. 435	0.091 Mi S OF S.R. 46	D	649	29	19	28	6,263	7,463	6,629	7,465	8,282	7,565	3.85%	717	16:30	717	367	350	NB	16:30
183	C.R. 448	0.155 Mi W OF C.R. 561	B	67	7	20	26	3,009	3,274	3,721	4,138	4,947	4,396	7.87%	371	7:45	366	188	179	EB	16:45
184	HUFFSTETLER DR	0.065 Mi E OF DAVID WALKER DR	C-1	483	22	19	26	490	885	883	1,075	1,030	1,169	18.99%	124	16:15	124	75	50	EB	16:15
185	HOOKS ST	0.7 Mi W OF HANCOCK RD	A	919	28	22	26	7,191	5,511	11,451	8,668	10,888	10,718	8.31%	879	12:30	830	506	324	WB	15:00
186	LAKE ELLA RD	0.169 Mi W OF U.S. 27/U.S. 441	C	497	28	18	24	1,650	1,998	2,054	2,198	1,857	1,949	3.39%	176	16:45	176	107	69	WB	16:45
187	LAKE ELLA RD	0.20 Mi W OF MICRO RACETRACK RD	C	496	31	18	24	1,161	1,132	1,262	1,768	1,821	1,912	10.50%	190	16:15	190	125	65	EB	16:15
188	MICRO RACETRACK RD	0.098 Mi N OF C.R. 466A	C	498	6	19	24	6,174	6,586	6,942	8,714	9,147	9,401	8.77%	904	14:15	821	362	460	SB	15:00
189	C.R. 25A	0.103 Mi N OF C.R. 25A/URICK ST	C	655	9	19	24	5,737	9,242	5,215	5,549	5,125	4,780	-3.58%	449	16:30	449	194	255	NB	16:30
190	THOMAS AV	0.081 Mi N OF C.R. 44A/C.R. 44C	C	808	15	19	24	7,353	9,241	7,639	8,087	8,500	8,091	1.93%	725	16:00	725	360	365	SB	16:00
191	C.R. 455	0.14 Mi E OF C.R. 561	B	83	17	21	26	1,391	5,744	1,528	1,832	1,746	1,610	2.96%	187	7:00	154	71	83	WB	17:15
192	VISTA DEL LAGO BV	0.13 Mi W OF U.S. 27	A	167	9	23	26	1,334	1,510	1,372	1,468	1,419	1,527	2.74%	145	17:15	145	79	66	WB	17:15
193	WILSON LAKE PARKWAY	0.02 Mi S OF U.S. 27	B	773	26	21	25	1,330	1,950	2,178	2,281	2,382	2,429	12.80%	202	15:45	202	71	130	SB	15:45
194	ORANGE AV	0.161 Mi E OF S.R. 19 (EUSTIS)	C-1	536	11	19	26	10,384	11,784	11,192	11,233	7,735	12,986	4.57%	1,139	16:45	1,139	518	621	WB	16:45
195	CITRUS GROVE ROAD	0.14 Mi E OF U.S. 27	B	546	6	22	26	904	1,009	1,385	1,612	1,847	1,584	11.88%	188	6:45	137	81	56	WB	15:45
196	BLACKSTILL LAKE RD	0.16 Mi N OF C.R. 50	B	672	16	22	26	3,106	3,362	3,135	3,451	4,711	5,031	10.13%	469	7:00	438	215	223	NB	15:15
197	CITRUS TOWER BV	0.10 Mi N OF JOHNS LAKE RD	A	884	32	22	26	14,849	17,884	18,431	18,370	19,580	19,518	5.62%	1,532	14:15	1,524	581	943	SB	16:30
198	ORANGE AV	720 Ft E OF C.R. 44 (BYPASS)	C-1	466	7	19	27	11,555	13,661	14,189	14,203	14,732	14,184	4.18%	1,257	16:15	1,257	581	676	WB	16:15
199	LAKE MACK DR	0.04 Mi S OF C.R. 42	E	564	17	17	29	1,399	1,571	1,369	1,477	1,349	1,515	1.61%	137	16:45	137	41	96	SB	16:45
200	GRIFFIN AV	0.085 Mi W OF C.R. 25	C	299	8	18	24	8,692	9,313	8,903	10,715	9,169	9,182	1.10%	800	16:30	800	275	525	WB	16:30
201	ROLLING ACRES RD	0.053 Mi N OF LAKE ELLA RD	C	503	30	18	24	5,085	5,525	6,343	7,363	7,833	7,929	9.29%	741	14:30	704	320	384	SB	15:00
203	ROUND LAKE RD	0.05 Mi S OF WOLF BRANCH RD	D	505	26	19	27	2,546	2,719	2,878	3,328	4,460	7,468	24.01%	924	7:15	709	280	429	NB	16:00
204	C.R. 470	0.536 Mi E OF TURNPIKE OVERPASS	B	223	17	20	24	4,262	6,525	7,257	7,182	9,077	7,451	11.82%	617	6:45	615	342	273	EB	15:00
205	SHIRLEY SHORES RD	0.15 Mi N OF C.R. 448	B	514	15	20	26	2,140	3,101	2,548	2,425	2,684	2,410	2.40%	214	16:30	214	128	87	NB	16:30
206	C.R. 565 (VILLA CITY RD)	0.134 Mi N OF S.R. 50	B	612	24	22	24	2,838	3,744	3,180	3,359	4,422	4,686	10.55%	413	16:45	413	200	213	NB	16:45
207	C.R. 561	0.10 Mi N OF C.R. 565A	B	605	14	22	25	4,173	5,073	4,391	5,294	5,863	6,627	9.69%	584	7:30	581	330	251	SB	17:15
208	TURKEY FARM RD	0.040 Mi N OF C.R. 50	B	169	17	22	26	6,116	5,258	344	214	399	209	-49.10%	31	12:45	21	10	12	NB	17:30
209	N HANCOCK RD	0.106 Mi S OF C.R. 50	B	148	16	22	26	14,302	14,775	11,023	13,332	17,186	15,634	1.80%	1,415	17:00	1,415	658	757	SB	17:00
210	OSWALT RD	0.126 Mi E OF LAKESHORE DR (CLERMONT)	A	170	12	23	25	3,596	4,592	3,756	4,168	4,277	4,049	2.40%	357	16:30	357	125	232	EB	16:30
211	SHAY BV	0.158 Mi N OF GRIFFIN AV	C	511	7	18	24	3,324	3,483	3,841	3,886	2,842	2,550	-5.16%	237	9:45	222	116	106	NB	15:45
212	W McCLENDON ST	0.024 Mi W OF U.S. 27/U.S. 441	C	550	20	18	24	395	675	511	491	432	1,324	27.39%	166	7:00	105	60	45	WB	16:45
213	W LADY LAKE BV	0.029 Mi W OF U.S. 27/U.S. 441	C	493	20	18	24	1,132	1,627	1,292	1,281	1,292	1,298	2.78%	112	14:45	96	61	36	WB	15:15
214	LADY LAKE BV	0.045 Mi E OF U.S. 27/U.S. 441	C	494	21	18	24	633	665	615	819	834	562	-2.32%	54	17:15	54	30	24	EB	17:15
215	GRAYS AIRPORT RD	0.10 Mi N OF EAGLESNEST RD	C	401	27	18	24	1,760	1,771	1,800	2,314	2,136	2,225	4.80%	206	16:45	206	79	127	NB	16:45
216	SOUTH GRAYS AIRPORT RD	0.048 Mi E OF U.S. 27/U.S. 441	C	403	34	18	24	2,520	3,217	706	799	770	786	-20.79%	77	15:45	77	51	26	EB	15:45
217	ARLINGTON AV	0.097 Mi S OF W LADY LAKE BV	C	681	20	18	24	1,432	1,540	1,486	1,762	1,848	1,593	2.15%	153	16:30	153	58	96	SB	16:30
218	SOUTH FISH CAMP RD	0.097 Mi N OF C.R. 44	C-1	577	32	18	26	1,327	1,345	1,423	1,368	1,393	1,505	2.55%	145	17:15	145	82	64	NB	17:15

2019 Lake County Annual Traffic Counts

MAP STA #	ROAD NAME	LOCATION	Map Sheet	TMS ID	SEC	TWP	RNG	ANNUAL ADJUSTED DAILY TRAFFIC (AADT)						5-YEAR ANNUAL AVERAGE GROWTH RATE PERCENT	ADJUSTED PEAK HR VOLUME 2019	BEGIN PEAK HOUR 2019	ADJUSTED 2019 PM PEAK HOUR VOLUME (3-7 PM reported as 15:00-18:45)				
								2014	2015	2016	2017	2018	2019				Total	NB/EB	SB/WB	Pk Dir	Time
272	C.R. 448A	0.2 Mi N OF C.R. 48	B	819	24	20	26	4,512	6,802	4,829	5,339	5,575	4,763	1.09%	505	16:15	505	240	265	SB	16:15
273	TUSCANOOGA RD	.09 Mi N OF S.R. 50	B	104	15	22	24	2,203	2,507	2,498	2,673	2,479	2,662	3.86%	263	17:00	263	104	158	NB	17:00
274	MASCOTTE EMPIRE RD (S. SU	.32 Mi S OF S.R. 50	B	181	14	22	24	793	795	726	843	711	800	0.18%	83	7:15	80	36	44	SB	17:00
275	C.R. 50/SUNSET AV	0.03 Mi N OF S.R. 50	B	161	14	22	24	1,144	1,224	1,810	1,342	1,456	1,443	4.76%	157	17:00	157	100	57	SB	17:00
276	PALMETTO DR	0.043 Mi W OF C.R. 33	B	106	14	22	24	447	554	251	610	783	840	13.44%	112	17:15	112	42	69	WB	17:15
277	UNDERPASS RD	0.036 Mi E OF C.R. 33	B	107	14	22	24	729	938	1,155	1,036	985	1,064	7.88%	123	17:15	123	62	62	WB	17:15
278	EAST AV	0.1 Mi N OF S.R. 50	A	834	19	22	26	5,703	5,699	5,103	5,648	5,272	5,841	0.48%	618	7:45	542	275	267	NB	15:00
279	MAIN ST	0.1 Mi N OF WASHINGTON ST	B	771	18	22	26	1,845	2,093	1,849	2,074	2,000	1,812	-0.36%	163	8:00	159	57	102	SB	16:00
280	CITRUS TOWER BV	0.1 Mi S OF S.R. 50	A	146	28	22	26	15,687	17,410	17,355	17,358	18,604	18,498	3.35%	1,414	12:45	1,395	800	595	SB	16:45
281	HOOKS ST	0.12 W. OF CITURS TOWER BV	A	482	29	22	26	7,154	9,157	9,367	9,419	10,252	10,015	6.96%	928	12:30	805	375	430	EB	15:00
282	EXCALIBUR RD	0.08 Mi S OF HOOKS ST	A	892	28	22	26	4,312	3,414	3,879	4,939	5,109	4,651	1.52%	644	6:15	370	203	167	SB	16:15
283	CITRUS TOWER BV	0.18 E. OF US 27	A	910	5	23	26	12,393	14,550	14,579	14,720	15,036	15,267	4.26%	1,258	7:15	1,202	737	464	WB	16:45
284	HAMMOCK RIDGE RD	0.21 W. OF US 27	A	897	5	23	26	12,516	14,427	14,807	15,416	15,391	14,951	3.62%	1,302	16:45	1,302	811	491	WB	16:45
285	LAKESHORE DR (CLERMONT)	0.14 E. OF HAMMOCK RIDGE ROAD	A	900	6	23	26	6,664	5,854	7,500	8,097	8,500	7,955	3.61%	698	17:00	698	448	250	WB	17:00
286	FOSGATE RD	0.19 Mi W OF GRASSY LAKE RD	B	895	8	22	26	2,196	2,117	2,758	2,909	3,674	4,061	13.08%	443	6:30	411	182	229	WB	17:15
287	STEVES RD	0.44 Mi W. OF CITRUS TOWER BV	A	886	29	22	26	5,637	5,715	6,300	6,845	6,627	6,756	3.69%	667	14:15	626	354	271	WB	15:30
288	CR 44A	0.17 MI N. OF CR 44A	C-1	823	5	19	27	1,817	1,945	1,935	2,092	2,171	1,960	1.53%	187	16:15	187	124	64	NB	16:15
289	HOOKS ST	E. OF US 27	A	481	29	22	26	4,920	9,595	9,512	10,357	11,279	13,858	23.01%	1,104	16:30	1,104	670	434	WB	16:30
290	GRAND HIGHWAY	N. OF HOOKS ST	A	0	29	22	26	6,243	3,830	6,292	6,066	6,175	6,203	-0.13%	499	14:15	480	270	211	NB	16:45
291	CR 48	AT SUMTER COUNTY LINE	B	225	7	21	24	2,218	1,429	2,778	2,912	2,849	2,730	4.25%	251	15:45	251	92	158	SB	15:45
292	CR 561A	WEST OF CR 455	B	132	27	21	26	1,496	1,675	1,579	1,583	1,940	1,881	4.69%	228	7:00	174	112	62	EB	16:30
293	CR 50	EAST OF HANCOCK RD	B	157	16	22	26	9,591	6,847	9,026	11,238	10,448	10,744	2.30%	1,039	16:45	1,039	485	554	WB	16:45
294	SIMON BROWN	EAST OF SR 33	B	0	7	22	24	462	566	541	576	716	806	11.76%	84	16:15	84	65	19	WB	16:15
298	E ASHPAWA RD	WEST OF US27	B	0	36	21	25	*****	709	708	828	798	973	#N/A	87	16:30	87	61	26	WB	16:30
299	HARTWOOD MARSH RD	.1Mi E HANCOCK	A	364	10	23	26	*****	16,478	12,479	14,798	14,963	14,494	#N/A	1,454	7:15	1,351	541	810	WB	17:00
300	JOHNS LAKE RD	EAST OF HANCOCK RD	A	0	34	22	26	*****	413	610	679	730	656	#N/A	53	15:15	53	26	27	WB	15:15
301	HARTLE RD	SOUTH OF SR50	A	0	26	22	26	*****	3,660	3,544	4,496	6,459	5,691	#N/A	447	7:00	427	172	254	NB	16:15
302	SULLIVAN RD	EAST OF US27	B	0	6	22	26	*****	207	298	196	210	263	#N/A	29	15:15	29	15	14	WB	15:15
303	VILLA CITY RD	0.5 MI N. OF SIMON BROWN RD	B	609	36	21	24	*****	600	1,961	1,991	2,535	2,878	#N/A	269	16:00	269	98	171	SB	16:00
304	E. DEWEY ROBBINS RD	WEST OF SR19	B	0	2	21	25	*****	600	585	558	673	630	#N/A	61	17:15	61	26	35	WB	17:15
305	DEWEY ROBBINS RD	EAST OF US27	B	0	36	20	24	*****	380	448	500	609	571	#N/A	62	16:00	62	41	21	EB	16:00
306	SR46	EAST OF NORTH CR437	D	241	30	19	28	*****	16,087	16,861	16,939	16,834	16,019	#N/A	1,320	16:30	1,320	601	719	EB	16:30
307	CR46A	SOUTH OF SR44	B	157	8	19	28	*****	7,237	8,047	9,046	8,995	8,256	#N/A	697	6:15	697	258	439	NB	16:00
308	W LADY LAKE RD	EAST OF ARLINGTON	B	158	20	18	24	*****	1,705	1,742	2,352	2,054	1,861	#N/A	186	16:45	186	54	132	WB	16:45
309	CHULA VISTA AV	BETWEEN RIO & SAN REMO	B	159	18	18	24	*****	2,503	2,678	3,805	3,249	2,768	#N/A	310	14:30	266	143	123	NB	15:00
310	E. LADY LAKE RD	EAST OF US27/US441	B	160	21	18	24	*****	469	363	582	522	563	#N/A	54	17:15	54	29	24	EB	17:15
311	SCRUB JAY LN	SOUTH OF FLORIDA TURNPIKE BRIDGE	B	0	32	21	26	*****	482	629	575	652	474	#N/A	60	6:30	54	39	15	SB	16:45
312	HANCOCK RD	SOUTH OF CR 561A	D	614	32	21	26	*****	7,237	8,047	9,046	4,550	5,917	#N/A	617	6:30	575	203	372	NB	17:00
313	HANCOCK RD	NORTH OF CITRUS GROVE RD	C	492	4	22	26	*****	1,705	1,742	2,352	8,357	9,510	#N/A	1,012	6:45	957	228	729	SB	16:45
314	SR 46	EAST OF CR 435	C	0	29	19	28	*****	2,503	2,678	3,805	13,348	10,781	#N/A	880	16:00	880	410	470	WB	16:00
315	CR 565A	NORTH OF SR 50	C	494	24	22	24	*****	469	363	582	4,343	10,662	#N/A	955	6:45	831	421	410	NB	17:15

***** - Data not available for that year

N/A = not availablle due to lack of previous years data

U/C Denotes station under construction during data collection period.

5 -Year Annual Average Percentage Growth Rate is computed as follows:

"5-Year Annual Average Percentage Growth Rate = (1+(2019 AADT - 2014 AADT)/(2014 AADT))^(1/(2019-2014))-1"

Stations Deleted from the program for 2019:

 # 23
 # 25
 # 83

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2019 HISTORICAL AADT REPORT

COUNTY: 11 - LAKE

SITE: 0390 - ON SR-50, 0.557 MI. W OF HANCOCK RD. WB-.5W (UCLP) CAB NW

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2019	54000 C	E 24500	W 29500	9.00	54.30	7.50
2018	48000 F	E 25000	W 23000	9.00	54.20	4.10
2017	47000 C	E 24500	W 22500	9.00	54.20	4.10
2016	44500 C	E 20500	W 24000	9.00	53.90	9.30
2015	48500 C	E 24500	W 24000	9.00	54.60	6.30
2014	40500 C	E 19500	W 21000	9.00	54.50	7.70
2013	37500 C	E 19000	W 18500	9.00	54.70	6.20
2012	38500 C	E 17500	W 21000	9.00	55.10	5.20
2011	37000 C	E 16500	W 20500	9.00	54.20	4.90
2010	35000 F	E 18000	W 17000	9.86	54.75	6.20
2009	36000 C	E 18500	W 17500	9.96	54.94	6.20
2008	39000 C	E 20000	W 19000	10.42	55.39	7.10
2007	43000 C	E 22000	W 21000	10.24	59.56	7.70
2006	42500 C	E 21500	W 21000	10.23	59.48	6.30
2005	40500 C	E 20500	W 20000	10.30	57.70	8.80
2004	45500 C	E 23000	W 22500	10.10	57.60	8.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2019 HISTORICAL AADT REPORT

COUNTY: 11 - LAKE

SITE: 0301 - ON SR-50, 0.2 MI. E OF LAKE BLVD. - AKA 750572 CAB NW

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2019	64000 C	E 34000	W 30000	9.00	54.30	10.20
2018	54000 C	E 27500	W 26500	9.00	54.20	8.70
2017	62500 C	E 32500	W 30000	9.00	54.20	8.20
2016	60000 C	E 30500	W 29500	9.00	53.90	9.70
2015	57000 C	E 29000	W 28000	9.00	54.60	10.00
2014	52000 C	E 25500	W 26500	9.00	54.50	10.50
2013	45500 C	E 21000	W 24500	9.00	54.70	10.00
2012	44000 C	E 21000	W 23000	9.00	55.10	6.40

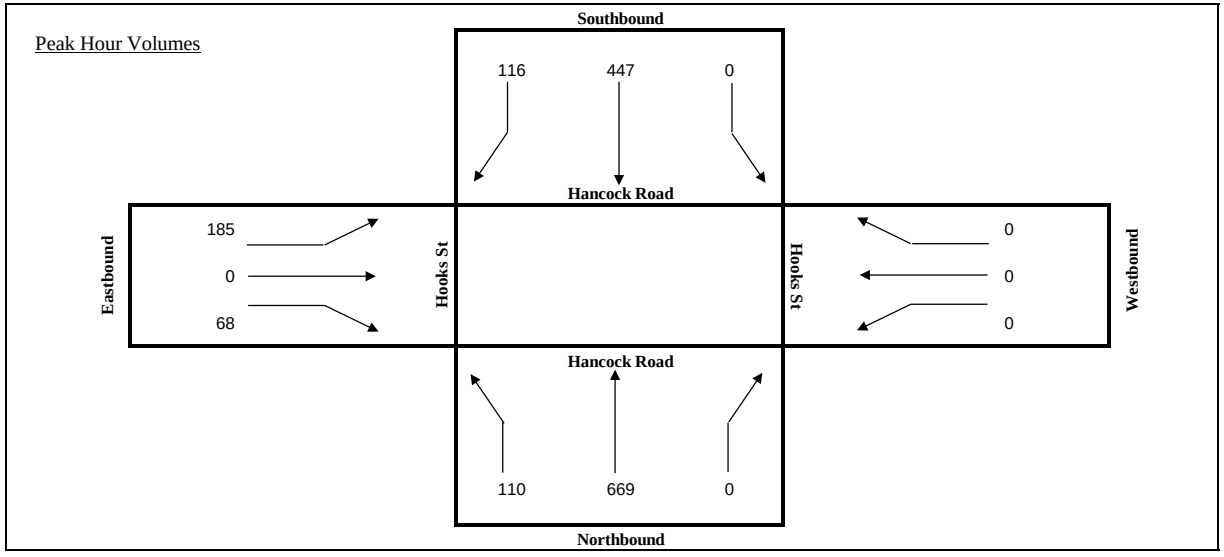
AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

TURNING MOVEMENT COUNT ANALYSIS

AUTOS & TRUCKS

Intersection (N/S): Hancock Road
(E/W) Hooks St
Date: 8/26/2020

			Hancock Road			Hancock Road			Hooks St			Hooks St			
			NB			SB			EB			WB			
	Start	End	L	T	R	L	T	R	L	T	R	L	T	R	TOTAL
	7:00 AM	7:15 AM	38	139	0	0	65	20	39	0	35	0	0	0	336
	7:15 AM	7:30 AM	17	162	0	0	98	27	42	0	11	0	0	0	357
	7:30 AM	7:45 AM	17	177	0	0	99	22	35	0	12	0	0	0	362
	7:45 AM	8:00 AM	28	175	0	0	115	33	57	0	17	0	0	0	425
	8:00 AM	8:15 AM	22	162	0	0	117	27	36	0	20	0	0	0	384
	8:15 AM	8:30 AM	28	188	0	0	114	27	45	0	18	0	0	0	420
	8:30 AM	8:45 AM	32	144	0	0	101	29	47	0	13	0	0	0	366
	8:45 AM	9:00 AM	31	146	0	0	97	25	41	0	16	0	0	0	356
Total for:	7:00 AM	8:00 AM	100	653	0	0	377	102	173	0	75	0	0	0	1480
Total for:	8:00 AM	9:00 AM	113	640	0	0	429	108	169	0	67	0	0	0	1526
Tota Peak Hour:	7:45 AM	8:45 AM	110	669	0	0	447	116	185	0	68	0	0	0	1595
Overall PHF:	0.94														

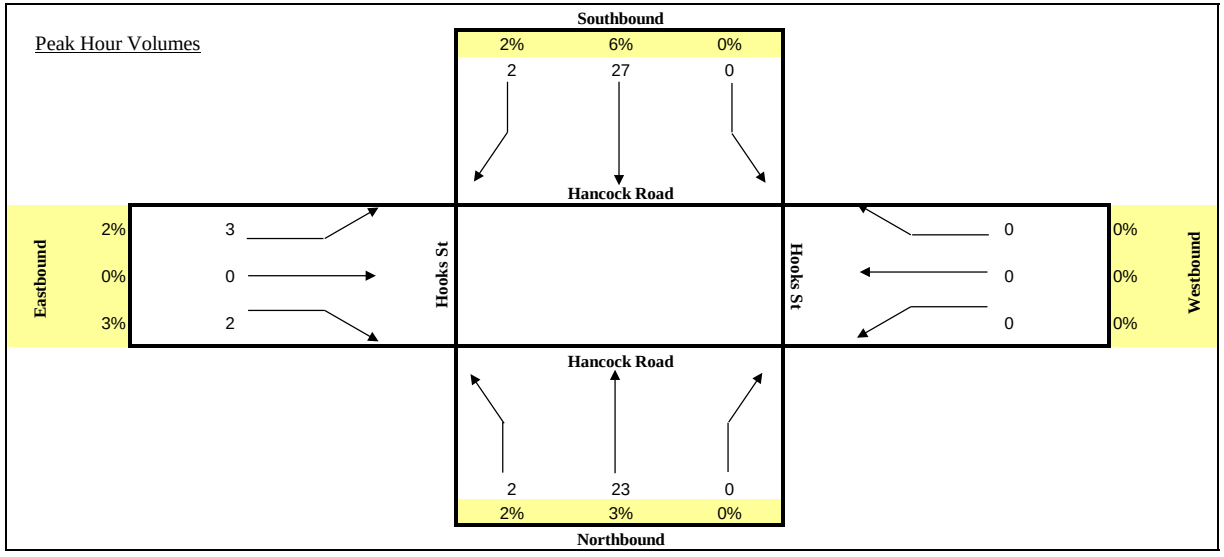


TURNING MOVEMENT COUNT ANALYSIS

TRUCKS

Intersection (N/S): Hancock Road
Intersection (E/W): Hooks St
Date: 8/26/2020

		Hancock Road			Hancock Road			Hooks St			Hooks St			
		NB			SB			EB			WB			
Start	End	L	T	R	L	T	R	L	T	R	L	T	R	TOTAL
7:00 AM	7:15 AM	0	3	0	0	1	1	0	0	2	0	0	0	7
7:15 AM	7:30 AM	0	5	0	0	3	0	1	0	0	0	0	0	9
7:30 AM	7:45 AM	0	5	0	0	5	3	0	0	1	0	0	0	14
7:45 AM	8:00 AM	0	2	0	0	6	1	1	0	0	0	0	0	10
8:00 AM	8:15 AM	0	5	0	0	9	0	0	0	1	0	0	0	15
8:15 AM	8:30 AM	1	6	0	0	5	0	2	0	0	0	0	0	14
8:30 AM	8:45 AM	0	7	0	0	6	1	0	0	0	0	0	0	14
8:45 AM	9:00 AM	1	5	0	0	7	1	1	0	1	0	0	0	16
Total for:	7:00 AM	8:00 AM	0	15	0	0	15	5	2	0	3	0	0	0	40
Total for:	8:00 AM	9:00 AM	2	23	0	0	27	2	3	0	2	0	0	0	59
Tota Peak Hour:	8:00 AM	9:00 AM	2	23	0	0	27	2	3	0	2	0	0	0	59
Overall PHF:	0.92														

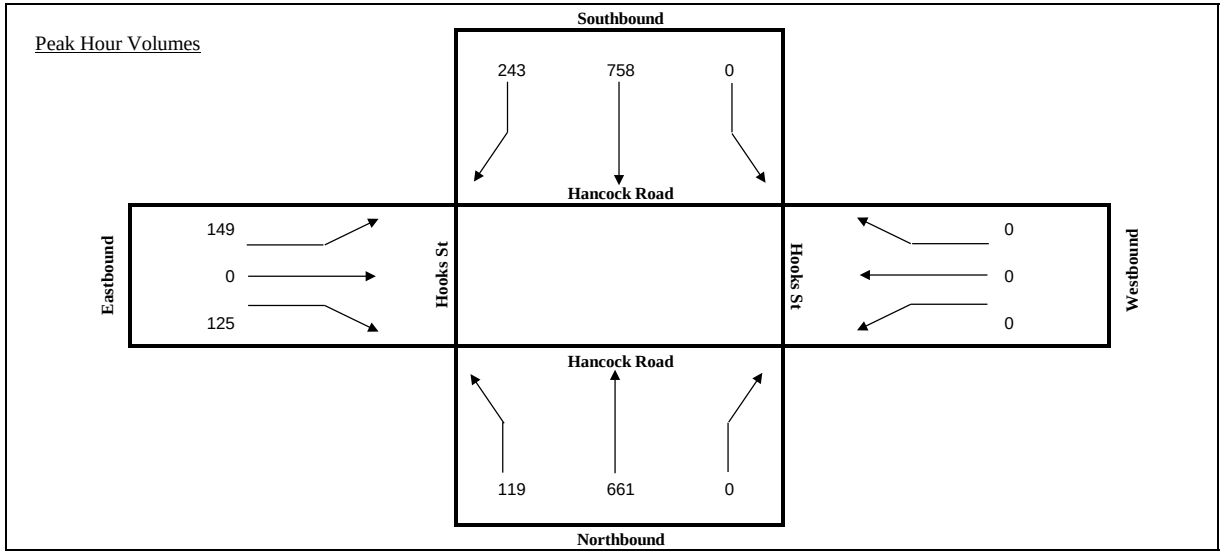


TURNING MOVEMENT COUNT ANALYSIS

AUTOS & TRUCKS

Intersection (N/S): Hancock Road
Intersection (E/W): Hooks St
Date: 8/26/2020

			Hancock Road			Hancock Road			Hooks St			Hooks St			
			NB			SB			EB			WB			
	Start	End	L	T	R	L	T	R	L	T	R	L	T	R	TOTAL
	4:00 PM	4:15 PM	23	124	0	0	156	43	33	0	24	0	0	0	403
	4:15 PM	4:30 PM	25	103	0	0	205	49	50	0	35	0	0	0	467
	4:30 PM	4:45 PM	44	214	0	0	179	33	43	0	34	0	0	0	547
	4:45 PM	5:00 PM	19	152	0	0	168	44	32	0	32	0	0	0	447
	5:00 PM	5:15 PM	35	150	0	0	186	63	36	0	29	0	0	0	499
	5:15 PM	5:30 PM	30	170	0	0	200	60	31	0	33	0	0	0	524
	5:30 PM	5:45 PM	34	181	0	0	195	59	41	0	30	0	0	0	540
	5:45 PM	6:00 PM	20	160	0	0	177	61	41	0	33	0	0	0	492
Total for:	4:00 PM	5:00 PM	111	593	0	0	708	169	158	0	125	0	0	0	1864
Total for:	5:00 PM	6:00 PM	119	661	0	0	758	243	149	0	125	0	0	0	2055
Tota Peak Hour:	5:00 PM	6:00 PM	119	661	0	0	758	243	149	0	125	0	0	0	2055
Overall PHF:	0.95														

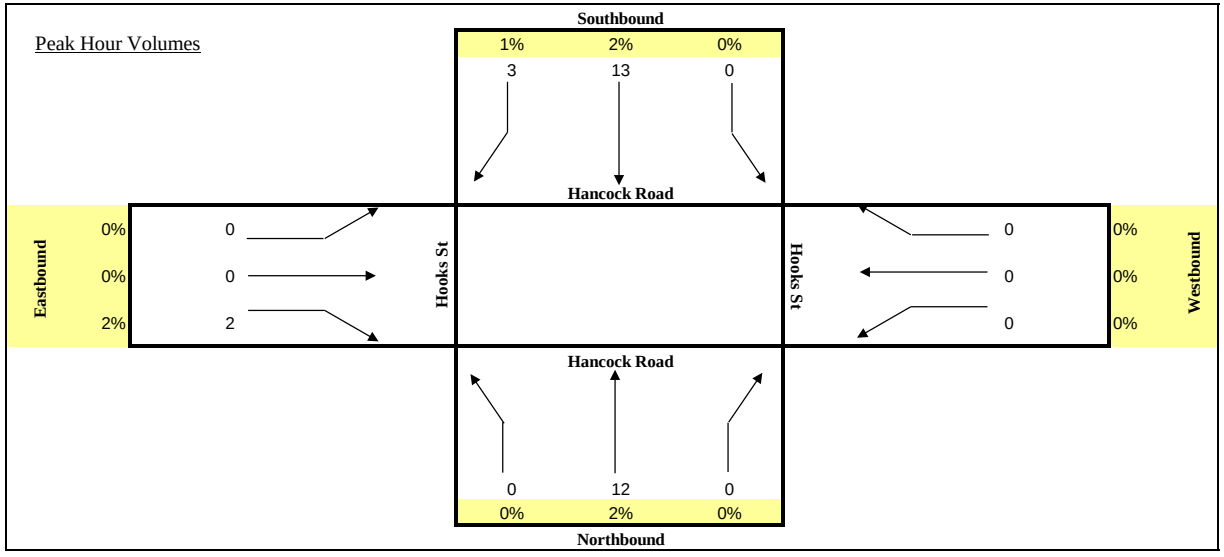


TURNING MOVEMENT COUNT ANALYSIS

TRUCKS

Intersection (N/S): Hancock Road
Intersection (E/W): Hooks St
Date: 8/26/2020

		Hancock Road			Hancock Road			Hooks St			Hooks St			
		NB			SB			EB			WB			
Start	End	R	T	L	R	T	L	R	T	L	R	T	L	TOTAL
4:00 PM	4:15 PM	0	2	0	0	3	1	0	0	0	0	0	0	6
4:15 PM	4:30 PM	0	2	0	0	2	0	0	0	0	0	0	0	4
4:30 PM	4:45 PM	0	4	0	0	6	0	0	0	2	0	0	0	12
4:45 PM	5:00 PM	0	4	0	0	2	2	0	0	0	0	0	0	8
5:00 PM	5:15 PM	1	1	0	0	0	0	0	0	0	0	0	0	2
5:15 PM	5:30 PM	0	2	0	0	2	0	0	0	1	0	0	0	5
5:30 PM	5:45 PM	0	1	0	0	0	1	0	0	0	0	0	0	2
5:45 PM	6:00 PM	0	1	0	0	3	1	0	0	0	0	0	0	5
Total for:	4:00 PM	5:00 PM	0	12	0	0	13	3	0	0	2	0	0	0	30
Total for:	5:00 PM	6:00 PM	1	5	0	0	5	2	0	0	1	0	0	0	14
Tota Peak Hour:	4:00 PM	5:00 PM	0	12	0	0	13	3	0	0	2	0	0	0	30
Overall PHF:	0.63														



TRAFFIC COUNT DATA

PROJECT NO:	Hooks Street DTTM
LOCATION CODE:	
COUNT LOCATION:	Granville Avenue
EQUIPMENT ID:	19-142

TYPE OF COUNT: 72 Hour Classification Count

TIME OF COUNT:

Start Date:	8/25/2020	Start Time:	Midnight
End Date:	8/27/2020	End Time:	Midnight

VOLUMES:

		Peak Hour Time:	3:15 PM
Average Daily:	711	Average Peak Hour:	102
Daily Truck Avg:	129	Max Hour Truck Avg:	21
		Peak Hour Truck Avg:	15

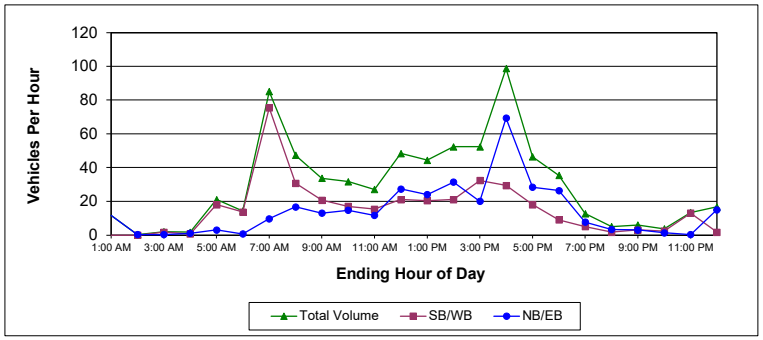
TRAVEL CHARACTERISTICS:

K MEASURED		D MEASURED	
K=	14.4%	D=	71.0%
T Max Hour	20.2%	T daily	18.2%
T med (max)	16.0%	T med Daily	14.5%
T heavy (max)	4.2%	T heavy Daily	3.7%
T Peak Hour	15.0%		
T med Peak Hour	13.7%	Axle Factor	0.98
T heavy Peak Hour	1.3%		

HOURLY DISTRIBUTIONS OF TRAFFIC VOLUMES

PROJECT NO: Hooks Street DTTM
LOCATION CODE: 0
COUNT LOCATION: Granville Avenue
EQUIPMENT ID: 19-142

HOUR ENDING AT	HOURLY VOLUME DIRECTION (NB OR EB)	HOURLY VOLUME DIRECTION (SB OR WB)	TOTAL VOLUME BOTH DIRECTIONS	DISTRIBUTION PERCENT DIRECTION (NB OR EB)	DISTRIBUTION PERCENT DIRECTION (SB OR WB)	TOTAL PERCENT BOTH DIRECTIONS
1:00 AM	12	0	12	3.43%	0.00%	1.64%
2:00 AM	0	0	0	0.10%	0.00%	0.05%
3:00 AM	0	2	2	0.10%	0.45%	0.28%
4:00 AM	1	1	2	0.29%	0.18%	0.23%
5:00 AM	3	18	21	0.88%	4.86%	2.95%
6:00 AM	1	14	14	0.20%	3.69%	2.02%
7:00 AM	10	75	85	2.84%	20.32%	11.96%
8:00 AM	17	31	47	4.90%	8.27%	6.66%
9:00 AM	13	21	34	3.82%	5.58%	4.74%
10:00 AM	15	17	32	4.31%	4.59%	4.46%
11:00 AM	12	15	27	3.43%	4.14%	3.80%
12:00 PM	27	21	48	8.04%	5.67%	6.80%
1:00 PM	24	20	44	7.06%	5.49%	6.24%
2:00 PM	31	21	52	9.22%	5.67%	7.36%
3:00 PM	20	32	52	5.88%	8.72%	7.36%
4:00 PM	69	29	99	20.39%	7.91%	13.88%
5:00 PM	28	18	46	8.33%	4.86%	6.52%
6:00 PM	26	9	35	7.75%	2.43%	4.97%
7:00 PM	8	5	13	2.25%	1.35%	1.78%
8:00 PM	3	2	5	0.98%	0.45%	0.70%
9:00 PM	3	3	6	0.88%	0.81%	0.84%
10:00 PM	1	2	4	0.39%	0.63%	0.52%
11:00 PM	0	13	13	0.10%	3.51%	1.88%
12:00 AM	15	2	17	4.41%	0.45%	2.35%
TOTALS	340	371	711	100.0%	100.0%	100.0%



Day 1

HOUR ENDING AT	HOURLY VOLUME DIRECTION (NB OR EB)	HOURLY VOLUME DIRECTION (SB OR WB)	TOTAL VOLUME BOTH DIRECTIONS
12:00 AM	8	0	8
1:00 AM	1	0	1
2:00 AM	0	1	1
3:00 AM	0	0	0
4:00 AM	5	17	22
5:00 AM	1	12	13
6:00 AM	8	82	90
7:00 AM	17	37	54
8:00 AM	16	15	31
9:00 AM	14	18	32
10:00 AM	10	7	17
11:00 AM	24	17	41
12:00 PM	28	19	47
1:00 PM	39	26	65
2:00 PM	20	30	50
3:00 PM	65	25	90
4:00 PM	30	18	48
5:00 PM	24	13	37
6:00 PM	7	6	13
7:00 PM	3	0	3
8:00 PM	3	5	8
9:00 PM	0	3	3
10:00 PM	0	12	12
11:00 PM	16	2	18
TOTALS	339	365	704

Day 2

HOUR ENDING AT	HOURLY VOLUME DIRECTION (NB OR EB)	HOURLY VOLUME DIRECTION (SB OR WB)	TOTAL VOLUME BOTH DIRECTIONS
12:00 AM	12	0	12
1:00 AM	0	0	0
2:00 AM	1	2	3
3:00 AM	3	2	5
4:00 AM	3	22	25
5:00 AM	0	14	14
6:00 AM	11	71	82
7:00 AM	18	25	43
8:00 AM	12	20	32
9:00 AM	9	15	24
10:00 AM	12	20	32
11:00 AM	28	20	48
12:00 PM	18	14	32
1:00 PM	32	23	55
2:00 PM	18	37	55
3:00 PM	67	27	94
4:00 PM	29	21	50
5:00 PM	28	9	37
6:00 PM	11	7	18
7:00 PM	3	2	5
8:00 PM	4	1	5
9:00 PM	2	2	4
10:00 PM	1	15	16
11:00 PM	15	2	17
TOTALS	337	371	708

Day 3

HOUR ENDING AT	HOURLY VOLUME DIRECTION (NB OR EB)	HOURLY VOLUME DIRECTION (SB OR WB)	TOTAL VOLUME BOTH DIRECTIONS
12:00 AM	15	0	15
1:00 AM	0	0	0
2:00 AM	0	2	2
3:00 AM	0	0	0
4:00 AM	1	15	16
5:00 AM	1	15	16
6:00 AM	10	73	83
7:00 AM	15	30	45
8:00 AM	11	27	38
9:00 AM	21	18	39
10:00 AM	13	19	32
11:00 AM	30	26	56
12:00 PM	26	28	54
1:00 PM	23	14	37
2:00 PM	22	30	52
3:00 PM	76	36	112
4:00 PM	26	15	41
5:00 PM	27	5	32
6:00 PM	5	2	7
7:00 PM	4	3	7
8:00 PM	2	3	5
9:00 PM	2	2	4
10:00 PM	0	12	12
11:00 PM	14	1	15
TOTALS	344	376	720

ADT TRAFFIC SERVICES
4807 FISKE CIR
ORLANDO, FL 32826
(407)310-5264

Untitled Vo
Site Code: 000002
Station ID:
Emil Jahna Road, South of SR 50

Start Time	8/25/2020 Tue	North		Hour Totals		South		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		5	11			6	19				
12:15		3	11			3	14				
12:30		0	22			0	15				
12:45		0	12	8	56	0	14	9	62	17	118
01:00		0	13			0	15				
01:15		1	10			0	17				
01:30		4	13			0	14				
01:45		1	10	6	46	0	18	0	64	6	110
02:00		0	18			0	14				
02:15		0	19			0	14				
02:30		0	10			0	18				
02:45		0	7	0	54	0	8	0	54	0	108
03:00		0	15			0	7				
03:15		0	7			0	13				
03:30		0	10			0	16				
03:45		0	11	0	43	1	9	1	45	1	88
04:00		0	8			0	11				
04:15		0	8			0	10				
04:30		1	13			0	12				
04:45		0	11	1	40	0	7	0	40	1	80
05:00		1	6			0	8				
05:15		1	10			0	13				
05:30		3	10			0	18				
05:45		3	4	8	30	0	9	0	48	8	78
06:00		4	10			0	13				
06:15		9	10			2	10				
06:30		4	4			4	11				
06:45		9	15	26	39	6	5	12	39	38	78
07:00		5	12			9	13				
07:15		13	6			5	7				
07:30		9	9			6	6				
07:45		9	7	36	34	7	6	27	32	63	66
08:00		11	7			6	9				
08:15		11	5			8	11				
08:30		12	6			11	8				
08:45		8	1	42	19	5	4	30	32	72	51
09:00		11	3			12	3				
09:15		21	2			11	5				
09:30		14	1			8	4				
09:45		14	3	60	9	9	4	40	16	100	25
10:00		9	2			11	2				
10:15		7	1			12	2				
10:30		15	1			3	3				
10:45		10	1	41	5	8	1	34	8	75	13
11:00		11	0			10	4				
11:15		11	2			6	1				
11:30		9	1			10	0				
11:45		13	1	44	4	6	0	32	5	76	9
Total		272	379			185	445			457	824
Percent		41.8%	58.2%			29.4%	70.6%			35.7%	64.3%
Grand Total		272	379			185	445			457	824
Percent		41.8%	58.2%			29.4%	70.6%			35.7%	64.3%
ADT		ADT 1,281		AADT 1,281							

Unit Type:	PicoCount 2500 V2.37
Serial Number:	17032808
ID:	19-142
Location:	Hooks Street
Comments:	
Dwell:	68 ms
Measurements:	English
Start Date:	8/25/2020
Start Time:	0:00
Export Version:	Volume V1.03
Interval:	15 Min
Title:	Vehicle Volume

Date/Time	Eastbound	Westbound	Total	
08/25/2020 00:00 - 00:14	1	4	5	
08/25/2020 00:15 - 00:29	2	5	7	
08/25/2020 00:30 - 00:44	4	4	8	
08/25/2020 00:45 - 00:59	2	4	6	26
08/25/2020 01:00 - 01:14	1	1	2	23
08/25/2020 01:15 - 01:29	2	2	4	20
08/25/2020 01:30 - 01:44	0	2	2	14
08/25/2020 01:45 - 01:59	1	4	5	13
08/25/2020 02:00 - 02:14	3	3	6	17
08/25/2020 02:15 - 02:29	1	0	1	14
08/25/2020 02:30 - 02:44	1	3	4	16
08/25/2020 02:45 - 02:59	0	2	2	13
08/25/2020 03:00 - 03:14	0	3	3	10
08/25/2020 03:15 - 03:29	1	2	3	12
08/25/2020 03:30 - 03:44	5	0	5	13
08/25/2020 03:45 - 03:59	3	2	5	16
08/25/2020 04:00 - 04:14	4	3	7	20
08/25/2020 04:15 - 04:29	1	1	2	19
08/25/2020 04:30 - 04:44	5	3	8	22
08/25/2020 04:45 - 04:59	5	7	12	29
08/25/2020 05:00 - 05:14	7	4	11	33
08/25/2020 05:15 - 05:29	7	12	19	50
08/25/2020 05:30 - 05:44	19	7	26	68
08/25/2020 05:45 - 05:59	19	15	34	90
08/25/2020 06:00 - 06:14	28	13	41	120
08/25/2020 06:15 - 06:29	52	26	78	179
08/25/2020 06:30 - 06:44	57	60	117	270
08/25/2020 06:45 - 06:59	78	118	196	432
08/25/2020 07:00 - 07:14	106	89	195	586
08/25/2020 07:15 - 07:29	95	56	151	659
08/25/2020 07:30 - 07:44	83	46	129	671
08/25/2020 07:45 - 07:59	76	61	137	612
08/25/2020 08:00 - 08:14	91	80	171	588
08/25/2020 08:15 - 08:29	77	77	154	591

08/25/2020 08:30 - 08:44	68	62	130	592
08/25/2020 08:45 - 08:59	67	79	146	601
08/25/2020 09:00 - 09:14	69	76	145	575
08/25/2020 09:15 - 09:29	60	91	151	572
08/25/2020 09:30 - 09:44	90	103	193	635
08/25/2020 09:45 - 09:59	87	130	217	706
08/25/2020 10:00 - 10:14	62	88	150	711
08/25/2020 10:15 - 10:29	65	96	161	721
08/25/2020 10:30 - 10:44	84	77	161	689
08/25/2020 10:45 - 10:59	78	91	169	641
08/25/2020 11:00 - 11:14	71	94	165	656
08/25/2020 11:15 - 11:29	78	94	172	667
08/25/2020 11:30 - 11:44	66	90	156	662
08/25/2020 11:45 - 11:59	76	97	173	666
08/25/2020 12:00 - 12:14	85	138	223	724
08/25/2020 12:15 - 12:29	89	174	263	815
08/25/2020 12:30 - 12:44	91	163	254	913
08/25/2020 12:45 - 12:59	87	115	202	942
08/25/2020 13:00 - 13:14	77	117	194	913
08/25/2020 13:15 - 13:29	111	108	219	869
08/25/2020 13:30 - 13:44	93	133	226	841
08/25/2020 13:45 - 13:59	136	131	267	906
08/25/2020 14:00 - 14:14	87	109	196	908
08/25/2020 14:15 - 14:29	90	130	220	909
08/25/2020 14:30 - 14:44	93	135	228	911
08/25/2020 14:45 - 14:59	97	124	221	865
08/25/2020 15:00 - 15:14	75	94	169	838
08/25/2020 15:15 - 15:29	82	119	201	819
08/25/2020 15:30 - 15:44	92	129	221	812
08/25/2020 15:45 - 15:59	65	133	198	789
08/25/2020 16:00 - 16:14	85	140	225	845
08/25/2020 16:15 - 16:29	109	117	226	870
08/25/2020 16:30 - 16:44	94	42	136	785
08/25/2020 16:45 - 16:59	92	39	131	718
08/25/2020 17:00 - 17:14	107	41	148	641
08/25/2020 17:15 - 17:29	87	116	203	618
08/25/2020 17:30 - 17:44	77	125	202	684
08/25/2020 17:45 - 17:59	67	115	182	735
08/25/2020 18:00 - 18:14	74	135	209	796
08/25/2020 18:15 - 18:29	77	102	179	772
08/25/2020 18:30 - 18:44	80	121	201	771
08/25/2020 18:45 - 18:59	62	96	158	747
08/25/2020 19:00 - 19:14	62	71	133	671
08/25/2020 19:15 - 19:29	53	80	133	625
08/25/2020 19:30 - 19:44	62	79	141	565
08/25/2020 19:45 - 19:59	70	69	139	546
08/25/2020 20:00 - 20:14	58	58	116	529

08/25/2020 20:15 - 20:29	49	60	109	505
08/25/2020 20:30 - 20:44	36	49	85	449
08/25/2020 20:45 - 20:59	30	22	52	362
08/25/2020 21:00 - 21:14	26	20	46	292
08/25/2020 21:15 - 21:29	19	27	46	229
08/25/2020 21:30 - 21:44	13	37	50	194
08/25/2020 21:45 - 21:59	17	10	27	169
08/25/2020 22:00 - 22:14	10	3	13	136
08/25/2020 22:15 - 22:29	9	20	29	119
08/25/2020 22:30 - 22:44	9	16	25	94
08/25/2020 22:45 - 22:59	10	14	24	91
08/25/2020 23:00 - 23:14	11	6	17	95
08/25/2020 23:15 - 23:29	2	6	8	74
08/25/2020 23:30 - 23:44	6	0	6	55
08/25/2020 23:45 - 23:59	6	2	8	39
08/26/2020 00:00 - 00:14	5	1	6	28
08/26/2020 00:15 - 00:29	3	1	4	24
08/26/2020 00:30 - 00:44	3	1	4	22
08/26/2020 00:45 - 00:59	4	0	4	18
08/26/2020 01:00 - 01:14	3	1	4	16
08/26/2020 01:15 - 01:29	0	0	0	12
08/26/2020 01:30 - 01:44	1	0	1	9
08/26/2020 01:45 - 01:59	0	0	0	5
08/26/2020 02:00 - 02:14	1	0	1	2
08/26/2020 02:15 - 02:29	4	1	5	7
08/26/2020 02:30 - 02:44	0	1	1	7
08/26/2020 02:45 - 02:59	2	0	2	9
08/26/2020 03:00 - 03:14	0	0	0	8
08/26/2020 03:15 - 03:29	1	0	1	4
08/26/2020 03:30 - 03:44	2	1	3	6
08/26/2020 03:45 - 03:59	0	1	1	5
08/26/2020 04:00 - 04:14	4	1	5	10
08/26/2020 04:15 - 04:29	6	2	8	17
08/26/2020 04:30 - 04:44	5	1	6	20
08/26/2020 04:45 - 04:59	7	1	8	27
08/26/2020 05:00 - 05:14	6	4	10	32
08/26/2020 05:15 - 05:29	10	3	13	37
08/26/2020 05:30 - 05:44	15	6	21	52
08/26/2020 05:45 - 05:59	20	7	27	71
08/26/2020 06:00 - 06:14	34	8	42	103
08/26/2020 06:15 - 06:29	37	13	50	140
08/26/2020 06:30 - 06:44	52	8	60	179
08/26/2020 06:45 - 06:59	83	44	127	279
08/26/2020 07:00 - 07:14	100	99	199	436
08/26/2020 07:15 - 07:29	94	49	143	529
08/26/2020 07:30 - 07:44	65	64	129	598
08/26/2020 07:45 - 07:59	105	75	180	651

08/26/2020 08:00 - 08:14	96	74	170	622	
08/26/2020 08:15 - 08:29	88	84	172	651	
08/26/2020 08:30 - 08:44	79	84	163	685	
08/26/2020 08:45 - 08:59	80	62	142	647	
08/26/2020 09:00 - 09:14	48	30	78	555	
08/26/2020 09:15 - 09:29	64	34	98	481	
08/26/2020 09:30 - 09:44	89	33	122	440	
08/26/2020 09:45 - 09:59	104	37	141	439	
08/26/2020 10:00 - 10:14	64	35	99	460	
08/26/2020 10:15 - 10:29	70	76	146	508	
08/26/2020 10:30 - 10:44	69	88	157	543	
08/26/2020 10:45 - 10:59	75	88	163	565	
08/26/2020 11:00 - 11:14	66	81	147	613	
08/26/2020 11:15 - 11:29	88	112	200	667	
08/26/2020 11:30 - 11:44	76	91	167	677	
08/26/2020 11:45 - 11:59	84	112	196	710	
08/26/2020 12:00 - 12:14	78	102	180	743	
08/26/2020 12:15 - 12:29	74	111	185	728	
08/26/2020 12:30 - 12:44	91	122	213	774	
08/26/2020 12:45 - 12:59	159	109	268	846	
08/26/2020 13:00 - 13:14	99	130	229	895	
08/26/2020 13:15 - 13:29	85	106	191	901	
08/26/2020 13:30 - 13:44	99	111	210	898	
08/26/2020 13:45 - 13:59	111	106	217	847	
08/26/2020 14:00 - 14:14	73	110	183	801	
08/26/2020 14:15 - 14:29	83	90	173	783	
08/26/2020 14:30 - 14:44	112	72	184	757	
08/26/2020 14:45 - 14:59	90	80	170	710	
08/26/2020 15:00 - 15:14	107	96	203	730	
08/26/2020 15:15 - 15:29	117	80	197	754	
08/26/2020 15:30 - 15:44	103	108	211	781	
08/26/2020 15:45 - 15:59	81	106	187	798	
08/26/2020 16:00 - 16:14	95	92	187	782	
08/26/2020 16:15 - 16:29	96	100	196	781	
08/26/2020 16:30 - 16:44	92	33	125	695	
08/26/2020 16:45 - 16:59	71	42	113	621	
08/26/2020 17:00 - 17:14	84	52	136	570	844
08/26/2020 17:15 - 17:29	100	105	205	579	
08/26/2020 17:30 - 17:44	97	123	220	674	
08/26/2020 17:45 - 17:59	96	105	201	762	
08/26/2020 18:00 - 18:14	98	120	218	844	
08/26/2020 18:15 - 18:29	72	123	195	834	
08/26/2020 18:30 - 18:44	75	87	162	776	
08/26/2020 18:45 - 18:59	69	72	141	716	
08/26/2020 19:00 - 19:14	74	78	152	650	
08/26/2020 19:15 - 19:29	51	54	105	560	
08/26/2020 19:30 - 19:44	62	66	128	526	

08/26/2020 19:45 - 19:59	47	87	134	519
08/26/2020 20:00 - 20:14	61	66	127	494
08/26/2020 20:15 - 20:29	40	48	88	477
08/26/2020 20:30 - 20:44	39	40	79	428
08/26/2020 20:45 - 20:59	33	31	64	358
08/26/2020 21:00 - 21:14	36	15	51	282
08/26/2020 21:15 - 21:29	33	22	55	249
08/26/2020 21:30 - 21:44	17	25	42	212
08/26/2020 21:45 - 21:59	24	9	33	181
08/26/2020 22:00 - 22:14	16	6	22	152
08/26/2020 22:15 - 22:29	11	9	20	117
08/26/2020 22:30 - 22:44	6	11	17	92
08/26/2020 22:45 - 22:59	6	9	15	74
08/26/2020 23:00 - 23:14	5	5	10	62
08/26/2020 23:15 - 23:29	4	4	8	50
08/26/2020 23:30 - 23:44	7	1	8	41
08/26/2020 23:45 - 23:59	4	2	6	32
08/27/2020 00:00 - 00:14	4	0	4	26
08/27/2020 00:15 - 00:29	4	1	5	23
08/27/2020 00:30 - 00:44	3	2	5	20
08/27/2020 00:45 - 00:59	5	0	5	19
08/27/2020 01:00 - 01:14	2	1	3	18
08/27/2020 01:15 - 01:29	0	1	1	14
08/27/2020 01:30 - 01:44	0	0	0	9
08/27/2020 01:45 - 01:59	1	0	1	5
08/27/2020 02:00 - 02:14	2	1	3	5
08/27/2020 02:15 - 02:29	2	0	2	6
08/27/2020 02:30 - 02:44	2	0	2	8
08/27/2020 02:45 - 02:59	1	1	2	9
08/27/2020 03:00 - 03:14	2	4	6	12
08/27/2020 03:15 - 03:29	1	2	3	13
08/27/2020 03:30 - 03:44	4	2	6	17
08/27/2020 03:45 - 03:59	1	3	4	19
08/27/2020 04:00 - 04:14	4	3	7	20
08/27/2020 04:15 - 04:29	3	4	7	24
08/27/2020 04:30 - 04:44	6	1	7	25
08/27/2020 04:45 - 04:59	8	5	13	34
08/27/2020 05:00 - 05:14	5	3	8	35
08/27/2020 05:15 - 05:29	8	11	19	47
08/27/2020 05:30 - 05:44	16	9	25	65
08/27/2020 05:45 - 05:59	16	14	30	82
08/27/2020 06:00 - 06:14	26	11	37	111
08/27/2020 06:15 - 06:29	49	22	71	163
08/27/2020 06:30 - 06:44	57	51	108	246
08/27/2020 06:45 - 06:59	82	111	193	409
08/27/2020 07:00 - 07:14	129	92	221	593
08/27/2020 07:15 - 07:29	93	54	147	669

08/27/2020 07:30 - 07:44	72	52	124	685
08/27/2020 07:45 - 07:59	92	72	164	656
08/27/2020 08:00 - 08:14	100	63	163	598
08/27/2020 08:15 - 08:29	97	66	163	614
08/27/2020 08:30 - 08:44	70	66	136	626
08/27/2020 08:45 - 08:59	79	96	175	637
08/27/2020 09:00 - 09:14	69	36	105	579
08/27/2020 09:15 - 09:29	67	78	145	561
08/27/2020 09:30 - 09:44	88	66	154	579
08/27/2020 09:45 - 09:59	106	52	158	562
08/27/2020 10:00 - 10:14	72	64	136	593
08/27/2020 10:15 - 10:29	71	62	133	581
08/27/2020 10:30 - 10:44	91	72	163	590
08/27/2020 10:45 - 10:59	65	72	137	569
08/27/2020 11:00 - 11:14	80	106	186	619
08/27/2020 11:15 - 11:29	95	74	169	655
08/27/2020 11:30 - 11:44	86	80	166	658
08/27/2020 11:45 - 11:59	84	70	154	675
08/27/2020 12:00 - 12:14	89	66	155	644
08/27/2020 12:15 - 12:29	81	84	165	640
08/27/2020 12:30 - 12:44	109	106	215	689
08/27/2020 12:45 - 12:59	94	94	188	723
08/27/2020 13:00 - 13:14	73	100	173	741
08/27/2020 13:15 - 13:29	77	80	157	733
08/27/2020 13:30 - 13:44	110	82	192	710
08/27/2020 13:45 - 13:59	151	80	231	753
08/27/2020 14:00 - 14:14	92	88	180	760
08/27/2020 14:15 - 14:29	84	104	188	791
08/27/2020 14:30 - 14:44	120	96	216	815
08/27/2020 14:45 - 14:59	103	98	201	785
08/27/2020 15:00 - 15:14	107	71	178	783
08/27/2020 15:15 - 15:29	90	139	229	824
08/27/2020 15:30 - 15:44	95	166	261	869
08/27/2020 15:45 - 15:59	78	150	228	896
08/27/2020 16:00 - 16:14	109	153	262	980
08/27/2020 16:15 - 16:29	114	142	256	1007
08/27/2020 16:30 - 16:44	79	124	203	949
08/27/2020 16:45 - 16:59	83	128	211	932
08/27/2020 17:00 - 17:14	109	73	182	852
08/27/2020 17:15 - 17:29	86	143	229	825
08/27/2020 17:30 - 17:44	100	135	235	857
08/27/2020 17:45 - 17:59	88	110	198	844
08/27/2020 18:00 - 18:14	86	100	186	848
08/27/2020 18:15 - 18:29	97	71	168	787
08/27/2020 18:30 - 18:44	82	98	180	732
08/27/2020 18:45 - 18:59	66	90	156	690
08/27/2020 19:00 - 19:14	79	62	141	645

08/27/2020 19:15 - 19:29	69	48	117	594
08/27/2020 19:30 - 19:44	76	34	110	524
08/27/2020 19:45 - 19:59	49	52	101	469
08/27/2020 20:00 - 20:14	46	54	100	428
08/27/2020 20:15 - 20:29	42	49	91	402
08/27/2020 20:30 - 20:44	42	30	72	364
08/27/2020 20:45 - 20:59	21	20	41	304
08/27/2020 21:00 - 21:14	36	29	65	269
08/27/2020 21:15 - 21:29	20	36	56	234
08/27/2020 21:30 - 21:44	28	19	47	209
08/27/2020 21:45 - 21:59	14	15	29	197
08/27/2020 22:00 - 22:14	27	10	37	169
08/27/2020 22:15 - 22:29	20	2	22	135
08/27/2020 22:30 - 22:44	11	9	20	108
08/27/2020 22:45 - 22:59	9	2	11	90
08/27/2020 23:00 - 23:14	10	1	11	64
08/27/2020 23:15 - 23:29	6	4	10	52
08/27/2020 23:30 - 23:44	4	2	6	38
08/27/2020 23:45 - 23:59	4	1	5	32
	15257	15778	31035	
	7629	7889	15518	

Appendix B
FDOT Seasonal Factor

2019 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
CATEGORY: 1100 LAKE COUNTYWIDE

MOCF: 0.94

WEEK	DATES	SF	PSCF
1	01/01/2019 - 01/05/2019	1.01	1.07
2	01/06/2019 - 01/12/2019	1.01	1.07
3	01/13/2019 - 01/19/2019	1.01	1.07
4	01/20/2019 - 01/26/2019	0.99	1.05
* 5	01/27/2019 - 02/02/2019	0.97	1.03
* 6	02/03/2019 - 02/09/2019	0.96	1.02
* 7	02/10/2019 - 02/16/2019	0.94	1.00
* 8	02/17/2019 - 02/23/2019	0.94	1.00
* 9	02/24/2019 - 03/02/2019	0.93	0.99
*10	03/03/2019 - 03/09/2019	0.93	0.99
*11	03/10/2019 - 03/16/2019	0.92	0.98
*12	03/17/2019 - 03/23/2019	0.93	0.99
*13	03/24/2019 - 03/30/2019	0.93	0.99
*14	03/31/2019 - 04/06/2019	0.94	1.00
*15	04/07/2019 - 04/13/2019	0.94	1.00
*16	04/14/2019 - 04/20/2019	0.95	1.01
*17	04/21/2019 - 04/27/2019	0.96	1.02
18	04/28/2019 - 05/04/2019	0.98	1.04
19	05/05/2019 - 05/11/2019	0.99	1.05
20	05/12/2019 - 05/18/2019	1.00	1.06
21	05/19/2019 - 05/25/2019	1.01	1.07
22	05/26/2019 - 06/01/2019	1.03	1.10
23	06/02/2019 - 06/08/2019	1.04	1.11
24	06/09/2019 - 06/15/2019	1.05	1.12
25	06/16/2019 - 06/22/2019	1.05	1.12
26	06/23/2019 - 06/29/2019	1.06	1.13
27	06/30/2019 - 07/06/2019	1.06	1.13
28	07/07/2019 - 07/13/2019	1.07	1.14
29	07/14/2019 - 07/20/2019	1.07	1.14
30	07/21/2019 - 07/27/2019	1.06	1.13
31	07/28/2019 - 08/03/2019	1.05	1.12
32	08/04/2019 - 08/10/2019	1.04	1.11
33	08/11/2019 - 08/17/2019	1.03	1.10
34	08/18/2019 - 08/24/2019	1.03	1.10
35	08/25/2019 - 08/31/2019	1.04	1.11
36	09/01/2019 - 09/07/2019	1.05	1.12
37	09/08/2019 - 09/14/2019	1.06	1.13
38	09/15/2019 - 09/21/2019	1.07	1.14
39	09/22/2019 - 09/28/2019	1.05	1.12
40	09/29/2019 - 10/05/2019	1.04	1.11
41	10/06/2019 - 10/12/2019	1.02	1.09
42	10/13/2019 - 10/19/2019	1.00	1.06
43	10/20/2019 - 10/26/2019	1.00	1.06
44	10/27/2019 - 11/02/2019	1.00	1.06
45	11/03/2019 - 11/09/2019	1.00	1.06
46	11/10/2019 - 11/16/2019	1.00	1.06
47	11/17/2019 - 11/23/2019	1.00	1.06
48	11/24/2019 - 11/30/2019	1.00	1.06
49	12/01/2019 - 12/07/2019	1.00	1.06
50	12/08/2019 - 12/14/2019	1.01	1.07
51	12/15/2019 - 12/21/2019	1.01	1.07
52	12/22/2019 - 12/28/2019	1.01	1.07
53	12/29/2019 - 12/31/2019	1.01	1.07

* PEAK SEASON

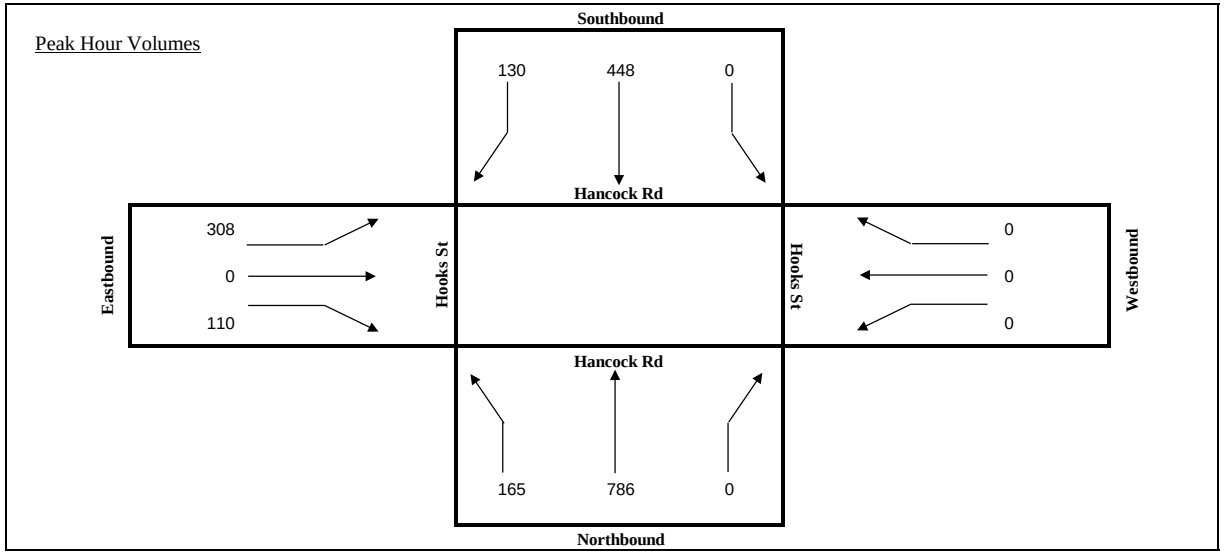
Appendix C
2019 & 2020 Traffic Count Data on US 192

TURNING MOVEMENT COUNT ANALYSIS

AUTOS & TRUCKS

Intersection (N/S): Hancock Rd
(E/W) Hooks St
Date: 9/26/2019

			Hancock Rd			Hancock Rd			Hooks St			Hooks St			
			NB			SB			EB			WB			
	Start	End	L	T	R	L	T	R	L	T	R	L	T	R	TOTAL
	7:00 AM	7:15 AM	84	208	0	0	104	42	70	0	24	0	0	0	532
	7:15 AM	7:30 AM	27	205	0	0	128	29	109	0	53	0	0	0	551
	7:30 AM	7:45 AM	23	168	0	0	123	28	62	0	15	0	0	0	419
	7:45 AM	8:00 AM	31	205	0	0	93	31	67	0	18	0	0	0	445
	8:00 AM	8:15 AM	41	207	0	0	109	24	63	0	21	0	0	0	465
	8:15 AM	8:30 AM	30	193	0	0	114	22	72	0	21	0	0	0	452
	8:30 AM	8:45 AM	25	213	0	0	108	23	62	0	22	0	0	0	453
	8:45 AM	9:00 AM	21	189	0	0	97	20	52	0	18	0	0	0	397
Total for:	7:00 AM	8:00 AM	165	786	0	0	448	130	308	0	110	0	0	0	1947
Total for:	8:00 AM	9:00 AM	117	802	0	0	428	89	249	0	82	0	0	0	1767
Tota Peak Hour:	7:00 AM	8:00 AM	165	786	0	0	448	130	308	0	110	0	0	0	1947
Overall PHF:	0.88														

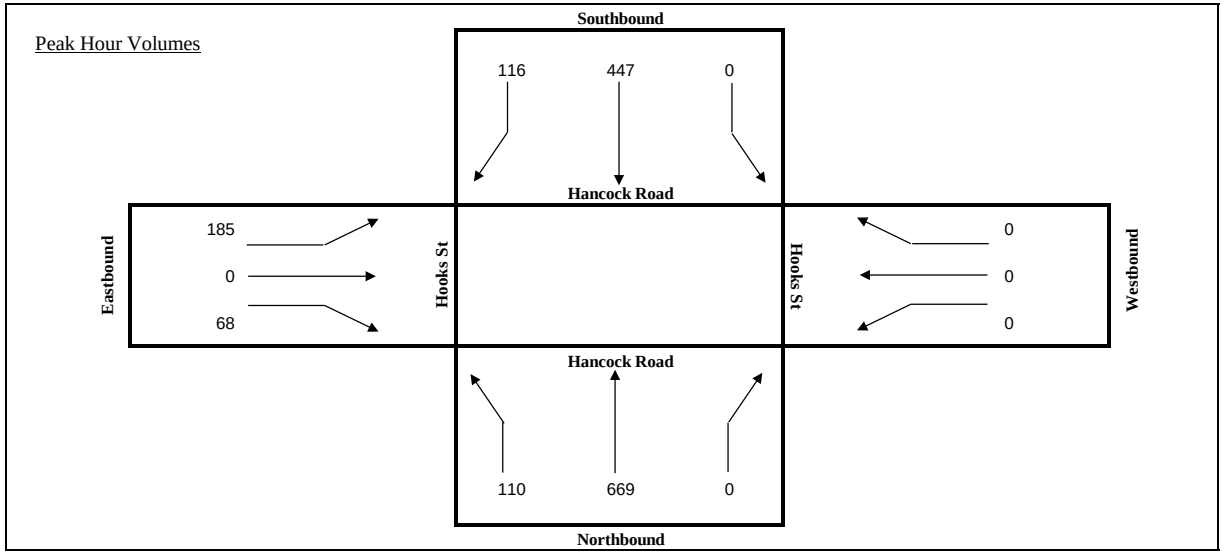


TURNING MOVEMENT COUNT ANALYSIS

AUTOS & TRUCKS

Intersection (N/S): Hancock Road
(E/W) Hooks St
Date: 8/26/2020

			Hancock Road			Hancock Road			Hooks St			Hooks St			
			NB			SB			EB			WB			
	Start	End	L	T	R	L	T	R	L	T	R	L	T	R	TOTAL
	7:00 AM	7:15 AM	38	139	0	0	65	20	39	0	35	0	0	0	336
	7:15 AM	7:30 AM	17	162	0	0	98	27	42	0	11	0	0	0	357
	7:30 AM	7:45 AM	17	177	0	0	99	22	35	0	12	0	0	0	362
	7:45 AM	8:00 AM	28	175	0	0	115	33	57	0	17	0	0	0	425
	8:00 AM	8:15 AM	22	162	0	0	117	27	36	0	20	0	0	0	384
	8:15 AM	8:30 AM	28	188	0	0	114	27	45	0	18	0	0	0	420
	8:30 AM	8:45 AM	32	144	0	0	101	29	47	0	13	0	0	0	366
	8:45 AM	9:00 AM	31	146	0	0	97	25	41	0	16	0	0	0	356
Total for:	7:00 AM	8:00 AM	100	653	0	0	377	102	173	0	75	0	0	0	1480
Total for:	8:00 AM	9:00 AM	113	640	0	0	429	108	169	0	67	0	0	0	1526
Tota Peak Hour:	7:45 AM	8:45 AM	110	669	0	0	447	116	185	0	68	0	0	0	1595
Overall PHF:	0.94														

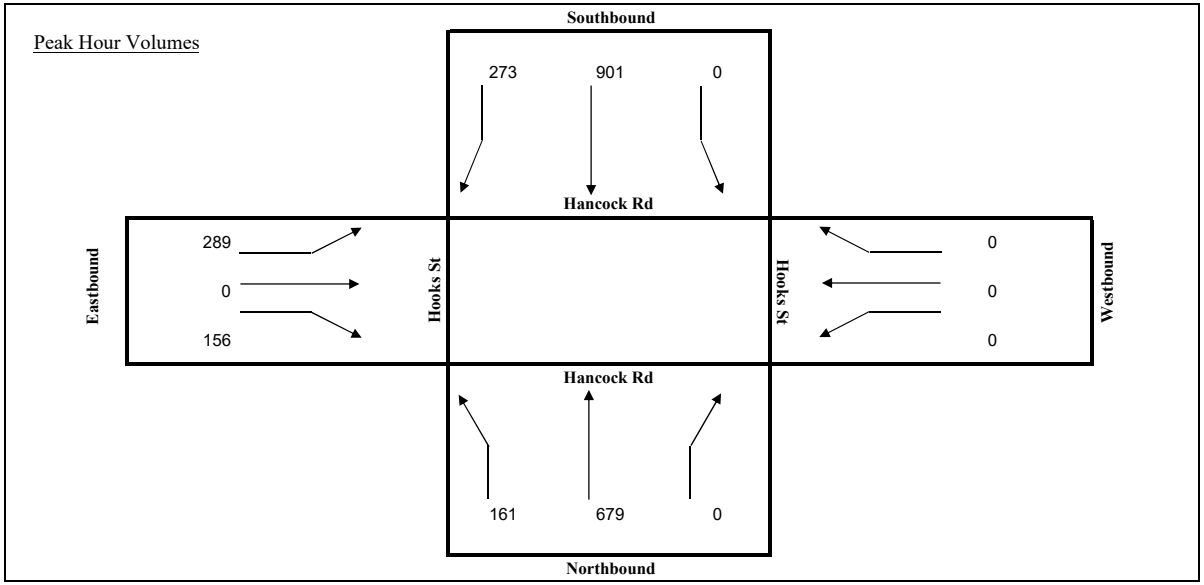


TURNING MOVEMENT COUNT ANALYSIS

AUTOS & TRUCKS

Intersection (N/S): Hancock Rd
Intersection (E/W): Hooks St
Date: 9/26/2019

		Hancock Rd			Hancock Rd			Hooks St			Hooks St			
		NB			SB			EB			WB			
Start	End	L	T	R	L	T	R	L	T	R	L	T	R	TOTAL
4:00 PM	4:15 PM	35	133	0	0	224	72	65	0	44	0	0	0	573
4:15 PM	4:30 PM	33	163	0	0	208	61	62	0	44	0	0	0	571
4:30 PM	4:45 PM	37	170	0	0	198	66	71	0	41	0	0	0	583
4:45 PM	5:00 PM	40	154	0	0	225	71	69	0	39	0	0	0	598
5:00 PM	5:15 PM	43	170	0	0	237	76	81	0	34	0	0	0	641
5:15 PM	5:30 PM	41	185	0	0	241	60	68	0	42	0	0	0	637
5:30 PM	5:45 PM	35	174	0	0	219	61	60	0	33	0	0	0	582
5:45 PM	6:00 PM	30	147	0	0	200	66	64	0	37	0	0	0	544
Total for:	4:00 PM	5:00 PM	145	620	0	0	855	270	267	0	168	0	0	0	2325
Total for:	5:00 PM	6:00 PM	149	676	0	0	897	263	273	0	146	0	0	0	2404
Tota Peak Hour:	4:30 PM	5:30 PM	161	679	0	0	901	273	289	0	156	0	0	0	2459
Overall PHF:	0.96														

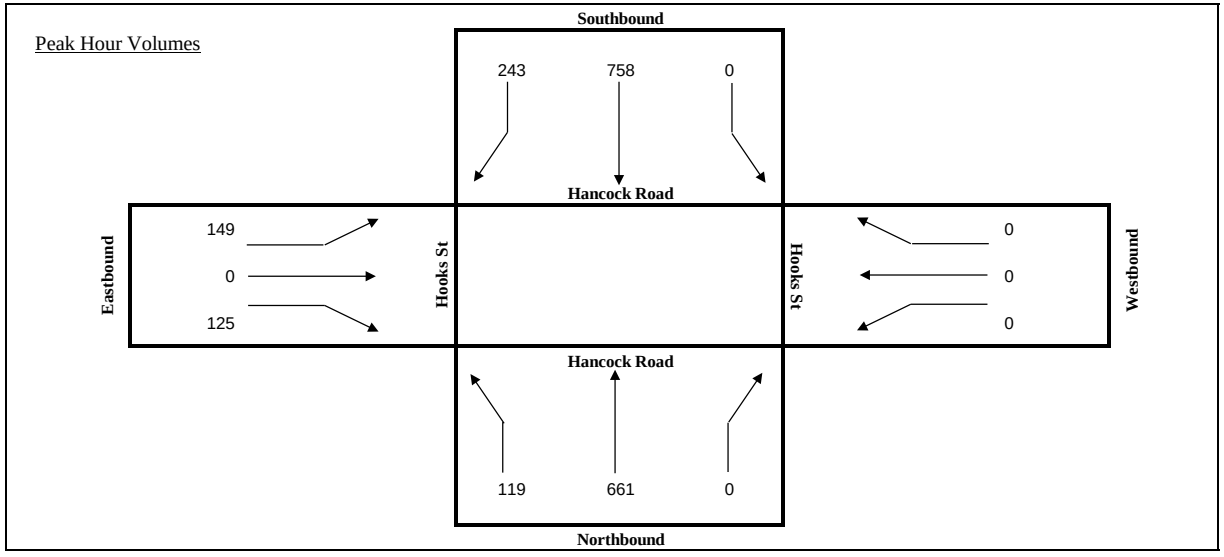


TURNING MOVEMENT COUNT ANALYSIS

AUTOS & TRUCKS

Intersection (N/S): Hancock Road
Intersection (E/W): Hooks St
Date: 8/26/2020

			Hancock Road			Hancock Road			Hooks St			Hooks St			
			NB			SB			EB			WB			
	Start	End	L	T	R	L	T	R	L	T	R	L	T	R	TOTAL
	4:00 PM	4:15 PM	23	124	0	0	156	43	33	0	24	0	0	0	403
	4:15 PM	4:30 PM	25	103	0	0	205	49	50	0	35	0	0	0	467
	4:30 PM	4:45 PM	44	214	0	0	179	33	43	0	34	0	0	0	547
	4:45 PM	5:00 PM	19	152	0	0	168	44	32	0	32	0	0	0	447
	5:00 PM	5:15 PM	35	150	0	0	186	63	36	0	29	0	0	0	499
	5:15 PM	5:30 PM	30	170	0	0	200	60	31	0	33	0	0	0	524
	5:30 PM	5:45 PM	34	181	0	0	195	59	41	0	30	0	0	0	540
	5:45 PM	6:00 PM	20	160	0	0	177	61	41	0	33	0	0	0	492
Total for:	4:00 PM	5:00 PM	111	593	0	0	708	169	158	0	125	0	0	0	1864
Total for:	5:00 PM	6:00 PM	119	661	0	0	758	243	149	0	125	0	0	0	2055
Tota Peak Hour:	5:00 PM	6:00 PM	119	661	0	0	758	243	149	0	125	0	0	0	2055
Overall PHF:	0.95														



Appendix D

Lake County TMS Segment Report / FDOT QLOS Table

COUNTY TRANSPORTATION MANAGEMENT SYSTEM

LAKE COUNTY TMS SEGMENT REPORT - 2014/15 Level of Service

Posted on January 16, 2015

Segment ID	ROAD NAME	FROM	TO	NUMBER OF LANES	AREA TYPE	MAINTAINING AGENCY	JURISDICTION	FUNCTIONAL CLASSIFICATION	FDOT LOS STANDARD	LOS CAPACITY	SIS?	LOS CODE	PEAK HOUR DIRECTION CAPACITIES					2014/15 LEVEL OF SERVICE												
													A	B	C	D	E	AADT	PM PEAK HOUR TOTAL	PEAK HOUR / PEAK DIRECTION	EB/NB	RESERVED	TOTAL	V/C RATIO	LOS	WB/SB	RESERVED	TOTAL	V/C RATIO	LOS
1180	C.R. 473	FOUNTAIN LAKE BOULEVARD	US 441	4	U	COUNTY	UNINCORPORATED LAKE COUNTY	COLLECTOR	D	1,467	N	4UC	0	0	657	1,467	1,530	13,030	1,157	714	714	39	753	0.51	D	443	23	466	0.32	C
1190	C.R. 474	SR 33	GREEN SWAMP ROAD	2	R	COUNTY	UNINCORPORATED LAKE COUNTY	MAJOR COLLECTOR	C	850	N	2RMC	0	450	850	1,200	1,640	2,702	178	110	68	26	94	0.11	B	110	20	130	0.15	B
1200	C.R. 474	GREEN SWAMP ROAD	US 27	2	R	COUNTY	UNINCORPORATED LAKE COUNTY	MAJOR COLLECTOR	C	850	N	2RMC	0	450	850	1,200	1,640	1,939	148	91	57	32	89	0.10	B	91	26	117	0.14	B
1210	C.R. 478	SR 19	JAMARLY ROAD	2	T	COUNTY	CITY OF GROVELAND	MAJOR COLLECTOR	D	720	N	2TMC	0	0	639	720	720	936	102	66	66	0	66	0.09	C	36	0	36	0.05	C
1220	C.R. 48	SUMTER COUNTY LINE	CLEARWATER LAKE RD	2	T	COUNTY	CITY OF LEESBURG	MAJOR COLLECTOR	D	720	N	2TMC	0	0	639	720	720	2,221	199	122	77	0	77	0.11	C	122	0	122	0.17	C
1225	C.R. 48	CLEARWATER LAKE RD	CR 33	2	T	COUNTY	CITY OF LEESBURG	MAJOR COLLECTOR	D	720	N	2TMC	0	0	639	720	720	2,218	194	115	79	0	79	0.11	C	115	0	115	0.16	C
1230	C.R. 48	CR 33	HAYWOOD WORM FARM RD	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	MAJOR COLLECTOR	D	792	N	2UMC	0	0	747	792	792	4,978	385	226	159	29	188	0.24	C	226	35	261	0.33	C
1235	C.R. 48	HAYWOOD WORM FARM RD	US 27	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	MAJOR COLLECTOR	D	792	N	2UMC	0	0	747	792	792	6,733	596	299	299	29	328	0.41	C	297	35	332	0.42	C
1240	C.R. 48	US 27	LIME AVENUE	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	MAJOR COLLECTOR	D	792	N	2UMC	0	0	747	792	792	8,765	739	379	379	87	466	0.59	C	360	105	465	0.59	C
1250	C.R. 48	LIME AVENUE	SR 19	2	T	COUNTY	HOWEY-IN-THE-HILLS	MAJOR COLLECTOR	D	720	N	2TMC	0	0	639	720	720	7,252	577	323	323	116	439	0.61	C	254	144	398	0.55	C
1260	C.R. 48	CR 561	RANCH ROAD	2	U	COUNTY	TOWN OF ASTATULA	MAJOR COLLECTOR	D	792	N	2UMC	0	0	747	792	792	5,448	563	298	298	15	313	0.40	C	265	25	290	0.37	C
1270	C.R. 48	RANCH ROAD	CR 448A	2	R	COUNTY	UNINCORPORATED LAKE COUNTY	MAJOR COLLECTOR	C	670	N	2R1	0	0	670	740	740	5,448	563	298	298	0	298	0.44	C	265	0	265	0.40	C
1280	C.R. 50 (SUNSET AVENUE)	CR 33	SR 50	2	U	COUNTY	CITY OF MASCOTTE	MAJOR COLLECTOR	D	792	N	2UMC	0	0	747	792	792	1,144	126	74	52	5	57	0.07	C	74	3	77	0.10	C
1290	C.R. 50	US 27	TURKEY FARM ROAD	2	U	COUNTY	CITY OF MINNEOLA	MAJOR COLLECTOR	D	792	N	2UMC	0	0	747	792	792	10,129	860	483	377	195	572	0.72	C	483	172	655	0.83	C
1300	C.R. 50	TURKEY FARM ROAD	CR 455	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	MAJOR COLLECTOR	D	792	N	2UMC	0	0	747	792	792	4,308	546	417	417	305	722	0.91	C	129	441	570	0.72	C
1310	C.R. 50	CR 455	ORANGE COUNTY LINE	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	MAJOR COLLECTOR	D	792	N	2UMC	0	0	747	792	792	6,100	689	541	148	94	242	0.31	C	541	100	641	0.81	C
1320	C.R. 500A/ OLD 441	SR 19	DORA AVENUE	2	U	COUNTY	CITY OF TAVARES	ARTERIAL 2	D	750	N	2U2	0	0	370	750	800	16,495	1,361	774	774	7	781	1.04	E	587	8	595	0.79	D
1330	C.R. 500A/ OLD 441	DORA AVENUE	BAY ROAD	2	U	COUNTY	CITY OF TAVARES	ARTERIAL 1	D	880	N	2U1	0	0	830	880	880	7,784	679	344	335	88	423	0.48	C	344	51	395	0.45	C
1340	C.R. 500A/ OLD 441	BAY ROAD	CR 44C / EUDORA AVENUE	2	U	COUNTY	CITY OF MOUNT DORA	ARTERIAL 2	D	750	N	2U2	0	0	370	750	800	7,311	625	317	308	0	308	0.41	C	317	0	317	0.42	C
1350	C.R. 500A/ OLD 441	CR 44C / EUDORA DRIVE	LAKESHORE DRIVE	2	U	COUNTY	CITY OF MOUNT DORA	ARTERIAL 2	D	750	N	2U2	0	0	370	750	800	10,908	907	466	466	14	480	0.64	D	441	24	465	0.62	D
1360	C.R. 500A/ OLD 441	LAKESHORE DRIVE	5TH AVENUE	2	U	COUNTY	CITY OF MOUNT DORA	ARTERIAL 2	D	750	N	2U2	0	0	370	750	800	8,602	827	460	367	0	367	0.49	C	460	0	460	0.61	D
1390	C.R. 500A/ OLD 441	SR 46	ORANGE COUTNY LINE	2	U	COUNTY	CITY OF MOUNT DORA	ARTERIAL 2	D	750	N	2U2	0	0	370	750	800	4,005	407	240	167	0	167	0.22	C	240	0	240	0.32	C
1400	C.R. 561	SR 19	CR 448	2	U	COUNTY	CITY OF TAVARES	MAJOR COLLECTOR	D	792	N	2UMC	0	0	747	792	792	10,380	948	484	464	21	485	0.61	C	484	7	491	0.62	C
1410	C.R. 561	CR 448	CR 48	2	U	COUNTY	ASTATULA/TAVARES	MAJOR COLLECTOR	D	792	N	2UMC	0	0	747	792	792	7,393	677	372	305	4	309	0.39	C	372	13	385	0.49	C
1420	C.R. 561	CR 48	SOUTH ASTATULA CITY LIMIT	2	T	COUNTY	TOWN OF ASTATULA	MAJOR COLLECTOR	D	720	N	2TMC	0	0	639	720	720	8,772	829	471	358	0	358	0.50	C	471	0	471	0.65	C
1430	C.R. 561	SOUTH ASTATULA CITY LIMIT	CR 455	2	T	COUNTY	UNINCORPORATED LAKE COUNTY	MAJOR COLLECTOR	D	720	N	2TMC	0	0	639	720	720	8,772	829	471	358	28	386	0.54	C	471	48	519	0.72	C
1440	C.R. 561	CR 455	HOWEY CROSS ROAD	2	T	COUNTY	UNINCORPORATED LAKE COUNTY	MAJOR COLLECTOR	D	720	N	2TMC	0	0	639	720	720	6,147	636	320	320	42	362	0.50	C	316	25	341	0.47	C
1450	C.R. 561	HOWEY CROSS ROAD	TURNPIKE ROAD / CR 561A	2	T	COUNTY	UNINCORPORATED LAKE COUNTY	MAJOR COLLECTOR	D	720	N	2TMC	0	0	639	720	720	6,289	595	324	271	68	339	0.47	C	324	40	364	0.51	C
1460	C.R. 561 / C.R. 561A	TURNPIKE ROAD / CR 561A	US 27	2	T	COUNTY	UNINCORPORATED LAKE COUNTY	MAJOR COLLECTOR	D	720	N	2TMC	0	0	639	720	720	7,664	708	359	359	69	428	0.59	C	349	41	390	0.54	C
1470	C.R. 561 (MAIN AVENUE)	US 27	EAST AVENUE	2	U	COUNTY	CLERMONT/MINNEOLA	COLLECTOR	D	675	N	2UC	0	0	333	675	720	1,845	165	96	69	0	69	0.10	C	96	0	96	0.14	C
1480	C.R. 561	EAST AVENUE	W MINNEOLA AVENUE	2	U	COUNTY	CITY OF CLERMONT	COLLECTOR	D	675	N	2UC	0	0	333	675	720	1,845	165	96	69	0	69	0.10	C	96	0	96	0.14	C
1500	C.R. 561	C.R. 561A	SR 50	2	U	COUNTY	CITY OF CLERMONT	MAJOR COLLECTOR	D	792	N	2UMC	0	0	747	792	792	2,886	258	130	130	0	130	0.16	C	128	0	128	0.16	C
1510	C.R. 561	SR 50	LOG HOUSE ROAD	2	U	COUNTY	CITY OF CLERMONT	MAJOR COLLECTOR	D	792	N	2UMC	0	0	747	792	792	5,515	538	290	248	9	257	0.32	C	290	18	308	0.39	C
1520	C.R. 561	LOG HOUSE ROAD	FLORIDA BOYS RANCH ROAD	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	MAJOR COLLECTOR	D	792	N	2UMC	0	0	747	792	792	2,557	175	113	113	27	140	0.18	C	62	52	114	0.14	C
1530	C.R. 561	FLORIDA BOYS RANCH ROAD	SR 33	2	R	COUNTY	UNINCORPORATED LAKE COUNTY	MAJOR COLLECTOR	C	850	N	2RMC	0	450	850	1,200	1,640	1,231	119	76	43	9	52	0.06	B	76	5	81	0.10	B
1540	C.R. 561A	TURNPIKE ROAD / CR 561	SCRUB JAY LN	2	T	COUNTY	UNINCORPORATED LAKE COUNTY	MAJOR COLLECTOR	D	720	N	2TMC	0	0	639	720	720	1,397	126	69	69	160	229	0.32	C	57	97	154	0.21	C
1545	C.R. 561A	SCRUB JAY LN	CR 455	2	T	COUNTY	UNINCORPORATED LAKE COUNTY	MAJOR COLLECTOR	D	720	N	2TMC	0	0	639	720	720	1,378	130	72	58	160	218	0.30	C	72	97	169	0.23	C
1550	C.R. 561A	CR 561	C.R. 565A	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	COLLECTOR	D	675	N	2UC	0	0	333	675	720	2,886	258	130	130	0	130	0.19	C	128	0	128	0.19	C
1560	C.R. 561A	CR 565A	JALARMY ROAD	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	COLLECTOR	D	675	N	2UC	0	0	333	675	720	4,173	412	221	191	0	191	0.28	C	221	0	221	0.33	C
1570	C.R. 561A	JALAMRY ROAD	US 27	2	U	COUNTY	CITY OF MINNEOLA	COLLECTOR	D	675	N	2UC	0	0	333	675	720	7,561	644	363	281	0	281	0.42	C	363	0	363	0.54	D
1580	C.R. 565	US 27	KJELLSTROM LANE	2	T	COUNTY	GROVELAND/MASCOTTE	COLLECTOR	D	612	N	2TC	0	0	297	612	648	978	110	76	34	3	37	0.06	C	76	5	81	0.13	C
1590	C.R. 565 (VILLA CITY ROAD)	KJELLSTROM LANE	SR 50	2	U	COUNTY	CITY OF GROVELAND	COLLECTOR	D	675	N	2UC	0	0	333	675	720	2,838	294	163	163	3	166	0.25	C	131	5	136	0.20	C
1600	C.R. 565	SR 50	SLOANS RIDGE	2	U	COUNTY	CITY OF MASCOTTE	COLLECTOR	D	675	N	2UC	0	0	333	675	720	622	57	35	22	0	22	0.03	C	35	0	35	0.05	C
1610	C.R. 565	SLOANS RIDGE	LAKE ERIE ROAD	2	R	COUNTY	UNINCORPORATED LAKE COUNTY	COLLECTOR	C	603	N	2RC	0	0	603	666	666	622	57	35	22	0	22	0.04	C	35	0	35	0.06	C
1620	C.R. 565A	SR 50	CR 561A	2	U	COUNTY	CLERMONT/GROVELAND	COLLECTOR	D	675	N	2UC	0	0	333	675	720	7,386	692	359	333	19	352	0.52	D	359	31	390	0.58	D
1630	C.R. 565A	SR 50	CR 565B	2	U	COUNTY	CITY OF GROVELAND	COLLECTOR	D	675	N	2UC	0	0	333	675	720	1,965	179	94	85	177	262	0.39	C	94	126	220	0.33	C
1640	C.R. 565B	SR 33	CR 561	2	R	COUNTY	UNINCORPORATED LAKE COUNTY	COLLECTOR	C	603	N	2RC	0	0	603	666	666	2,055	179	95	95	9	104	0.17	C	84	5	89	0.15	C
1650	CANAL STREET	US 441	MAIN STREET	2	U	CITY OF LEESBURG	CITY OF LEESBURG	MAJOR COLLECTOR	D	792	N	2UMC	0	0	747	792	792	3,913	377	215	215	0	215	0.27	C	162	1	163	0.21	C
1660	CANAL STREET	MAIN STREET	SR 44	2	U	CITY OF LEESBURG	CITY OF LEESBURG	MAJOR COLLECTOR	D	792	N	2UMC	0	0	747	792	792	3,183	297	167	130	0	130	0.16	C	167	3	170	0.21	C
1670	CITRUS TOWER BOULEVARD	US 27	OAKLEY SEAVER DRIVE	2	U	COUNTY	CITY OF CLERMONT	MAJOR COLLECTOR	D	792	N	2UMC	0	0	747	792	792	11,752	972	563	409	3	412	0.52	C	563	6	569	0.72	C
1680	CITRUS TOWER BOULEVARD	OAKLEY SEAVER DRIVE	SR 50	4	U	COUNTY	CITY OF CLERMONT	MAJOR COLLECTOR	D	1,800	N	4UMC	0	0	1,719	1,800	1,800	17,147	1,253	763	763	60	823	0.46	C	490	62	552	0.31	C
1690	CITRUS TOWER BOULEVARD	SR 50	HOOKS STREET	4	U	COUNTY	CITY OF CLERMONT	MAJOR COLLECTOR	D	1,800	N	4UMC	0	0	1,719	1,800	1,800	14,849	1,209	719	490	85	575	0.32	C	719	102	821	0.46	C
1692	CITRUS TOWER BOULEVARD	HOOKS STREET	JOHNS LAKE ROAD	4	U	COUNTY	CITY OF CLERMONT	MAJOR COLLECTOR	D	1,800	N	4UMC	0	0	1,719	1,800	1,800	15,687	1,310	730	580	88	668	0.37	C	730	108	838	0.47	C
1695	CITRUS TOWER BOULEVARD	JOHNS LAKE ROAD	US 27	4	U	COUNTY	CITY OF CLERMONT	MAJOR COLLECTOR	D	1,800	N	4UMC	0	0	1,719	1,800	1,800	12,393	987	565	422	27	449	0.25	C	565	50	615	0.34	C
1700	DAVID WALKER DRIVE	OLD US 441 / CR 500A	CR 19A	2	U	COUNTY	CITY OF TAVARES	COLLECTOR	D	675	N	2UC	0	0	333	675	720	6,860	562	284	284	76	360	0.53	D	278	44	322	0.48	C
1710	DAVID WALKER DRIVE	CR 19A	US 441	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	COLLECTOR	D	675	N	2UC	0	0	333	675	720	6,860	562	284	284	20	304	0.45	C	278	29	307	0.45	C
1720	DAVID WALKER DRIVE	US 441	MOUNT HOMER ROAD	2	U	COUNTY	CITY OF EUSTIS	COLLECTOR	D	675	N	2UC	0	0	333	675	720	4,363	357	196	161	13	174	0.26	C	196	24	220	0.33	C
1730	DAVID WALKER DRIVE	MOUNT HOMER ROAD	FLINKS AVE/KURT AVE	2	U	COUNTY	CITY OF EUSTIS	COLLECTOR	D	675	N	2UC	0	0	333	675	720	4,562	389	236	153	0	153	0.23	C	236	0	236	0.35	C
1740	DEAD RIVER ROAD	WEST TERMINI	SR 19	2	U	COUNTY	CITY OF TAVARES	COLLECTOR	D	675	N	2UC	0	0	333	675	720	6,284	517	300	217	119	336	0.50	D	300	211	511	0.76	D
1750	DONNELLY STREET	US 441	11TH AVENUE	2	U	CITY OF MT. DORA	CITY OF MOUNT DORA	COLLECTOR	E	720	N	2UC	0	0	333	675	720	10,446	883	494	494	17	511	0.71	D	389	13	402	0.56	D
1760	DONNELLY STREET	11TH AVENUE	5TH AVENUE	2	U	CITY OF MT. DORA	CITY OF MOUNT DORA	COLLECTOR	E	720	N	2UC	0	0	333	675	720	10,446	883	494	494	0	494	0.69	D	389	0	389	0.54	D
1770	DUDA ROAD	CR 448A	ORANGE COUTNY LINE	2	R	COUNTY	UNINCORPORATED LAKE COUNTY	COLLECTOR	C	603	N	2RC	0	0	603	666	666	4,615	379	205	174	0	174	0.29	C	205	0	205	0.34	C
1780	EAGLES NEST ROAD	US 27	CR 466B	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	COLLECTOR	D	675	N	2UC	0	0	333	675	720	2,447	233	166	166	4	170	0.25	C	67	3	70	0.10	C
1790	EAST AVENUE	CR 561	SR 50	2	U	CITY OF CLERMONT	CITY OF CLERMONT	COLLECTOR	D	675	N	2UC	0	0	333	675	720	5,703	506	255	251	0	251	0.37	C	255	0	255	0.38	C
1800	EAST CROOKED LAKE ROAD	LAKEVIEW DRIVE	BROADVIEW AVENUE	2	R	COUNTY	CITY OF EUSTIS	COLLECTOR	C	603	N	2RC	0	0	603	666	666	4,367	412	253	253	0	253	0.42	C	159	0	159	0.26	C
1810	EAST CROOKED LAKE ROAD	BROADVIEW AVENUE	US 441	2	U	COUNTY	CITY OF EUSTIS	COLLECTOR	D	675	N	2UC	0	0	333	675	720	4,367	412	253	253	0	253	0.37	C	159	0	159	0.24	C
1820	EMERALDA AVENUE	EMERALDA ISLAND ROAD	CR 44	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	COLLECTOR	D	675	N	2UC	0	0	333	675	720	3,191	288	188	188	0	188	0.28	C	100	0	100	0.15	C
1830	EMPIRE CHURCH ROAD	CR 565	ANDERSON ROAD	2	R	COUNTY	CITY OF GROVELAND	COLLECTOR	C	603	N	2RC	0	0	603	666	666	1,162	110	76	34	2	36	0.06	C	76	1	77	0.13	C
1840	ESTES ROAD	CR 44A	LAKE LINCOLN LANE	2	T	COUNTY	UNINCORPORATED LAKE COUNTY	COLLECTOR	D	612	N	2TC	0	0	297	612	648	3,162	303	155	148	0	148	0.24	C	155	0	155	0.25	C
1850	ESTES ROAD	LAKE LINCOLN LANE	SR 44	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	COLLECTOR	D	675	N	2UC	0	0	333	675	720	3,162	303	155	148	0	148	0.22	C	155	1	156	0.23	C
1860	EUDORA ROAD	OLD MT DORA ROAD	US 441	2	U	CITY OF EUSTIS	CITY OF EUSTIS	COLLECTOR	D	675	N	2UC	0	0	333	675	720	4,838	432	237	237	0	237	0.35	C	195	0	195	0.29	C
1865	EXCALLIBUR ROAD	HOOKS STREET	CITRUS TOWER BOULEVARD	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	COLLECTOR	D	675	N	2UC	0	0	333	675	720	4,312	415	233	233	0	233	0.35	C	182	0	182	0.27	C
1870	FISH CAMP ROAD	CR 452	CR 44	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	COLLECTOR	D	675	N	2UC	0	0	333	675	720	1,327	147	95	95	5	100	0.15	C	52	5	57	0.08	C
1875	GRASSY LAKE ROAD/FOSGATE ROAD	CR 50 (WASHINGTON STREET)	HANCOCK ROAD	2	U	CITY OF CLERMONT	UNINCORPORATED LAKE COUNTY	COLLECTOR	D	675	N	2UC	0	0	333	675	720	2,196	221	130	91	0	91	0.13	C	130	0	130	0.19	C
1880	GOLFLINKS AVENUE	KURT STREET	SR 19 / BAY STREET	2	U	CITY OF EUSTIS	CITY OF EUSTIS	COLLECTOR	D	675	N	2UC	0	0	333	675	720	875	84	43	41	0	41	0.06	C	43	0	43	0.06	C
1900	GOOSE PRAIRIE ROAD	EMERALDA AVENUE	CR 452	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	COLLECTOR	D	675	N	2UC	0	0	333	675	720	2,169	206	129	129	0	129	0.19	C	77	0	77	0.11	C
1910	GRAND HIGHWAY	CITRUS TOWER BOULEVARD	SR 50	2	U	COUNTY	CITY OF CLERMONT	COLLECTOR	D	675	N	2UC	0	0	333	675	720	5,726	517	280	280	5	285	0.42	C	237	5	242	0.36	C
1915	S. GRAND HIGHWAY	SR 50	HOOKS STREET	4	U	COUNTY	CITY OF CLERMONT	MAJOR COLLECTOR	D	1,800	N	4UMC	0	0	1,719	1,800	1,800	6,243	505	272	233	36	269	0.15	C	272	35	307	0.17	C
1920	N. GRASSY LAKE ROAD / CITRUS GROVE ROAD	US 27	TURKEY FARM ROAD	2	U	COUNTY	CITY OF MINNEOLA	COLLECTOR	D	675	N	2UC	0	0	333	675	720	904	100	58	58	275	333	0.49	D	42	303	345	0.51	D
1930	GRAYS AIRPORT ROAD	MARION COUNTY ROAD	CR 466	2	T	COUNTY	UNINCORPORATED LAKE COUNTY	COLLECTOR	D	612	N	2TC	0	0	297	612	648	2,017	227	141	141	1	142	0.23	C	86	1	87	0.14	C
1940	GRAYS AIRPORT ROAD	CR 466	GRIFFIN VIEW DRIVE	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	COLLECTOR	D	675	N	2UC	0	0	333	675	720	2,017	227	141	141	5	146	0.22	C	86	6	92	0.14	C
1950	S GRAYS AIRPORT ROAD	GRIFFIN VIEW DRIVE	EAGLES NEST ROAD	2	T	COUNTY	UNINCORPORATED LAKE COUNTY	COLLECTOR	D	612	N	2TC	0	0	297	612	648	1,760	185	125	125	5	130	0.21	C	60	3	63	0.10	C
1960	S GRAYS AIRPORT ROAD	EAGLES NEST ROAD	US 27 / US 412	2	T	COUNTY	FRUITLAND PARK	COLLECTOR	D	612	N	2TC	0	0	297	612	648	2,520	237	147	147	0	147	0.24	C	90	0	90	0.15	C
1970	GRIFFIN AVENUE	US 27 / US 411	CR 25	2	U	COUNTY	TOWN OF LADY LAKE	COLLECTOR	D	675	N	2UC	0	0	333	675	720	8,692	755	428	428	6	434	0.64	D	327	5	332	0.49	C
1980	GRIFFIN AVENUE	CR 25	UNCLE DONALDS LANE	2	U	COUNTY	TOWN OF LADY LAKE	COLLECTOR	D	675	N	2UC	0	0	333	675	720	2,336	209	110	110	0	110	0.16	C	99	1	100	0.15	C
1990	GRIFFIN AVENUE	UNCLE DONALDS LANE	GRAYS AIRPORT ROAD	2	T	COUNTY	UNINCORPORATED LAKE COUNTY	COLLECTOR	D	612	N	2TC	0	0	297	612	648	2,336	209	110	110	0	110	0.18	C	99	0	99	0.16	C
2000	GRIFFIN ROAD	US 27	LEE STREET	2	U	CITY OF LEESBURG	CITY OF LEESBURG	COLLECTOR	D	675	N	2UC	0	0	333	675	720	2,045	228	119	109	0	109	0.16	C	119	0	119	0.18	C
2010	GRIFFIN VIEW DRIVE	US 27	GRAYS AIRPORT ROAD	2	U	COUNTY	TOWN OF LADY LAKE	COLLECTOR	D	675	N	2UC	0	0	333	675	720	4,124	356	213	213	1	214	0.32	C	143	1	144	0.21	C
2020	GRIFFIN VIEW DRIVE	GRAYS AIRPORT ROAD	SULEN ROAD	2	T	COUNTY	UNINCORPORATED LAKE COUNTY	COLLECTOR	D	612	N	2TC	0	0	297	612	648	1,673	152	100	100	0	100	0.16	C	52	0	52	0.08	C
2030	GROVE STREET	SR 19 (BADGER AVENUE)	LAKEVIEW AVENUE	2	U	CITY OF EUSTIS	CITY OF EUSTIS	COLLECTOR	D	675	N	2UC	0	0	333	675	720	1,270	120	96	24	0	24	0.04	C	96	0	96	0.14	C
2040	GROVE STREET	LAKEVIEW AVENUE	GOLFLINKS AVENUE	2	U	CITY OF EUSTIS	CITY OF EUSTIS	COLLECTOR	D	675	N	2UC	0	0	333	675	720	2,619	244	147	147	0	147	0.22	C	97	0	97	0.14	C
2045	GROVE STREET	GOLFSKINS AVENUE	OLD MT DORA ROAD	2	U	CITY OF EUSTIS	CITY OF EUSTIS	COLLECTOR	D	675	N	2UC	0	0	333	675	720	3,453	329	181	181	0	181	0.27	C	148	0	148	0.22	C
2050	HAMMOCK RIDGE ROAD	LAKE SHORE DRIVE	US 27	4	U	COUNTY	CITY OF CLERMONT	MAJOR COLLECTOR	D	1,800	N	4UMC	0	0	1,719	1,800	1,800	12,516	1,029	648	381	111	492	0.27	C	648	60	708	0.39	C
2060	N. HANCOCK ROAD	CR 50	N RIDGE BOULEVARD	4	U	COUNTY	CITY OF CLERMONT	MAJOR COLLECTOR	D	1,800	N	4UMC	0	0	1,719	1,800	1,800	14,302	1,254	691	563	514	1,077	0.60	C	691	394	1,085	0.60	C
2070	N. HANCOCK ROAD	N RIDGE BOULEVARD	SR 50	4	U	COUNTY	CITY OF CLERMONT	MAJOR COLLECTOR	D	1,800	N	4UMC	0	0	1,719	1,800	1,800	15,491	1,263	634	634	611	1,245	0.69	C	629	467	1,096	0.61	C
2080	S. HANCOCK ROAD	SR 50	HOOKS STREET	4	U	COUNTY	CITY OF CLERMONT	MAJOR COLLECTOR	D	1,800	N	4UMC	0	0	1,719	1,800	1,800	17,586	1,522	897	625	173	798	0.44	C	897	170	1,067	0.59	C
2085	S. HANCOCK ROAD	HOOKS STREET	JOHNS LAKE ROAD	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	MAJOR COLLECTOR	D	792	N	2UMC	0	0	747	792	792	17,586	1,522	897	625	160	785	0.99	D	897	161	1,058	1.34	F
2090	S. HANCOCK ROAD	JOHNS LAKE ROAD	HARTWOOD MARSH ROAD	2	U	COUNTY	CITY OF CLERMONT	MAJOR COLLECTOR	D	792	N	2UMC	0	0	747	792	792	8,359	752	427	325	128	453	0.57	C	427	139	566	0.71	C
2100	HARTWOOD MARSH ROAD	US 27	HANCOCK ROAD	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	COLLECTOR	D	675	N	2UC	0	0	333	675	720	11,908	1,056	627	429	6	435	0.64	D	627	11	638	0.95	D
2104	HARTWOOD MARSH ROAD	HANCOCK ROAD	N. 90 DEGREE BEND	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	COLLECTOR	D	675	N	2UC	0	0	333	675	720	10,749	1,004	583	583	6	589	0.87	D	421	11	432	0.64	D
2110	HARTWOOD MARSH ROAD	N. 90 DEGREE BEND	ORANGE COUNTY LINE	2	T	COUNTY	UNINCORPORATED LAKE COUNTY	COLLECTOR	D	612	N	2TC	0	0	297	612	648	9,589	951	736	736	6	742	1.21	F	215	11	226	0.37	C
2120	HASELTON STREET	SR 44	LAKEVIEW AVENUE	2	U	CITY OF EUSTIS	CITY OF EUSTIS	COLLECTOR	D	675	N	2UC	0	0	333	675	720	1,687	153	82	71	0	71	0.11	C	82	0	82	0.12	C
2130	HIGHLAND STREET	LIMIT AVENUE	5TH AVENUE	2	U	COUNTY	CITY OF MOUNT DORA	COLLECTOR	D	675	N	2UC	0	0	333	675	720	2,403	206	132	132	0	132	0.20	C	74	0	74	0.11	C
2140	HOOKS STREET	LAKESHORE DRIVE	US 27	2	U	COUNTY	CITY OF CLERMONT	COLLECTOR	D	675	N	2UC	0	0	333	675	720	6,847	584	357	357	4	361	0.53	D	227	4	231	0.34	C
2150	HOOKS STREET	US 27	OAKLEY SEAVER DRIVE	4	U	COUNTY	CITY OF CLERMONT	MAJOR COLLECTOR	D	1,800	N	4UMC	0	0	1,719	1,800	1,800	7,154	619	314	305	17	322	0.18	C	314	22	336	0.19	C
2153	HOOKS STREET	OAKLEY SEAVER DRIVE	CITRUS TOWER BOULEVARD	4	U	COUNTY	CITY OF CLERMONT	MAJOR COLLECTOR	D	1,800	N	4UMC	0	0	1,719	1,800	1,800	4,920	621	383	238	17	255	0.14	C	383	22	405	0.23	C
2155	HOOKS STREET	CITRUS TOWER BOULEVARD	HANCOCK ROAD	4	U	COUNTY	CITY OF CLERMONT	MAJOR COLLECTOR	D	1,800	N	4UMC	0	0	1,719	1,800	1,800	7,191	571	329	242	11	253	0.14	C	329	11	340	0.19	C
2160	HUFFSTETLER DRIVE	DAVID WALKER DRIVE	KURT STREET	2	U	COUNTY	CITY OF EUSTIS	COLLECTOR	D	675	N	2UC	0	0	333	675	720	490	46	29	29	2	31	0.05	C	17	2	19	0.03	C
2170	JALARMY ROAD	CR 478	CR 561A	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	COLLECTOR	D	675	N	2UC	0	0	333	675	720	3,098	297	176	121	0	121	0.18	C	176	0	176	0.26	C
2180	JOHNS LAKE ROAD	US 27	HANCOCK ROAD	2	U	COUNTY	CITY OF CLERMONT	COLLECTOR	D	675	N	2UC	0	0	333	675	720	6,936	559	280	280	26	306	0.45	C	279	30	309	0.46	C
2190	KURT STREET	W LAKEVIEW AVENUE	DAVID WALKER DRIVE	2	U	CITY OF EUSTIS	CITY OF EUSTIS	COLLECTOR	D	675	N	2UC	0	0	333	675	720	7,130	636	416	416	0	416	0.62	D	220	0	220	0.33	C
2200	KURT STREET	DAVID WALKER DRIVE	MT HOMER ROAD / W ARDICE AVENUE	2	U	CITY OF EUSTIS	CITY OF EUSTIS	COLLECTOR	D	675	N	2UC	0	0	333	675	720	4,386	384	204	180	0	180	0.27	C	204	0	204	0.30	C
2205	KURT STREET	MT HOMER ROAD / W ARDICE AVENUE	US 441	2	U	CITY OF EUSTIS	CITY OF EUSTIS	COLLECTOR	D	675	N	2UC	0	0	333	675	720	3,395	340	197	143	0	143	0.21	C	197	0	197	0.29	C
2210	W LADY LAKE BOULEVARD	WEST TERMINI	US 27/US441	2	U	TOWN OF LADY LAKE	TOWN OF LADY LAKE	COLLECTOR	D	675	N	2UC	0	0	333	675	720	1,132	97	52	45	0	45	0.07	C	52	0	52	0.08	C
2220	E LADY LAKE BOULEVARD	US 27/US441	BERCHFIELD ROAD	2	U	COUNTY	TOWN OF LADY LAKE	COLLECTOR	D	675	N	2UC	0	0	333	675	720	633	58	41	41	0	41	0.06	C	17	0	17	0.03	C

TABLE 7 Generalized **Peak Hour Directional** Volumes for Florida's Urbanized Areas

January 2020

INTERRUPTED FLOW FACILITIES

STATE SIGNALIZED ARTERIALS

Class I (40 mph or higher posted speed limit)

Lanes	Median	B	C	D	E
1	Undivided	*	830	880	**
2	Divided	*	1,910	2,000	**
3	Divided	*	2,940	3,020	**
4	Divided	*	3,970	4,040	**

Class II (35 mph or slower posted speed limit)

Lanes	Median	B	C	D	E
1	Undivided	*	370	750	800
2	Divided	*	730	1,630	1,700
3	Divided	*	1,170	2,520	2,560
4	Divided	*	1,610	3,390	3,420

Non-State Signalized Roadway Adjustments

(Alter corresponding state volumes by the indicated percent.)

Non-State Signalized Roadways - 10%

Median & Turn Lane Adjustments

Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors
1	Divided	Yes	No	+5%
1	Undivided	No	No	-20%
Multi	Undivided	Yes	No	-5%
Multi	Undivided	No	No	-25%
–	–	–	Yes	+ 5%

One-Way Facility Adjustment

Multiply the corresponding directional volumes in this table by 1.2

BICYCLE MODE[2]

(Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Paved Shoulder/Bicycle Lane Coverage	B	C	D	E
0-49%	*	150	390	1,000
50-84%	110	340	1,000	>1,000
85-100%	470	1,000	>1,000	**

PEDESTRIAN MODE[2]

(Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Sidewalk Coverage	B	C	D	E
0-49%	*	*	140	480
50-84%	*	80	440	800
85-100%	200	540	880	>1,000

BUS MODE (Scheduled Fixed Route)[3]

(Buses in peak hour in peak direction)

Sidewalk Coverage	B	C	D	E
0-84%	> 5	≥ 4	≥ 3	≥ 2
85-100%	> 4	≥ 3	≥ 2	≥ 1

UNINTERRUPTED FLOW FACILITIES

FREEWAYS

Core Urbanized

Lanes	B	C	D	E
2	2,230	3,100	3,740	4,080
3	3,280	4,570	5,620	6,130
4	4,310	6,030	7,490	8,170
5	5,390	7,430	9,370	10,220
6	6,380	8,990	11,510	12,760

Urbanized

Lanes	B	C	D	E
2	2,270	3,100	3,890	4,230
3	3,410	4,650	5,780	6,340
4	4,550	6,200	7,680	8,460
5	5,690	7,760	9,520	10,570

Freeway Adjustments

Auxiliary Lane	Ramp Metering
+ 1,000	+ 5%

UNINTERRUPTED FLOW HIGHWAYS

Lanes	Median	B	C	D	E
1	Undivided	580	890	1,200	1,610
2	Divided	1,800	2,600	3,280	3,730
3	Divided	2,700	3,900	4,920	5,600

Uninterrupted Flow Highway Adjustments

Lanes	Median	Exclusive left lanes	Adjustment factors
1	Divided	Yes	+5%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

[1]Values shown are presented as peak hour directional volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the HCM and the Transit Capacity and Quality of Service Manual.

[2] Level of service for the bicycle and pedestrian modes in this table is based on number of vehicles, not number of bicyclists or pedestrians using the facility.

[3] Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.

* Cannot be achieved using table input value defaults.

** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

Source:
Florida Department of Transportation
Systems Implementation Office
https://www.fdot.gov/planning/systems/

Appendix E
Raw Intersection Volumes Adjustment Calculations

Project No. 19142 Hooks Street DTTM

Intersection Volumes

Intersection= Hancock Rd & Hooks St

Period: AM Peak

Approach	Mvmt	Raw	SF	Adj F	Adjusted
EB	L	185	1.04	1.22	**235**
	T	0	1.04	1.22	**0**
	R	68	1.04	1.22	**86**
WB	L	0	1.04	1.22	**0**
	T	0	1.04	1.22	**0**
	R	0	1.04	1.22	**0**
NB	L	110	1.04	1.22	**140**
	T	669	1.04	1.22	**849**
	R	0	1.04	1.22	**0**
SB	L	0	1.04	1.22	**0**
	T	447	1.04	1.22	**567**
	R	116	1.04	1.22	**147**

Period: PM Peak

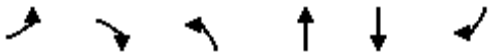
Approach	Mvmt	Raw	SF	Adj F	Adjusted
EB	L	149	1.04	1.20	**186**
	T	0	1.04	1.20	**0**
	R	125	1.04	1.20	**156**
WB	L	0	1.04	1.20	**0**
	T	0	1.04	1.20	**0**
	R	0	1.04	1.20	**0**
NB	L	119	1.04	1.20	**149**
	T	661	1.04	1.20	**825**
	R	0	1.04	1.20	**0**
SB	L	0	1.04	1.20	**0**
	T	758	1.04	1.20	**946**
	R	243	1.04	1.20	**303**

Appendix F

HCM 6th / Synchro 10 Existing Analysis Worksheets & Signal Timing

HCM 6th Signalized Intersection Summary
1: Hancock Rd & Hooks St

2020 Base Year Condition - AM Peak



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	235	86	140	849	567	147
Future Volume (veh/h)	235	86	140	849	567	147
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	1900	1856	1870	1856	1811	1856
Adj Flow Rate, veh/h	250	91	149	903	603	156
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	3	2	3	6	3
Cap, veh/h	300	261	184	1203	806	700
Arrive On Green	0.17	0.17	0.10	0.65	0.45	0.45
Sat Flow, veh/h	1810	1572	1781	1856	1811	1572
Grp Volume(v), veh/h	250	91	149	903	603	156
Grp Sat Flow(s),veh/h/ln	1810	1572	1781	1856	1811	1572
Q Serve(g_s), s	11.2	4.3	6.9	28.0	23.3	5.1
Cycle Q Clear(g_c), s	11.2	4.3	6.9	28.0	23.3	5.1
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	300	261	184	1203	806	700
V/C Ratio(X)	0.83	0.35	0.81	0.75	0.75	0.22
Avail Cap(c_a), veh/h	474	412	246	1203	806	700
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	33.9	31.0	36.9	10.1	19.4	14.4
Incr Delay (d2), s/veh	7.1	0.8	13.6	4.3	6.3	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	1.7	3.6	10.8	10.5	1.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	41.0	31.8	50.5	14.4	25.7	15.1
LnGrp LOS	D	C	D	B	C	B
Approach Vol, veh/h	341			1052	759	
Approach Delay, s/veh	38.5			19.6	23.5	
Approach LOS	D			B	C	

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	17.1	45.0			62.1	21.9
Change Period (Y+Rc), s	* 8.4	* 7.6			* 7.6	8.0
Max Green Setting (Gmax), s	* 12	* 37			* 38	22.0
Max Q Clear Time (g_c+I1), s	8.9	25.3			30.0	13.2
Green Ext Time (p_c), s	0.1	3.7			3.9	0.7

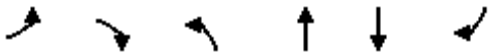
Intersection Summary	
HCM 6th Ctrl Delay	24.0
HCM 6th LOS	C

Notes

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

HCM 6th Signalized Intersection Summary
3: Hancock Rd & Hooks St

2020 Base Year Condition - PM Peak



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	186	156	149	825	946	303
Future Volume (veh/h)	186	156	149	825	946	303
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	1900	1870	1900	1870	1870	1885
Adj Flow Rate, veh/h	196	164	157	868	996	319
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	0	2	2	1
Cap, veh/h	246	215	192	1285	909	776
Arrive On Green	0.14	0.14	0.11	0.69	0.49	0.49
Sat Flow, veh/h	1810	1585	1810	1870	1870	1598
Grp Volume(v), veh/h	196	164	157	868	996	319
Grp Sat Flow(s),veh/h/ln	1810	1585	1810	1870	1870	1598
Q Serve(g_s), s	9.3	8.8	7.5	23.9	42.8	11.3
Cycle Q Clear(g_c), s	9.3	8.8	7.5	23.9	42.8	11.3
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	246	215	192	1285	909	776
V/C Ratio(X)	0.80	0.76	0.82	0.68	1.10	0.41
Avail Cap(c_a), veh/h	390	342	238	1285	909	776
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	36.9	36.7	38.6	8.0	22.7	14.6
Incr Delay (d2), s/veh	6.0	5.5	16.3	2.9	59.6	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	3.7	4.1	8.7	32.2	4.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	42.9	42.2	54.9	10.9	82.3	16.2
LnGrp LOS	D	D	D	B	F	B
Approach Vol, veh/h	360			1025	1315	
Approach Delay, s/veh	42.6			17.6	66.3	
Approach LOS	D			B	E	

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	17.8	50.4			68.2	20.0
Change Period (Y+Rc), s	* 8.4	* 7.6			* 7.6	8.0
Max Green Setting (Gmax), s	* 12	* 40			* 61	19.0
Max Q Clear Time (g_c+I1), s	9.5	44.8			25.9	11.3
Green Ext Time (p_c), s	0.1	0.0			8.1	0.7

Intersection Summary	
HCM 6th Ctrl Delay	44.6
HCM 6th LOS	D

Notes

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

CARTEGRAPH ID: CL-S-291 **DATE: 07/28/2015**

INTERSECTION NAME AND ID#: Hancock Rd & Hooks St 168

PHASE	1	2	3	4	5	6	7	8
	NBL	SB	EBL	WB	SBL	NB	WBL	EB
INITIAL	5	15	5	8	5	15	5	8
PASSAGE	3	3	3	3	3	3	3	3
YELLOW	4.8	4.9	4.4	4.4	4.9	4.8	4.4	4.4
RED CLEAR	3.6	2.7	3.6	2.0	3.8	2.6	3.0	2.0
MAX 1	20	45	30	35	25	45	25	35
MAX 2								
WALK		7		7		7		7
DON'T WALK		27		26		25		11
RECALL		Min				Min		
DET. FUNC.		L				L		

PREEMPTION TIMING

	COORD.+ PREMPT.	DELAY (Sec.)	MIN DURATION (Sec.)	MAX PRESENCE (Sec.)	MIN GREEN (Sec.)	TRACK GREEN (Sec.)	MIN DWELL (Sec.)	
	OFF	5	10	30	10		10	

PATTERN	CYCLE Sec.	OFFSET Sec.	COORDINATED Phase	COORDINATED Sequence	BASE DAY 1 Mon. - Fri.		BASE DAY 2 Sat.- Sun.	

SPLIT ALLOCATION - Sec.

PHASE	1	2	3	4	5	6	7	8

NOTES: Naztec 980

Appendix G
Lake County TCP

LAKE COUNTY
FLORIDA

2019-2023
Transportation Construction Program

Prepared By The Department of Public Works
Road Operations Division

LAKE COUNTY DEPARTMENT OF PUBLIC WORKS
5 - YEAR TRANSPORTATION IMPROVEMENT PLAN
FISCAL YEAR 2020 THRU 2024
FUNDING SOURCE: **ROAD IMPACT FEES SOUTH LAKE COUNTY** * in thousands

Project Name	Type of Work	Cost Estimate	2020 *	2021 *	2022 *	2023 *	2024 *
50 (Old Hwy 50) Intersection with Mohawk Rd C-1548 *INT97065-CD2*	Construct westbound left turn lane	$ 85,000				85 DSN	
455 from Hartwood Marsh Rd C-0854 to Lost Lake Rd *NRD16008-CD2*	Construct new 2-lane road with curb & gutter (future 4-lane) *~ 7,500 LF*	$ 10,675,000	625 DSN	1,400 ROW	2,250 CST	3,866 CST	2,534 CST
455 from Lost Lake Rd to Hartle Rd C-1362 *NRD16009-CD2*	Construct final 2-lanes of road w/ curb & gutter (future 4-lane), dev. agmt, *~ 3,500 LF*	$ 600,000				600 CST *Funding for final 2-lanes from Waterbrooke to Lost Lake Rd*	
455/Hartwood Marsh Rd C-0854 Realignment *SDY16010-CD2*	Construct new 4-lane road with curb & gutter/realignment of Hartwood Marsh Rd	$ 750,000	750 DSN				
455 Intersection with Fosgate Rd C-1860 *INT17011-CD2*	Construct northbound left turn lane	$ 175,000		75 DSN		100 ROW	
561 Intersection with **C-561A** *SDY16019-CD2*	Preliminary engineering for intersection realignment and roundabout	$ 800,000		800 PE			

LAKE COUNTY DEPARTMENT OF PUBLIC WORKS
5 - YEAR TRANSPORTATION IMPROVEMENT PLAN
FISCAL YEAR 2019 THRU 2023
FUNDING SOURCE: **ROAD IMPACT FEES SOUTH LAKE COUNTY**

* in thousands

Project Name	Type of Work	Cost Estimate	2019 *	2020 *	2021 *	2022 *	2023 *
50 (Old Hwy 50) Intersection with Mohawk Rd C-1548 *INT97065-CD2*	Construct westbound left turn lane	$ 85,000					85 DSN
455 from Hartwood Marsh Rd C-0854 to Lost Lake Rd *NRD16008-CD2*	Construct new 2-lane road with curb & gutter (future 4-lane) *~ 7,500 LF*	$ 11,175,000	500 PD&E	625 DSN	1,400 ROW	3,250 CST	5,400 CST
455 from Lost Lake Rd to Hartle Rd C-1362 *NRD16009-CD2*	Construct final 2-lanes of road w/ curb & gutter (future 4-lane), dev. agmt, *~ 3,500 LF*	$ 600,000					600 CST *Funding for final 2-lanes from Waterbrooke to Lost Lake Rd*
455/Hartwood Marsh Rd C-0854 Realignment *SDY16010-CD2*	Construct new 4-lane road with curb & gutter/realignment of Hartwood Marsh Rd	$ 750,000		750 DSN			
455 Intersection with Fosgate Rd C-1860 *INT17011-CD2*	Construct northbound left turn lane	$ 175,000			75 DSN		100 ROW
561 Intersection with **C-561A** *SDY16019-CD2*	Preliminary engineering for intersection realignment and roundabout	$ 800,000		800 PE			

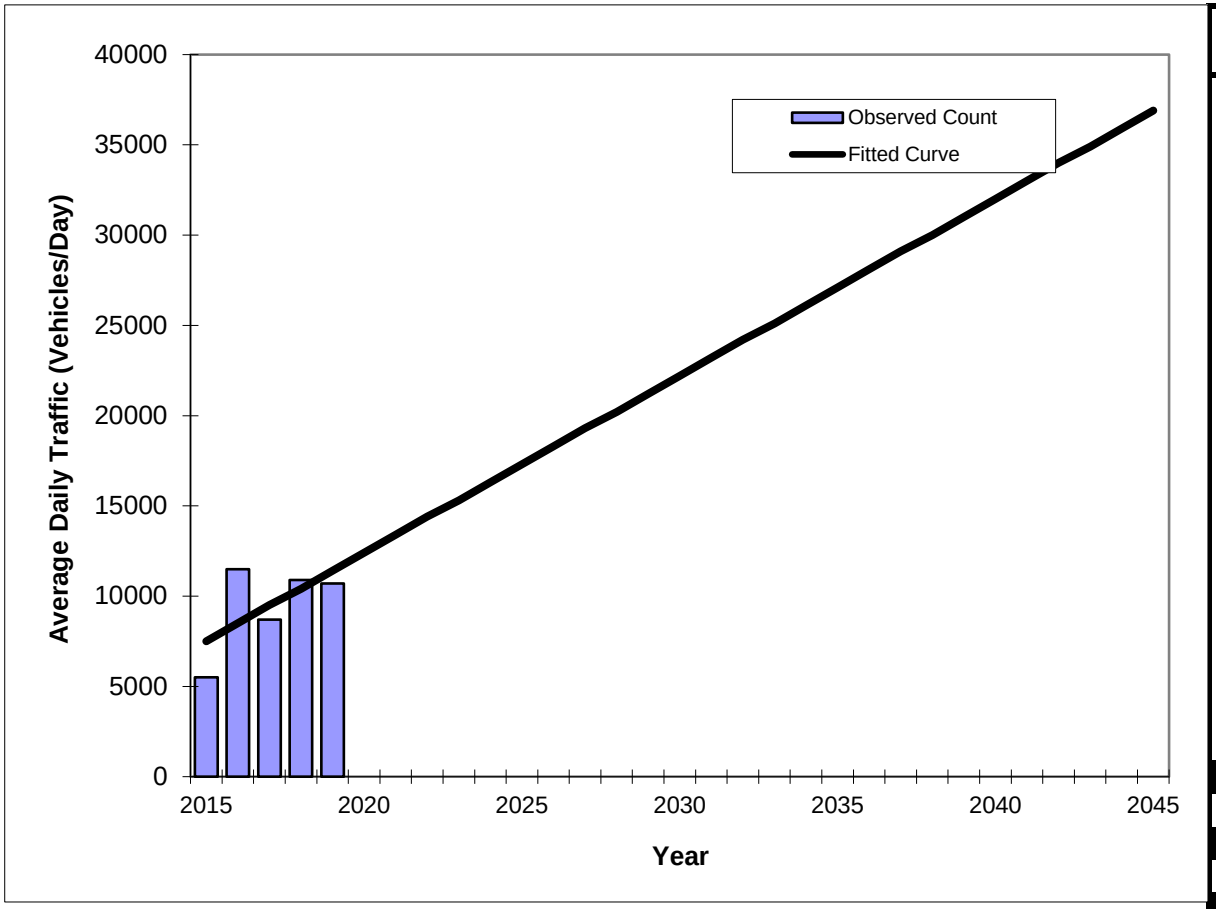
Appendix H
Trends Analysis

Traffic Trends - V03.a

Hooks St -- Citrus Tower Blvd to Hancock Rd

FIN#	**1234**
Location	**1**

County:	Lake (11)
Station #:	179
Highway:	Hooks St



Year	Traffic (ADT/AADT) Count*	Trend**
2015	5500	7500
2016	11500	8500
2017	8700	9500
2018	10900	10400
2019	10700	11400
2025 Opening Year Trend		
2025	N/A	17300
2035 Mid-Year Trend		
2035	N/A	27100
2045 Design Year Trend		
2045	N/A	36900
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	980
Trend R-squared:	39.96%
Trend Annual Historic Growth Rate:	13.00%
Trend Growth Rate (2019 to Design Year):	8.60%
Printed:	8-Oct-20

Straight Line Growth Option

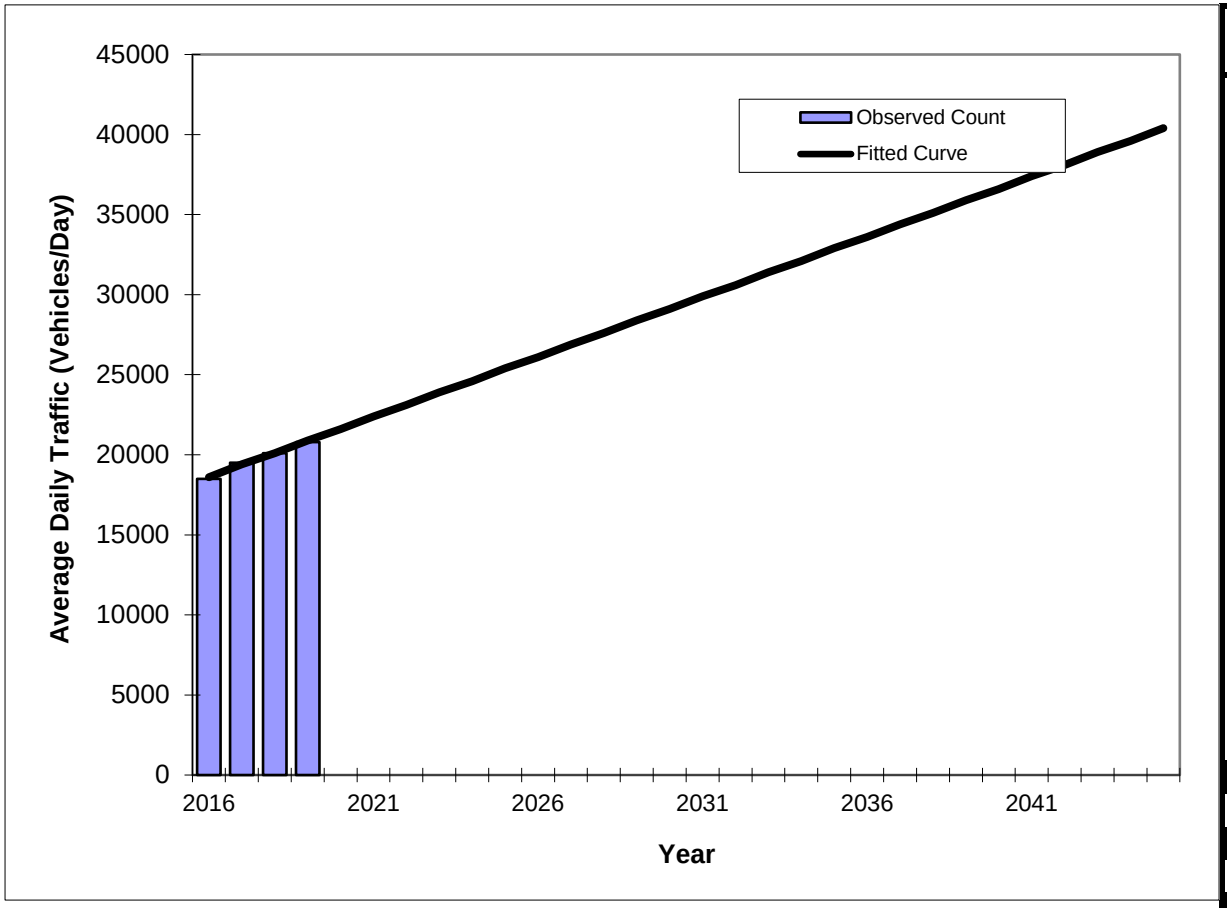
*Axle-Adjusted

Traffic Trends - V03.a

Hancock Rd -- SR 50 to John Lake Rd

FIN#	**1234**
Location	**1**

County:	Lake (11)
Station #:	179
Highway:	Hancock Rd



Year	Traffic (ADT/AADT) Count*	Trend**
2016	18500	18600
2017	19500	19400
2018	20100	20100
2019	20800	20900
2025 Opening Year Trend		
2025	N/A	25400
2035 Mid-Year Trend		
2035	N/A	32900
2045 Design Year Trend		
2045	N/A	40400
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	750
Trend R-squared:	98.77%
Trend Annual Historic Growth Rate:	4.12%
Trend Growth Rate (2019 to Design Year):	3.59%
Printed:	8-Oct-20

Straight Line Growth Option

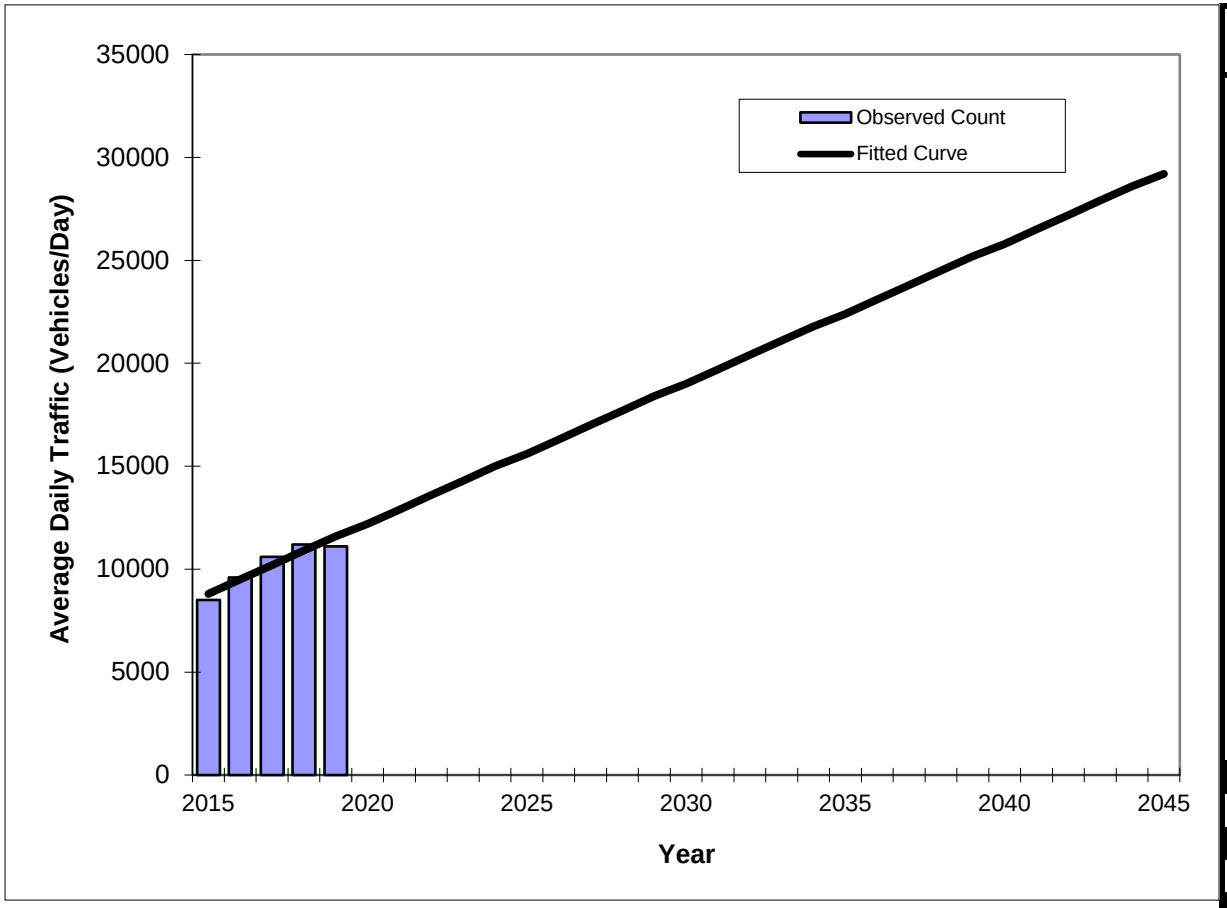
*Axle-Adjusted

Traffic Trends - V03.a

Hancock Rd -- John Lake Rd to Hartwood Marsh Rd

FIN#	**1234**
Location	**1**

County:	Lake (11)
Station #:	179
Highway:	Hancock Rd



Year	Traffic (ADT/AADT) Count*	Trend**
2015	8500	8800
2016	9600	9500
2017	10600	10200
2018	11200	10900
2019	11100	11600
2025 Opening Year Trend		
2025	N/A	15600
2035 Mid-Year Trend		
2035	N/A	22400
2045 Design Year Trend		
2045	N/A	29200
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	680
Trend R-squared:	88.58%
Trend Annual Historic Growth Rate:	7.95%
Trend Growth Rate (2019 to Design Year):	5.84%
Printed:	8-Oct-20

Straight Line Growth Option

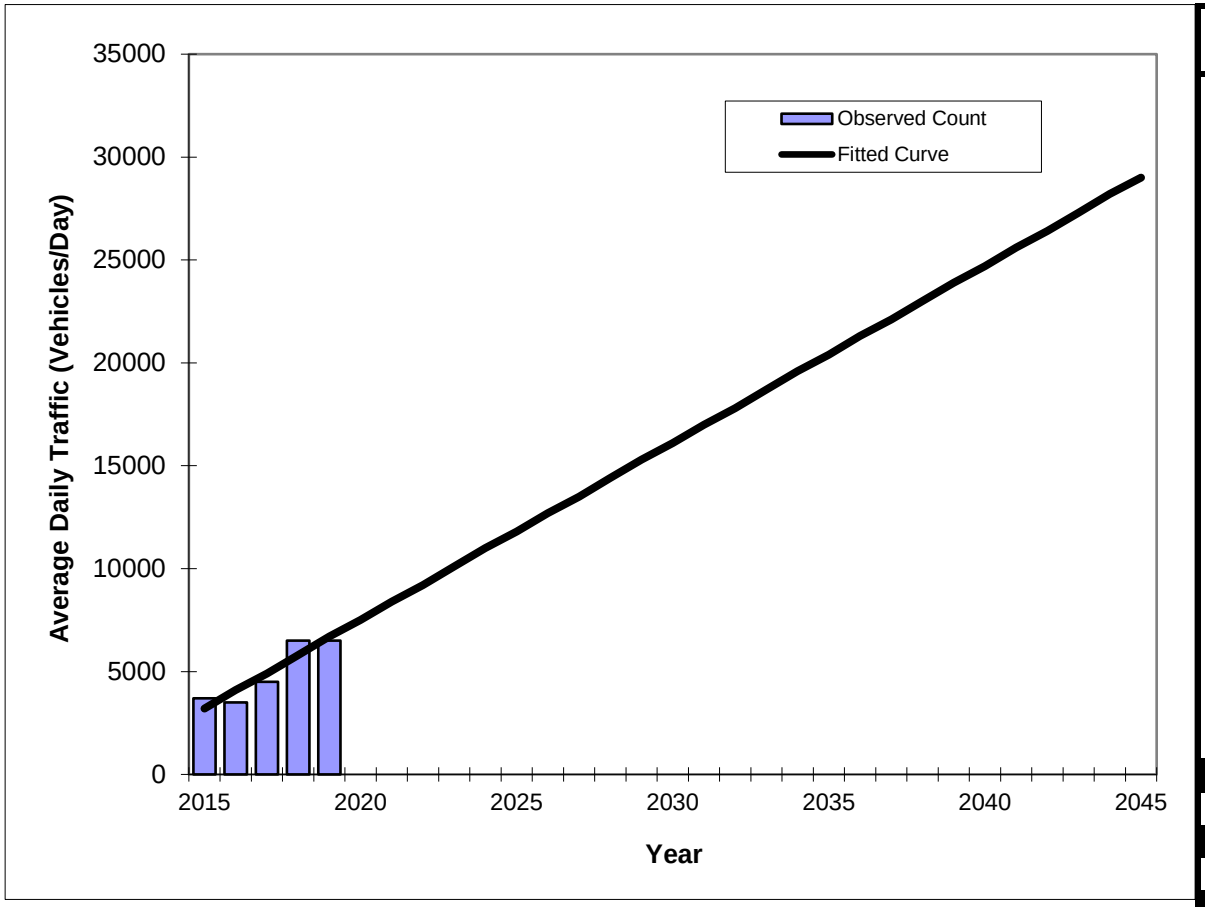
*Axle-Adjusted

Traffic Trends - V03.a

Hartle Rd/CR 455 -- SR 50 to John Lake Rd

FIN#	**1234**
Location	**1**

County:	Lake (11)
Station #:	179
Highway:	Hartle Rd/CR 455



Year	Traffic (ADT/AADT) Count*	Trend**
2015	3700	3200
2016	3500	4100
2017	4500	4900
2018	6500	5800
2019	6500	6700
2025 Opening Year Trend		
2025	N/A	11800
2035 Mid-Year Trend		
2035	N/A	20400
2045 Design Year Trend		
2045	N/A	29000
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	860
Trend R-squared:	85.29%
Trend Annual Historic Growth Rate:	27.34%
Trend Growth Rate (2019 to Design Year):	12.80%
Printed:	8-Oct-20

Straight Line Growth Option

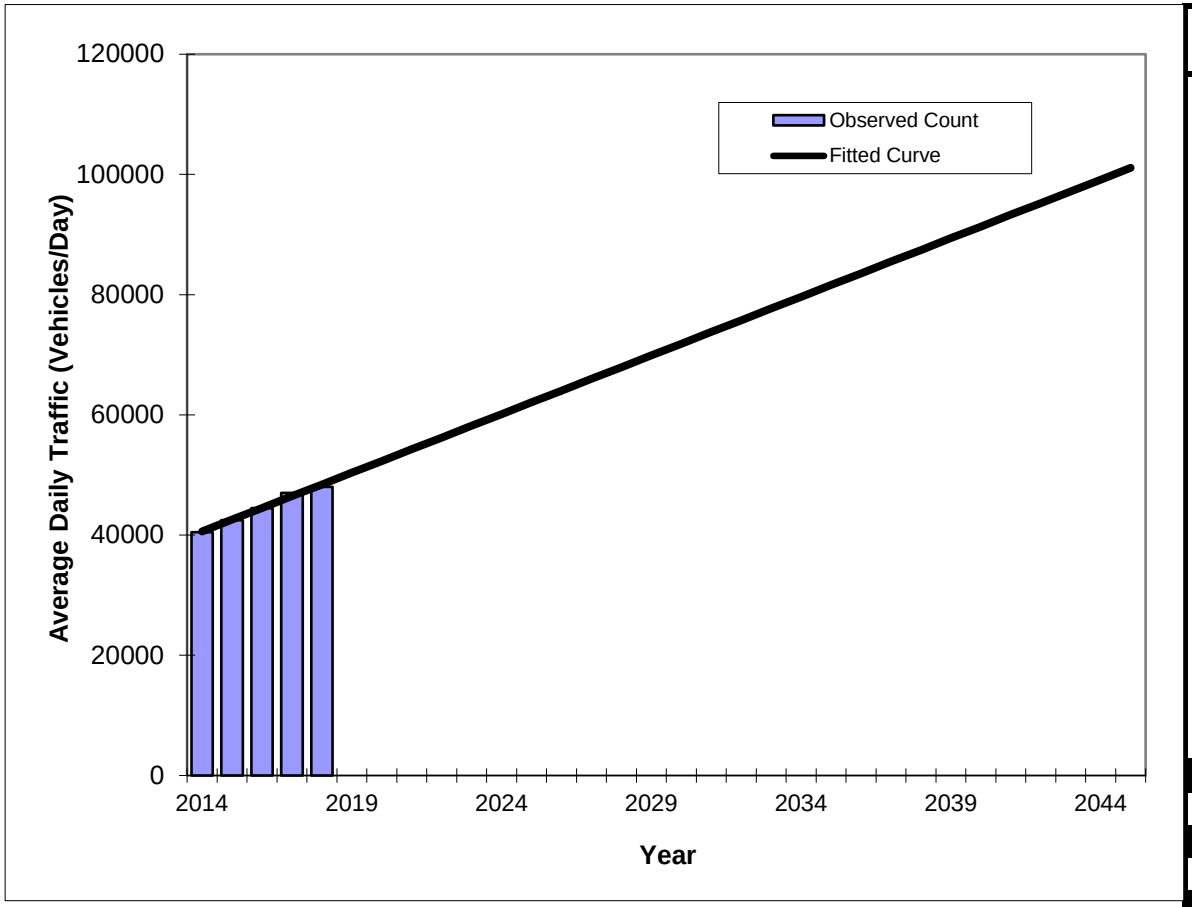
*Axle-Adjusted

Traffic Trends - V03.a

SR 50 -- Citrus Tower Blvd to Hancock Rd

FIN#	1234
Location	1

County:	Lake (11)
Station #:	390
Highway:	SR 50



Year	Traffic (ADT/AADT) Count*	Trend**
2014	40500	40600
2015	42500	42600
2016	44500	44500
2017	47000	46500
2018	48000	48400
2025 Opening Year Trend		
2025	N/A	62100
2035 Mid-Year Trend		
2035	N/A	81600
2045 Design Year Trend		
2045	N/A	101100
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	1,950
Trend R-squared:	98.77%
Trend Annual Historic Growth Rate:	4.80%
Trend Growth Rate (2018 to Design Year):	4.03%
Printed:	8-Oct-20

Straight Line Growth Option

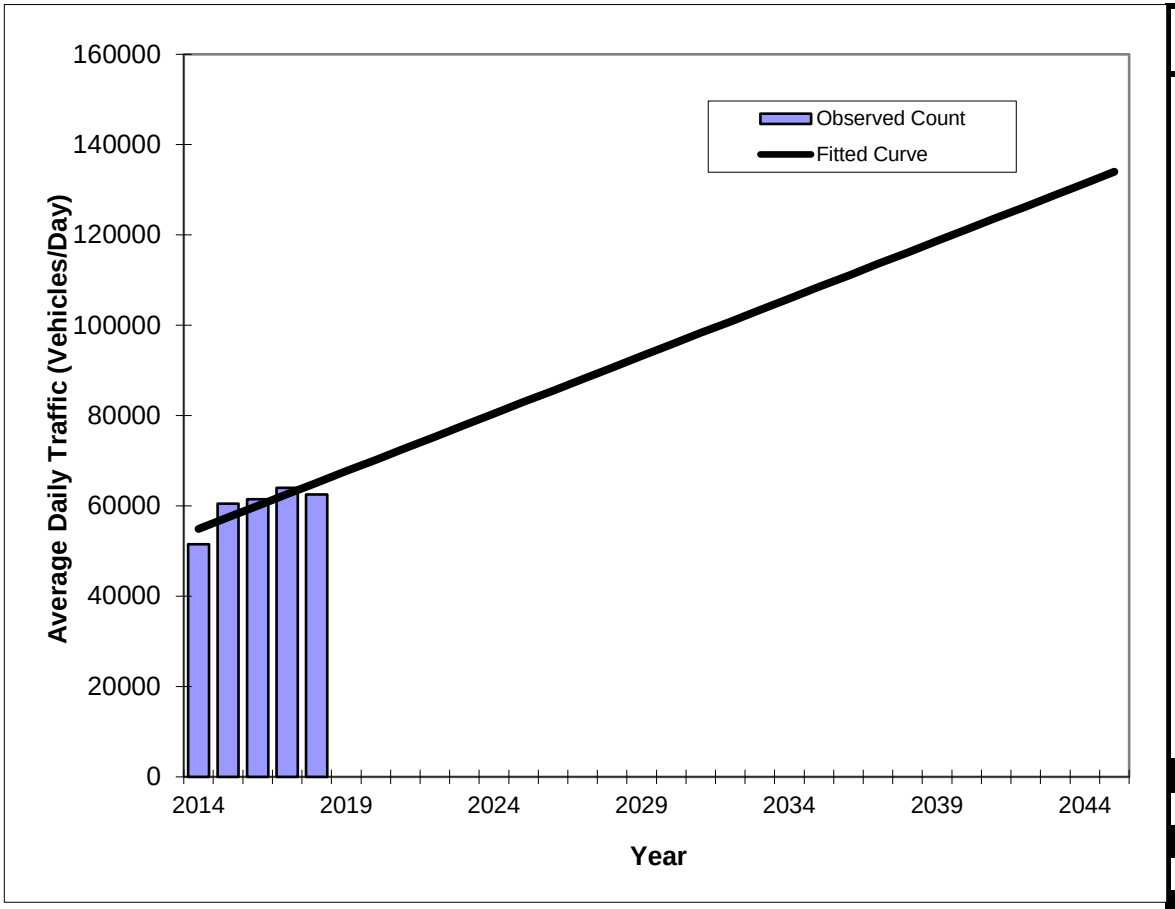
*Axle-Adjusted

Traffic Trends - V03.a

SR 50 -- Hancock Rd to Hartle Rd/CR 455

FIN#	1234
Location	1

County:	Lake (11)
Station #:	300
Highway:	SR 50



Year	Traffic (ADT/AADT) Count*	Trend**
2014	51500	54900
2015	60500	57500
2016	61500	60000
2017	64000	62600
2018	62500	65100
2025 Opening Year Trend		
2025	N/A	83000
2035 Mid-Year Trend		
2035	N/A	108500
2045 Design Year Trend		
2045	N/A	134000
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	2,550
Trend R-squared:	67.04%
Trend Annual Historic Growth Rate:	4.64%
Trend Growth Rate (2018 to Design Year):	3.92%
Printed:	8-Oct-20

Straight Line Growth Option

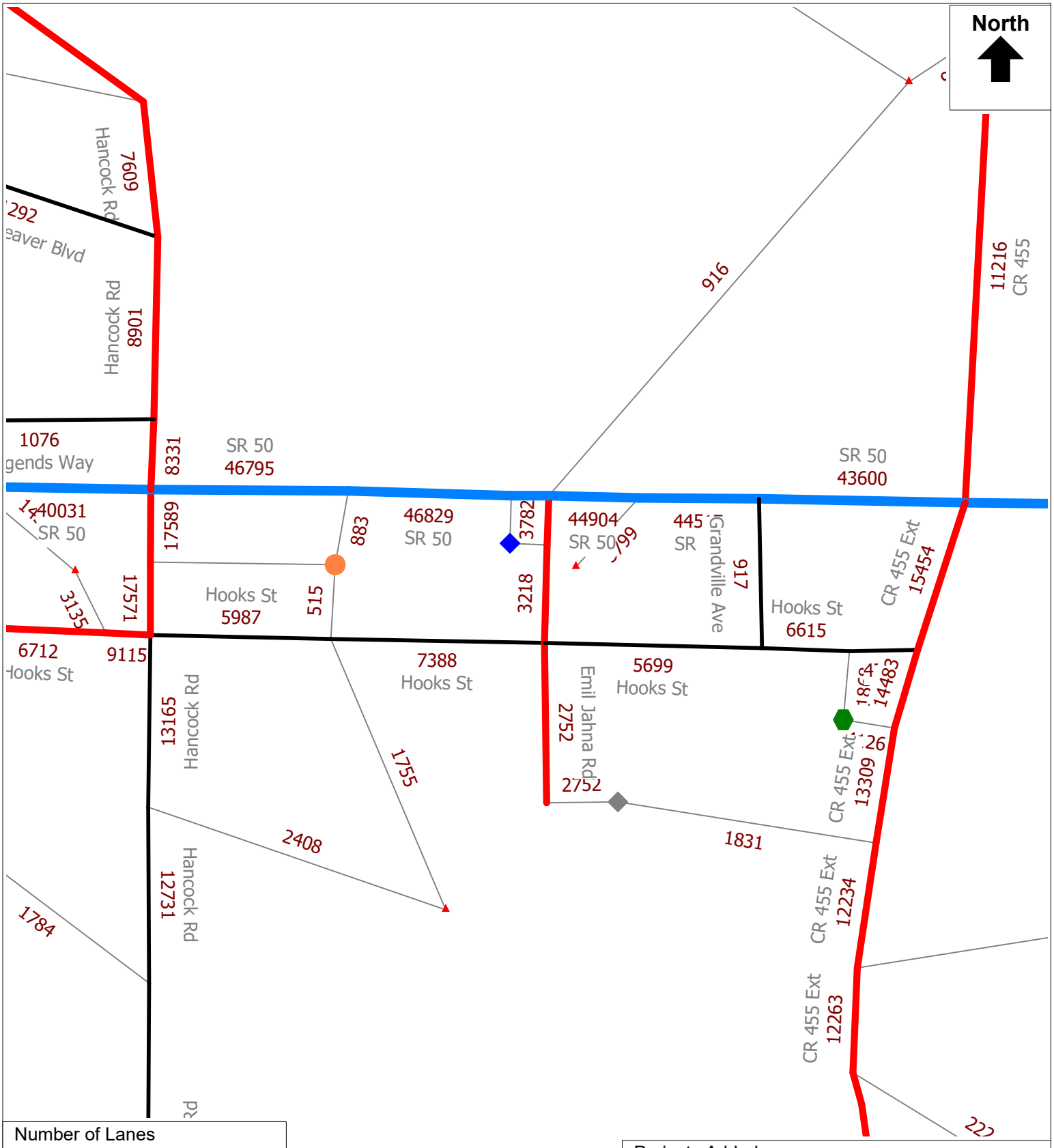
*Axle-Adjusted

Appendix I
BEBR Projections

Projections of Florida Population by County, 2020–2045, with Estimates for 2018 (continued)

County and State	Estimates April 1, 2018	Projections, April 1					
		2020	2025	2030	2035	2040	2045
HOLMES	20,133						
Low		19,300	19,000	18,500	18,100	17,600	17,100
Medium		20,300	20,600	20,900	21,000	21,200	21,400
High		21,300	22,400	23,400	24,300	25,300	26,300
INDIAN RIVER	151,825						
Low		149,100	155,000	159,000	161,100	162,000	161,800
Medium		157,200	169,300	179,400	187,700	194,700	200,900
High		164,800	182,600	199,600	215,800	230,700	245,200
JACKSON	50,435						
Low		48,200	47,400	46,500	45,500	44,500	43,500
Medium		50,200	50,700	51,200	51,500	51,800	52,100
High		52,200	54,300	56,300	58,300	60,100	61,800
JEFFERSON	14,733						
Low		14,100	13,900	13,700	13,300	13,000	12,600
Medium		14,900	15,200	15,400	15,500	15,600	15,800
High		15,600	16,400	17,200	18,000	18,600	19,400
LAFAYETTE	8,501						
Low		8,200	8,200	8,200	8,000	7,900	7,700
Medium		8,700	8,900	9,200	9,400	9,500	9,600
High		9,100	9,700	10,300	10,800	11,400	11,900
LAKE	342,917						
Low		341,800	367,500	387,000	401,400	411,800	418,900
Medium		360,700	402,100	437,200	467,400	493,600	517,200
High		377,800	430,500	480,800	528,500	573,900	617,700
LEE	713,903						
Low		708,300	753,700	789,400	815,000	833,100	845,000
Medium		747,400	824,400	892,100	949,800	999,900	1,045,200
High		782,900	882,900	981,000	1,073,000	1,161,100	1,245,800
LEON	292,332						
Low		286,100	290,400	292,200	291,900	290,700	288,500
Medium		298,300	311,900	322,800	331,500	339,200	346,000
High		309,900	331,500	351,700	369,800	386,900	402,800
LEVY	41,054						
Low		39,900	40,100	40,000	39,700	39,400	38,900
Medium		41,600	42,900	44,000	44,900	45,600	46,300
High		43,300	45,900	48,400	50,900	53,100	55,300
LIBERTY	8,915						
Low		8,800	8,900	8,900	8,900	8,800	8,700
Medium		9,300	9,700	10,000	10,300	10,500	10,800
High		9,700	10,500	11,200	12,000	12,700	13,300
MADISON	19,473						
Low		18,600	18,100	17,600	17,100	16,600	16,100
Medium		19,500	19,700	19,800	19,900	20,000	20,100
High		20,500	21,400	22,200	23,100	23,800	24,600
MANATEE	377,826						
Low		374,600	397,200	413,800	426,100	435,800	440,600
Medium		395,200	434,500	467,700	496,700	523,000	545,700
High		414,000	465,300	514,200	561,000	607,400	649,600
MARION	353,898						
Low		348,700	359,500	368,000	374,000	377,400	379,200
Medium		363,700	386,200	406,200	423,600	438,200	451,400
High		377,700	410,400	442,900	473,700	502,200	529,500
MARTIN	155,556						
Low		152,600	155,800	158,200	160,000	161,300	161,900
Medium		159,100	167,000	173,900	180,200	185,800	190,800
High		165,300	178,500	191,600	205,000	217,700	230,200

Appendix J
Model Printouts



Hooks Street Design Technical Memorandum
2025 AADT
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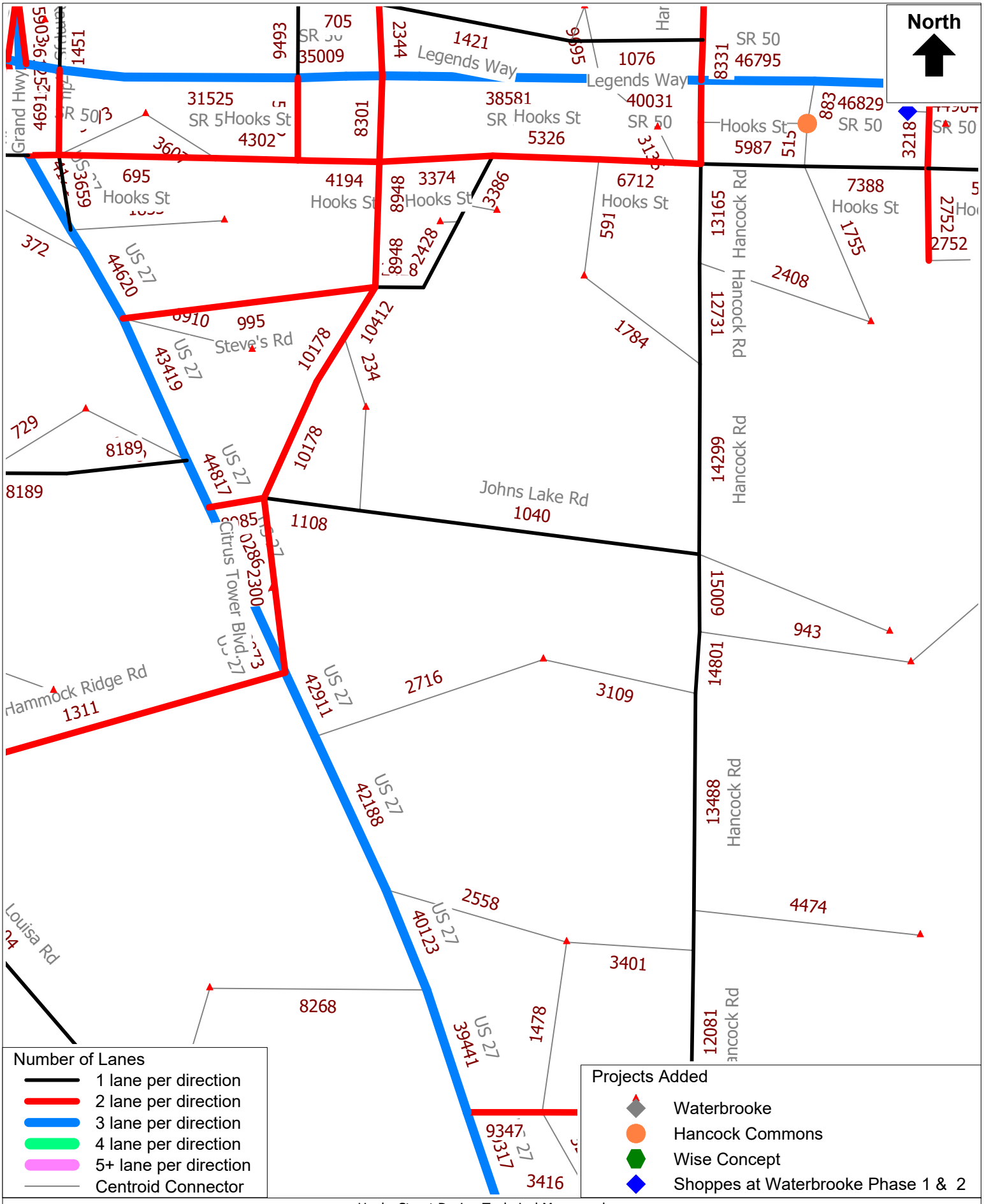

Hooks Street Design Technical Memorandum
2025 AADT
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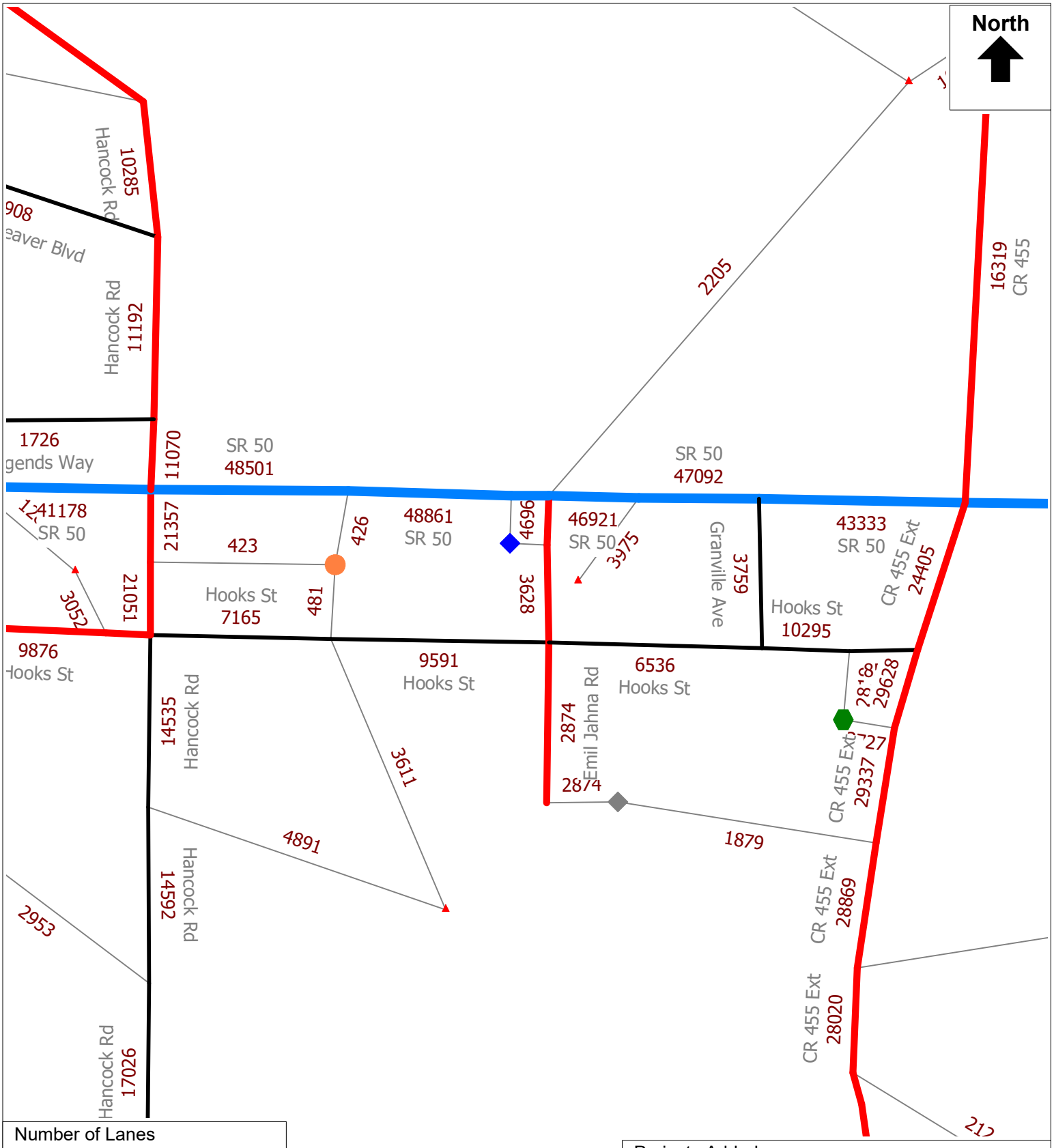

Hooks Street Design Technical Memorandum
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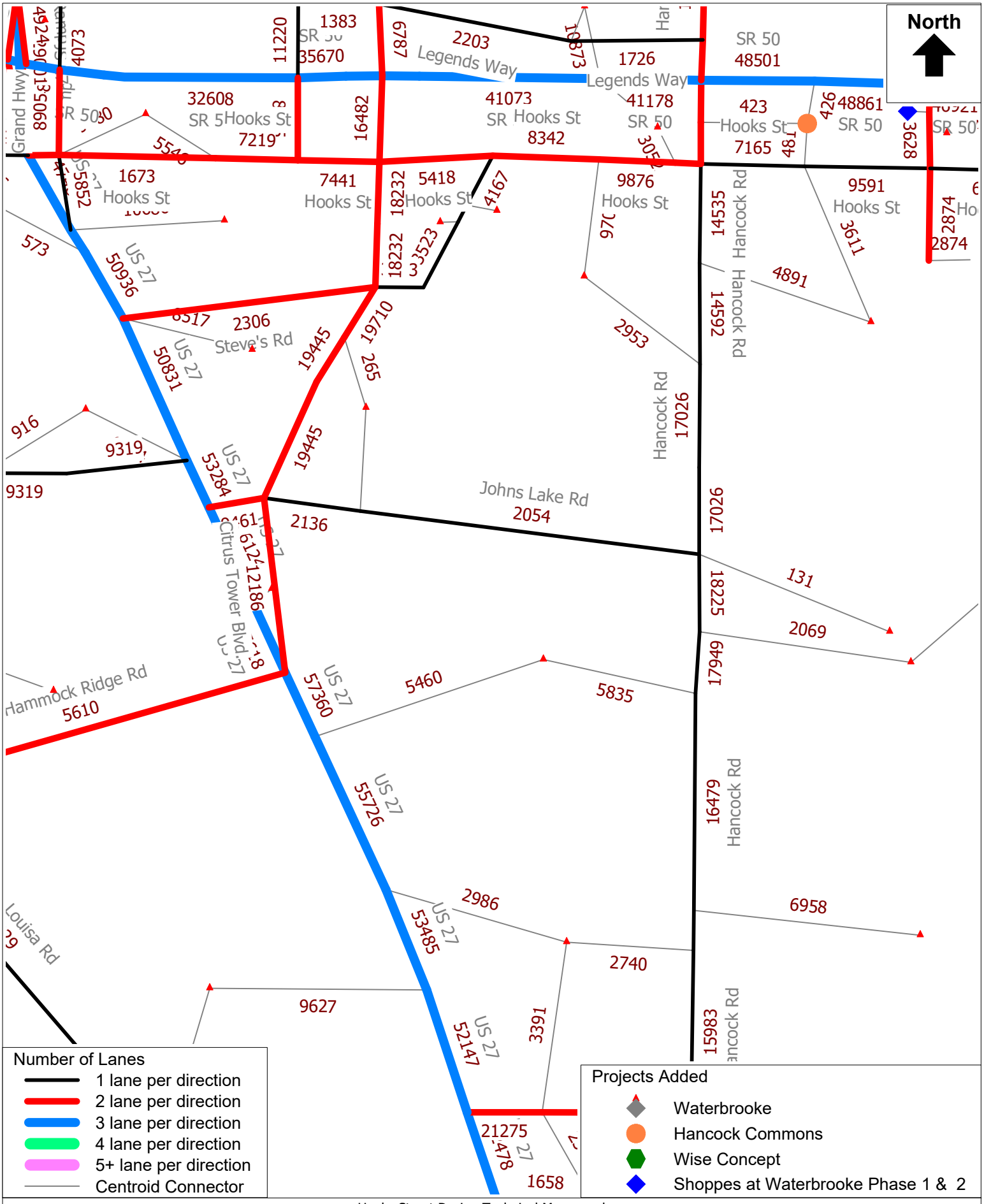
cube



Hooks Street Design Technical Memorandum
2035 AADT
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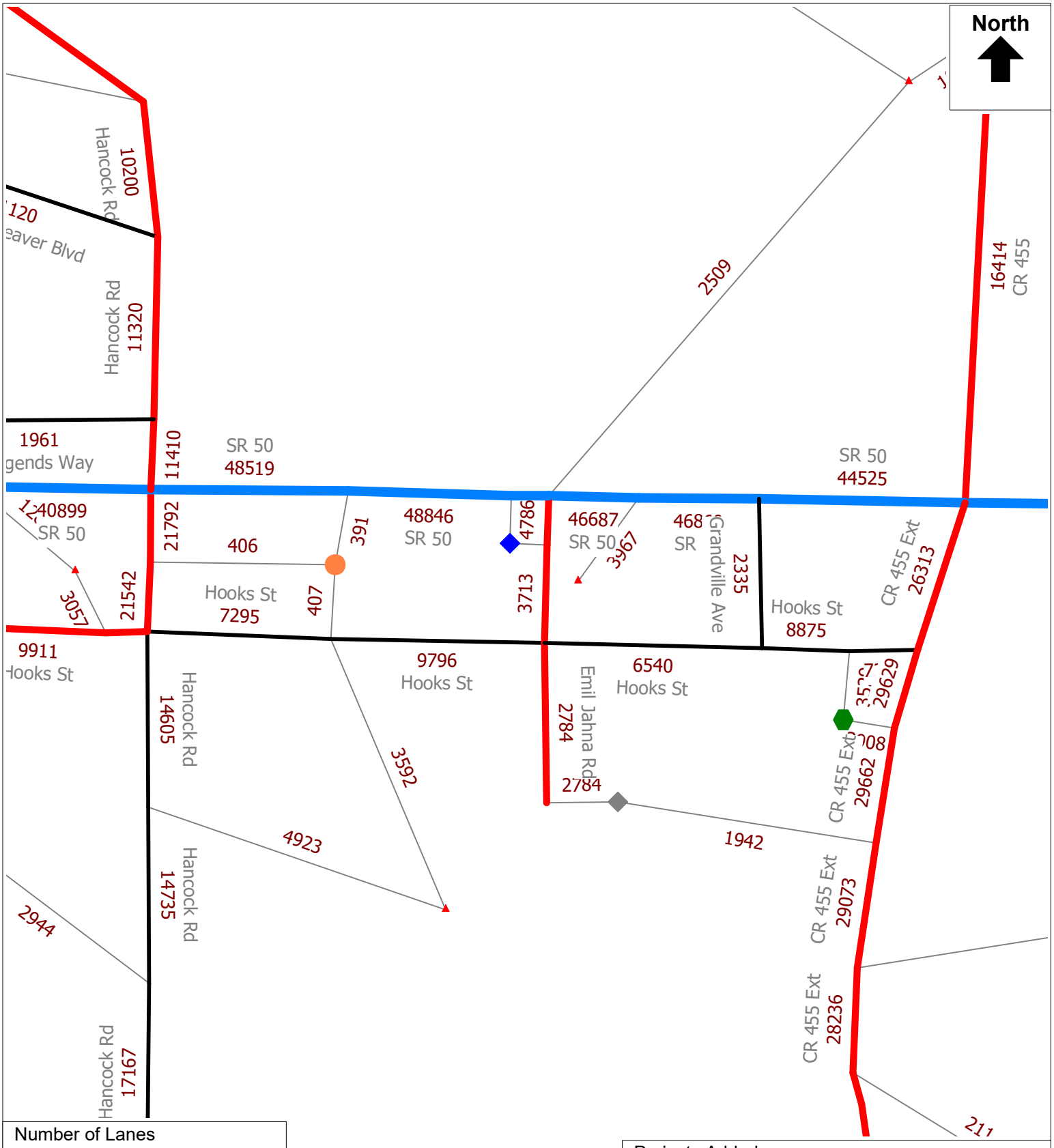

Hooks Street Design Technical Memorandum
2045 AADT
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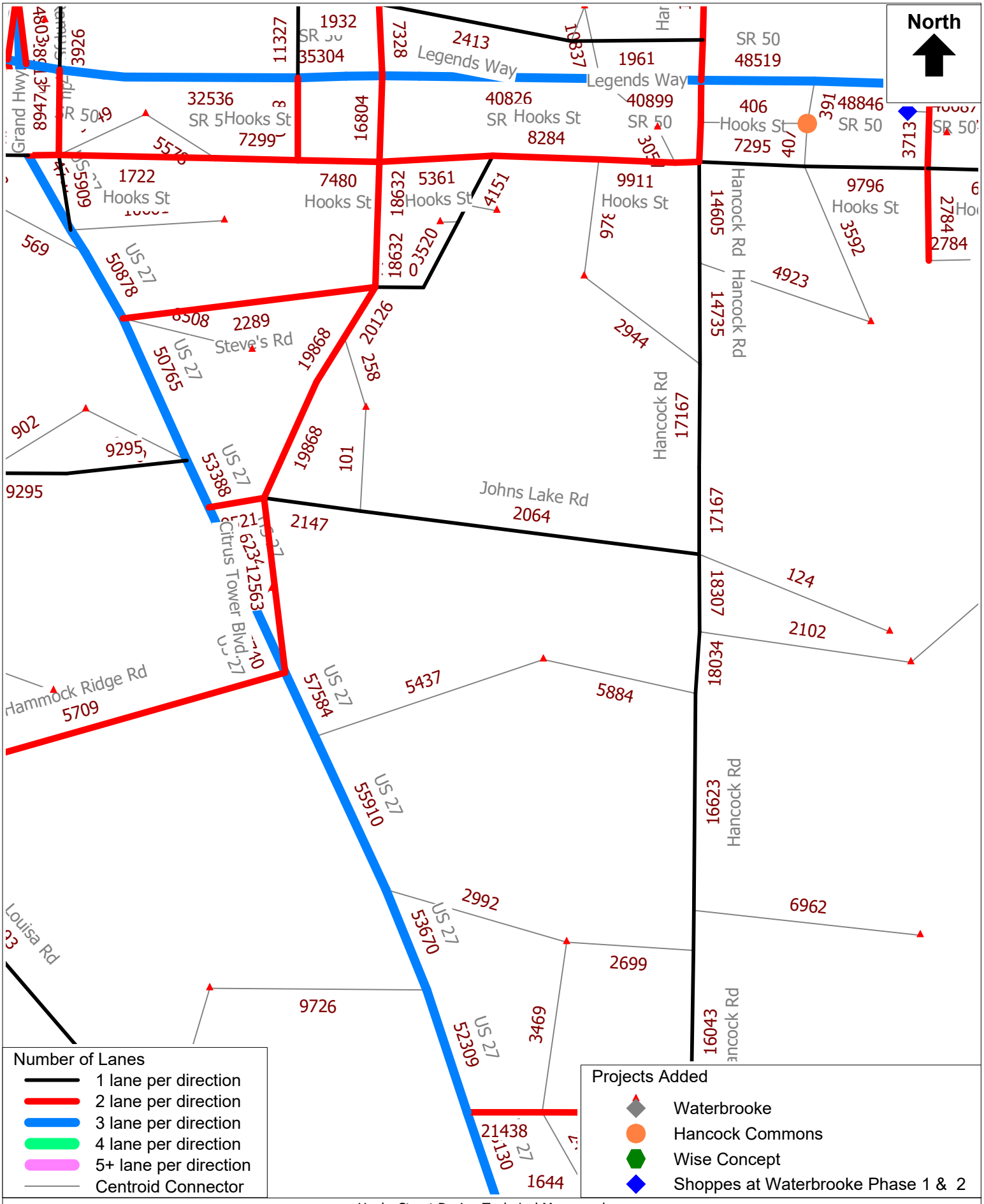

Hooks Street Design Technical Memorandum
2045 AADT
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Appendix K
Hooks Street Extension Study Area Development Programs Summary

Updated 4.03.19 11:30 AM

Hooks St. Extension Study Area Development Programs Summary

Development	Property	Location	Build-out Year	Size AC	F.A.R Density	KSF DU's	Total SF DU's 2025/2045	SF Population	Total SF Population 2025/2045	MF DU's	Total MF DU's 2025/2045	MF Population	Total MF Population 2025/2045	Hotel Rooms	Total Hotel Population 2025/2045	Retail KSF	Commercial Employees	Office SF	Office Employees	Indoor Recreation SF	Recreation Employees	Hotel Employees	Service Employees	Industrial SF	Industrial Employees	Total Empl 2025/2045	Total Employees	School Student
1775	Waterbrooke	Lost Lake Rd WB - E of Hartle Rd	Phase 1 2022 Phase 2 2023 Phase 3 2024 Phase 4 2025 Phase 5 2021 **Phase 6 2026**	587	N/A	200.00 200.00 200.00 200.00 100.00 200.00	900.00 **1100.00**	800 800 800 800 400 800	3,600 **4,400**																			
Vacant Commercial	Clermont Indoor Soccer	Hooks St Extension S of SR 50		3.66																								
Existing Residential	Advenir at Castle Hill LLC			12.11																								
Existing Autorepair	Hubbard Brooks Trustee			13.31			**92.00**				96					96,000												
Existing Residential	MHC Orange Lake LLC																											
Existing Light Manufacturing	RBD Properties LLC			94.9																								
Vacant Residential (apartments)	Hancock Commons LLC	Hooks St Extension S of SR 50									281	809	809															
Existing Residential	Hills of Clermont Homeowners Assn Inc	SE corner of Hooks St and Hackock Rd																										
Existing Residential	South Ridge Sub. Clermont	SW corner of Hooks St and Hackock Rd																										
Vacant Institutional	Church at South Lake	NW corner of Hancock Rd and Hooks St		6.53	2.00 FAR	568.00																						
Vacant Commercial	Shoppes at Waterbrooke Phase 1 Shoppes at Waterbrooke Phase 2	SR 50 and Emil Jahna Rd		11.58 4.69	0.18 FAR	89.28 36.16	125.44										314								314		
Vacant Residential (apartments) Vacant Commercial	Wise Concept Plan	Hartle Rd/Hooks St Extension		13.31							96	276	276			96									**240 EMPL**		
Existing Subdivisions - Ind-Comm-Serv		S of Hooks St & W of Hancock RD	2019				970	2,791									**160 EMPL**						**113 EMPL**		**14 EMPL**		**287 EMPL**	
East Ridge MS		W of Excalibur Dr	2019																									**2,000**
Existing Ind-Comm-Service		N of Hooks St - S of SR 50	2019														**162 EMPL**						**110 EMPL**		**15 EMPL**		**287 EMPL**	
Existing Subdivisions - Ind-Comm-Serv		E of Hancock Rd	2019				254	718									**81 EMPL**						**354 EMPL**		**224 EMPL**		**659 EMPL**	
East Ridge HS		E of Excalibur Dr	2019																									**3000**
Existing Subdivisions		S of Hartle Rd	2019				205	820																				
Existing Subdivisions		N of John Lake Rd & E of Citrus Tower Blvd	2019				301	1,204																				
																									########			
Totals				**747**		**1793.44**	-	**9,933 PERS**	-	**0**	**473**	**1,085 PERS**	-	**0**	**0 PERS**	**96,096**	**717 EMPL**	**0.00**	**0 EMPL**	**0**	**0 EMPL**	**0 EMPL**	**577 EMPL**	**0**	########	-	**1,233 EMPL**	**5,000**

Sources: LCPA. WWAP & TMC Assumptions

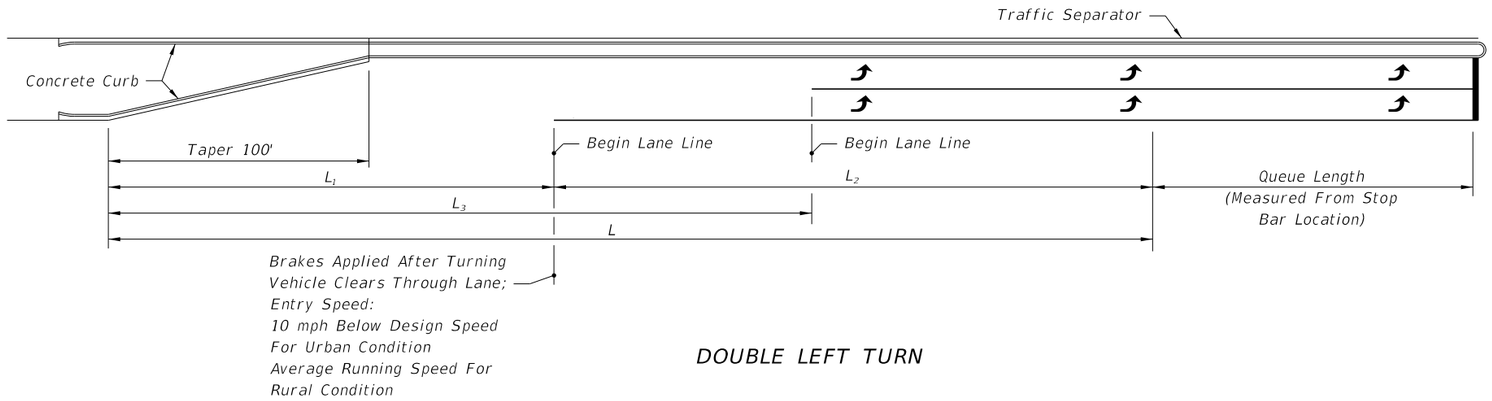
Assummed Development Plans and Build-out

Traffic Mobility Consultants, LLC - 2019

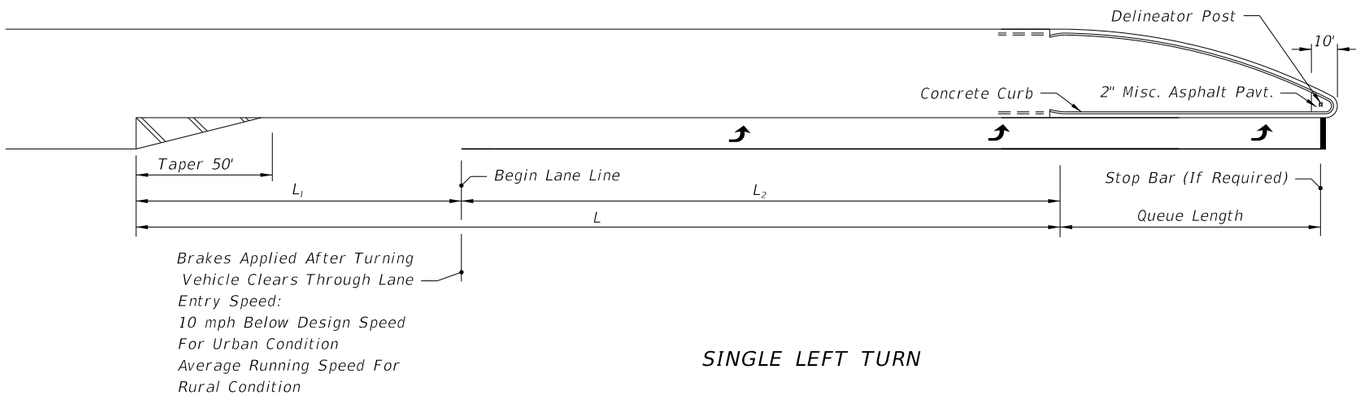
jpadrino-TMC 04-03-2019

Appendix L
FDM Exhibit 212-1

MEDIAN TURN LANES
MINIMUM DECELERATION LENGTHS



DOUBLE LEFT TURN



SINGLE LEFT TURN

MEDIAN TURN LANES								
			URBAN CONDITIONS			RURAL CONDITIONS		
Design Speed (mph)	Entry Speed (mph)	Clearance Distance L_1 (ft.)	Brake To Stop Distance L_2 (ft.)	Total Decel. Distance L (ft.)	Clearance Distance L_3 (ft.)	Brake To Stop Distance L_2 (ft.)	Total Decel. Distance L (ft.)	Clearance Distance L_3 (ft.)
35	25	70	75	145	110	———	———	———
40	30	80	75	155	120	———	———	———
45	35	85	100	185	135	———	———	———
50	40/44	105	135	240	160	185	290	160
55	48	125	———	———	———	225	350	195
60	52	145	———	———	———	260	405	230
65	55	170	———	———	———	290	460	270

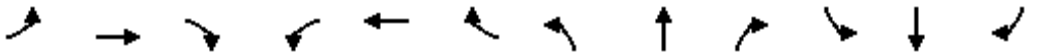
NOT TO SCALE

EXHIBIT 212-1
01/01/2018

Appendix M
HCM 6th / Synchro 10 Projected Analysis Worksheets

HCM 6th Signalized Intersection Summary
1: Hooks St & Hancock Rd

2025 Buildout AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	255	95	109	36	101	100	100	521	100	110	430	156
Future Volume (veh/h)	255	95	109	36	101	100	100	521	100	110	430	156
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	271	101	116	38	107	106	106	554	106	117	457	166
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	304	700	593	220	120	119	308	592	113	186	737	625
Arrive On Green	0.17	0.37	0.37	0.14	0.14	0.14	0.05	0.39	0.39	0.06	0.39	0.39
Sat Flow, veh/h	1781	1870	1585	1164	862	854	1781	1526	292	1781	1870	1585
Grp Volume(v), veh/h	271	101	116	38	0	213	106	0	660	117	457	166
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1164	0	1717	1781	0	1818	1781	1870	1585
Q Serve(g_s), s	18.5	4.4	6.1	3.6	0.0	15.1	4.4	0.0	43.3	4.9	24.3	8.8
Cycle Q Clear(g_c), s	18.5	4.4	6.1	3.6	0.0	15.1	4.4	0.0	43.3	4.9	24.3	8.8
Prop In Lane	1.00		1.00	1.00		0.50	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	304	700	593	220	0	239	308	0	705	186	737	625
V/C Ratio(X)	0.89	0.14	0.20	0.17	0.00	0.89	0.34	0.00	0.94	0.63	0.62	0.27
Avail Cap(c_a), veh/h	594	1018	863	229	0	251	426	0	705	256	737	625
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.4	25.7	26.2	47.6	0.0	52.5	23.3	0.0	36.5	29.3	30.2	25.5
Incr Delay (d2), s/veh	8.9	0.1	0.2	0.4	0.0	29.4	0.7	0.0	21.4	3.4	3.9	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	13.6	3.5	4.1	1.9	0.0	13.2	3.3	0.0	30.1	3.8	16.8	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.3	25.8	26.4	48.0	0.0	82.0	24.0	0.0	57.9	32.8	34.1	26.5
LnGrp LOS	E	C	C	D	A	F	C	A	E	C	C	C
Approach Vol, veh/h		488			251			766			740	
Approach Delay, s/veh		44.5			76.8			53.2			32.2	
Approach LOS		D			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	14.8	56.6	29.2	23.7	15.5	55.8		52.9				
Change Period (Y+Rc), s	* 8.4	* 7.6	8.0	6.4	* 8.7	* 7.6		6.4				
Max Green Setting (Gmax), s	* 15	* 45	41.4	18.2	* 12	* 48		67.6				
Max Q Clear Time (g_c+I1), s	6.4	26.3	20.5	17.1	6.9	45.3		8.1				
Green Ext Time (p_c), s	0.1	3.0	0.7	0.1	0.1	1.1		0.9				

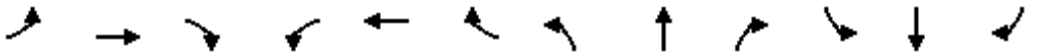
Intersection Summary	
HCM 6th Ctrl Delay	47.0
HCM 6th LOS	D

Notes

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

HCM 6th Signalized Intersection Summary
1: Hooks St & Hancock Rd

2025 Buildout PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	146	110	105	82	120	101	70	446	50	84	534	268
Future Volume (veh/h)	146	110	105	82	120	101	70	446	50	84	534	268
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	155	117	112	87	128	107	74	474	53	89	568	285
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	188	616	522	240	144	120	255	705	79	313	809	686
Arrive On Green	0.11	0.33	0.33	0.15	0.15	0.15	0.04	0.43	0.43	0.04	0.43	0.43
Sat Flow, veh/h	1781	1870	1585	1152	942	787	1781	1652	185	1781	1870	1585
Grp Volume(v), veh/h	155	117	112	87	0	235	74	0	527	89	568	285
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1152	0	1729	1781	0	1837	1781	1870	1585
Q Serve(g_s), s	9.6	5.1	5.8	7.8	0.0	15.1	2.6	0.0	26.1	3.2	28.0	14.1
Cycle Q Clear(g_c), s	9.6	5.1	5.8	7.8	0.0	15.1	2.6	0.0	26.1	3.2	28.0	14.1
Prop In Lane	1.00		1.00	1.00		0.46	1.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	188	616	522	240	0	264	255	0	783	313	809	686
V/C Ratio(X)	0.82	0.19	0.21	0.36	0.00	0.89	0.29	0.00	0.67	0.28	0.70	0.42
Avail Cap(c_a), veh/h	653	1119	948	249	0	278	414	0	783	420	809	686
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.5	27.1	27.4	43.9	0.0	46.9	20.5	0.0	26.1	20.1	26.1	22.2
Incr Delay (d2), s/veh	8.7	0.1	0.2	0.9	0.0	27.0	0.6	0.0	4.6	0.5	5.0	1.9
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	8.1	4.0	3.8	4.1	0.0	13.1	1.9	0.0	17.3	2.3	18.6	9.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.2	27.3	27.6	44.8	0.0	73.9	21.1	0.0	30.6	20.6	31.2	24.0
LnGrp LOS	E	C	C	D	A	E	C	A	C	C	C	C
Approach Vol, veh/h		384			322			601			942	
Approach Delay, s/veh		39.8			66.1			29.5			28.0	
Approach LOS		D			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	12.9	56.5	19.9	23.7	13.6	55.8		43.6				
Change Period (Y+Rc), s	* 8.4	* 7.6	8.0	6.4	* 8.7	* 7.6		6.4				
Max Green Setting (Gmax), s	* 15	* 45	41.4	18.2	* 12	* 48		67.6				
Max Q Clear Time (g_c+I1), s	4.6	30.0	11.6	17.1	5.2	28.1		7.8				
Green Ext Time (p_c), s	0.1	3.9	0.4	0.2	0.1	3.0		1.0				

Intersection Summary	
HCM 6th Ctrl Delay	35.9
HCM 6th LOS	D

Notes

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

Intersection	
Intersection Delay, s/veh	5.4
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	2	2
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	403	246	233	130
Demand Flow Rate, veh/h	411	251	238	133
Vehicles Circulating, veh/h	88	272	422	266
Vehicles Exiting, veh/h	311	388	60	257
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.5	5.8	5.4	3.8
Approach LOS	A	A	A	A

Lane	Left	Bypass	Left	Left	Right	Left	Right
Designated Moves	LT	R	LTR	LT	R	LT	R
Assumed Moves	LT	R	LTR	LT	R	LT	R
RT Channelized		Free					
Lane Util	1.000		1.000	0.790	0.210	0.541	0.459
Follow-Up Headway, s	2.609		2.609	2.535	2.535	2.535	2.535
Critical Headway, s	4.976	17	4.976	4.544	4.544	4.544	4.544
Entry Flow, veh/h	394	1938	251	188	50	72	61
Cap Entry Lane, veh/h	1261	0.980	1046	967	967	1115	1115
Entry HV Adj Factor	0.979	17	0.980	0.980	0.980	0.974	0.984
Flow Entry, veh/h	386	1900	246	184	49	70	60
Cap Entry, veh/h	1236	0.009	1025	948	948	1086	1096
V/C Ratio	0.312	0.0	0.240	0.194	0.052	0.065	0.055
Control Delay, s/veh	5.8	A	5.8	5.7	4.3	3.9	3.7
LOS	A	0	A	A	A	A	A
95th %tile Queue, veh	1		1	1	0	0	0

Intersection	
Intersection Delay, s/veh	4.8
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	2	2
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	318	310	115	179
Demand Flow Rate, veh/h	324	316	118	182
Vehicles Circulating, veh/h	166	183	291	331
Vehicles Exiting, veh/h	347	226	144	168
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.4	5.8	3.9	4.3
Approach LOS	A	A	A	A

Lane	Left	Bypass	Left	Left	Right	Left	Right
Designated Moves	LT	R	LTR	LT	R	LT	R
Assumed Moves	LT	R	LTR	LT	R	LT	R
RT Channelized		Free					
Lane Util	1.000		1.000	0.703	0.297	0.610	0.390
Follow-Up Headway, s	2.609		2.609	2.535	2.535	2.535	2.535
Critical Headway, s	4.976	55	4.976	4.544	4.544	4.544	4.544
Entry Flow, veh/h	269	1938	316	83	35	111	71
Cap Entry Lane, veh/h	1165	0.980	1145	1090	1090	1051	1051
Entry HV Adj Factor	0.980	54	0.982	0.976	0.971	0.984	0.986
Flow Entry, veh/h	264	1900	310	81	34	109	70
Cap Entry, veh/h	1142	0.028	1124	1063	1059	1034	1036
V/C Ratio	0.231	0.0	0.276	0.076	0.032	0.106	0.068
Control Delay, s/veh	5.3	A	5.8	4.0	3.7	4.4	4.1
LOS	A	0	A	A	A	A	A
95th %tile Queue, veh	1		1	0	0	0	0

HCM 6th Signalized Intersection Summary
3: Hooks St & Emil Jahna Rd

2025 Buildout AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	280	16	15	182	29	43	126	45	25	40	55
Future Volume (veh/h)	75	280	16	15	182	29	43	126	45	25	40	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	82	304	17	16	198	32	47	137	49	27	43	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	192	429	24	157	238	38	866	799	286	783	423	590
Arrive On Green	0.05	0.24	0.24	0.15	0.15	0.15	0.03	0.61	0.61	0.03	0.60	0.60
Sat Flow, veh/h	1781	1755	98	1059	1571	254	1781	1315	470	1781	707	986
Grp Volume(v), veh/h	82	0	321	16	0	230	47	0	186	27	0	103
Grp Sat Flow(s),veh/h/ln	1781	0	1853	1059	0	1825	1781	0	1786	1781	0	1693
Q Serve(g_s), s	4.1	0.0	17.4	1.5	0.0	13.5	1.1	0.0	5.0	0.6	0.0	2.9
Cycle Q Clear(g_c), s	4.1	0.0	17.4	8.7	0.0	13.5	1.1	0.0	5.0	0.6	0.0	2.9
Prop In Lane	1.00		0.05	1.00		0.14	1.00		0.26	1.00		0.58
Lane Grp Cap(c), veh/h	192	0	453	157	0	276	866	0	1084	783	0	1013
V/C Ratio(X)	0.43	0.00	0.71	0.10	0.00	0.83	0.05	0.00	0.17	0.03	0.00	0.10
Avail Cap(c_a), veh/h	431	0	968	309	0	539	942	0	1084	876	0	1013
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.1	0.0	38.0	46.6	0.0	45.3	7.7	0.0	9.5	8.0	0.0	9.5
Incr Delay (d2), s/veh	1.5	0.0	2.1	0.3	0.0	6.5	0.0	0.0	0.3	0.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.3	0.0	12.7	0.7	0.0	10.7	0.7	0.0	3.5	0.4	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.6	0.0	40.0	46.9	0.0	51.8	7.7	0.0	9.8	8.0	0.0	9.7
LnGrp LOS	D	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h		403			246			233			130	
Approach Delay, s/veh		39.5			51.5			9.4			9.3	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.3	71.3		31.4	8.3	70.3	10.3	21.1
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	30.5		57.5	8.5	30.5	20.5	32.5
Max Q Clear Time (g_c+I1), s	2.6	7.0		19.4	3.1	4.9	6.1	15.5
Green Ext Time (p_c), s	0.0	1.0		2.0	0.0	0.5	0.1	1.2

Intersection Summary	
HCM 6th Ctrl Delay	31.6
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
3: Hooks St & Emil Jahna Rd

2025 Buildout PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	153	50	50	221	15	28	47	31	20	80	64
Future Volume (veh/h)	90	153	50	50	221	15	28	47	31	20	80	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	98	166	54	54	240	16	30	51	34	22	87	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	208	360	117	256	286	19	780	616	411	850	560	450
Arrive On Green	0.06	0.27	0.27	0.17	0.17	0.17	0.03	0.59	0.59	0.02	0.58	0.58
Sat Flow, veh/h	1781	1352	440	1161	1734	116	1781	1047	698	1781	959	772
Grp Volume(v), veh/h	98	0	220	54	0	256	30	0	85	22	0	157
Grp Sat Flow(s),veh/h/ln	1781	0	1791	1161	0	1850	1781	0	1745	1781	0	1731
Q Serve(g_s), s	4.8	0.0	11.3	4.5	0.0	14.8	0.7	0.0	2.3	0.5	0.0	4.6
Cycle Q Clear(g_c), s	4.8	0.0	11.3	4.6	0.0	14.8	0.7	0.0	2.3	0.5	0.0	4.6
Prop In Lane	1.00		0.25	1.00		0.06	1.00		0.40	1.00		0.45
Lane Grp Cap(c), veh/h	208	0	477	256	0	305	780	0	1027	850	0	1010
V/C Ratio(X)	0.47	0.00	0.46	0.21	0.00	0.84	0.04	0.00	0.08	0.03	0.00	0.16
Avail Cap(c_a), veh/h	432	0	936	407	0	546	869	0	1027	948	0	1010
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.7	0.0	33.7	40.3	0.0	44.5	8.6	0.0	9.8	8.7	0.0	10.5
Incr Delay (d2), s/veh	1.7	0.0	0.7	0.4	0.0	6.1	0.0	0.0	0.2	0.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.9	0.0	8.6	2.3	0.0	11.6	0.5	0.0	1.6	0.4	0.0	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.3	0.0	34.4	40.7	0.0	50.6	8.6	0.0	10.0	8.7	0.0	10.8
LnGrp LOS	D	A	C	D	A	D	A	A	A	A	A	B
Approach Vol, veh/h		318			310			115			179	
Approach Delay, s/veh		35.0			48.9			9.6			10.6	
Approach LOS		D			D			A			B	

Timer - Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.9	69.2		33.8	7.5	68.7	11.2	22.7
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	30.5		57.5	8.5	30.5	20.5	32.5
Max Q Clear Time (g_c+I1), s	2.5	4.3		13.3	2.7	6.6	6.8	16.8
Green Ext Time (p_c), s	0.0	0.4		1.4	0.0	0.8	0.2	1.4

Intersection Summary	
HCM 6th Ctrl Delay	31.8
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	131	108	85	645	509	103
Future Vol, veh/h	131	108	85	645	509	103
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	250	340	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	142	117	92	701	553	112

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1144	333	665	0	-	0
Stage 1	609	-	-	-	-	-
Stage 2	535	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	193	663	920	-	-	-
Stage 1	505	-	-	-	-	-
Stage 2	551	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	174	663	920	-	-	-
Mov Cap-2 Maneuver	306	-	-	-	-	-
Stage 1	455	-	-	-	-	-
Stage 2	551	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19.8	1.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	920	-	306	663	-	-
HCM Lane V/C Ratio	0.1	-	0.465	0.177	-	-
HCM Control Delay (s)	9.3	-	26.6	11.6	-	-
HCM Lane LOS	A	-	D	B	-	-
HCM 95th %tile Q(veh)	0.3	-	2.3	0.6	-	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	98	90	120	454	639	140
Future Vol, veh/h	98	90	120	454	639	140
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	250	340	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	107	98	130	493	695	152

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1278	424	847	0	-	0
Stage 1	771	-	-	-	-	-
Stage 2	507	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	158	579	786	-	-	-
Stage 1	417	-	-	-	-	-
Stage 2	570	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	132	579	786	-	-	-
Mov Cap-2 Maneuver	253	-	-	-	-	-
Stage 1	348	-	-	-	-	-
Stage 2	570	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	21.2	2.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	786	-	253	579	-	-
HCM Lane V/C Ratio	0.166	-	0.421	0.169	-	-
HCM Control Delay (s)	10.5	-	29.2	12.5	-	-
HCM Lane LOS	B	-	D	B	-	-
HCM 95th %tile Q(veh)	0.6	-	2	0.6	-	-

HCM 6th Signalized Intersection Summary
4: Hooks St & Hartle Rd

2025 Buildout AM Peak

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	131	108	85	645	509	103
Future Volume (veh/h)	131	108	85	645	509	103
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	1870	1870	1870	1870
Adj Flow Rate, veh/h	142	117	92	701	553	112
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	208	185	640	2672	2215	447
Arrive On Green	0.12	0.12	0.75	0.75	0.75	0.75
Sat Flow, veh/h	1781	1585	771	3647	3039	595
Grp Volume(v), veh/h	142	117	92	701	333	332
Grp Sat Flow(s),veh/h/ln	1781	1585	771	1777	1777	1763
Q Serve(g_s), s	5.2	4.8	2.8	4.2	3.9	3.9
Cycle Q Clear(g_c), s	5.2	4.8	6.8	4.2	3.9	3.9
Prop In Lane	1.00	1.00	1.00			0.34
Lane Grp Cap(c), veh/h	208	185	640	2672	1336	1326
V/C Ratio(X)	0.68	0.63	0.14	0.26	0.25	0.25
Avail Cap(c_a), veh/h	1548	1377	640	2672	1336	1326
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	29.0	28.9	3.6	2.6	2.6	2.6
Incr Delay (d2), s/veh	3.9	3.6	0.5	0.2	0.4	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.2	3.4	0.7	1.6	1.6	1.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	33.0	32.4	4.1	2.9	3.0	3.0
LnGrp LOS	C	C	A	A	A	A
Approach Vol, veh/h	259			793	665	
Approach Delay, s/veh	32.7			3.0	3.0	
Approach LOS	C			A	A	

Timer - Assigned Phs	2		4		6
Phs Duration (G+Y+Rc), s	56.0		12.5		56.0
Change Period (Y+Rc), s	4.5		4.5		4.5
Max Green Setting (Gmax), s	51.5		59.5		51.5
Max Q Clear Time (g_c+I1), s	8.8		7.2		5.9
Green Ext Time (p_c), s	6.6		0.8		4.8

Intersection Summary	
HCM 6th Ctrl Delay	7.5
HCM 6th LOS	A

HCM 6th Signalized Intersection Summary
4: Hooks St & Hartle Rd

2025 Buildout PM Peak

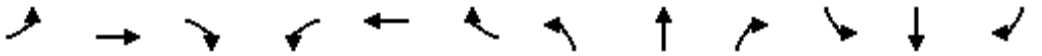
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	98	90	120	454	639	140
Future Volume (veh/h)	98	90	120	454	639	140
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	107	98	130	493	695	152
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	172	153	560	2733	2230	487
Arrive On Green	0.10	0.10	0.77	0.77	0.77	0.77
Sat Flow, veh/h	1781	1585	650	3647	2993	634
Grp Volume(v), veh/h	107	98	130	493	426	421
Grp Sat Flow(s),veh/h/ln	1781	1585	650	1777	1777	1756
Q Serve(g_s), s	3.9	4.0	5.1	2.5	4.9	4.9
Cycle Q Clear(g_c), s	3.9	4.0	10.0	2.5	4.9	4.9
Prop In Lane	1.00	1.00	1.00			0.36
Lane Grp Cap(c), veh/h	172	153	560	2733	1366	1351
V/C Ratio(X)	0.62	0.64	0.23	0.18	0.31	0.31
Avail Cap(c_a), veh/h	1583	1408	560	2733	1366	1351
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	29.1	29.1	3.9	2.1	2.4	2.4
Incr Delay (d2), s/veh	3.6	4.4	1.0	0.1	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.1	2.9	1.1	0.8	1.8	1.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	32.7	33.5	4.8	2.2	2.9	3.0
LnGrp LOS	C	C	A	A	A	A
Approach Vol, veh/h	205			623	847	
Approach Delay, s/veh	33.1			2.8	2.9	
Approach LOS	C			A	A	

Timer - Assigned Phs	2		4		6
Phs Duration (G+Y+Rc), s	56.0		11.0		56.0
Change Period (Y+Rc), s	4.5		4.5		4.5
Max Green Setting (Gmax), s	51.5		59.5		51.5
Max Q Clear Time (g_c+I1), s	12.0		6.0		6.9
Green Ext Time (p_c), s	5.2		0.6		6.6

Intersection Summary	
HCM 6th Ctrl Delay	6.6
HCM 6th LOS	A

HCM 6th Signalized Intersection Summary
1: Hooks St & Hancock Rd

2035 Buildout AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	316	112	134	40	118	113	120	618	120	127	484	228
Future Volume (veh/h)	316	112	134	40	118	113	120	618	120	127	484	228
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	336	119	143	43	126	56	128	657	128	135	515	243
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	406	230	277	188	146	65	346	720	140	203	893	757
Arrive On Green	0.12	0.30	0.30	0.12	0.12	0.12	0.05	0.47	0.47	0.05	0.48	0.48
Sat Flow, veh/h	3456	774	930	1117	1227	545	1781	1521	296	1781	1870	1585
Grp Volume(v), veh/h	336	0	262	43	0	182	128	0	785	135	515	243
Grp Sat Flow(s),veh/h/ln	1728	0	1703	1117	0	1772	1781	0	1817	1781	1870	1585
Q Serve(g_s), s	12.4	0.0	16.6	4.6	0.0	13.1	4.8	0.0	52.1	5.0	25.8	12.3
Cycle Q Clear(g_c), s	12.4	0.0	16.6	4.6	0.0	13.1	4.8	0.0	52.1	5.0	25.8	12.3
Prop In Lane	1.00		0.55	1.00		0.31	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	406	0	507	188	0	210	346	0	860	203	893	757
V/C Ratio(X)	0.83	0.00	0.52	0.23	0.00	0.87	0.37	0.00	0.91	0.67	0.58	0.32
Avail Cap(c_a), veh/h	743	0	709	212	0	248	452	0	860	266	893	757
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.1	0.0	37.9	52.6	0.0	56.3	18.8	0.0	31.8	28.5	24.5	21.0
Incr Delay (d2), s/veh	4.3	0.0	0.8	0.6	0.0	23.3	0.7	0.0	15.7	4.0	2.7	1.1
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(50%),veh/ln	5.5	0.0	6.9	1.3	0.0	7.2	1.9	0.0	25.1	2.2	11.6	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.4	0.0	38.7	53.2	0.0	79.6	19.4	0.0	47.4	32.5	27.2	22.1
LnGrp LOS	E	A	D	D	A	E	B	A	D	C	C	C
Approach Vol, veh/h		598			225			913			893	
Approach Delay, s/veh		50.9			74.6			43.5			26.6	
Approach LOS		D			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	15.3	69.7	23.3	21.8	15.8	69.2		45.1				
Change Period (Y+Rc), s	* 8.4	* 7.6	8.0	6.4	* 8.7	* 7.6		6.4				
Max Green Setting (Gmax), s	* 15	* 59	28.0	18.2	* 12	* 62		54.2				
Max Q Clear Time (g_c+I1), s	6.8	27.8	14.4	15.1	7.0	54.1		18.6				
Green Ext Time (p_c), s	0.2	4.0	0.9	0.3	0.1	3.0		1.5				

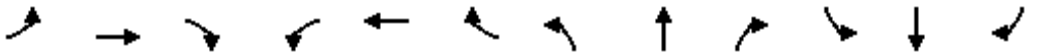
Intersection Summary	
HCM 6th Ctrl Delay	42.1
HCM 6th LOS	D

Notes

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

HCM 6th Signalized Intersection Summary
1: Hooks St & Hancock Rd

2035 Buildout PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	215	120	110	100	124	117	80	497	60	120	607	297
Future Volume (veh/h)	215	120	110	100	124	117	80	497	60	120	607	297
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	229	128	64	106	132	63	85	529	32	128	646	210
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	247	361	180	253	168	80	206	628	38	267	701	594
Arrive On Green	0.07	0.31	0.31	0.14	0.14	0.14	0.05	0.36	0.36	0.06	0.38	0.38
Sat Flow, veh/h	3456	1176	588	1191	1197	571	1781	1746	106	1781	1870	1585
Grp Volume(v), veh/h	229	0	192	106	0	195	85	0	561	128	646	210
Grp Sat Flow(s),veh/h/ln	1728	0	1764	1191	0	1768	1781	0	1851	1781	1870	1585
Q Serve(g_s), s	5.5	0.0	7.1	7.1	0.0	9.0	2.5	0.0	23.4	3.8	27.7	8.0
Cycle Q Clear(g_c), s	5.5	0.0	7.1	7.1	0.0	9.0	2.5	0.0	23.4	3.8	27.7	8.0
Prop In Lane	1.00		0.33	1.00		0.32	1.00		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	247	0	541	253	0	248	206	0	666	267	701	594
V/C Ratio(X)	0.93	0.00	0.35	0.42	0.00	0.79	0.41	0.00	0.84	0.48	0.92	0.35
Avail Cap(c_a), veh/h	247	0	672	341	0	379	221	0	666	267	701	594
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.8	0.0	22.6	34.1	0.0	34.9	20.1	0.0	24.7	18.9	25.0	18.9
Incr Delay (d2), s/veh	38.1	0.0	0.4	1.1	0.0	6.1	1.3	0.0	12.3	1.3	19.4	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.0	2.8	2.1	0.0	4.1	1.0	0.0	11.4	1.5	14.6	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.8	0.0	23.0	35.2	0.0	40.9	21.4	0.0	37.0	20.2	44.4	20.5
LnGrp LOS	E	A	C	D	A	D	C	A	D	C	D	C
Approach Vol, veh/h		421			301			646			984	
Approach Delay, s/veh		52.3			38.9			35.0			36.2	
Approach LOS		D			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	12.7	39.1	14.0	18.2	14.0	37.8		32.2				
Change Period (Y+Rc), s	* 8.4	* 7.6	8.0	6.4	* 8.7	* 7.6		6.4				
Max Green Setting (Gmax), s	* 5	* 31	6.0	18.0	* 5.3	* 30		32.0				
Max Q Clear Time (g_c+I1), s	4.5	29.7	7.5	11.0	5.8	25.4		9.1				
Green Ext Time (p_c), s	0.0	0.5	0.0	0.8	0.0	1.4		0.9				

Intersection Summary	
HCM 6th Ctrl Delay	39.1
HCM 6th LOS	D

Notes

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

Intersection	
Intersection Delay, s/veh	6.4
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	2	2
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	527	281	233	156
Demand Flow Rate, veh/h	537	287	238	159
Vehicles Circulating, veh/h	99	365	559	297
Vehicles Exiting, veh/h	357	432	60	355
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.9	7.0	6.2	4.0
Approach LOS	A	A	A	A

Lane	Left	Bypass	Left	Left	Right	Left	Right
Designated Moves	LT	R	LTR	LT	R	LT	R
Assumed Moves	LT	R	LTR	LT	R	LT	R
RT Channelized		Free					
Lane Util	1.000		1.000	0.790	0.210	0.522	0.478
Follow-Up Headway, s	2.609		2.609	2.535	2.535	2.535	2.535
Critical Headway, s	4.976	17	4.976	4.544	4.544	4.544	4.544
Entry Flow, veh/h	520	1938	287	188	50	83	76
Cap Entry Lane, veh/h	1247	0.980	951	854	854	1084	1084
Entry HV Adj Factor	0.981	17	0.981	0.980	0.980	0.978	0.987
Flow Entry, veh/h	510	1900	281	184	49	81	75
Cap Entry, veh/h	1224	0.009	933	837	837	1059	1069
V/C Ratio	0.417	0.0	0.302	0.220	0.059	0.077	0.070
Control Delay, s/veh	7.1	A	7.0	6.6	4.9	4.1	4.0
LOS	A	0	A	A	A	A	A
95th %tile Queue, veh	2		1	1	0	0	0

Intersection	
Intersection Delay, s/veh	5.5
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	2	2
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	413	357	115	199
Demand Flow Rate, veh/h	421	364	118	204
Vehicles Circulating, veh/h	181	194	403	355
Vehicles Exiting, veh/h	378	327	144	203
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.5	6.4	4.4	4.5
Approach LOS	A	A	A	A

Lane	Left	Bypass	Left	Left	Right	Left	Right
Designated Moves	LT	R	LTR	LT	R	LT	R
Assumed Moves	LT	R	LTR	LT	R	LT	R
RT Channelized		Free					
Lane Util	1.000		1.000	0.703	0.297	0.618	0.382
Follow-Up Headway, s	2.609		2.609	2.535	2.535	2.535	2.535
Critical Headway, s	4.976	55	4.976	4.544	4.544	4.544	4.544
Entry Flow, veh/h	366	1938	364	83	35	126	78
Cap Entry Lane, veh/h	1147	0.980	1132	984	984	1028	1028
Entry HV Adj Factor	0.981	54	0.980	0.976	0.971	0.978	0.974
Flow Entry, veh/h	359	1900	357	81	34	123	76
Cap Entry, veh/h	1125	0.028	1110	960	956	1006	1002
V/C Ratio	0.319	0.0	0.322	0.084	0.036	0.123	0.076
Control Delay, s/veh	6.3	A	6.4	4.5	4.1	4.7	4.3
LOS	A	0	A	A	A	A	A
95th %tile Queue, veh	1		1	0	0	0	0

HCM 6th Signalized Intersection Summary
3: Hooks St & Emil Jahna Rd

2035 Buildout AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	309	16	15	210	34	43	126	45	35	40	69
Future Volume (veh/h)	160	309	16	15	210	34	43	126	45	35	40	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	174	336	17	16	228	37	47	137	49	38	43	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	273	546	28	217	268	44	761	706	252	699	326	569
Arrive On Green	0.10	0.31	0.31	0.17	0.17	0.17	0.03	0.54	0.54	0.03	0.53	0.53
Sat Flow, veh/h	1781	1765	89	1028	1570	255	1781	1315	470	1781	612	1067
Grp Volume(v), veh/h	174	0	353	16	0	265	47	0	186	38	0	118
Grp Sat Flow(s),veh/h/ln	1781	0	1854	1028	0	1825	1781	0	1786	1781	0	1678
Q Serve(g_s), s	8.5	0.0	17.9	1.5	0.0	15.5	1.3	0.0	5.9	1.0	0.0	3.9
Cycle Q Clear(g_c), s	8.5	0.0	17.9	4.1	0.0	15.5	1.3	0.0	5.9	1.0	0.0	3.9
Prop In Lane	1.00		0.05	1.00		0.14	1.00		0.26	1.00		0.64
Lane Grp Cap(c), veh/h	273	0	574	217	0	312	761	0	958	699	0	895
V/C Ratio(X)	0.64	0.00	0.61	0.07	0.00	0.85	0.06	0.00	0.19	0.05	0.00	0.13
Avail Cap(c_a), veh/h	431	0	969	345	0	539	837	0	958	781	0	895
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.6	0.0	32.4	40.6	0.0	44.2	10.6	0.0	13.2	10.8	0.0	12.9
Incr Delay (d2), s/veh	2.5	0.0	1.1	0.1	0.0	6.4	0.0	0.0	0.5	0.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.0	8.0	0.4	0.0	7.4	0.5	0.0	2.4	0.4	0.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.1	0.0	33.5	40.8	0.0	50.6	10.7	0.0	13.6	10.8	0.0	13.2
LnGrp LOS	D	A	C	D	A	D	B	A	B	B	A	B
Approach Vol, veh/h		527			281			233			156	
Approach Delay, s/veh		34.0			50.1			13.0			12.6	
Approach LOS		C			D			B			B	

Timer - Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.9	63.5		38.6	8.3	63.1	15.2	23.3
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	30.5		57.5	8.5	30.5	20.5	32.5
Max Q Clear Time (g_c+I1), s	3.0	7.9		19.9	3.3	5.9	10.5	17.5
Green Ext Time (p_c), s	0.0	1.0		2.2	0.0	0.6	0.3	1.3

Intersection Summary	
HCM 6th Ctrl Delay	30.9
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
3: Hooks St & Emil Jahna Rd

2035 Buildout PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	230	50	50	243	36	28	47	31	33	80	70
Future Volume (veh/h)	100	230	50	50	243	36	28	47	31	33	80	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	109	250	54	54	264	39	30	51	34	36	87	76
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	216	445	96	234	307	45	731	574	383	809	508	444
Arrive On Green	0.06	0.30	0.30	0.19	0.19	0.19	0.03	0.55	0.55	0.03	0.55	0.55
Sat Flow, veh/h	1781	1490	322	1075	1593	235	1781	1047	698	1781	921	805
Grp Volume(v), veh/h	109	0	304	54	0	303	30	0	85	36	0	163
Grp Sat Flow(s),veh/h/ln	1781	0	1812	1075	0	1828	1781	0	1745	1781	0	1726
Q Serve(g_s), s	5.2	0.0	15.6	4.9	0.0	17.6	0.8	0.0	2.5	1.0	0.0	5.1
Cycle Q Clear(g_c), s	5.2	0.0	15.6	8.8	0.0	17.6	0.8	0.0	2.5	1.0	0.0	5.1
Prop In Lane	1.00		0.18	1.00		0.13	1.00		0.40	1.00		0.47
Lane Grp Cap(c), veh/h	216	0	541	234	0	353	731	0	957	809	0	952
V/C Ratio(X)	0.51	0.00	0.56	0.23	0.00	0.86	0.04	0.00	0.09	0.04	0.00	0.17
Avail Cap(c_a), veh/h	432	0	947	345	0	540	820	0	957	893	0	952
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.7	0.0	32.5	41.1	0.0	43.0	10.2	0.0	11.8	10.0	0.0	12.2
Incr Delay (d2), s/veh	1.8	0.0	0.9	0.5	0.0	8.6	0.0	0.0	0.2	0.0	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(50%),veh/ln	2.3	0.0	6.8	1.3	0.0	8.7	0.3	0.0	1.0	0.4	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.5	0.0	33.4	41.6	0.0	51.5	10.2	0.0	12.0	10.0	0.0	12.6
LnGrp LOS	C	A	C	D	A	D	B	A	B	B	A	B
Approach Vol, veh/h		413			357			115			199	
Approach Delay, s/veh		33.7			50.0			11.5			12.1	
Approach LOS		C			D			B			B	

Timer - Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.8	64.8		37.3	7.5	65.2	11.6	25.7
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	30.5		57.5	8.5	30.5	20.5	32.5
Max Q Clear Time (g_c+I1), s	3.0	4.5		17.6	2.8	7.1	7.2	19.6
Green Ext Time (p_c), s	0.0	0.4		1.9	0.0	0.9	0.2	1.6

Intersection Summary		
HCM 6th Ctrl Delay	32.8	
HCM 6th LOS	C	

Intersection	
Int Delay, s/veh	39.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	231	200	200	1240	802	164
Future Vol, veh/h	231	200	200	1240	802	164
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	430	450	-	-	530
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	251	217	217	1348	872	178

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1980	436	1050	0	-	0
Stage 1	872	-	-	-	-	-
Stage 2	1108	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	~ 54	568	659	-	-	-
Stage 1	369	-	-	-	-	-
Stage 2	278	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 36	568	659	-	-	-
Mov Cap-2 Maneuver	~ 136	-	-	-	-	-
Stage 1	~ 248	-	-	-	-	-
Stage 2	278	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	255.3	1.8	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	659	-	136	568	-	-
HCM Lane V/C Ratio	0.33	-	1.846	0.383	-	-
HCM Control Delay (s)	13.1	-	$ 463.2	15.2	-	-
HCM Lane LOS	B	-	F	C	-	-
HCM 95th %tile Q(veh)	1.4	-	19.3	1.8	-	-

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

Intersection	
Int Delay, s/veh	42.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	199	139	210	963	1005	220
Future Vol, veh/h	199	139	210	963	1005	220
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	250	340	-	-	180
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	216	151	228	1047	1092	239

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2072	546	1331	0	-	0
Stage 1	1092	-	-	-	-	-
Stage 2	980	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	~ 47	482	514	-	-	-
Stage 1	283	-	-	-	-	-
Stage 2	324	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 26	482	514	-	-	-
Mov Cap-2 Maneuver	~ 107	-	-	-	-	-
Stage 1	~ 157	-	-	-	-	-
Stage 2	324	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 334.6	3.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	514	-	107	482	-	-
HCM Lane V/C Ratio	0.444	-	2.022	0.313	-	-
HCM Control Delay (s)	17.5	-	$ 557.3	15.8	-	-
HCM Lane LOS	C	-	F	C	-	-
HCM 95th %tile Q(veh)	2.3	-	18.1	1.3	-	-

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

HCM 6th Signalized Intersection Summary
5: Hooks St & Hartle Rd

2035 Buildout AM Peak

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	231	200	200	1240	802	164
Future Volume (veh/h)	231	200	200	1240	802	164
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	1870	1870	1870	1870
Adj Flow Rate, veh/h	251	217	217	1348	872	178
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	324	288	419	2475	2475	1104
Arrive On Green	0.18	0.18	0.70	0.70	0.70	0.70
Sat Flow, veh/h	1781	1585	537	3647	3647	1585
Grp Volume(v), veh/h	251	217	217	1348	872	178
Grp Sat Flow(s),veh/h/ln	1781	1585	537	1777	1777	1585
Q Serve(g_s), s	9.9	9.6	20.1	13.7	7.3	2.8
Cycle Q Clear(g_c), s	9.9	9.6	27.4	13.7	7.3	2.8
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	324	288	419	2475	2475	1104
V/C Ratio(X)	0.78	0.75	0.52	0.54	0.35	0.16
Avail Cap(c_a), veh/h	1433	1276	419	2475	2475	1104
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	28.8	28.7	10.0	5.5	4.5	3.8
Incr Delay (d2), s/veh	4.0	4.0	4.5	0.9	0.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	3.8	2.5	3.9	2.1	0.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	32.8	32.7	14.6	6.4	4.9	4.1
LnGrp LOS	C	C	B	A	A	A
Approach Vol, veh/h	468			1565	1050	
Approach Delay, s/veh	32.7			7.5	4.8	
Approach LOS	C			A	A	

Timer - Assigned Phs	2		4		6
Phs Duration (G+Y+Rc), s	56.0		17.9		56.0
Change Period (Y+Rc), s	4.5		4.5		4.5
Max Green Setting (Gmax), s	51.5		59.5		51.5
Max Q Clear Time (g_c+I1), s	29.4		11.9		9.3
Green Ext Time (p_c), s	13.5		1.5		8.4

Intersection Summary	
HCM 6th Ctrl Delay	10.4
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary
5: Hooks St & Hartle Rd

2035 Buildout PM Peak

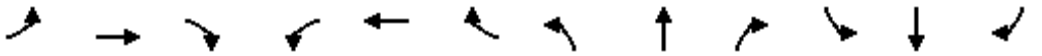
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	199	139	210	963	1005	220
Future Volume (veh/h)	199	139	210	963	1005	220
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	216	151	228	1047	1092	239
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	284	253	342	2542	2542	1134
Arrive On Green	0.16	0.16	0.72	0.72	0.72	0.72
Sat Flow, veh/h	1781	1585	411	3647	3647	1585
Grp Volume(v), veh/h	216	151	228	1047	1092	239
Grp Sat Flow(s),veh/h/ln	1781	1585	411	1777	1777	1585
Q Serve(g_s), s	8.3	6.4	36.8	8.6	9.1	3.6
Cycle Q Clear(g_c), s	8.3	6.4	45.9	8.6	9.1	3.6
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	284	253	342	2542	2542	1134
V/C Ratio(X)	0.76	0.60	0.67	0.41	0.43	0.21
Avail Cap(c_a), veh/h	1472	1310	342	2542	2542	1134
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	28.9	28.1	13.6	4.1	4.2	3.4
Incr Delay (d2), s/veh	4.2	2.2	9.8	0.5	0.5	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	2.4	3.7	2.3	2.4	0.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	33.1	30.3	23.5	4.6	4.7	3.9
LnGrp LOS	C	C	C	A	A	A
Approach Vol, veh/h	367			1275	1331	
Approach Delay, s/veh	32.0			8.0	4.6	
Approach LOS	C			A	A	

Timer - Assigned Phs	2		4		6
Phs Duration (G+Y+Rc), s	56.0		16.0		56.0
Change Period (Y+Rc), s	4.5		4.5		4.5
Max Green Setting (Gmax), s	51.5		59.5		51.5
Max Q Clear Time (g_c+I1), s	47.9		10.3		11.1
Green Ext Time (p_c), s	2.8		1.2		11.7

Intersection Summary	
HCM 6th Ctrl Delay	9.4
HCM 6th LOS	A

HCM 6th Signalized Intersection Summary
1: Hooks St & Hancock Rd

2045 Buildout AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	338	121	145	44	124	121	131	633	127	136	497	240
Future Volume (veh/h)	338	121	145	44	124	121	131	633	127	136	497	240
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	360	129	101	47	132	65	139	673	82	145	529	42
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	429	302	236	199	149	73	369	755	92	218	870	737
Arrive On Green	0.12	0.31	0.31	0.13	0.13	0.13	0.06	0.46	0.46	0.06	0.47	0.47
Sat Flow, veh/h	3456	972	761	1151	1183	583	1781	1635	199	1781	1870	1585
Grp Volume(v), veh/h	360	0	230	47	0	197	139	0	755	145	529	42
Grp Sat Flow(s),veh/h/ln	1728	0	1733	1151	0	1766	1781	0	1834	1781	1870	1585
Q Serve(g_s), s	13.6	0.0	14.1	5.0	0.0	14.6	5.4	0.0	50.3	5.7	28.2	1.9
Cycle Q Clear(g_c), s	13.6	0.0	14.1	5.0	0.0	14.6	5.4	0.0	50.3	5.7	28.2	1.9
Prop In Lane	1.00		0.44	1.00		0.33	1.00		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	429	0	538	199	0	223	369	0	847	218	870	737
V/C Ratio(X)	0.84	0.00	0.43	0.24	0.00	0.88	0.38	0.00	0.89	0.67	0.61	0.06
Avail Cap(c_a), veh/h	725	0	704	211	0	241	463	0	847	270	870	737
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.1	0.0	36.6	53.1	0.0	57.4	20.2	0.0	32.9	28.6	26.6	19.6
Incr Delay (d2), s/veh	4.4	0.0	0.5	0.6	0.0	28.6	0.6	0.0	13.7	4.4	3.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.1	0.0	9.9	2.6	0.0	13.0	4.0	0.0	32.3	4.5	18.6	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.6	0.0	37.1	53.7	0.0	86.0	20.9	0.0	46.6	33.0	29.8	19.8
LnGrp LOS	E	A	D	D	A	F	C	A	D	C	C	B
Approach Vol, veh/h		590			244			894			716	
Approach Delay, s/veh		52.1			79.8			42.6			29.8	
Approach LOS		D			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	16.0	69.7	24.6	23.2	16.5	69.2		47.8				
Change Period (Y+Rc), s	* 8.4	* 7.6	8.0	6.4	* 8.7	* 7.6		6.4				
Max Green Setting (Gmax), s	* 15	* 59	28.0	18.2	* 12	* 62		54.2				
Max Q Clear Time (g_c+I1), s	7.4	30.2	15.6	16.6	7.7	52.3		16.1				
Green Ext Time (p_c), s	0.2	3.4	1.0	0.2	0.1	3.3		1.3				

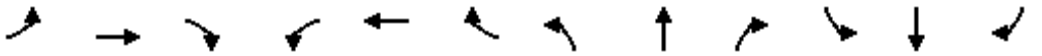
Intersection Summary	
HCM 6th Ctrl Delay	44.8
HCM 6th LOS	D

Notes

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

HCM 6th Signalized Intersection Summary
1: Hooks St & Hancock Rd

2045 Buildout PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	225	135	125	115	136	124	92	509	65	125	617	307
Future Volume (veh/h)	225	135	125	115	136	124	92	509	65	125	617	307
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	239	144	133	122	145	132	98	541	69	133	656	327
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	273	317	292	284	166	151	206	536	68	188	718	609
Arrive On Green	0.08	0.35	0.35	0.18	0.18	0.18	0.05	0.33	0.33	0.06	0.38	0.38
Sat Flow, veh/h	3456	895	827	1102	902	821	1781	1626	207	1781	1870	1585
Grp Volume(v), veh/h	239	0	277	122	0	277	98	0	610	133	656	327
Grp Sat Flow(s),veh/h/ln	1728	0	1722	1102	0	1723	1781	0	1833	1781	1870	1585
Q Serve(g_s), s	6.1	0.0	11.0	9.0	0.0	13.8	3.2	0.0	29.2	4.4	29.5	14.2
Cycle Q Clear(g_c), s	6.1	0.0	11.0	9.0	0.0	13.8	3.2	0.0	29.2	4.4	29.5	14.2
Prop In Lane	1.00		0.48	1.00		0.48	1.00		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	273	0	609	284	0	317	206	0	605	188	718	609
V/C Ratio(X)	0.87	0.00	0.45	0.43	0.00	0.87	0.48	0.00	1.01	0.71	0.91	0.54
Avail Cap(c_a), veh/h	273	0	642	306	0	350	211	0	605	188	718	609
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.3	0.0	22.0	33.1	0.0	35.1	22.0	0.0	29.7	22.6	25.9	21.2
Incr Delay (d2), s/veh	25.4	0.0	0.5	1.0	0.0	19.5	1.7	0.0	38.8	11.5	18.1	3.4
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	6.1	0.0	7.5	4.3	0.0	11.7	2.3	0.0	25.3	4.0	21.7	9.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.7	0.0	22.6	34.1	0.0	54.6	23.7	0.0	68.4	34.1	43.9	24.5
LnGrp LOS	E	A	C	C	A	D	C	A	F	C	D	C
Approach Vol, veh/h		516			399			708			1116	
Approach Delay, s/veh		42.6			48.3			62.2			37.1	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	9.2	41.6	15.0	22.7	14.0	36.8		37.7
Change Period (Y+Rc), s	4.5	* 7.6	8.0	6.4	* 8.7	* 7.6		6.4
Max Green Setting (Gmax), s	5.0	* 30	7.0	18.0	* 5.3	* 29		33.0
Max Q Clear Time (g_c+I1), s	5.2	31.5	8.1	15.8	6.4	31.2		13.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.5	0.0	0.0		1.4

Intersection Summary	
HCM 6th Ctrl Delay	46.2
HCM 6th LOS	D

Notes

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

Intersection	
Intersection Delay, s/veh	10.0
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	2	2
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	602	599	233	159
Demand Flow Rate, veh/h	614	611	238	163
Vehicles Circulating, veh/h	99	393	636	608
Vehicles Exiting, veh/h	672	481	60	396
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	7.8	14.7	6.8	5.5
Approach LOS	A	B	A	A

Lane	Left	Bypass	Left	Left	Right	Left	Right
Designated Moves	LT	R	LTR	LT	R	LT	R
Assumed Moves	LT	R	LTR	LT	R	LT	R
RT Channelized		Free					
Lane Util	1.000		1.000	0.790	0.210	0.509	0.491
Follow-Up Headway, s	2.609		2.609	2.535	2.535	2.535	2.535
Critical Headway, s	4.976	17	4.976	4.544	4.544	4.544	4.544
Entry Flow, veh/h	597	1938	611	188	50	83	80
Cap Entry Lane, veh/h	1247	0.980	924	796	796	817	817
Entry HV Adj Factor	0.980	17	0.981	0.980	0.980	0.978	0.975
Flow Entry, veh/h	585	1900	599	184	49	81	78
Cap Entry, veh/h	1223	0.009	907	780	780	798	796
V/C Ratio	0.479	0.0	0.661	0.236	0.063	0.102	0.098
Control Delay, s/veh	8.0	A	14.7	7.2	5.2	5.5	5.5
LOS	A	0	B	A	A	A	A
95th %tile Queue, veh	3		5	1	0	0	0

Intersection	
Intersection Delay, s/veh	6.5
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	2	2
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	479	486	115	202
Demand Flow Rate, veh/h	489	496	118	207
Vehicles Circulating, veh/h	182	210	463	438
Vehicles Exiting, veh/h	463	371	144	268
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.1	8.1	4.7	4.9
Approach LOS	A	A	A	A

Lane	Left	Bypass	Left	Left	Right	Left	Right
Designated Moves	LT	R	LTR	LT	R	LT	R
Assumed Moves	LT	R	LTR	LT	R	LT	R
RT Channelized		Free					
Lane Util	1.000		1.000	0.703	0.297	0.614	0.386
Follow-Up Headway, s	2.609		2.609	2.535	2.535	2.535	2.535
Critical Headway, s	4.976	63	4.976	4.544	4.544	4.544	4.544
Entry Flow, veh/h	426	1938	496	83	35	127	80
Cap Entry Lane, veh/h	1146	0.980	1114	932	932	953	953
Entry HV Adj Factor	0.979	62	0.980	0.976	0.971	0.978	0.975
Flow Entry, veh/h	417	1900	486	81	34	124	78
Cap Entry, veh/h	1122	0.033	1092	909	905	933	929
V/C Ratio	0.372	0.0	0.445	0.089	0.038	0.133	0.084
Control Delay, s/veh	7.0	A	8.1	4.8	4.3	5.1	4.6
LOS	A	0	A	A	A	A	A
95th %tile Queue, veh	2		2	0	0	0	0

HCM 6th Signalized Intersection Summary
3: Hooks St & Emil Jahna Rd

2045 Buildout AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	185	353	16	15	290	46	43	126	45	35	40	72
Future Volume (veh/h)	185	353	16	15	290	46	43	126	45	35	40	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	201	384	17	16	315	50	47	137	49	38	43	78
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	283	658	29	259	355	56	675	626	224	618	281	510
Arrive On Green	0.10	0.37	0.37	0.23	0.23	0.23	0.03	0.48	0.48	0.03	0.47	0.47
Sat Flow, veh/h	1781	1778	79	984	1575	250	1781	1315	470	1781	596	1080
Grp Volume(v), veh/h	201	0	401	16	0	365	47	0	186	38	0	121
Grp Sat Flow(s),veh/h/ln	1781	0	1856	984	0	1825	1781	0	1786	1781	0	1676
Q Serve(g_s), s	9.1	0.0	19.1	1.5	0.0	21.3	1.5	0.0	6.7	1.2	0.0	4.5
Cycle Q Clear(g_c), s	9.1	0.0	19.1	4.6	0.0	21.3	1.5	0.0	6.7	1.2	0.0	4.5
Prop In Lane	1.00		0.04	1.00		0.14	1.00		0.26	1.00		0.64
Lane Grp Cap(c), veh/h	283	0	688	259	0	411	675	0	849	618	0	791
V/C Ratio(X)	0.71	0.00	0.58	0.06	0.00	0.89	0.07	0.00	0.22	0.06	0.00	0.15
Avail Cap(c_a), veh/h	430	0	970	328	0	539	751	0	849	700	0	791
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.4	0.0	27.8	36.1	0.0	41.3	13.8	0.0	16.9	14.0	0.0	16.5
Incr Delay (d2), s/veh	3.3	0.0	0.8	0.1	0.0	13.5	0.0	0.0	0.6	0.0	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	7.3	0.0	13.2	0.6	0.0	16.3	1.0	0.0	5.1	0.9	0.0	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.6	0.0	28.6	36.2	0.0	54.7	13.9	0.0	17.5	14.1	0.0	16.9
LnGrp LOS	C	A	C	D	A	D	B	A	B	B	A	B
Approach Vol, veh/h		602			381			233			159	
Approach Delay, s/veh		29.9			53.9			16.7			16.2	
Approach LOS		C			D			B			B	

Timer - Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.9	56.8		45.2	8.3	56.4	16.0	29.3
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	30.5		57.5	8.5	30.5	20.5	32.5
Max Q Clear Time (g_c+I1), s	3.2	8.7		21.1	3.5	6.5	11.1	23.3
Green Ext Time (p_c), s	0.0	1.0		2.6	0.0	0.6	0.4	1.5

Intersection Summary		
HCM 6th Ctrl Delay		32.8
HCM 6th LOS		C

HCM 6th Signalized Intersection Summary
3: Hooks St & Emil Jahna Rd

2045 Buildout PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	269	57	50	317	80	28	47	31	34	80	72
Future Volume (veh/h)	115	269	57	50	317	80	28	47	31	34	80	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	125	292	62	54	345	87	30	51	34	37	87	78
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	215	555	118	290	378	95	632	498	332	709	435	390
Arrive On Green	0.07	0.37	0.37	0.26	0.26	0.26	0.03	0.48	0.48	0.03	0.48	0.48
Sat Flow, veh/h	1781	1496	318	1027	1441	363	1781	1047	698	1781	909	815
Grp Volume(v), veh/h	125	0	354	54	0	432	30	0	85	37	0	165
Grp Sat Flow(s),veh/h/ln	1781	0	1813	1027	0	1805	1781	0	1745	1781	0	1724
Q Serve(g_s), s	5.4	0.0	16.8	4.8	0.0	25.5	0.9	0.0	3.0	1.2	0.0	6.1
Cycle Q Clear(g_c), s	5.4	0.0	16.8	9.6	0.0	25.5	0.9	0.0	3.0	1.2	0.0	6.1
Prop In Lane	1.00		0.18	1.00		0.20	1.00		0.40	1.00		0.47
Lane Grp Cap(c), veh/h	215	0	672	290	0	473	632	0	830	709	0	826
V/C Ratio(X)	0.58	0.00	0.53	0.19	0.00	0.91	0.05	0.00	0.10	0.05	0.00	0.20
Avail Cap(c_a), veh/h	426	0	948	324	0	533	721	0	830	792	0	826
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.1	0.0	27.1	35.5	0.0	39.4	14.0	0.0	15.9	13.7	0.0	16.5
Incr Delay (d2), s/veh	2.5	0.0	0.6	0.3	0.0	19.0	0.0	0.0	0.2	0.0	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.3	0.0	11.6	2.2	0.0	19.6	0.7	0.0	2.2	0.8	0.0	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.6	0.0	27.7	35.8	0.0	58.4	14.0	0.0	16.1	13.8	0.0	17.0
LnGrp LOS	C	A	C	D	A	E	B	A	B	B	A	B
Approach Vol, veh/h		479			486			115			202	
Approach Delay, s/veh		28.7			55.9			15.6			16.4	
Approach LOS		C			E			B			B	

Timer - Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.9	56.8		45.3	7.5	57.2	12.0	33.3
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	30.5		57.5	8.5	30.5	20.5	32.5
Max Q Clear Time (g_c+I1), s	3.2	5.0		18.8	2.9	8.1	7.4	27.5
Green Ext Time (p_c), s	0.0	0.4		2.3	0.0	0.9	0.2	1.3

Intersection Summary	
HCM 6th Ctrl Delay	35.9
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
4: Hooks St & Hartle Rd

2045 Buildout AM Peak

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	319	283	231	1262	832	210
Future Volume (veh/h)	319	283	231	1262	832	210
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	1870	1870	1870	1870
Adj Flow Rate, veh/h	347	308	251	1372	904	228
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	418	372	355	2347	2347	1047
Arrive On Green	0.23	0.23	0.66	0.66	0.66	0.66
Sat Flow, veh/h	1781	1585	497	3647	3647	1585
Grp Volume(v), veh/h	347	308	251	1372	904	228
Grp Sat Flow(s),veh/h/ln	1781	1585	497	1777	1777	1585
Q Serve(g_s), s	15.8	15.8	39.7	18.3	9.9	4.9
Cycle Q Clear(g_c), s	15.8	15.8	49.6	18.3	9.9	4.9
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	418	372	355	2347	2347	1047
V/C Ratio(X)	0.83	0.83	0.71	0.58	0.39	0.22
Avail Cap(c_a), veh/h	1135	1010	355	2347	2347	1047
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	31.1	31.1	17.9	8.0	6.6	5.8
Incr Delay (d2), s/veh	4.3	4.8	11.3	1.1	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.3	10.4	8.9	10.2	5.9	2.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	35.5	35.9	29.2	9.1	7.1	6.2
LnGrp LOS	D	D	C	A	A	A
Approach Vol, veh/h	655			1623	1132	
Approach Delay, s/veh	35.7			12.2	6.9	
Approach LOS	D			B	A	

Timer - Assigned Phs	2		4		6
Phs Duration (G+Y+Rc), s	61.0		24.6		61.0
Change Period (Y+Rc), s	4.5		4.5		4.5
Max Green Setting (Gmax), s	56.5		54.5		56.5
Max Q Clear Time (g_c+I1), s	51.6		17.8		11.9
Green Ext Time (p_c), s	4.1		2.2		9.2

Intersection Summary	
HCM 6th Ctrl Delay	15.0
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary
4: Hooks St & Hartle Rd

2045 Buildout PM Peak

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	242	231	230	970	1026	300
Future Volume (veh/h)	242	231	230	970	1026	300
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	1870	1870	1870	1870
Adj Flow Rate, veh/h	263	251	250	1054	1115	326
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	350	311	293	2463	2463	1099
Arrive On Green	0.20	0.20	0.69	0.69	0.69	0.69
Sat Flow, veh/h	1781	1585	370	3647	3647	1585
Grp Volume(v), veh/h	263	251	250	1054	1115	326
Grp Sat Flow(s),veh/h/ln	1781	1585	370	1777	1777	1585
Q Serve(g_s), s	11.3	12.3	45.1	10.5	11.4	6.5
Cycle Q Clear(g_c), s	11.3	12.3	56.5	10.5	11.4	6.5
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	350	311	293	2463	2463	1099
V/C Ratio(X)	0.75	0.81	0.85	0.43	0.45	0.30
Avail Cap(c_a), veh/h	1191	1060	293	2463	2463	1099
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	30.9	31.3	22.3	5.5	5.6	4.8
Incr Delay (d2), s/veh	3.3	4.9	25.7	0.5	0.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.6	8.6	11.4	5.8	6.3	3.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	34.1	36.2	48.0	6.0	6.2	5.5
LnGrp LOS	C	D	D	A	A	A
Approach Vol, veh/h	514			1304	1441	
Approach Delay, s/veh	35.1			14.0	6.0	
Approach LOS	D			B	A	

Timer - Assigned Phs	2		4		6
Phs Duration (G+Y+Rc), s	61.0		20.5		61.0
Change Period (Y+Rc), s	4.5		4.5		4.5
Max Green Setting (Gmax), s	56.5		54.5		56.5
Max Q Clear Time (g_c+I1), s	58.5		14.3		13.4
Green Ext Time (p_c), s	0.0		1.7		12.9

Intersection Summary		
HCM 6th Ctrl Delay	13.8	
HCM 6th LOS	B	

Appendix N
Hooks Street Extension Crash Summary

Interactive Highway Safety Design Model
Crash Prediction Evaluation Report
Version v15.0.0 (Oct 31, 2019)
August 10, 2020

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Report Overview

Report Generated: Jun 18, 2020 4:08 PM
Report Template: System: Single Page [System] (mlcpm3, Jun 3, 2020 4:09 PM)
Evaluation Date: Thu Jun 18 16:08:50 EDT 2020
IHSDM Version: v15.0.0 (Oct 31, 2019)
Crash Prediction Module: v10.0.0 (Oct 31, 2019)
Evaluation Comment: Created Thu Jun 18 16:07:03 EDT 2020
Minimum Location: 0.000
Maximum Location: 72+71.900
Policy for Superelevation: AASHTO 2011 U.S. Customary
Calibration: HSM Configuration
Crash Distribution: HSM Configuration
Model/CMF: HSM Configuration
First Year of Analysis: 2025
Last Year of Analysis: 2030
Empirical-Bayes Analysis: None
First Year of Observed Crashes:
Last Year of Observed Crashes:

Disclaimer Regarding Crash Prediction Method

IMPORTANT NOTICE ABOUT COMPARING RESULTS FROM HIGHWAY SAFETY MANUAL FIRST EDITION (2010) MODELS TO RESULTS FROM NEW MODELS DEVELOPED UNDER NCHRP PROJECTS 17-70 AND 17-58

Since the publication of the Highway Safety Manual - First Edition (HSM-1), in 2010 by the American Association of State Highway and Transportation Officials (AASHTO), multiple research efforts have been undertaken through the National Cooperative Highway Research Program (NCHRP) to develop safety performance models for road segment and intersection facility types that were not initially reflected in the HSM-1, in order to expand the breadth and depth of the HSM in the future.

The IHSDM Crash Prediction Module (CPM) is intended as a faithful implementation of HSM Part C predictive methods. As NCHRP projects to develop new predictive methods for the HSM are completed, FHWA works to incorporate the new methods into IHSDM, sometimes in advance of publication in the HSM. The following new crash predictive methods have been accepted by NCHRP project panels and incorporated into IHSDM, while pending AASHTO's approval for incorporation into a future edition of the HSM:

- Roundabouts: completed in 2018 under NCHRP Project 17-70, the new methods will provide improved outcomes for the safety analysis of roundabouts.
- 6+ lane and one-way urban/suburban arterials (including models for segments and intersections): completed under NCHRP Project 17-58.

However, in the absence of local calibration factors (see HSM-1 Part C, Appendix A for guidance on calibration of the predictive models), it is neither appropriate nor advisable to directly compare the results from new models (from NCHRP Projects 17-58 and 17-70) to results from HSM-1 models, as the models were not calibrated to the same base state data sets, and consequently can produce unexpected results. If local calibration factors are available and applied to both new models and HSM-1 models, then it may be appropriate to directly compare the results.*[Note: Work being performed under NCHRP Project 17-72 (Update of Crash Modification Factors for the Highway Safety Manual) is expected to re-calibrate many of the old (HSM-1) and new (e.g., NCHRP 17-70) models to data from a single (or small number of) states, that would allow results from all models to be directly compared.]*

The models produced for NCHRP Project 17-70 have independent value in terms of informing the design of a roundabout and assessing the effects of different design characteristics on the expected safety performance of a roundabout.

The HSM-1 interim method previously included in IHSDM for evaluating roundabouts on urban/suburban arterials (i.e., evaluating an existing intersection and then applying a Crash Modification Factor for replacing the existing intersection with a roundabout) has been deactivated in IHSDM, to minimize any confusion with the new roundabout methodology.

Section 1 Evaluation
Section: Section 1
Evaluation Start Location: 0.000
Evaluation End Location: 72+71.900
Area Type: Suburban
Functional Class: Arterial
Type of Alignment: Divided, Multilane
Model Category: Urban/Suburban Arterial
Calibration Factor: 4D=1.0; USA 32R=1.0;

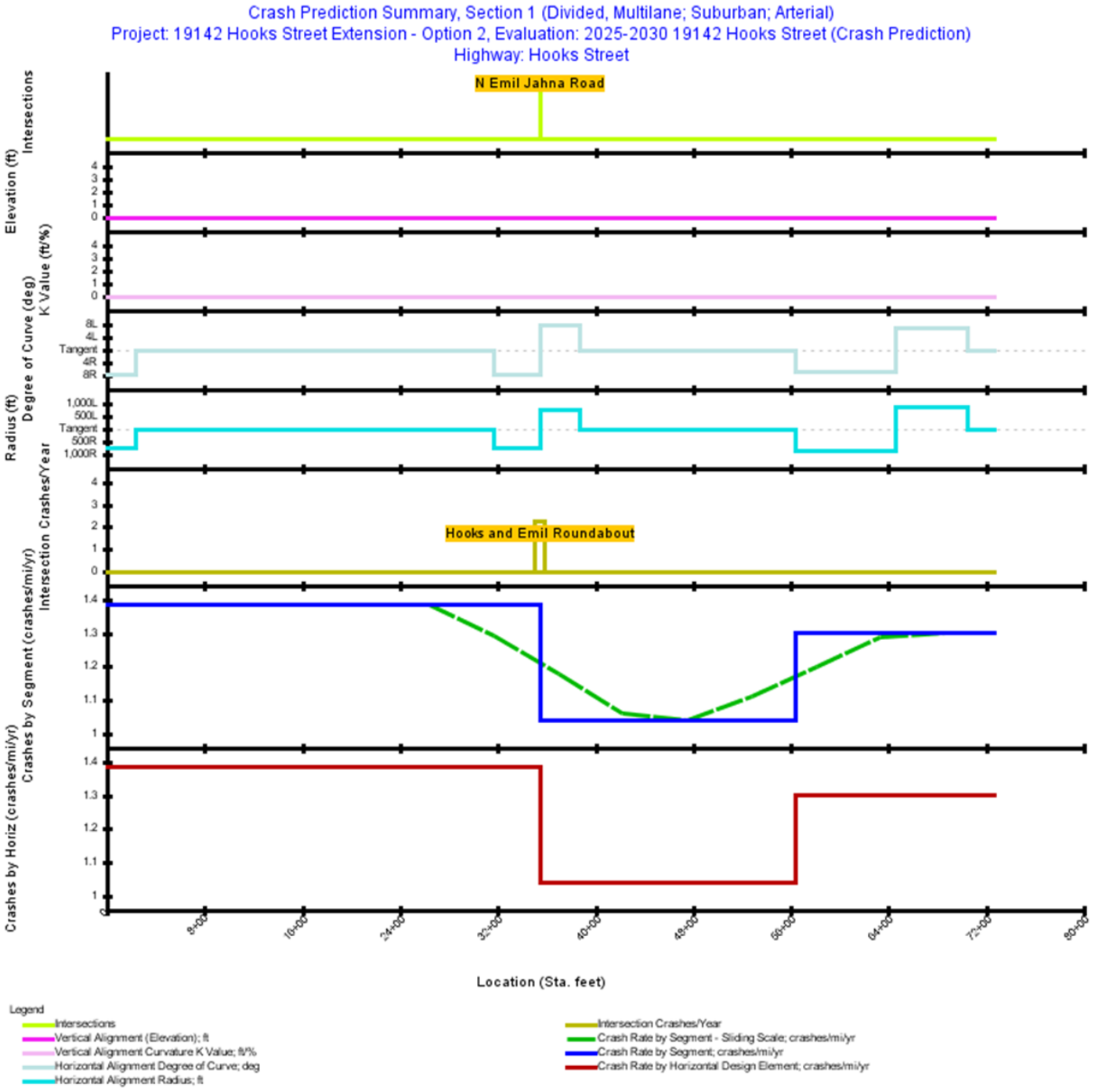

Figure Crash Prediction Summary (Section 1)

Table 1. Evaluation Highway - Homogeneous Segments (Section 1)

Seg. No.	Type	Start Location (Sta. ft)	End Location (Sta. ft)	Length (ft)	Length(mi)	AADT	Number Major Commericial Driveways	Number Minor Commericial Driveways	Number Major Industial/Institutional	Number Minor Industial/Institutional	Number Major Residential Driveways	Number Minor Residential Driveways	Number Other Driveways	Lighting	Automated Speed Enforcement	Density (fixed objects/mi)	Median Width (ft)	Type	Effective Median Width (ft)	Speed Level	Number Rail Highway Crossings	Average Shoulder Width (ft)	Average Lane Width (ft)
1	4D	0.000	2+36.420	236.42	0.0448	2025: 7,125; 2026: 7,343; 2027: 7,561; 2028: 7,779; 2029: 7,998; 2030: 8,216	0	0	0	0	0	0	0	false	false	0.0	8.00	Traversable Median	8.00	Low	0	0.00	12.00
2	4D	2+36.420	31+65.470	2,929.05	0.5547	2025: 7,125; 2026: 7,343; 2027: 7,561; 2028: 7,779; 2029: 7,998; 2030: 8,216	0	0	0	0	0	0	0	false	false	0.0	8.00	Traversable Median	8.00	Low	0	0.00	12.00
3	4D	31+65.470	35+44.470	379.00	0.0718	2025: 7,125; 2026: 7,343; 2027: 7,561; 2028: 7,779; 2029: 7,998; 2030: 8,216	0	0	0	0	0	0	0	false	false	0.0	8.00	Traversable Median	8.00	Low	0	0.00	12.00
4	4D	35+44.470	38+68.590	324.12	0.0614	2025: 5,202; 2026: 5,443; 2027: 5,685; 2028: 5,927; 2029: 6,169; 2030: 6,411	0	0	0	0	0	0	0	false	false	0.0	8.00	Traversable Median	8.00	Low	0	0.00	12.00
5	4D	38+68.590	56+38.440	1,769.85	0.3352	2025: 5,202; 2026: 5,443; 2027: 5,685; 2028: 5,927; 2029: 6,169; 2030: 6,411	0	0	0	0	0	0	0	false	false	0.0	8.00	Traversable Median	8.00	Low	0	0.00	12.00

Table 1. Evaluation Highway - Homogeneous Segments (Section 1)

Seg. No.	Type	Start Location (Sta. ft)	End Location (Sta. ft)	Length (ft)	Length(mi)	AADT	Number Major Commericial Driveways	Number Minor Commericial Driveways	Number Major Industial/Institutional	Number Minor Industial/Institutional	Number Major Residential Driveways	Number Minor Residential Driveways	Number Other Driveways	Lighting	Automated Speed Enforcement	Density (fixed objects/mi)	Median Width (ft)	Type	Effective Median Width (ft)	Speed Level	Number Rail Highway Crossings	Average Shoulder Width (ft)	Average Lane Width (ft)
6	4D	56+38.440	64+56.900	818.46	0.1550	2025: 6,157; 2026: 6,588; 2027: 7,019; 2028: 7,450; 2029: 7,881; 2030: 8,312	0	0	0	0	0	0	0	false	false	0.0	8.00	Traversable Median	8.00	Low	0	0.00	12.00
7	4D	64+56.900	70+43.090	586.19	0.1110	2025: 6,157; 2026: 6,588; 2027: 7,019; 2028: 7,450; 2029: 7,881; 2030: 8,312	0	0	0	0	0	0	0	false	false	0.0	8.00	Traversable Median	8.00	Low	0	0.00	12.00
8	4D	70+43.090	72+71.900	228.81	0.0433	2025: 6,157; 2026: 6,588; 2027: 7,019; 2028: 7,450; 2029: 7,881; 2030: 8,312	0	0	0	0	0	0	0	false	false	0.0	8.00	Traversable Median	8.00	Low	0	0.00	12.00

Table 2. Evaluation Roundabout - Site (Section 1)						
Inter. No.	Title	Roundabout Type	Area Type	Legs	Location (Sta. ft)	Entering AADT
1	Hooks and Emil Roundabout	Roundabout with 3 legs and two circulating lanes	Urban	3	35+44.470	Leg 1: 2025: 3,562; 2026: 3,671; 2027: 3,780; 2028: 3,889; 2029: 3,999; 2030: 4,108; Leg 2: 2025-2030: 250; Leg 3: 2025: 2,601; 2026: 2,721; 2027: 2,842; 2028: 2,963; 2029: 3,084; 2030: 3,205

Table 3. Predicted Highway Crash Rates and Frequencies Summary (Section 1)	
First Year of Analysis	2025
Last Year of Analysis	2030
Evaluated Length (mi)	1.3773
Average Future Road AADT (vpd)	7,036
Predicted Crashes	
Total Crashes	24.14
Fatal and Injury Crashes	4.96
Property-Damage-Only Crashes	19.17
Percent of Total Predicted Crashes	
Percent Fatal and Injury Crashes (%)	21
Percent Property-Damage-Only Crashes (%)	79
Predicted Crash Rate	
Crash Rate (crashes/mi/yr)	2.9207
FI Crash Rate (crashes/mi/yr)	0.6004
PDO Crash Rate (crashes/mi/yr)	2.3204
Predicted Travel Crash Rate	
Total Travel (million veh-mi)	21.22
Travel Crash Rate (crashes/million veh-mi)	1.14
Travel FI Crash Rate (crashes/million veh-mi)	0.23
Travel PDO Crash Rate (crashes/million veh-mi)	0.90

Table 4. Predicted Crash Frequencies and Rates by Highway Segment/Intersection (Section 1)

Segment Number/Intersection Name/Cross Road	Start Location (Sta. ft)	End Location (Sta. ft)	Length (mi)	Total Predicted Crashes for Evaluation Period	Predicted Total Crash Frequency (crashes/yr)	Predicted FI Crash Frequency (crashes/yr)	Predicted PDO Crash Frequency (crashes/yr)	Predicted Crash Rate (crashes/mi/yr)	Predicted Travel Crash Rate (crashes/million veh-mi)	Predicted Intersection Travel Crash Rate (crashes/million veh)
1	0.000	2+36.420	0.0448	0.372	0.0620	0.0188	0.0432	1.3846	0.50	
2	2+36.420	31+65.470	0.5547	4.609	0.7681	0.2327	0.5354	1.3846	0.50	
3	31+65.470	35+44.470	0.0718	0.596	0.0994	0.0301	0.0693	1.3846	0.50	
Hooks and Emil Roundabout	35+44.470			13.669	2.2781	0.3020	1.9761			0.89
4	35+44.470	38+68.590	0.0614	0.383	0.0638	0.0188	0.0449	1.0385	0.49	
5	38+68.590	56+38.440	0.3352	2.089	0.3481	0.1028	0.2453	1.0385	0.49	
6	56+38.440	64+56.900	0.1550	1.212	0.2020	0.0609	0.1411	1.3030	0.49	
7	64+56.900	70+43.090	0.1110	0.868	0.1447	0.0436	0.1010	1.3030	0.49	
8	70+43.090	72+71.900	0.0433	0.339	0.0565	0.0170	0.0394	1.3030	0.49	
All Segments			1.3773	10.467	1.7444	0.5249	1.2196	1.2666	0.49	
All Intersections				13.669	2.2781	0.3020	1.9761			0.89
Total			1.3773	24.135	4.0226	0.8268	3.1957	2.9207		

Table 5. Predicted Crash Frequencies and Rates by Horizontal Design Element (Section 1)

Title	Start Location (Sta. ft)	End Location (Sta. ft)	Length (mi)	Total Predicted Crashes for Evaluation Period	Predicted Total Crash Frequency (crashes/yr)	Predicted FI Crash Frequency (crashes/yr)	Predicted PDO Crash Frequency (crashes/yr)	Predicted Crash Rate (crashes/mi/yr)	Predicted Travel Crash Rate (crashes/million veh-mi)
Simple Curve 1	0.000	2+36.420	0.0448	0.372	0.0620	0.0188	0.0432	1.3846	0.50
Tangent	2+36.420	31+65.470	0.5547	4.609	0.7681	0.2327	0.5354	1.3846	0.50
Simple Curve 2	31+65.470	35+44.470	0.0718	0.596	0.0994	0.0301	0.0693	1.3846	0.50
Simple Curve 3	35+44.470	38+68.590	0.0614	0.383	0.0638	0.0188	0.0449	1.0385	0.49
Tangent	38+68.590	56+38.440	0.3352	2.089	0.3481	0.1028	0.2453	1.0385	0.49
Simple Curve 4	56+38.440	64+56.900	0.1550	1.212	0.2020	0.0609	0.1411	1.3030	0.49
Simple Curve 5	64+56.900	70+43.090	0.1110	0.868	0.1447	0.0436	0.1010	1.3030	0.49
Tangent	70+43.090	72+71.900	0.0433	0.339	0.0565	0.0170	0.0394	1.3030	0.49

Table 6. Predicted Crash Frequencies by Year (Section 1)					
Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2025	3.64	0.74	20.241	2.91	79.758
2026	3.79	0.77	20.369	3.02	79.631
2027	3.94	0.81	20.491	3.14	79.509
2028	4.10	0.84	20.607	3.25	79.393
2029	4.25	0.88	20.719	3.37	79.281
2030	4.40	0.92	20.826	3.49	79.174
Total	24.14	4.96	20.555	19.17	79.445
Average	4.02	0.83	20.555	3.20	79.445

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Table 7. Predicted Crash Severity by Ramp Terminal or Roundabout (Section 1)						
Seg. No.	Type	Fatal (K) Crashes (crashes)	Incapacitating Injury (A) Crashes (crashes)	Non-Incapacitating Injury (B) Crashes (crashes)	Possible Injury (C) Crashes (crashes)	No Injury (O) Crashes (crashes)
1	Roundabout	0.0315	0.3136	0.6014	0.8654	11.8568

Table 8. Predicted Five Lane or Fewer Crash Type Distribution (Section 1)							
Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Highway Segment	Collision with Animal	0.00	0.0	0.19	0.8	0.19	0.8
Highway Segment	Collision with Bicycle	0.13	0.5	0.00	0.0	0.13	0.5
Highway Segment	Collision with Fixed Object	0.24	1.0	2.40	9.9	2.64	10.9
Highway Segment	Collision with Other Object	0.01	0.1	0.05	0.2	0.06	0.3
Highway Segment	Other Single-vehicle Collision	0.23	0.9	0.32	1.3	0.55	2.3
Highway Segment	Collision with Pedestrian	0.65	2.7	0.00	0.0	0.65	2.7
Highway Segment	Total Single Vehicle Crashes	1.26	5.2	2.95	12.2	4.21	17.4
Highway Segment	Angle Collision	0.08	0.3	0.16	0.7	0.23	1.0
Highway Segment	Driveway-related Collision	0.00	0.0	0.00	0.0	0.00	0.0
Highway Segment	Head-on Collision	0.04	0.2	0.03	0.1	0.07	0.3
Highway Segment	Other Multi-vehicle Collision	0.09	0.4	0.31	1.3	0.40	1.7
Highway Segment	Rear-end Collision	1.57	6.5	2.89	12.0	4.46	18.5
Highway Segment	Sideswipe, Opposite Direction Collision	0.02	0.1	0.00	0.0	0.02	0.1
Highway Segment	Sideswipe, Same Direction Collision	0.10	0.4	0.97	4.0	1.07	4.4
Highway Segment	Total Multiple Vehicle Crashes	1.89	7.8	4.37	18.1	6.26	25.9
Highway Segment	Total Highway Segment Crashes	3.15	13.1	7.32	30.3	10.47	43.4
Intersection	Collision with Animal	0.00	0.0	0.06	0.2	0.06	0.2
Intersection	Collision with Fixed Object	0.59	2.4	2.11	8.7	2.70	11.2
Intersection	Collision with Other Object	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Other Single-vehicle Collision	0.42	1.8	1.52	6.3	1.94	8.0
Intersection	Collision with Parked Vehicle	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Total Single Vehicle Crashes	1.01	4.2	3.69	15.3	4.70	19.5
Intersection	Right-Angle Collision	0.13	0.5	0.85	3.5	0.98	4.1
Intersection	Head-on Collision	0.00	0.0	0.02	0.1	0.02	0.1
Intersection	Other Multi-vehicle Collision	0.23	0.9	1.55	6.4	1.78	7.4
Intersection	Rear-end Collision	0.25	1.0	2.69	11.2	2.94	12.2
Intersection	Total Multiple Vehicle Crashes	0.60	2.5	5.12	21.2	5.73	23.7
Intersection	Total Intersection Crashes	1.81	7.5	11.85	49.1	13.66	56.6
Intersection		0.20	0.8	3.04	12.6	3.23	13.4
	Total Crashes	4.96	20.6	19.16	79.4	24.12	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.