STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

TECHNICAL REPORT COVERSHEET

650-050-38
ENVIRONMENTAL
MANAGEMENT
06/17

SR 70 DESIGN TRAFFIC TECHNICAL MEMORANDUM

Florida Department of Transportation

District 1

SR 70

Limits of Project: from Lorraine Road to CR 675/Waterbury Road

Manatee County, Florida

Financial Management Number: 414506-2

ETDM Number: 14263

Date: NOVEMBER 2016

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by FDOT pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding dated December 14, 2016 and executed by FHWA and FDOT.

Final

SR 70 Design Traffic Technical Memorandum

November 2016

FDOT

Final

SR 70 Design Traffic Technical Memorandum

This Final Design Traffic Technical Memorandum is prepared in support of the widening of the SR 70 between Lorraine Road and CR 675. The current report of the technical memorandum includes the development of existing traffic volumes, evaluation of existing operating conditions, development of design traffic characteristics, year 2010 model validation efforts and development of growth rates for developing future traffic forecasts for No Build and Build conditions. In addition, this report includes the evaluation of operating conditions of the corridor as appropriate during the service life of the proposed roadway project.

Financial Project ID: 414506-2
Roadway ID: 13160000

Table of Contents Page

List of Figures

Page

List of Tables Page

1 Introduction

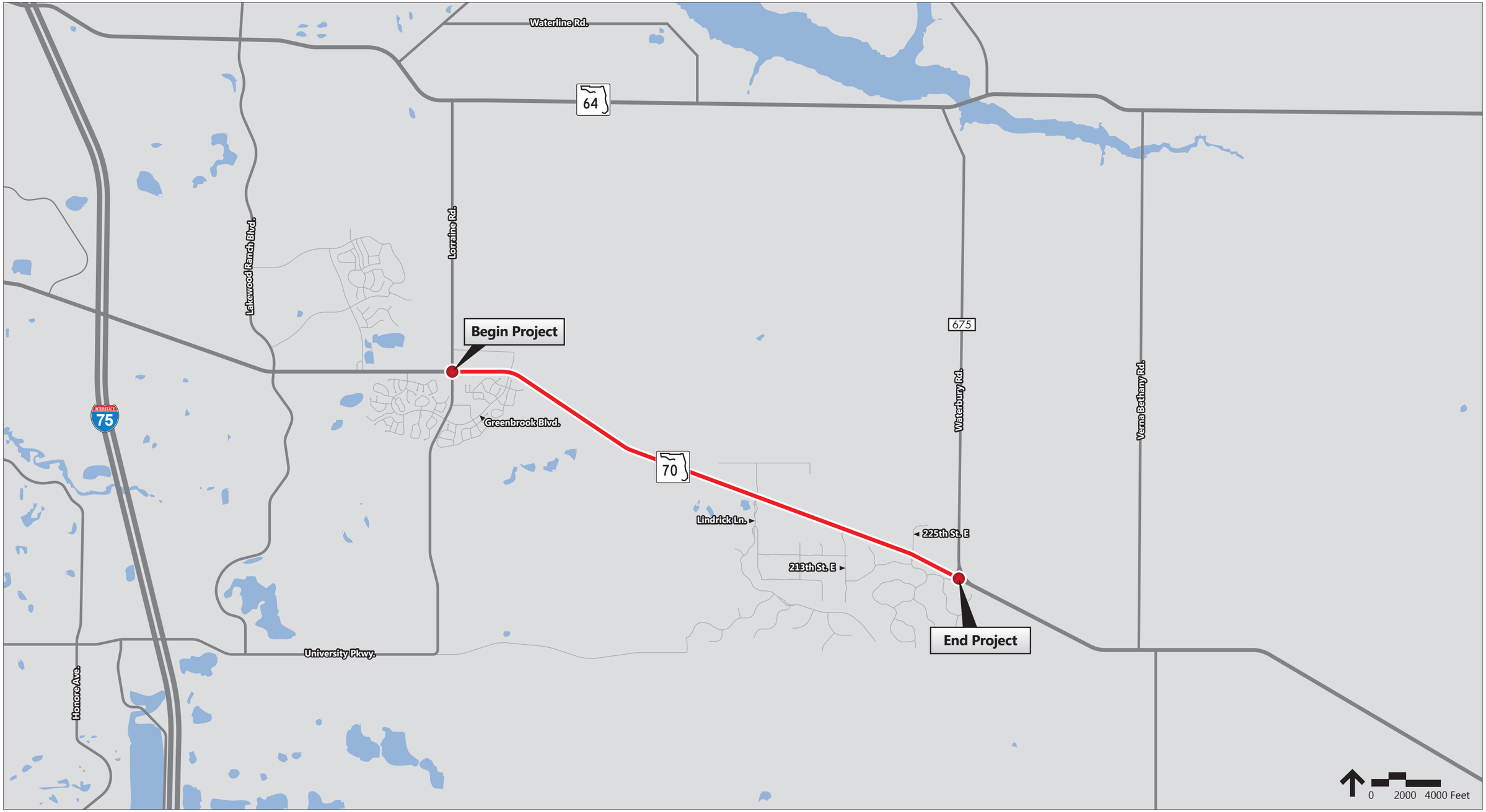
The Florida Department of Transportation (FDOT) District One is conducting a Project Development and Environment (PD&E) Study, State Financial Project Number 414506-2, to evaluate capacity improvements (widening from 2 lane to a 4 lane facility) for the SR 70 corridor, an Emerging Strategic Intermodal System (ESIS) facility (Roadway ID: 13160000) from Lorraine Road (M.P 9.476) to CR 675 (M.P 15.567), in Manatee County, Florida. FDOT has retained VHB Inc. to undertake the transportation engineering services under the contract # C-9E86 (TWO # 13). This Design Traffic Technical Memorandum was prepared under the terms of this contract and pursuant to the Letter of Authorization dated March 25th, 2016. VHB's role is to perform the Design Traffic Analysis to analyze the existing conditions and assess the need for future capacity improvements on the SR 70 study corridor.

The current document is revised based on the comments received from FDOT for the 1) Draft Existing Conditions Report (submitted June 2016) and 2) Draft Report (Full Report submitted August 2016). The responses to comments are provided in Appendix A. The study area map is shown in **Figure 1**.

1.1 Description of Project

The State maintained SR 70 corridor is an east/west facility between 15th Street/301 Blvd to CR 675 in Manatee County, with a length of 15.567 miles. The widening of the SR 70 corridor from 2 lanes to 4 lanes between Lorraine Road to CR 675 is identified in the Needs Plan section of the Sarasota/Manatee Metropolitan Planning organization's 2040 Long Range Transportation Plan (revised in August 2015). PD&E, Preliminary Engineering and Right-of-way phases of the project are included in the latest FDOT Five Year Work Program for FY 2016-2021. FDOT D1 Freight Mobility and Trade Study also identifies this project as part of the prioritization of long-term freight improvement projects. FDOT 2040 Cost Feasible Plan for SIS facilities identified funding for the preliminary engineering phase. This study will evaluate SR 70 improvements as a means of providing additional capacity and reducing congestion along the corridor. See **Appendix A** for more details.

\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\graphics\FIGURES



Study Corridor

Figure 1

Project Location Map

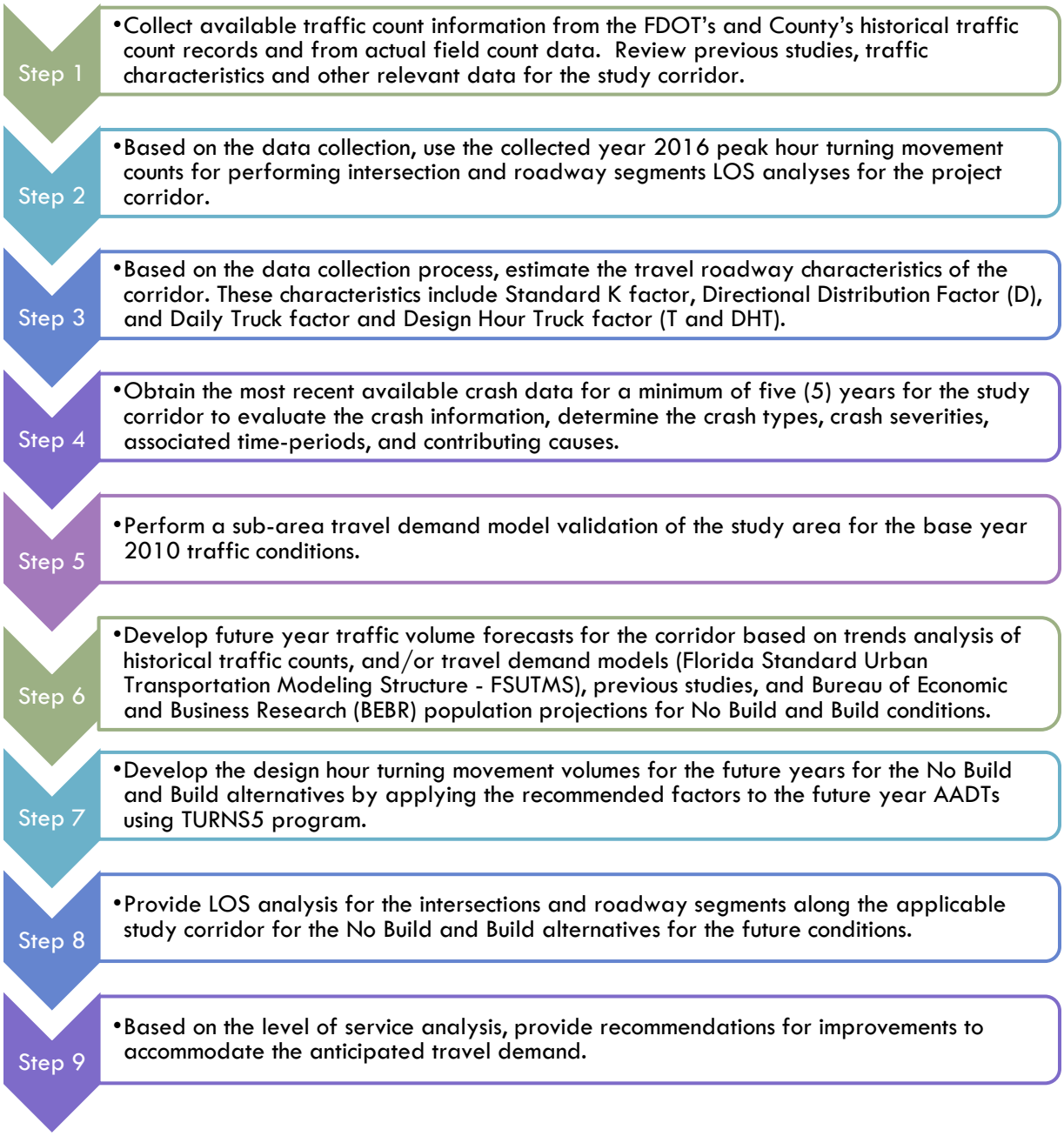
1.2 Objective

The objective of this Technical Memorandum is to provide FDOT District One with the Annual Average Daily Traffic (AADT), peak hour volumes, intersection and roadway Level of Service (LOS) for the base year 2016 and growth rate recommendations for opening year 2023, mid-design year 2033 and design year 2043 for No Build and Build conditions. This report includes 5-year safety review, development of the design traffic characteristics including Standard K Factor, Directional Distribution Factor (D), and percentage of trucks for both the design hour and daily demand (DHT, T) for use in the operational analysis of future conditions. In addition, this report includes future operational analyses for opening year 2023, mid-design year 2033 and design year 2043 for No Build and Build conditions and recommended improvements based on the results.

1.3 Methodology

The methodology used for the development of this report is illustrated in **Figure 2.**

Figure 2: SR 70 Design Traffic Technical Memorandum Methodology



2 Project Information

2.1 Project Location, Limits and Field Inventory

2.1.1 SR 70 from Lorraine Road to CR 675

Within the project limits, SR 70 is a two-lane urban/rural other principal arterial serving both local and regional traffic. The existing roadway characteristics that are relevant to this study are shown in **Table 1**. Straight Line Diagrams (SLDs) and the relevant Roadway Characteristics Inventory (RCI) data are provided in **Appendix B** of this report.

Table 1: Roadway Characteristics of SR 70 Corridor

Characteristic	Observation
Limits	▪ 13160000 – Lorraine Road (M.P. 9.476) to CR 675 (M.P. 15.567)
Location	▪ Unincorporated Manatee County (Road ID: 13160000 M.P. 9.476 to M.P. 15.567)
FDOT Roadway IDs	▪ 13160000
Roadway Maintaining Agency	▪ FDOT
Functional Classification	▪ Two Lane Divided Urban Other Principal Arterial (M.P. 9.476 to M.P. 10.439) ▪ Two Lane Divided Rural Other Principal Arterial (M.P. 10.439 to M.P. 15.567)
Speed Limits	▪ FDOT 13160000 (M.P. 9.476 to M.P. 10.335): 50 MPH ▪ FDOT 13160000 (M.P. 10.335 to M.P. 15.567): 60 MPH
FDOT Adopted LOS Standard	▪ LOS D for Urban, LOS C for Outside Urban
County Adopted LOS Standard	▪ LOS B
Study Intersections from west to east	▪ Lorraine Road (M.P. 9.476) – Signalized ▪ Greenbrook Blvd/Post Blvd (M.P. 10.137) – Stop Controlled ▪ Lindrick Ln./197th Street E. (M.P. 13.218) – Stop Controlled ▪ 213th Street (East) (M.P. 14.241) – Stop Controlled ▪ Tree Umph Park (M.P. 14.603) – Stop Controlled ▪ 225th Street (East) (M.P. 15.063) – Stop Controlled ▪ Meadow Dove Ln./CR 675 (M.P. 15.567) – Stop Controlled
Land Uses	A mixture of commercial, industrial, vacant, and residential land uses on both sides of the SR 70 corridor.
Pavement Width	12 foot wide travel lanes.
Sidewalks	Only available in a short section at the south side of the study corridor close to Lorraine Road.
Parallel Parking	None
Shared Use Path and Bike Lanes	▪ There are available bike lane/bike slot throughout the study corridor on both sides of the roadway
Access Class	▪ 13160000 (M.P. 9.476 to M.P. 15.567): Access Management Class 3

2.2 Existing Transit Service

Currently, no transit service operates within the project corridor.

3 Existing Conditions

This section describes the analysis of traffic flow operating conditions for the base year 2016 at the major intersections and roadway segments along the project corridor. In analyzing the year 2016 operating conditions of the intersections and roadway segments, traffic counts collected in the field during April 2016 were used along with the existing roadway and intersection geometry. The actual turning movement volumes collected in the field were balanced when required and used for the year 2016 level of service (LOS) analysis for the intersections and roadway segments. The intersection LOS analysis for the existing year 2016 was performed using signal timing data provided by Manatee County. The existing conditions intersection and roadway LOS analyses were performed using Synchro 9.0 Software. The following sub-sections describe the overall process.

3.1 Traffic Count Information

Figure 3 provides the location of traffic counts and types of traffic count data collected for the study. The data collected included:

- 24-hour bi-directional volume counts (18 locations)
- 72-hour classification count (1 location)
- 4-hour intersection turning movement counts for AM and PM peak hours (7 intersections)

The weekday turning movement counts were collected for the intersections between the peak hours of 7:00-9:00 AM and 4:00-6:00 PM. The traffic count data (72-Hour volume and classification) collected were adjusted utilizing the FDOT axle and seasonal adjustment factors for Manatee County to provide 2016 annual average conditions. As part of the traffic count program for this project, one location east of Lorraine Road was utilized in this study as vehicle classification count. Vehicle composition for the classification count was broken into three primary vehicle types:

- Passenger Vehicles – Motorcycles, Cars, Vans, and Pickups;
- Medium Truck – Buses and 2 axle Single Unit Trucks;
- Heavy Trucks – (3 or 4 axles) Single Unit Trucks, 2 axle Tractors (with 1 or 2 axle Trailer), 3 axle Tractors (with 2 or 3 axle Trailers), and (5, 6 and 7 axle) Multi-trailers.

Based on these categories, percentages for overall trucks (medium and heavy) were determined for peak and daily traffic conditions. Copies of all traffic count data are provided in **Appendix C**. Year 2014 FDOT axle and seasonal adjustment factors for Manatee County are provided in **Appendix D**.

\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\graphics\FIGURES

4 Hour Turning Movement Count Locations

24 Hour Volume Count Locations

72 Hour Class Count Location

Figure 3

Traffic Count Locations by Type

3.2 Existing Geometry

Figure 4 provides the year 2016 intersection geometry for all of the intersections evaluated in this study. The year 2016 intersection geometry information was obtained and verified based on field visits and aerial photographs. The following intersections were evaluated as part of the existing conditions in this study.

- Lorraine Road (M.P. 9.476) – Signalized
- Greenbrook Blvd/Post Blvd (M.P. 10.137) – Stop Controlled
- Lindrick Ln/197th Street E. (M.P. 13.218) – Stop Controlled
- 213th Street (East) (M.P. 14.241) – Stop Controlled
- Tree Umph Park (M.P. 14.603) – Stop Controlled
- 225th Street (East) (M.P. 15.063) – Stop Controlled
- CR 675/Meadow Dove Ln (M.P. 15.567) – Stop Controlled

The existing geometry plays a vital role in assessing the intersection LOS. LOS is a qualitative measure of how efficient a roadway or intersection operates. LOS A represents the highest traffic flow quality, while LOS E represents traffic flow at capacity. LOS F represents forced flow congested conditions. LOS B, C, and D represent a gradual degradation in traffic flow quality before reaching capacity. The existing geometry will be considered as one of the factors in determining potential intersection improvements to accommodate the travel demand.

\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\graphics\FIGURES

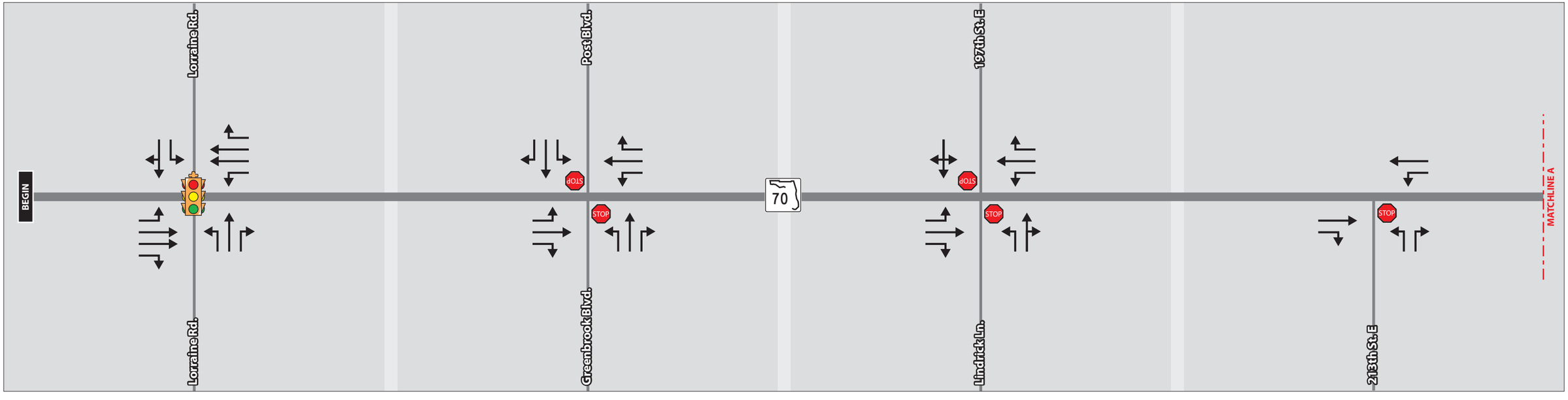


Figure 4

Existing Year 2016 Geometry

3.3 Existing Traffic Volumes

Traffic count information as collected was used to develop existing traffic characteristics for the project corridor and the intersecting side streets. The truck factor for each movement for the peak condition was used in the existing intersection analysis.

Based on the 24-Hour volume counts and 72-Hour classification counts, peak hour traffic flow (K measured) and, directional split (D measured) for the roadways in the study area were derived. The adjusted Annual Average Daily Traffic (AADT) volumes for the individual roadway segments are provided in **Table 2**. **Figure 5** provides the existing AADT's for the project corridor and the side streets.

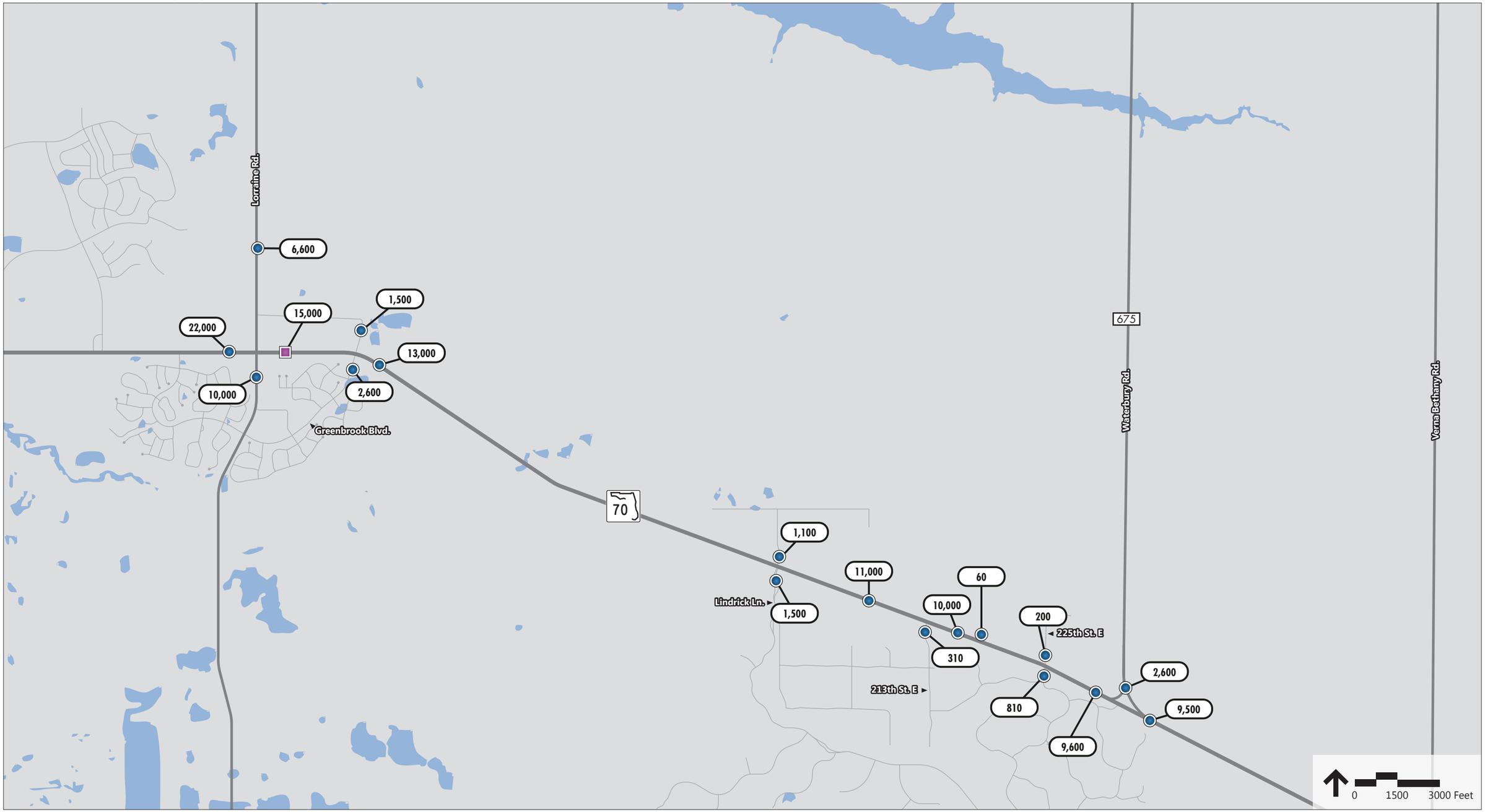
Table 2: Existing Year 2016 Traffic Volumes

Roadway / Segment	Date of Count	Source and Type	FDOT Station No.	Measured Characteristics								Axle Adj.[2]	Seasonal Adj.[1]	Adjusted AADT [3]
				ADT	Peak Hr.	NB/EB	SB/WB	Peak Time	"K"	"D"	"T_{Daily}"			
Mainline Characteristics (SR 70)														
SR 70														
East of Lorraine Road	4/19/2016-4/22/2016	72-hr Classification	-	15,834	1,281	752	529	5:00 - 6:00 PM	8.1%	58.7%	14.2%	-	0.95	15,000
West of Lorraine Road	4/19/2016	24-hr Volume	-	24,223	1,949	999	950	4:45 - 5:45 PM	8.0%	51.3%	-	0.96	0.94	22,000
East of Lorraine Road	2014	FDOT Classification	135082	-	-	-	-	-	9.0%	55.6%	10.3%	-	-	12,600 [4]
East of Greenbrook Blvd.	4/19/2016	24-hr Volume	-	14,250	1,203	408	795	7:00 - 8:00 AM	8.4%	66.1%	-	0.96	0.94	13,000
East of Lindrick Ln	4/19/2016	24-hr Volume	-	11,710	1,020	308	712	7:00 - 8:00 AM	8.7%	69.8%	-	0.96	0.94	11,000
East of 213th Street (East)	4/19/2016	24-hr Volume	-	11,417	977	282	695	7:00 - 8:00 AM	8.6%	71.1%	-	0.96	0.94	10,000
East of 225th Street (East)	4/19/2016	24-hr Volume	-	10,615	919	289	630	7:00 - 8:00 AM	8.7%	68.6%	-	0.96	0.94	9,600
East of CR-675	4/19/2016	24-hr Volume	-	10,485	925	316	609	7:00 - 8:00 AM	8.8%	65.8%	-	0.96	0.94	9,500
Southeast of CR 675	2014	FDOT Classification	130030	-	-	-	-	-	9.5%	55.6%	19.7%	-	-	6,600 [4]
Sidestreet Characteristics														
Lorraine Road														
South of SR 70	4/19/2016	24-hr Volume	-	11,468	1,472	649	823	8:00 - 9:00 AM	12.8%	55.9%	-	0.96	0.94	10,000
North of SR 70	4/19/2016	24-hr Volume	-	7,266	824	207	617	7:15 - 8:15 AM	11.3%	74.9%	-	0.96	0.94	6,600
Greenbrook Blvd/Post Blvd														
South of SR 70	4/19/2016	24-hr Volume	-	2,833	287	122	165	8:00 - 9:00 AM	10.1%	57.5%	-	0.96	0.94	2,600
North of SR 70	4/19/2016	24-hr Volume	-	1,716	174	83	91	3:45 - 4:45 PM	10.1%	52.3%	-	0.96	0.94	1,500
Lindrick Ln/197th St E														
South of SR 70	4/19/2016	24-hr Volume	-	1,624	154	36	118	7:45 - 8:45 AM	9.5%	76.6%	-	0.96	0.94	1,500
North of SR 70	4/19/2016	24-hr Volume	-	1,271	110	68	42	3:30 - 4:30 PM	8.7%	61.8%	-	0.96	0.94	1,100
213th St E														
South of SR 70	4/19/2016	24-hr Volume	-	339	34	9	25	4:45 - 5:45 PM	10.0%	73.5%	-	0.96	0.94	310
Tree Umph Adventure Park Entrance														
North of SR 70	4/20/2016	24-hr Volume	-	68	24	24	0	7:45 - 8:45 AM	35.3%	100.0%	-	0.96	0.94	60
225th St E														
South of SR 70	4/19/2016	24-hr Volume	-	895	93	59	34	7:45 - 8:45 AM	10.4%	63.4%	-	0.96	0.94	810
North of SR 70	4/19/2016	24-hr Volume	-	223	27	5	22	7:00 - 8:00 AM	12.1%	81.5%	-	0.96	0.94	200
CR 675														
North of SR 70	4/19/2016	24-hr Volume	-	2,963	263	102	161	7:30 - 8:30 AM	8.9%	61.2%	-	0.94	0.94	2,600

Notes:

1. Most Recent Seasonal Adjustment factors were obtained from Florida Transportation Information 2014
2. Most Recent Axle Adjustment factors were obtained from Florida Transportation Information 2014
3. Adjusted AADT = Measured ADT * Axle Adjustment * Seasonal Adjustment
4. 24-Hour Traffic Count information was provided by FDOT

\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\graphics\FIGURES



Volume Count Location

Class Count Location

X,XXX Annual Average Daily Traffic (AADT)

Figure 5

Existing Year 2016
Annual Average Daily Traffic (AADT)

3.4 Year 2016 Turning Movement Counts

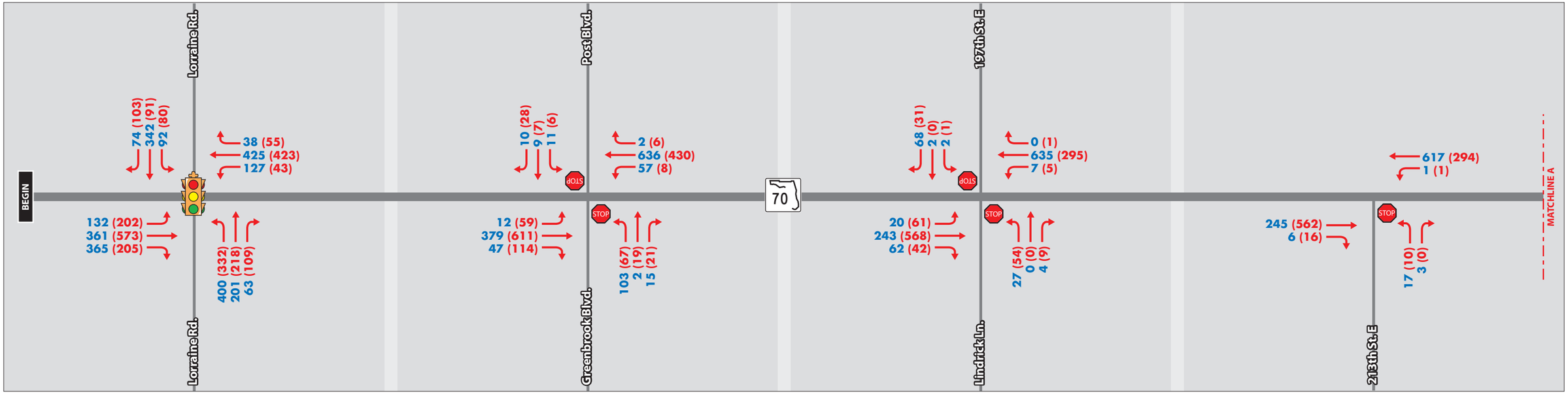
Turning movement counts were obtained for the AM and PM peak hour conditions for the seven (7) study intersections. The turning movement counts were checked for reasonableness. Raw data for the year 2016 AM and PM peak hour turning movement volumes collected at the study intersections are available in **Appendix C**. The adjusted year 2016 AM and PM peak hour turning movement volumes for the study corridor are shown in **Figure 6**.

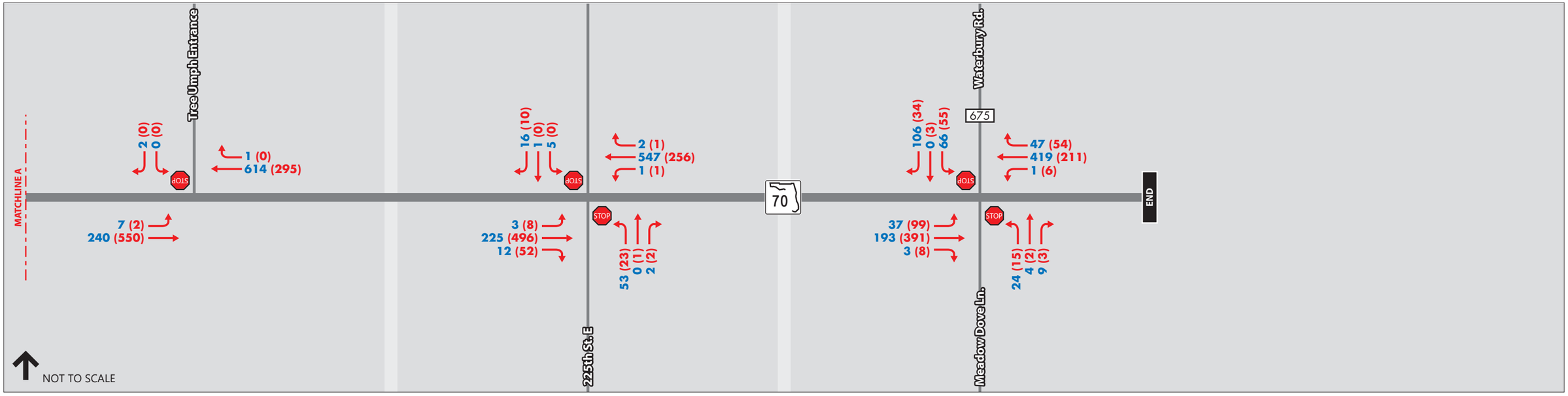
3.5 Year 2016 LOS Analysis

Levels of service for the study corridor and intersections were determined using Synchro 9.0 software, with segment analysis being done with HIGHPLAN software. Specific analysis techniques utilized in the study include the signalized and unsignalized intersections analyses. The outputs from Synchro were presented as results for the intersection LOS analyses.

According to Highway Capacity Manual (HCM 2010), an average control delay per vehicle from 55 seconds up to 80 seconds is considered LOS E condition and beyond 80 seconds is considered LOS F condition at a signalized intersection. At an unsignalized intersection, an average control delay per vehicle from 35 seconds up to 50 seconds is considered LOS E condition and beyond 50 seconds is considered LOS F condition.

The year 2016 AM and PM peak hour turning movement volumes along with the year 2016 intersection geometry were used in the intersection LOS analysis. The signal timing data provided by Manatee County were used in the intersection LOS analysis for the signalized intersection at Lorraine Road.





Traffic Movement

AM (PM) Traffic Volumes

Stop-Controlled Intersection

Signalized Intersection

Figure 6

Existing Year 2016
Turning Movement Volumes

3.5.1 Year 2016 Intersection LOS Analysis

A summary of the LOS analysis for the study intersections is included in **Table 3**. As shown in **Table 3,** during the year 2016 AM peak hour conditions, the signalized intersection on SR 70 at Lorraine Road was found to operate below the standard FDOT LOS D. In addition, the minor street approaches for the unsignalized intersections at Greenbrook Blvd/Post Blvd at SR 70 were found to operate below the adopted FDOT LOS standard C during both the AM and PM peak hours.

The base year 2016 AM and PM peak hour Synchro intersection analysis outputs along with the signal timing data are included in **Appendix E**.

Table 3: Existing Year 2016 Intersection LOS Analysis Summary

No.	Study Intersection	Control Type	FDOT Adopted LOS	AM Peak Hour		PM Peak Hour	
				Delay (s)	LOS	Delay (s)	LOS
1	Lorraine Road	Signal	D	68.7	E	33.1	C
2	Greenbrook Blvd/Post Blvd	Stop	C	9.0/27.9	A/D	8.9/25.7	A/D
3	Lindrick Ln./197th Street E.	Stop	C	8.9/19.8	A/C	8.7/21.4	A/C
4	213th Street (East)	Stop	C	7.7/17.6	A/C	8.7/17.5	A/C
5	Tree Umph Park	Stop	C	8.8/12.5	A/B	7.9/0.0	A/A
6	225th Street (East)	Stop	C	8.6/16.1	A/C	8.4/14.6	A/B
7	Meadow Dove Ln./CR 675	Stop	C	8.3/12.9	A/B	8.2/15.9	A/C

Notes:

1. HCM 2010 based outputs are presented in this table for both the signalized and unsignalized intersections

2. Overall intersection delay and LOS results are reported for the signalized intersection

3. In case of unsignalized intersections, major street/minor street worst case results (movement delay and LOS) are reported

4. Result shown in color exceeds the adopted LOS standard

3.5.2 Year 2016 Arterial LOS Analysis

The roadway segment LOS analysis was performed for the existing traffic conditions for both AM and PM peak hours for SR 70 using the latest HIGHPLAN 2012 (part of LOSPLAN) software. Due to the presence of a signalized intersection (Lorraine Road) at the west end of the corridor, the roadway analysis was performed for the following segments:

- Lorraine Road to Greenbrook Blvd/Post Blvd
- Greenbrook Blvd/Post Blvd to Lindrick Ln, and
- Lindrick Ln to CR 675

The no passing zone percentages for each segment were calculated based on the existing roadway geometry.

A summary of the HIGHPLAN 2012 analysis for the existing conditions is illustrated in **Table 4.** The results show that the entire study segment operates below the acceptable level of service conditions during both AM and PM peak hours. The HIGHPLAN 2012 outputs for roadway analysis are provided in **Appendix F.**

Table 4: Existing Year 2016 Arterial LOS Analysis Summary

SR 70 Segments	Number Of Lanes	FDOT LOS Standard	Peak Direction Hourly Volume	AM Peak Hour LOS	PM Peak Hour LOS
Lorraine Road to Greenbrook Blvd/Post Blvd	2	D	713	E	E
Greenbrook Blvd/Post Blvd to Lindrick Ln/197th St E	2	C	722	E	E
Lindrick Ln/197th St E to CR 675/Meadow Dove Ln	2	C	668	D	D

Note: Results shown in red font exceed the adopted LOS standard

4 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.

4.1 Standard K Factor

Based on direction from the FDOT District Office, a Standard K Factor of 9.5% (rural area) was used for all of the major study corridors including SR 70 and the intersecting study roadways.

4.2 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 SR 70 and side streets, 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 FTI DVD.

The measured D for the study area roadways are shown in **Table 2.** The average of the measured D factors for SR 70 corridor within the study limits is 64.5%. The measured D factors for the side streets are well within the FDOT recommended range of D values, with the exception of Tree Umph Adventure Park Entrance (100%) and 225th St E (81.5%), both located north of SR 70.

Table 5 illustrates the historical D factors from two sites on SR 70: 135082 and 130030. The factors were obtained for five years between 2010 and 2014. The average, minimum and maximum D factors over the five years for SR 70 corridor are 56.49%, 55.60% and 57.76% respectively.

Table 6 provides the current recommended range of D values from the FDOT Project Traffic Forecasting Handbook (2014) for a rural arterial.

Table 5: Historical FTI Data - D Values

Year	Station 135082, SR 70, E of Lorraine Road	Station 130030, SR 70, Southeast of CR 675
2010	57.76%	57.76%
2011	56.90%	56.90%
2012	55.80%	55.80%
2013	56.40%	56.40%
2014	55.60%	55.60%
Average	56.49%	56.49%
Minimum	55.60%	55.60%
Maximum	57.76%	57.76%

Table 6: Recommended Range of D Values

Area & Highway Type	Value	Source
		FDOT[1]
Rural Arterial	Low	51.1%
	Average	58.1%
	High	79.6%

Notes:
1) Source: FDOT Project Traffic Forecasting Handbook, January 2014, Figure 2.9

4.2.1 SR 70 Corridor

The average measured D from the 2016 traffic counts is 64.5%, while the average of the historical D factors is 56.49%. Therefore, being conservative without overestimating future design traffic volumes, **a D factor of 60.5% (average of historical and measured values) is recommended for the SR 70 corridor.**

4.2.2 Side Streets

For the purposes of this study, the measured D values from the 2014 traffic counts will be used for all the side streets as the recommended D factors.

4.3 T & DHT Factors

The daily truck factor, T represents the percentage composition 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 Project Traffic Forecasting Handbook.

The year 2016 measured T factor for the study corridor is shown in **Table 2**. A T factor of 14.2% was measured for the SR 70 corridor.

Table 7 contains the historical T factors from the FTI DVD for the five years between 2010 and 2014. The average, minimum and maximum T factors over the five years for SR 70 corridor are shown in the table.

Table 7: Historical FTI Data - T_{daily} Values

Year	Station 135082, SR 70, E of Lorraine Road	Station 130030, SR 70, Southeast of CR 675	Average
2010	12.70%	7.30%	
2011	11.00%	6.20%	
2012	11.20%	7.10%	-
2013	16.00%	7.50%	
2014	16.00%	5.70%	
Average	13.38%	6.76%	10.07%
Minimum	11.00%	5.70%	8.35%
Maximum	16.00%	7.50%	11.75%

4.3.1 SR 70 Corridor

The measured T from the 2016 traffic counts is 14.2%. A T (DHT) factor of **14.2% (7%)** is recommended for the SR 70 corridor, based on the existing count information.

4.3.2 Side Streets

Daily truck factors were not counted for the side streets. However, for the purpose of future intersection analyses, the existing peak hour truck percentages from the turning movement counts will be used.

4.4 Recommended Design Traffic Characteristics

Based on the afore-mentioned discussion, the following **Table 8** provides a summary of the recommended design traffic characteristics for this study.

Table 8: Recommended Design Traffic Characteristics

Roadway / Segment	Recommended Design Characteristics			
	K	D	T	DHT
	Factor	Factor	Factor	Factor
	Mainline Characteristics			
SR 70	9.5%	60.5%	14.2%	7.1%
	Side Street Characteristics			
All side streets	9.5%	Existing	-	Existing

Note: Truck factors obtained from Year 2016 TMC will be used for future conditions for the side streets.

5 Crash Data Review

The latest available five (5) years of crash data (from January 1, 2011 to December 31, 2015) along SR 70 were obtained from the Signal Four Analytics. Based on the crash data, a total of 146 crashes occurred within the study limits in the last five years. Raw crash data are included in **Appendix G**.

5.1 Crash Summary by Year and Conditions

Table 9 shows the summary of the crashes by severity and conditions for each year (January 2011 – December 2015). On average, about 29 crashes occurred per year for the last five years within the study limits. 3 of them were fatal crashes and 53 were crashes that resulted in some kind of injuries. A total of 45 crashes (about 31% of total) were reported to have occurred during dark conditions (at night, dawn or dusk), averaging about 9 crashes per year. Also, 24 (about 17% of total) of the total 146 crashes occurred in wet weather conditions.

Table 9: Crash Summary by Severity and Conditions (Jan 2011-Dec 2015)

Year	Total Number of Crashes	Injury Crashes	Fatal Crashes	Dark Conditions Crashes	Wet Conditions Crashes
2011	22	7	1	7	5
2012	20	5	1	7	5
2013	29	12	0	10	1
2014	34	14	1	10	7
2015	41	15	0	11	6
2011-2015	**146**	**53**	**3**	**45**	**24**
Average	**29.2**	**10.6**	**0.6**	**9.0**	**4.8**
Percent	**-**	**36.30%**	**2.05%**	**30.82%**	**16.44%**

5.2 Crash Summary by Intersections

A detailed review was performed for the crash data within the study intersections. As shown in **Table 10**, the intersection of SR 70 and Lorraine Road (signalized) had the highest number of crashes (51 crashes) among the analyzed intersections within the study corridor, accounting for about 35% of the entire study corridor

crashes. The other intersection along SR 70 with more than 15 crashes for the last 5 years is Post Boulevard/Greenbrook Boulevard- 29 crashes (stop controlled).

Table 10: Crash Summary by Intersections (Jan 2011-Dec 2015)

#	Intersection	Total	Fatal	Injury	Property Damage Only	Night	Wet
1	Lorraine Road (signal)	**51**	0	19	32	9	9
2	Post Blvd/Greenbrook Blvd (stop)	**29**	0	17	12	1	4
3	197th Street E/Lindrick Lane (stop)	**6**	0	2	4	5	1
4	213th Street E (stop)	**3**	0	0	3	3	0
5	Three UMPH Adventure Park (stop)	**0**	0	0	0	0	0
6	225th Street E/Panther Ridge Trail (stop)	**1**	0	0	1	0	0
7	CR 675/Waterbury Rd (stop)	**7**	0	2	5	3	3
Total		**97**	**0**	**40**	**57**	**21**	**17**

No fatalities were recorded at the seven (7) analyzed intersections (6 unsignalized and 1 signalized). None of the seven (7) analyzed intersections has lighting at the intersections.

Following is a summary of the types of crashes at these intersections which had more than 15 crashes for the last five years:

SR 70 and Lorraine Road: This signalized intersection experienced 51 crashes in the last five years, averaging about 10 crashes per year. The majority of these crashes were rear-end crashes (58.8% of total), followed by angle and left-turn (each 11.8% of total) crashes. No bicycle and pedestrian related crashes were reported for this intersection. Crosswalks are present at three legs of this intersection (north, south and west). No fatal crashes were reported for this intersection.

SR 70 and Post Boulevard/Greenbrook Boulevard: This unsignalized intersection experienced 29 crashes in the last five years, averaging 6 crashes per year. The majority of these crashes were left-turn crashes (48.3% of total), followed by angle (31% of total) and rear-end (6.9% of total) crashes. No bicycle and pedestrian related crashes were reported for this intersection. No crosswalks are present at this intersection. No fatal crashes were reported for this intersection.

Appendix G summarizes the intersections crashes by year and types for all the intersections listed in **Table 10**.

5.3 Crash Summary by Crash Type

Table 11 shows the summary of the crashes by crash types. According to the summary, rear-end crashes account for the majority of crashes (about 32% of total) within the study corridor, followed by left-turn (about 16% of total), with animal (about 14% of total), and angle (about 12% of total) crashes. No bicycle or pedestrian related crashes were reported in the last five years.

Table 11: Crash Summary by Crash Types (Jan 2011-Dec 2015)

Crash Type	2011	2012	2013	2014	2015	2011-2015	Per year	Percent
Angle	3	4	2	5	4	**18**	3.6	12.33%
Animal	5	2	5	2	6	**20**	4.0	13.70%
Rear End	7	5	8	10	16	**46**	9.2	31.51%
Head On	0	2	0	0	0	**2**	0.4	1.37%
Left Turn	1	1	7	9	5	**23**	4.6	15.75%
Sideswipe	3	1	2	2	3	**11**	2.2	7.53%
Right Turn	0	0	2	0	0	**2**	0.4	1.37%
Off Road	3	2	1	4	4	**14**	2.8	9.59%
Other	0	1	1	1	0	**3**	0.6	2.05%
Rollover	0	2	1	1	3	**7**	1.4	4.80%
Total	**22**	**20**	**29**	**34**	**41**	**146**	**29**	**100.00%**

Note: "Other" is defined as types of crashes not present in the table or categorized as "other" in the crash report

5.4 Crash Rate Comparison

Crash rates along the project corridor were calculated for the urban segment between M.P. 9.476 to M.P. 10.439 (Lorraine Road to east of Greenbook Boulevard) and the rural segment between M.P. 10.439 to M.P. 15.567 (Greenbrook Boulevard to CR 675). **Table 12** shows the summary of the crash rate compared to the latest available statewide average crash rates for the segment types. The latest 5-year statewide crash rates were available for 2010-2014, and are provided in **Appendix G**.

The crash rates are expressed in the number of crashes per million vehicles traveled, based on the following equation:

$$Crash\ Rate\ of\ Segment = \frac{Total\ Number\ of\ Crashes\ x\ 1{,}000{,}000}{AADT\ x\ 365\ x\ Number\ of\ Years\ x\ Length\ of\ Roadway\ Segment}$$

The segment characteristics are:

- *Urban section:* Total crashes – 100, AADT – 15,000, segment length – 0.963 mile
- *Rural section:* Total crashes – 46, average AADT – 10,900, segment length – 5.128 miles

Based on the formula and associated data for the segments, **Table 12** shows the calculated crash rates. According to the comparison, the urban segment of the corridor exhibits a higher crash rate compared to the 5 year statewide average for similar typical section. However, the rural segment of the project corridor exhibits a lower than statewide average crash rate.

Table 12: Crash Rate Comparison (based on 5-Year Data)

Segment	Calculated Crash Rate (MVMT)	Statewide Average (MVMT)	Greater than Statewide Average Rate?
Urban (M.P. 9.476 to M.P. 10.439)	3.79	2.78	Yes
Rural (M.P. 10.439 to M.P. 15.567)	0.45	0.65	No

6 Subarea Model Validation

6.1 Introduction

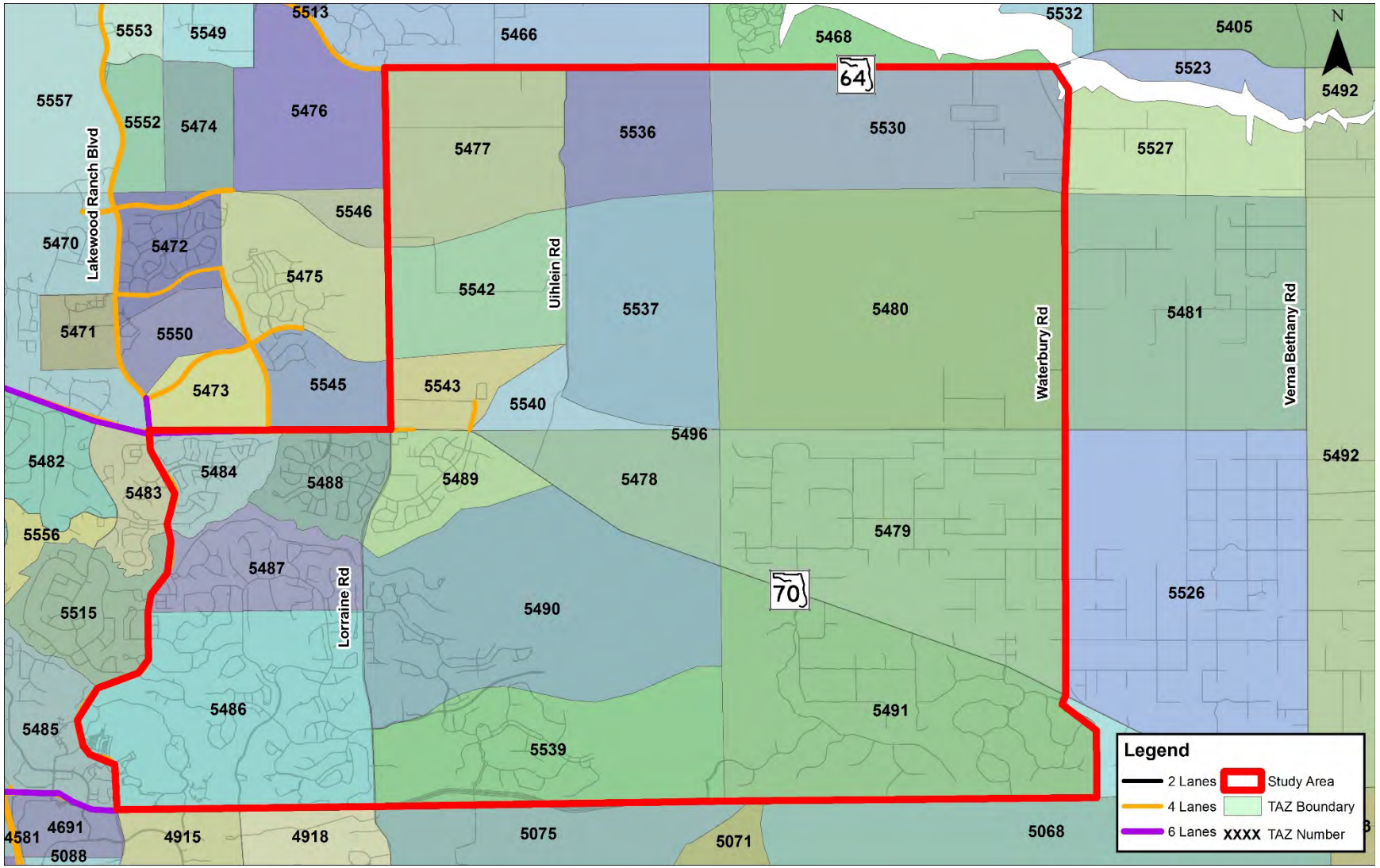
This chapter presents the details of the base year 2010 model validation effort completed in support of the this Design Traffic Technical Memorandum. The study area map is illustrated in **Figure 7**.

The traffic model applied for this study was based on the latest adopted 2040 District One Regional Planning Model (D1RPM). 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 latest adopted model has a 2010 base validated model and a 2040 future year model. Sub-area model validation for this study was performed for base year 2010 traffic conditions.

6.2 Model Validation

The model validation for the SR 70 study area was performed to achieve better results in forecasting the future year traffic for roadways within the study area. The model refinement was performed by fine-tuning the network using the guidelines identified in "FDOT Project Traffic Forecasting Handbook". In general, model validation is performed to ensure that the model is accurate enough to forecast the number of lanes required to handle the future project volumes. Validation criteria including volume over count (v/c) ratios and root mean square error (RMSE) were used to assess the accuracy of the base year model.

Figure 7: Sub-Area Model Validation Study Area



6.2.1 Year 2010 Base Model Adjustments

Year 2010 Model Network is based on D1RPM 2010 Base year network. A reasonableness check of the 2010 base model network was conducted within the planning study area shown in **Figure 7** and necessary changes were performed to achieve the required model accuracy standards. The following sections briefly describe this process.

6.2.1.1 Year 2010 Model Network Changes

The following adjustments were made to the year 2010 model network:

- Number of lanes were changed from 2 to 4 lanes for Lorraine Road from SR 70 to University Pkwy.
- Zone 5489 was divided to zone 5261 (schools only), zone 5455 and zone 5489 (residential) to better represent the land use.
- Centroid connectors for zones 4915, 4918, 5486 and 5487 were relocated to better represent the roadway connections and locations.
- Facility type for University Pkwy from Lakewood Ranch Blvd to Lorraine Road was changed from 23 to 43.
- Number of industrial employees within zone 5539 was changed from 563 to 28 based on the University Lakes DRI industrial development of 18,603 sq-ft.
- Zone 5486 was split into zones 5095 and 5486 to better represent the roadway connections.

Model plots for before and after validation are shown in **Appendix H**.

6.2.2 Model Validation Results

The validation of a traffic model involves verifying various statistics, most of which are related to actual ground counts that have been taken on various links throughout the highway network. Two measures of effectiveness including the ratio of assigned volume to count volume on links, and Percent Root Mean Square Error (RMSE) have been used in this study to evaluate whether the year 2010 model has been validated within the allowable limits.

6.2.2.1 Year 2010 Counts and Model Volumes

The year 2010 Annual Average Daily Traffic (AADT) counts for individual roadway segments were obtained from Florida Transportation Information 2010 Counts. The Peak Season Weekly Average Daily Traffic (PSWADT) obtained from the model was converted to AADT using the 2010 FTI Model Output Conversion

Factor MOCF of 0.94 for all roadways within the study area. The summary of traffic count information used are shown in **Appendix H.**

6.2.2.2 Ratio of Volumes to Counts

Five roadways (seven segments) were used to evaluate and compare the assigned volumes to counts within the study area. **Table 13** shows the percent deviation error by facility type. The percent deviation is defined as ((year 2010 model assignment in AADT – year 2010 ground count in AADT)/ (year 2010 ground count in AADT)).

Table 13: Volume-Over-Count Ratio and Percent Error by Facility Type

Facility Type	FDOT Standards*	Percent Errors	
	Acceptable	**Before**	**After**
Freeway (FT 1X, FT 8X, FT 9X)	+/- 7%	N/A	N/A
Divided Arterial (FT2X)	+/- 15%	33.49%	N/A
Undivided Arterial (FT3X)	+/- 15%	-24.02%	1.18%
Collector (FT 4X)	+/- 25%	51.41%	9.86%
One-Way (FT6X)	+/- 25%	N/A	N/A

*Note: * FSUTMS – Cube Framework Phase II Model Calibration and Validation Standards*

6.2.2.3 Root Mean Square Error (RMSE)

The percent RMSE for the study corridors is another aggregate measure of how well the model has been validated against the ground counts within the study area. The RMSE value shown in **Table 15** clearly shows that the adjusted network has been well fine-tuned to replicate the ground counts within study area.

Table 14: Percent Root Mean Square Error by Volume Group

Volume Group (vpd)	% RMSE	Acceptable % RMSE	Preferable % RMSE
1-5,000	20.01%	100%	45%
5,000 -9,999	15.19%	45%	35%
10,000 -14,999	3.83%	35%	27%
15,000 – 19,999	N/A	30%	25%
20,000 – 29,999	N/A	27%	15%
30,000 – 49,999	N/A	25%	15%
50,000 – 59,999	N/A	20%	10%
> 60,000	N/A	19%	10%
Area wide	5.19%	45%	35%

6.3 Conclusion

The validation results show that the adjusted network has been fine-tuned to replicate the ground counts within study area. Based on the validation efforts, the sub-area model is considered acceptable for use in estimating future travel demand within the study area.

The validation adjustments were carried over to the Year 2040 model to achieve better results in forecasting the Year 2023, 2033 and 2043 traffic for roadways within the study area.

7 Future Traffic Forecasts

The development of traffic projections for the study corridors required the examination of historical growth, proposed development levels within the corridor vicinity, and a basic understanding of local traffic circulation patterns and travel characteristics of the corridor. As such, the following sources were used to derive reasonable future traffic forecasts for the study corridor.

1) Travel Demand Models: The latest adopted D1 RPM was used in the traffic forecasting process.

2) Historical Traffic Trends Analysis: Historical traffic trends analysis based on least squares regression analysis was conducted for the study roadways using traffic data from 2014 Florida Transportation Information (FTI) DVD.

3) Population Projections: The population estimates from the Bureau of Economic and Business Research (BEBR), Florida Population Studies, Bulletin 174 was used.

7.1 Design Period

Based on the information provided by FDOT, the following design period was used to provide the future traffic forecasts for the study corridor.

- Opening Year - 2023
- Mid-design Year – 2033
- Design Year – 2043

7.2 Study Alternatives

Based on the direction from FDOT, a No Build Alternative and a Build Alternative were evaluated. The No Build Alternative consists of the existing two-lane roadway section, whereas the Build Alternative evaluates a four-lane section.

7.3 Year 2040 Travel Demand Model

The year 2040 D1 RPM is the appropriate travel-forecasting tool for generating a single 24-hour daily demand volume set that reflects future travel demand during a typical weekday in the predefined project

subarea based on the FSUTMS-Cube Framework Phase II – Model Calibration Standards. The base year model (year 2010) was validated to meet all the applicable performance criteria. As the first step, the validation adjustments that were applied to the base year 2010 model were carried over to the year 2040 model.

7.3.1 Programmed and Planned Improvements

As the next step, the 2040 model network was reviewed to make sure that it included programmed and planned capacity improvements near the study corridor.

Based on the review of the latest FDOT D1 Five Year Work Program (2016-2021), PD&E, Preliminary Engineering and Right of Way phases are identified for this project.

As such, the year 2040 LRTP cost feasible model shows SR 70 study corridor between Lorraine Road and CR 675 as a two-lane roadway since it is only shown as a four lane roadway in the needs plan. In addition, there are no programmed improvements for the side streets.

Excerpts from the relevant plans are provided in **Appendix A**.

7.3.2 Future Land Use

A review of the DRIs within the SR 70 study area was performed to find the relevance and their influence on the traffic forecasts on the study corridor for future conditions. Based on the review of the DRIs, information from the following DRIs were included in the 2040 model:

- Cypress Bank DRI
- Lakewood Center DRI
- Northwest Sector DRI
- University Lakes DRI

The majority of these DRIs are located west of the project corridor. Cypress Banks DRI has direct access to the SR 70 corridor. The future land use map for Manatee County shows that SR 70 within the project limits will provide access to residential land uses on both sides of the corridor. A thorough review of the socioeconomic data was performed for the 2040 model and changes were made to make the land use data consistent with the DRI development orders. In addition, a connection was made from Del Webb Blvd to SR 70. Del Webb Blvd connects to a residential land use that is currently under construction.

The relevant socioeconomic data, future land use map, DRI map and relevant development orders are included in **Appendix I**.

7.3.3 Model Runs

The D1 RPM model was run for the design year 2040 with the same network changes as the validation year 2010. **Tables 15** and **16** summarizes the growth rates derived from the year 2040 model volumes for the No Build and Build alternatives, respectively. Growth rates were calculated based on the base year 2010 and the horizon year 2040 AADTs.

As shown in **Table 15**, for the No Build scenario, between Lorraine Road and Del Webb Blvd, about 2.5% growth rate was observed between years 2010 and 2040. East of Del Webb Blvd, about 0.6% growth rate was observed for SR 70. Lorraine Road exhibited 5.03% and 5.52% growth rates for sections north and south of SR 70, respectively. A growth rate of about 1.57% was observed along CR 675.

As shown in **Table 16**, for the Build scenario, between Lorraine Road and Del Webb Blvd, about 4.4% average growth rate was observed between years 2010 and 2040. East of Del Webb Blvd, about 1.6% average growth rate was observed for SR 70. Lorraine Road exhibited 5.03% and 4.56% growth rates for sections north and south of SR 70, respectively. CR 675 exhibited about 2.31% of growth rate.

Based on the growth rates for both the No Build and Build scenarios for SR 70, it can be concluded that a single growth rate is not applicable throughout the entire study corridor. Therefore, the corresponding segment growth rates based on the model were recommended to be used to develop future traffic for both No Build and Build scenarios.

Model plots showing number of lanes and volumes (PSWADT) are provided in **Appendix J**.

Table 15: Model Growth Rate Summary (No Build)

Roadway / Segment	No-Build				
	2010 PSWADT	2010 AADT	2040 PSWADT	2040 AADT	Growth Rate (Linear)
Mainline					
SR 70					
W of Lorraine Road	20,062	18,900	44,710	41,600	4.00%
Lorraine Road to Greenbrook Blvd	14,155	13,300	25,150	23,400	2.53%
Greenbrook Blvd to Del Webb Blvd	11,573	10,900	20,691	19,200	2.54%
Del Webb Blvd to Lindrick Ln	11,367	10,700	13,409	12,500	0.56%
Lindrick Ln to 225th Street E	9,878	9,300	11,785	11,000	0.61%
225th Street E to CR 675	8,988	8,400	10,770	10,000	0.63%
E of CR 675	6,082	5,700	8,452	7,900	1.29%
Side Street					
Lorraine Road North of SR 70	6,162	5,700	15,529	14,300	5.03%
Lorraine Road South of SR 70	9,476	8,700	25,152	23,100	5.52%
CR 675 North of SR 70	3,898	3,600	5,803	5,300	1.57%

Note: The associated MOCF factors are provided in Appendix D

Table 16: Model Growth Rate Summary (Build)

Roadway / Segment	Build				
	2010 PSWADT	2010 AADT	2040 PSWADT	2040 AADT	Growth Rate (Linear)
Mainline					
SR 70					
W of Lorraine Road	20,062	18,900	47,527	44,200	4.46%
Lorraine Road to Greenbrook Blvd	14,155	13,300	32,009	29,800	4.14%
Greenbrook Blvd to Del Webb Blvd	11,573	10,900	28,129	26,200	4.68%
Del Webb Blvd to Lindrick Ln	11,367	10,700	16,647	15,500	1.50%
Lindrick Ln to 225th Street E	9,878	9,300	14,936	13,900	1.65%
225th Street E to CR 675	8,988	8,400	13,686	12,700	1.71%
E of CR 675	6,082	5,700	9,292	8,600	1.70%
Side Street					
Lorraine Road North of SR 70	6,162	5,700	15,545	14,300	5.03%
Lorraine Road South of SR 70	9,476	8,700	22,374	20,600	4.56%
CR 675 North of SR 70	3,898	3,600	6,580	6,100	2.31%

Note: The associated MOCF factors are provided in Appendix D

7.4 Historical Traffic Trends

Based on the historical count information obtained from the 2014 FTI DVD, trends analyses were performed for the following FDOT count stations using historical AADTs from 2011 to 2014.

- SR 70, east of Lorraine Road (Site 135082)
- SR 70, east of CR 675 (Site 130030)

The following **Table 17** summarizes the trends analysis results for the study roadways.

Table 17: Historical Traffic Trends Summary

Study Segment	Trends Analysis		
	Design Year (2043) Trend	Trend R-Squared	Annual Growth Rate
SR 70			
East of Lorraine Road (Site 135082)	25,200	85.97%	5.9%
East of CR 675 (Site 130030)	10,200	34.68%	1.79%

Note: Historical counts were obtained from the FDOT 2014 FTI DVD

As illustrated in **Table 17**, the segment along SR 70 east of CR 675 does not have a good R-squared value. R-squared values denote the goodness-of-fit of a model to the existing data points, which in turn demonstrates the faith in future model forecasts. Only one site (site 135082, east of Lorraine Road) shows a good R-square value.

Therefore, due to lack of significant number of stations and inconsistent R-square values between the stations, the trends analysis results are not reliable for use in this study.

The trends analysis sheets are provided in **Appendix K**.

7.5 Population Estimates

Low, medium and high population projections for Manatee County were obtained from the latest BEBR publication (Bulletin 174). **Table 18** shows the growth rates derived from the population estimates for the year 2040. As illustrated in this table, the low, medium and high population estimates for Manatee County obtained from BEBR reported an annual growth rate of 0.57%, 1.69%, and 2.75% per year, respectively.

Table 18: Population Analysis Summary- Manatee County

Projection Type	2015 Estimate	2040 Projection	Annual Growth Rate
BEBR Low Projection	349,334	398,800	0.57%
BEBR Medium Projection	349,334	496,900	1.69%
BEBR High Projection	349,334	589,300	2.75%

Population projections from BEBR are provided in **Appendix L**.

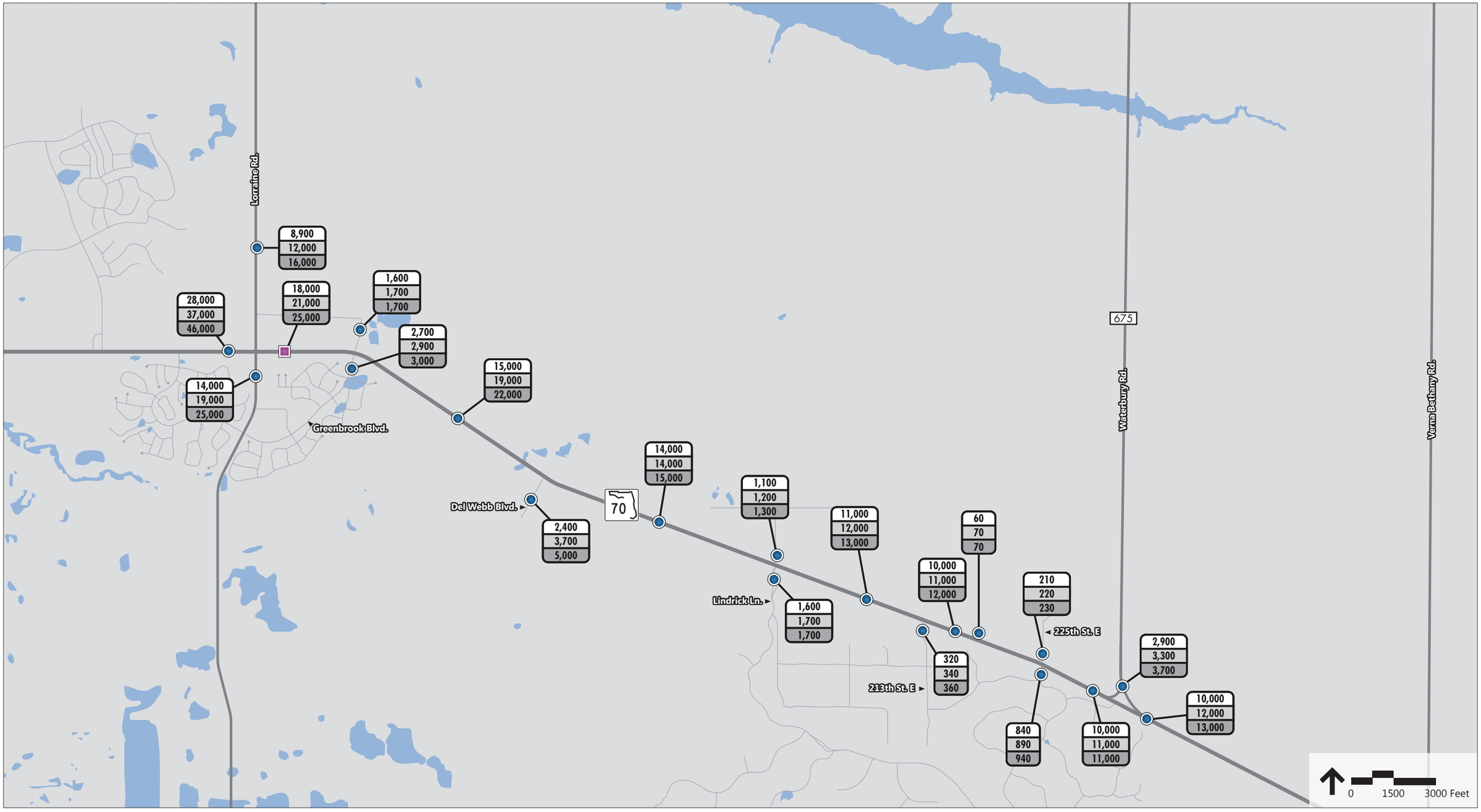
7.6 Recommended Growth Rates

The growth rates obtained from Trends analysis, FSUTMS models, and population estimates were compared to arrive at the recommended growth rate for SR 70. Given the regional importance of SR 70, existing high truck percentage, and consistency with the Long Range Transportation Models, model based growth rates as shown in **Tables 15** and **16** for No Build and Build scenarios, respectively, are recommended for SR 70 from existing year 2016 through design year 2043. For the side streets where no significant growth rate was observed, a minimum of 0.6% growth rate was recommended based on the BEBR low population projection growth rate for Manatee County, as shown in **Table 18**.

The following growth rates are recommended for the side streets from existing year 2016 through design year 2043:

- Lorraine Road – model based growth rates
- Greenbrook Blvd/Post Blvd – 0.6%
- Lindrick Ln./197th Street E. – 0.6%
- 213th Street (East) - 0.6%
- Tree Umph Park - 0.6%
- 225th Street (East) - 0.6%
- Meadow Dove Ln./CR 675 – model based growth rates.

Figure 8 provides the opening year 2023, mid-design year 2033 and design year 2043 AADT volumes based on the recommended growth rate for the No Build scenario. **Figure 9** provides the same for the Build scenario.



Volume Count Location

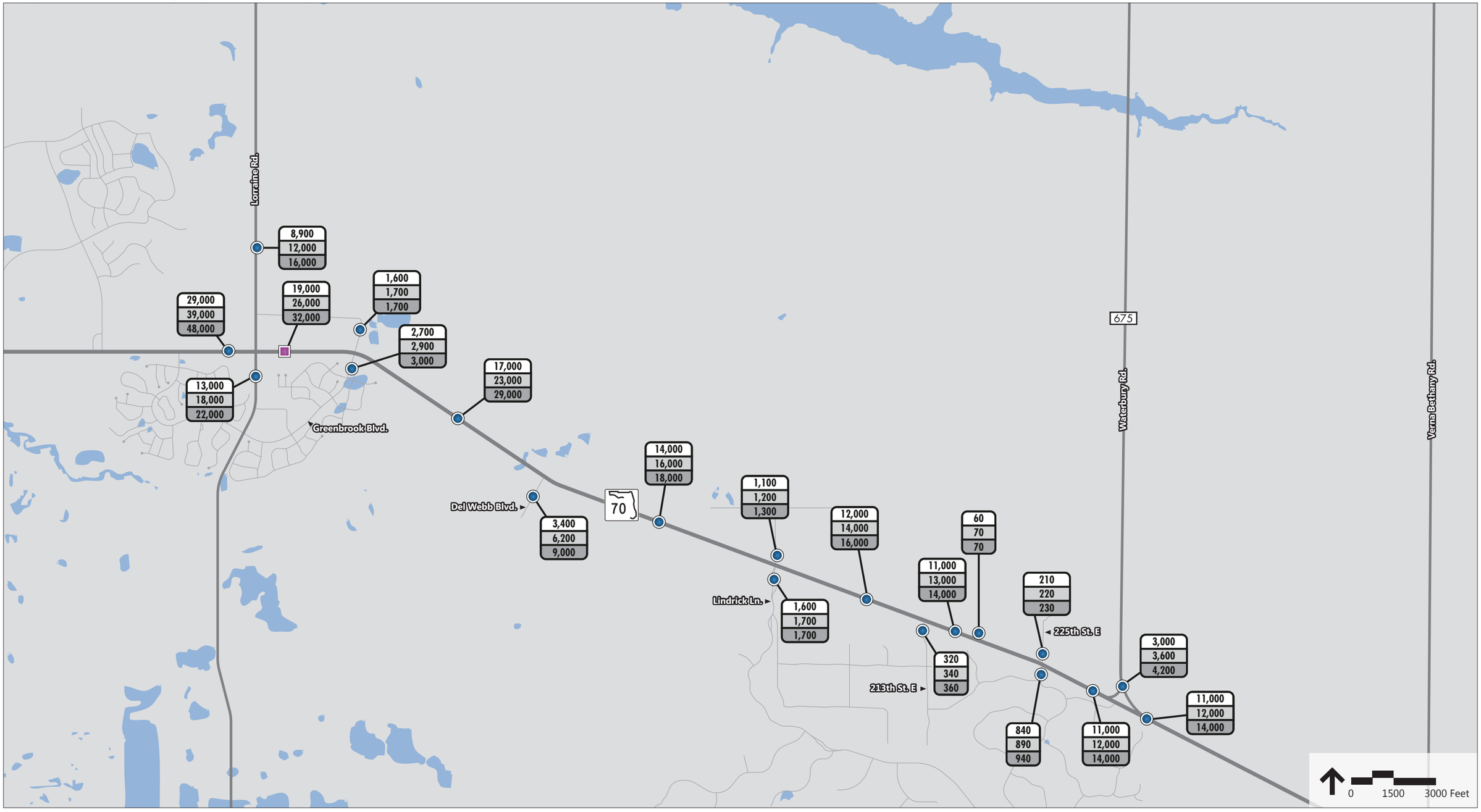
Class Count Location

Year 2023
Year 2033
Year 2043
Annual Average Daily Traffic (AADT)

Figure 8

Future Year
Annual Average Daily Traffic (AADT)
(No Build)

\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\graphics\FIGURES



Volume Count Location

Class Count Location

Year 2023
Year 2033
Year 2043
Annual Average Daily Traffic (AADT)

Figure 9

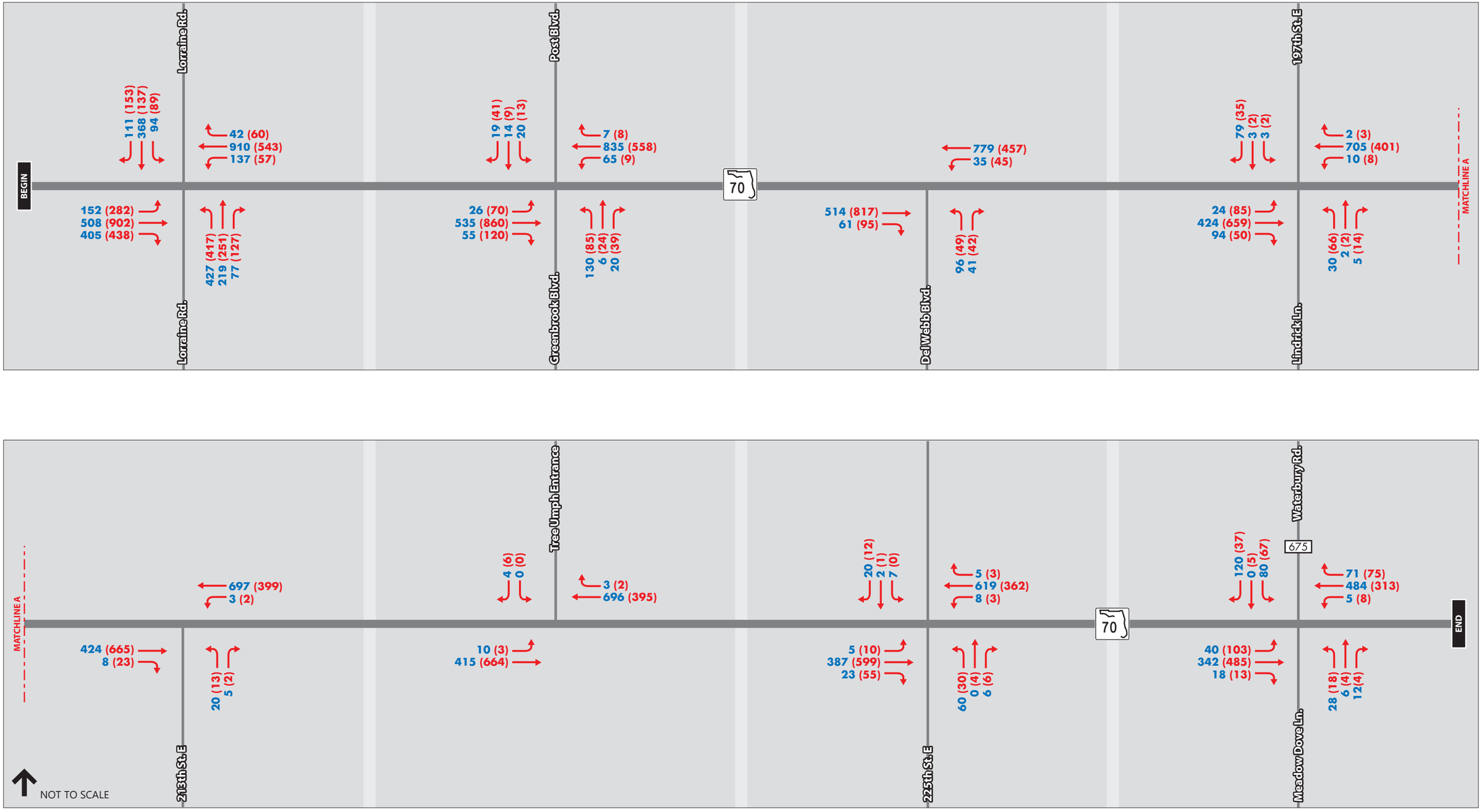
Future Year
Annual Average Daily Traffic (AADT)
(Build)

7.7 Intersection Design Hour Volumes

The existing and future year AADT's for the No Build and Build Alternatives along with the recommended traffic characteristics were used to develop the design hour volumes (DHVs) for both the AM and PM design hours at the intersections for the opening, mid-design and design years.

The DHV's for the intersections were developed using the TURNS5 spreadsheet, which balances AADT's and calculates DHV's based on recommended K and D factors used as input into the program. The estimated design hour volumes for the AM and PM design hours from TURNS5 spreadsheet were assessed for reasonableness. Adjustments were made and are reported in the TURNS5 output sheets included in **Appendix M**. In general, it was made sure that the year 2023, 2033 and 2043 design hour volumes were higher than the existing peak hour volumes. These adjustments are necessary because accepting an estimated volume that is unrealistically large may lead to over design and accepting an estimated volume that is too small may result in an inadequate design.

The future year AM and PM design hour volumes for the No-Build Alternative are shown in **Figures 10 through 12** for the years 2023, 2033 and 2043, respectively. The future year AM and PM design hour volumes for the Build Alternative are shown in **Figures 13 through 15** for years 2023, 2033 and 2043 respectively.



Traffic Movement

AM (PM) Traffic Volumes

Figure 10

Year 2023 No Build
Turning Movement Volumes

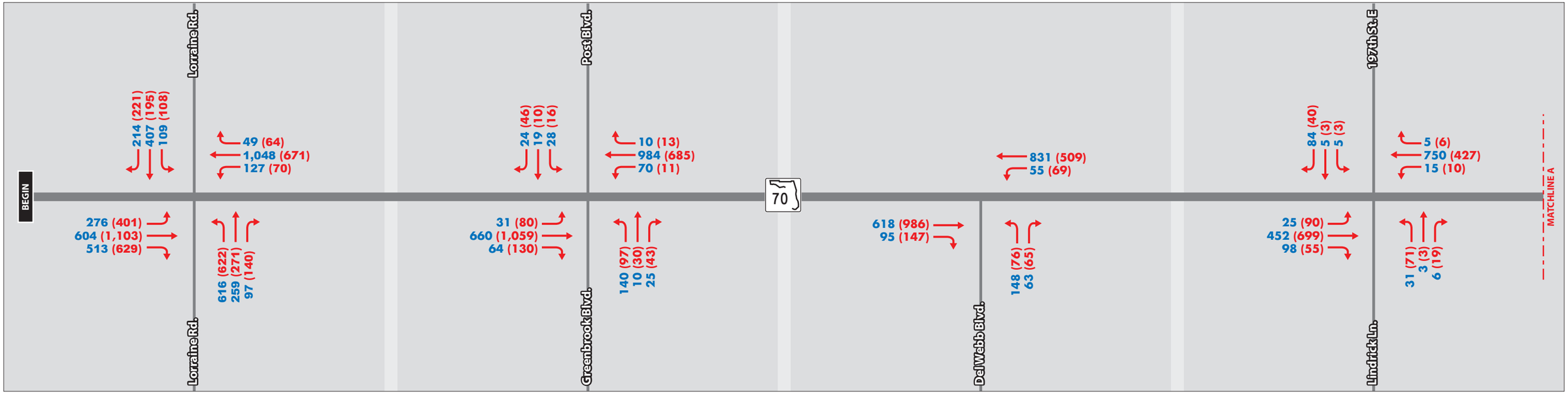


Figure 11

Year 2033 No Build
Turning Movement Volumes

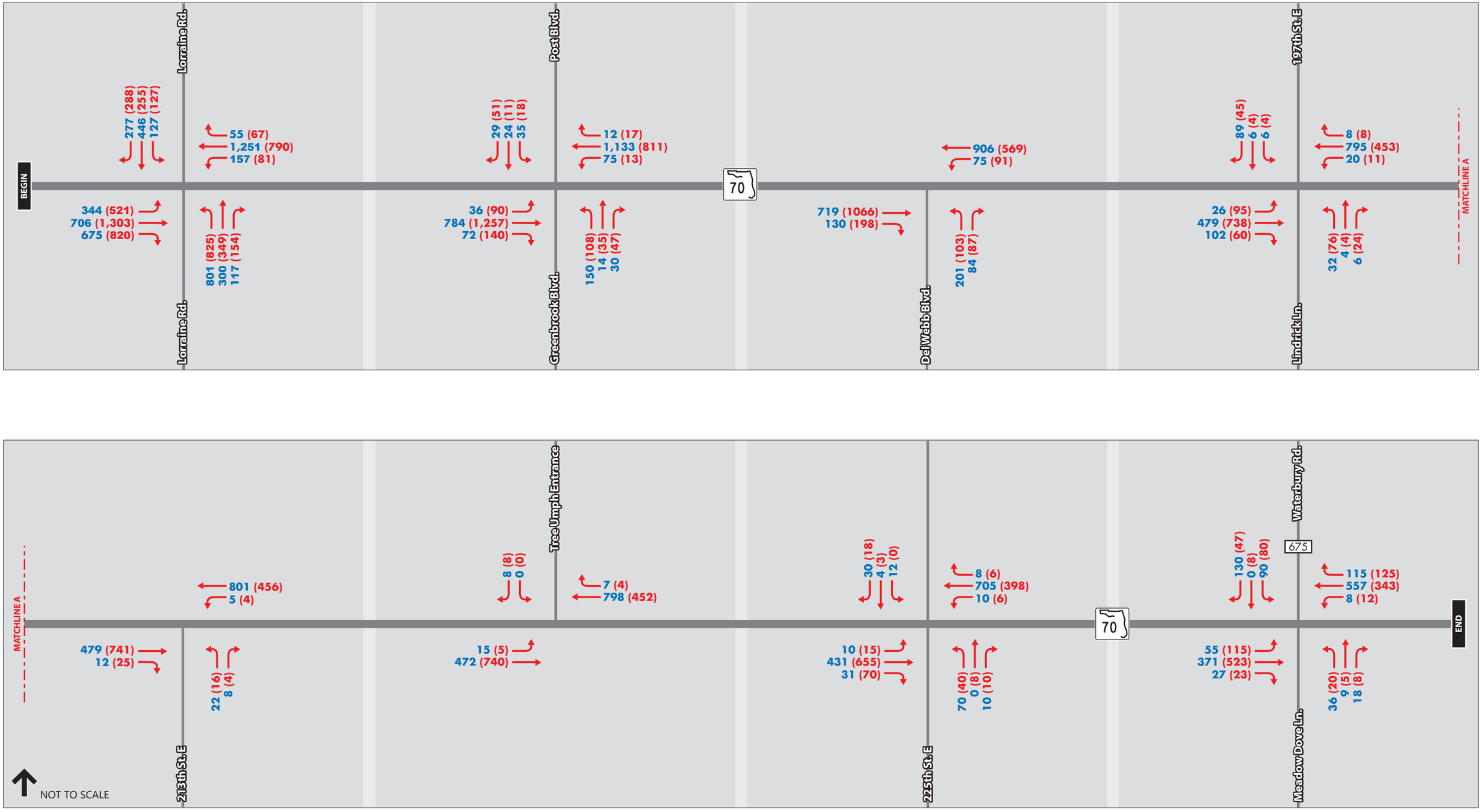
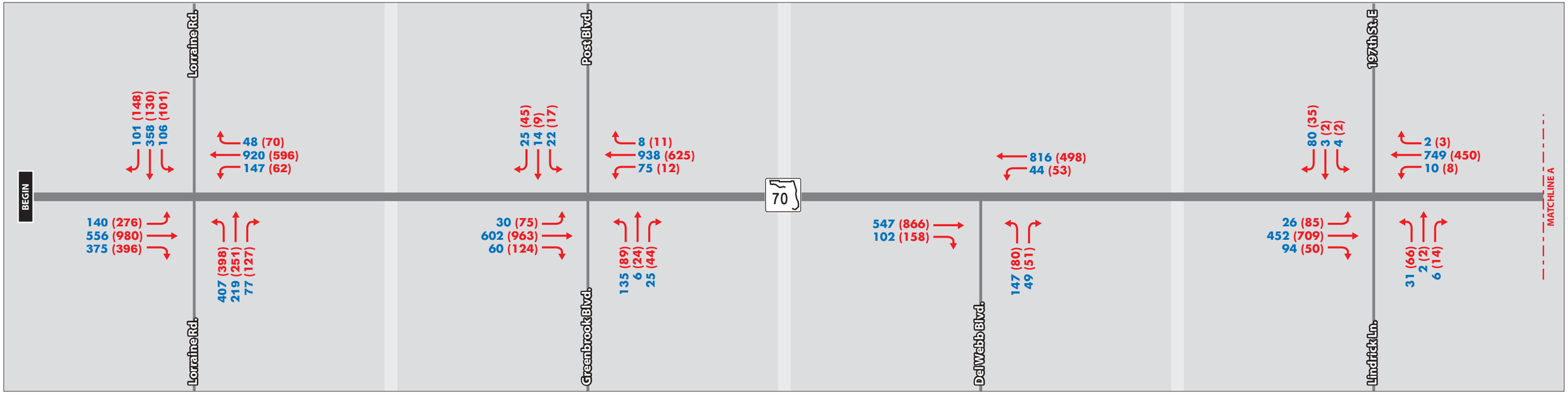


Figure 12

Year 2043 No Build
Turning Movement Volumes

\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\graphics\FIGURES

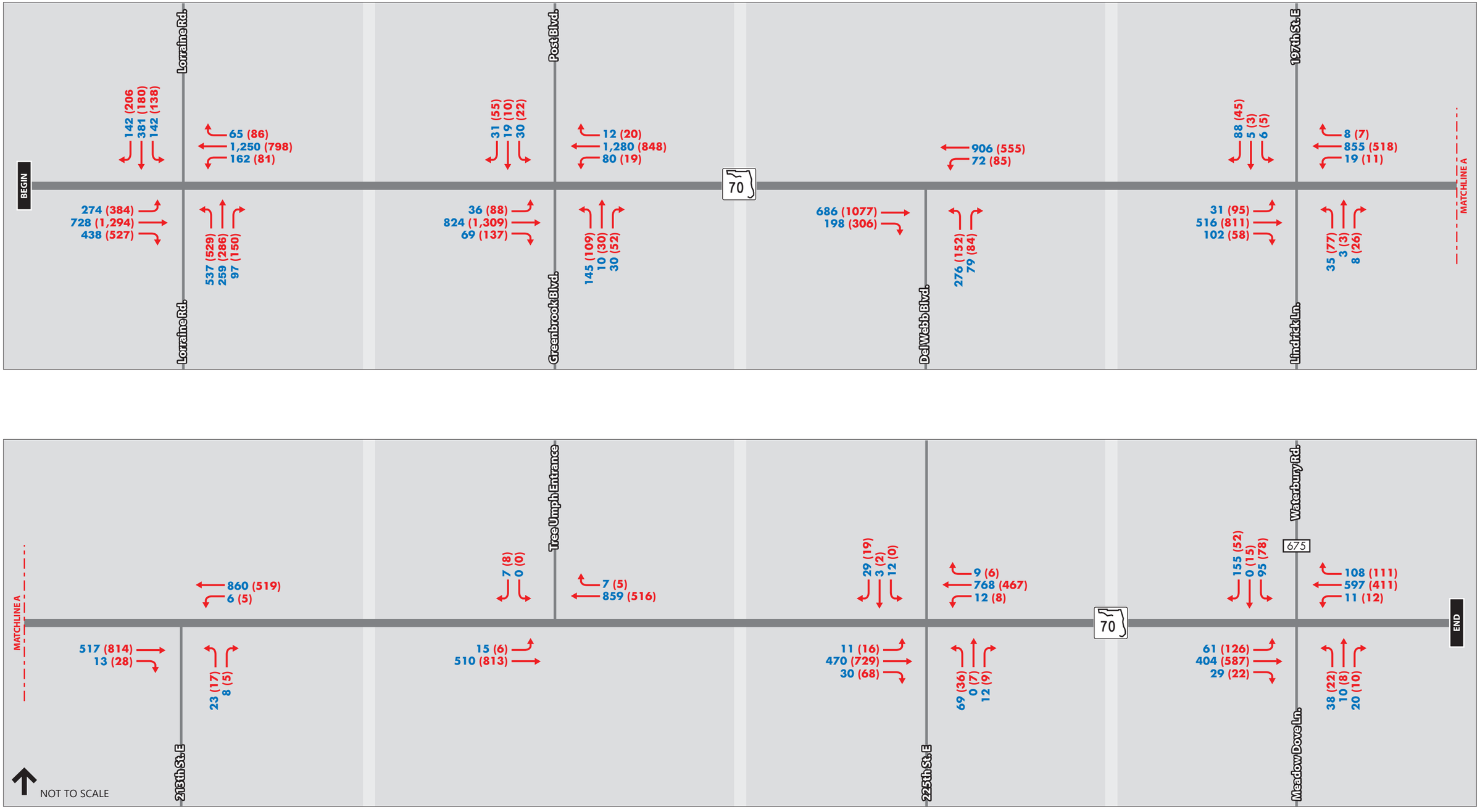


→ Traffic Movement

AM (PM) Traffic Volumes

Figure 13

Year 2023 Build
Turning Movement Volumes

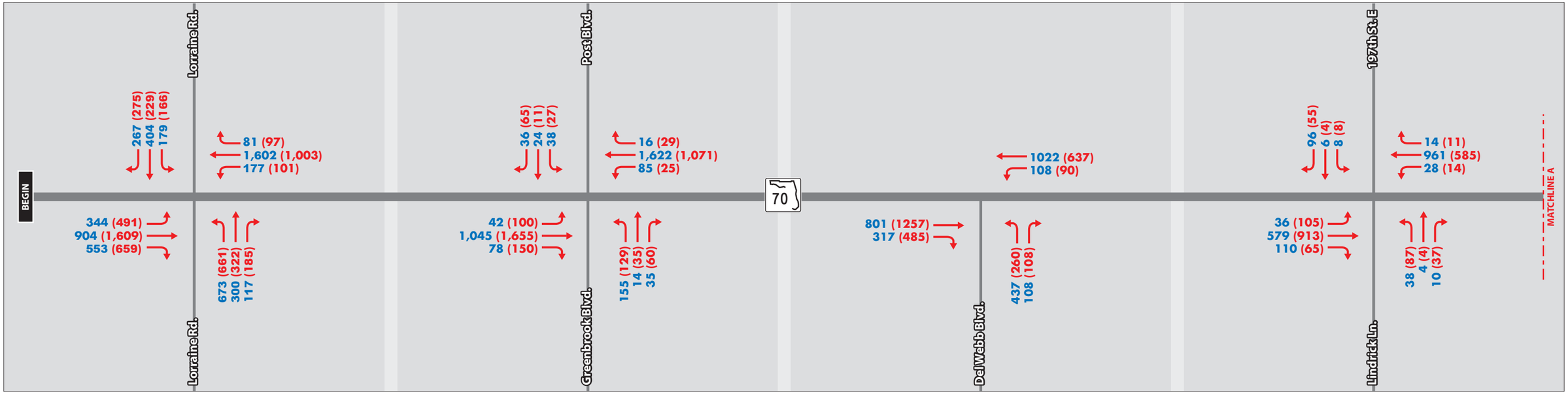


Traffic Movement

AM (PM) Traffic Volumes

Figure 14

Year 2033 Build
Turning Movement Volumes



Traffic Movement

AM (PM) Traffic Volumes

Figure 15

Year 2043 Build
Turning Movement Volumes

8 Future Operational Analysis

This section presents the results of the traffic operational analysis for the No Build and Build alternatives. In addition, the unsignalized intersections 1) SR 70 at Greenbrook Blvd/Post Blvd, 2) SR 70 at Lindrick Ln/197th St E were for evaluated for future signal requirements. The Build alternative was designed to examine how the widening of SR 70 in the study area and different geometric improvements at the study intersections would affect the traffic flow. The level of service for the study intersections was determined using Synchro software version 9.0. Analysis techniques utilized in the study include the signalized and unsignalized intersections in Synchro based on the HCM 2010 methodology and FDOT LOSPLAN software for roadway analysis.

8.1 No Build Alternative Operational Analysis

8.1.1 Intersections Level of Service Analysis- No Build

8.1.1.1 Preliminary Intersections Analysis- No Build

The No Build alternative assumes the same geometric configurations as the existing conditions. Intersection analysis was performed to determine if there are any deficiencies for the signalized and unsignalized intersections for the future years. Forecasted turning movement volumes as shown in Section 7.7 were used to analyze the No Build alternative. The results of the intersection analysis are summarized in **Table 19**.

As shown in **Table 19**, the signalized intersection at Lorraine Road and the minor street approaches of the unsignalized intersections at Greenbrook Blvd/Post Blvd, Del Webb Blvd and Lindrick Ln/197th St E are projected to operate below the acceptable LOS starting from opening year 2023 for both AM and PM design hours with significant delays. In addition, the minor street approaches of the unsignalized intersections at 213th St (AM peak from 2033, and AM and PM peaks for 2043) and 225th St (AM for 2043) are also expected to operate below the standard LOS. However, the associated delays were not very high for these intersections.

Based on the result of this analysis, the unsignalized intersections with SR 70 at Greenbrook Blvd/Post Blvd and Lindrick Ln/197th St E were selected for signal warrant studies for future years, since they are expected to operate below the acceptable LOS in design year 2043 for both AM and PM design hours.

Appendix O provides the Synchro output sheets for the preliminary No Build intersections analysis results.

8.1.1.2 Future Signal Requirements- No Build

Based on the delay and future AADTs, the unsignalized intersections at 1) SR 70 at Greenbrook Blvd/Post Blvd, 2) SR 70 at Lindrick Ln/197th St E were evaluated for future signal requirement under the No Build alternative. The other unsignalized intersections have very low peak hour as well as future AADT volumes on the minor street, and these volumes would not warrant a signal based on the minimum vehicular volume or interruption of continuous traffic criteria. Therefore, a signal warrant analysis was not performed for the other unsignalized intersections. The need for future signal requirements was evaluated using signal warrant 1A as specified in the Manual on Uniform Traffic Control Devices (MUTCD) 2009 Edition. Since information required for all other warrants cannot be predicted, only warrant 1A (the Minimum Vehicle Volumes) was used for future conditions.

In determining the future volumes for signal warrant analysis, initially, the future AADT volumes at the subject intersections were segregated into hourly volumes for a 24-hour period using percentages from the existing daily volume counts. Then, the eight highest hourly volumes from these calculated 24-hour volumes were used in the signal warrant analysis. Since the critical speed is greater than 40 MPH, the 70% criteria for signal warrant 1A was used.

Following are the results of the signal warrant analysis for the above-mentioned two intersections under the No Build alternative:

- Warrant 1A was fulfilled at SR 70 @ Greenbrook Blvd/Post Blvd starting from the opening year 2023 for No Build alternative.
- Warrant 1A was not fulfilled at SR 70 @ Lindrick Ln/197th St E for design year 2043 for No Build conditions.

Since a signal was warranted for SR 70 @ Greenbrook Blvd/Post Blvd from the opening year 2023, year 2033 and 2043 warrant analyses were not needed to be performed. It is important to note that all the unsignalized intersections within the study limits have to be revisited in the future to determine if any of applicable signal warrants will be satisfied. The actual determination of when a location will be signalized shall be based on actual traffic counts and other pertinent data required for signal warrant analysis. The future signal warrant sheets are provided in **Appendix N**.

It should be noted that a signal was considered at the intersection of SR 70 @ Del Webb Blvd starting from opening year 2023. It was considered based on the preliminary No Build alternative analysis results which showed very high delays as an unsignalized intersection. A signal warrant analysis was not performed for this intersection since Del Webb Blvd provides access to a new development which is still under construction and as such existing counts were not collected.

8.1.1.3 No Build Analysis with Additional Signals

A revised No Build analysis was performed considering a signal at SR 70 & Greenbrook Blvd/Post Blvd and SR 70 & Del Webb Blvd. **Table 20** shows the results of the revised No Build alternative.

The results show that after the proposed signalization, the intersections along SR 70 at Greenbrook Blvd/Post Blvd and at Del Webb Blvd are expected to perform at LOS C or better throughout design year 2043 for both AM and PM design hours.

Table 20 summarizes the results for the revised No Build alternative analysis for the intersections. **Appendix P** provides the Synchro output sheets for the revised No Build intersections analysis results for the signalized intersections.

Table 19: No Build (without signalization) Intersection LOS Analysis Summary

No.	Study Intersection	Control Type	FDOT Adopted LOS	AM Peak Hour						PM Peak Hour					
				2023		2033		2043		2023		2033		2043	
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	Lorraine Road	Signal	D	101.5	F	207.8	F	333.3	F	62.0	E	179.6	F	342.0	F
2	Greenbrook Blvd/Post Blvd	Stop	C	10.0/ 96.6	A/F	10.8/ 291.0	B/F	11.8/ >300	B/F	10.0/ 50.6	A/F	11.0/ 131.0	B/F	12.3/ >300	B/F
3	Del Webb Blvd	Stop	C	8.7/ 76.5	A/F	9.2/ >300	A/F	9.8/ >300	A/F	10.0/ 45.9	B/E	11.2/ 156.4	B/F	12.1/ >300	B/F
4	Lindrick Ln./197th Street E.	Stop	C	9.4/ 26.2	A/D	9.6/ 30.1	A/D	9.8/ 35.1	A/E	9.1/ 29.2	A/D	9.3/ 34.3	A/D	9.5/ 40.4	A/E
5	213th Street (East)	Stop	C	8.3/ 24.1	A/C	8.4/ 26.9	B/D	8.5/ 30.3	A/D	9.1/ 21.8	A/C	9.3/ 23.9	A/C	9.4/ 26.1	A/D
6	Tree Umph Park	Stop	C	9.3/ 13.6	A/B	9.5/ 14.3	A/B	9.8/ 15.1	A/C	8.2/ 10.7	A/B	8.3/ 10.9	A/B	8.4/ 11.2	A/B
7	225th Street (East)	Stop	C	9.0/ 20.2	A/C	9.1/ 22.5	A/C	9.3/ 25.5	A/D	8.9/ 17.3	A/C	9.0/ 18.5	A/C	9.1/ 19.8	A/C
8	Meadow Dove Ln./CR 675	Stop	C	8.6/ 15.4	A/C	8.8/ 16.6	A/C	9.0/ 17.9	A/C	8.6/ 17.9	A/C	8.7/ 18.5	A/C	8.7/ 19.3	A/C

Notes:

1. HCM 2010 based outputs are presented in this table for both the signalized and unsignalized intersections

2. Overall intersection delay and LOS results are reported for the signalized intersection

3. In case of unsignalized intersections, major street/minor street worst case results (delay and LOS) are reported

4. Result shown in color exceeds the adopted LOS standard

Table 20: No Build (after signalization) Intersection LOS Analysis Summary

No.	Study Intersection	Control Type	FDOT Adopted LOS	AM Peak Hour						PM Peak Hour					
				2023		2033		2043		2023		2033		2043	
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	Lorraine Road	Signal	D	101.5	F	207.8	F	333.3	F	62.0	E	179.6	F	342.0	F
2	Greenbrook Blvd/Post Blvd	Proposed Signal	C	11.3	B	13.8	B	20.1	C	11.2	B	15.4	B	32.2	C
3	Del Webb Blvd	Proposed Signal	C	12.0	B	13.3	B	16.5	B	12.2	B	22.6	C	34.5	C
4	Lindrick Ln./197th Street E.	Stop	C	9.4/ 26.2	A/D	9.6/ 30.1	A/D	9.8/ 35.1	A/E	9.1/ 29.2	A/D	9.3/ 34.3	A/D	9.5/ 40.4	A/E
5	213th Street (East)	Stop	C	8.3/ 24.1	A/C	8.4/ 26.9	B/D	8.5/ 30.3	A/D	9.1/ 21.8	A/C	9.3/ 23.9	A/C	9.4/ 26.1	A/D
6	Tree Umph Park	Stop	C	9.3/ 13.6	A/B	9.5/ 14.3	A/B	9.8/ 15.1	A/C	8.2/ 10.7	A/B	8.3/ 10.9	A/B	8.4/ 11.2	A/B
7	225th Street (East)	Stop	C	9.0/ 20.2	A/C	9.1/ 22.5	A/C	9.3/ 25.5	A/D	8.9/ 17.3	A/C	9.0/ 18.5	A/C	9.1/ 19.8	A/C
8	Meadow Dove Ln./CR 675	Stop	C	8.6/ 15.4	A/C	8.8/ 16.6	A/C	9.0/ 17.9	A/C	8.6/ 17.9	A/C	8.7/ 18.5	A/C	8.7/ 19.3	A/C

Notes:

1. HCM 2010 based outputs are presented in this table for both the signalized and unsignalized intersections

2. Overall intersection delay and LOS results are reported for the signalized intersections

3. In case of unsignalized intersections, major street/minor street worst case results (delay and LOS) are reported

4. Result shown in red font exceeds the adopted LOS standard

8.1.2 Roadway Level of Service Analysis- No Build

The roadway segment LOS analysis was performed for the No Build alternative for both AM and PM design hours for SR 70 using the latest HIGHPLAN 2012 (part of LOSPLAN) software. Due to the presence of two closely spaced signalized intersections (existing signal at Lorraine Road and proposed signal at Greenbrook Blvd/Post Blvd) near the western end of the study corridor, the roadway analysis was performed on SR 70 only for the following segments between Greenbrook Blvd/Post Blvd and Meadow Dove Ln/ CR 675.

- Greenbrook Blvd/Post Blvd to Del Webb Blvd
- Del Webb Blvd to Lindrick Ln/ 197th St E, and
- Lindrick Ln/ 197th St E to Meadow Dove Ln/ CR 675

The no passing zone percentages for each segment were calculated based on the existing roadway configuration.

A summary of the HIGHPLAN 2012 analysis for the No Build conditions is illustrated in **Table 21**. The results show that for the No Build alternative the entire study segment operates below the acceptable LOS during both AM and PM design hour conditions. The HIGHPLAN 2012 outputs for the No Build alternative are provided in **Appendix Q**.

Table 21: No Build (after signalization) Arterial LOS Analysis Summary

SR 70 Segments	Year	Number Of Lanes	FDOT LOS Standard	AM LOS	PM LOS
Greenbrook Blvd/Post Blvd to Del Webb Blvd	2023	2	C	E	E
	2033			E	E
	2043			E	E
Del Webb Blvd to Lindrick Ln/197th St E	2023	2	C	E	D
	2033			E	E
	2043			E	E
Lindrick Ln/197th St E to CR 675/Meadow Dove Ln	2023	2	C	D	E
	2033			E	E
	2043			E	E

Note: Results shown in red font exceed the adopted LOS standards

8.2 Build Alternative Operational Analysis

8.2.1 Intersections Level of Service Analysis- Build

8.2.1.1 Preliminary Intersections Analysis- Build

Intersection operations were evaluated under the Build Alternative. The Build Alternative improvements include widening SR 70 from two lanes to four lanes throughout the project study corridor as well as the following additional improvements at the Lorraine Road intersection:

- Eastbound approach – an additional left-turn and additional right-turn lane
- Northbound approach – an additional through lane and an additional exclusive left-turn lane
- Southbound approach – an additional through lane and converting the shared through-right lane to a through lane and an exclusive right-turn lane.
- A two lane northbound exit to accommodate the eastbound dual left-turn lane. The two lane exit shall transition to a one lane north of the intersection.

Intersection analysis was performed to determine if there are any deficiencies for the signalized and unsignalized intersections for the future years. Forecasted turning movement volumes as shown in Section 7.7 were used to analyze the Build alternative. The results of the intersection analysis are summarized in **Table 22**.

As shown in **Table 22**, the signalized intersection at SR 70 & Lorraine Road operates at acceptable LOS of D or better until mid-design year 2033 but is expected to operate below the acceptable LOS in design year 2043 for both AM and PM design hours. The minor street approaches of the unsignalized intersections at SR 70 & Greenbrook Blvd/Post Blvd and SR 70 & Del Webb Blvd are expected to operate below the acceptable LOS starting from opening year 2023 for both AM and PM design hours with significant delays. In addition, the minor street approaches of the unsignalized intersections at SR 70 & Lindrick Ln./197th Street E. (AM for 2043, PM from 2023), SR 70 & 213th St (AM for 2043, and PM from 2033), SR 70 & 225th St (PM for 2043) and SR 70 & Meadow Dove Ln./ CR 675 (PM for 2043) are also expected to operate below the standard level of service. However, the associated delays were not very significant for these intersections.

Based on the result of this analysis, the unsignalized intersections with SR 70 at Greenbrook Blvd/Post Blvd and Lindrick Ln/197th St E were selected for signal warrant studies for future years, since they are expected to operate below the standard level of service from opening year 2023 for both AM and PM design hours.

Appendix R provides the Synchro output sheets for the initial Build intersections analysis results.

8.2.1.2 Future Signal Requirements- Build

Based on the delay and future AADTs, the unsignalized intersections at 1) SR 70 at Greenbrook Blvd/Post Blvd, 2) SR 70 at Lindrick Ln/197th St E were evaluated for future signal requirement under the Build alternative. The other unsignalized intersections have very low peak hour as well as future AADT volumes on the minor street, and these volumes would not warrant a signal based on the minimum vehicular volume or interruption of continuous traffic criteria. Therefore, a signal warrant analysis was not performed for the other unsignalized intersections. The need for future signal requirements was evaluated using signal warrant 1A as specified in the Manual on Uniform Traffic Control Devices (MUTCD) 2009 Edition. Since information required for all other warrants cannot be predicted, only warrant 1A (the Minimum Vehicle Volumes) was used for future conditions.

In determining the future volumes for signal warrant analysis, initially, the future AADT volumes at the subject intersections were segregated into hourly volumes for a 24-hour period using percentages from the existing daily volume counts. Then, the eight highest hourly volumes from these calculated 24-hour volumes were used in the signal warrant analysis. Since the critical speed is greater than 40 MPH, the 70% criteria for signal warrant 1A was used.

Following are the results of the signal warrant analysis for the above-mentioned two intersections under the Build alternative:

- Warrant 1A was fulfilled at SR 70 @ Greenbrook Blvd/Post Blvd starting from the opening year 2023 for the Build alternative.
- Warrant 1A was not fulfilled at SR 70 @ Lindrick Ln/197th St E for design year 2043 for the Build alternative.

Since a signal was warranted for SR 70 @ Greenbrook Blvd/Post Blvd from the opening year 2023, year 2033 and 2043 warrant analyses were not needed to be performed. It is important to note that all the unsignalized intersections within the study limits have to be revisited in the future to determine if any of applicable signal warrants will be satisfied. The actual determination of when a location will be signalized shall be based on actual traffic counts and other pertinent data required for signal warrant analysis. The future signal warrant sheets are provided in **Appendix N**.

It should be noted that a signal was considered at the intersection of SR 70 @ Del Webb Blvd starting from opening year 2023. It was considered based on the preliminary Build alternative analysis results which showed very high delays as an unsignalized intersection. A signal warrant analysis was not performed for this intersection since Del Webb Blvd provides access to a new development which is still under construction and as such existing counts were not collected.

8.2.1.3 Build Analysis with Additional Signals

A revised Build analysis was performed considering a signal at SR 70 & Greenbrook Blvd/Post Blvd and SR 70 & Del Webb Blvd. **Table 23** summarizes the intersection analysis results for the revised Build alternative. The results show that with the proposed signalization, the intersections along SR 70 & Greenbrook Blvd/Post Blvd and at SR 70 & Del Webb Blvd are expected to perform at LOS C or better throughout design year 2043 for both AM and PM design hours. The signalized intersection at SR 70 & Lorraine Road operates at acceptable LOS of D or better until mid-design year 2033 but is expected to operate below the acceptable LOS in design year 2043 for both AM and PM design hours. Since the intersection at SR 70 & Lorraine Road is projected to operate below the acceptable LOS during the design year 2043 conditions, additional options such as grade separation or innovative intersection configurations may be considered at this intersection by year 2043.

Appendix S provides the Synchro output sheets for the revised Build intersections analysis results for the signalized intersections.

Table 22: Build (without signalization) Intersection LOS Analysis Summary

No.	Study Intersection	Control Type	FDOT Adopted LOS	AM Peak Hour						PM Peak Hour					
				2023		2033		2043		2023		2033		2043	
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	Lorraine Road	Signal	D	36.4	D	52.7	D	90.5	F	33.6	C	47.3	D	56.8	E
2	Greenbrook Blvd/Post Blvd	Stop	C	10.7/ 60.6	B/F	13.1/ 260.1	B/F	16.9/ >300	C/F	10.6/ 64.0	B/F	13.0/ >300	B/F	16.6/ >300	C/F
3	Del Webb Blvd	Stop	C	8.9/ 68.8	A/F	9.7/ >300	A/F	10.6/ >300	B/F	10.5/ 60.3	B/F	12.3/ >300	B/F	14.1/ >300	B/F
4	Lindrick Ln./197th Street E.	Stop	C	9.7/ 19.0	A/C	10.2/ 22.9	B/C	10.9/ 28.0	B/D	9.4/ 30.8	A/D	9.9/ 45.4	A/E	10.4/ 75.0	B/F
5	213th Street (East)	Stop	C	8.4/ 18.3	A/C	8.7/ 21.8	A/C	8.9/ 26.4	A/D	9.3/ 20.2	A/C	9.8/ 25.2	A/D	10.4/ 32.2	B/D
6	Tree Umph Park	Stop	C	9.6/ 10.9	A/B	10.2/ 11.6	B/B	10.8/ 12.2	B/B	8.4/ 9.7	A/A	8.7/ 10.0	A/B	8.9/ 10.3	A/B
7	225th Street (East)	Stop	C	9.2/ 16.6	A/C	9.7/ 19.5	A/C	10.2/ 23.0	B/C	9.1/ 17.5	A/C	9.5/ 20.8	A/C	10.0/ 25.4	A/D
8	Meadow Dove Ln./CR 675	Stop	C	8.8/ 14.8	A/B	9.2/ 16.6	A/C	9.7/ 18.9	A/C	8.7/ 18.2	A/C	9.0/ 21.2	A/C	9.4/ 25.7	A/D

Notes:

1. HCM 2010 based outputs are presented in this table for both the signalized and unsignalized intersections

2. Overall intersection delay and LOS results are reported for the signalized intersection

3. In case of unsignalized intersections, major street/minor street worst case results (delay and LOS) are reported

4. Result shown in color exceeds the adopted LOS standard

Table 23: Build (after signalization) Intersection LOS Analysis Summary

No.	Study Intersection	Control Type	FDOT Adopted LOS	AM Peak Hour						PM Peak Hour					
				2023		2033		2043		2023		2033		2043	
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	Lorraine Road	Signal	D	36.4	D	52.7	D	90.5	F	33.6	C	47.3	D	56.8	E
2	Greenbrook Blvd/Post Blvd	Proposed Signal	C	12.0	B	12.3	B	14.2	B	9.9	A	10.0	A	11.2	B
3	Del Webb Blvd	Proposed Signal	C	11.9	B	12.0	B	15.3	B	11.1	B	11.1	B	12.9	B
4	Lindrick Ln./197th Street E.	Stop	C	9.7/ 19.0	A/C	10.2/ 22.9	B/C	10.9/ 28.0	B/D	9.4/ 30.8	A/D	9.9/ 45.4	A/E	10.4/ 75.0	B/F
5	213th Street (East)	Stop	C	8.4/ 18.3	A/C	8.7/ 21.8	A/C	8.9/ 26.4	A/D	9.3/ 20.2	A/C	9.8/ 25.2	A/D	10.4/ 32.2	B/D
6	Tree Umph Park	Stop	C	9.6/ 10.9	A/B	10.2/ 11.6	B/B	10.8/ 12.2	B/B	8.4/ 9.7	A/A	8.7/ 10.0	A/B	8.9/ 10.3	A/B
7	225th Street (East)	Stop	C	9.2/ 16.6	A/C	9.7/ 19.5	A/C	10.2/ 23.0	B/C	9.1/ 17.5	A/C	9.5/ 20.8	A/C	10.0/ 25.4	A/D
8	Meadow Dove Ln./CR 675	Stop	C	8.8/ 14.8	A/B	9.2/ 16.6	A/C	9.7/ 18.9	A/C	8.7/ 18.2	A/C	9.0/ 21.2	A/C	9.4/ 25.7	A/D

Notes:

1. HCM 2010 based outputs are presented in this table for both the signalized and unsignalized intersections

2. Overall intersection delay and LOS results are reported for the signalized intersections

3. In case of unsignalized intersections, major street/minor street worst case results (delay and LOS) are reported

4. Result shown in color exceeds the adopted LOS standard

8.2.2 Roadway Level of Service Analysis- Build

The roadway segment LOS analysis was performed for the Build alternative for both AM and PM design hours for SR 70 using the latest HIGHPLAN 2012 (part of LOSPLAN) software. Due to the presence of two closely spaced signalized intersections (existing signal at Lorraine Road and proposed signal at Greenbrook Blvd/Post Blvd) near the western end of the study corridor, the roadway analysis was performed on SR 70 only for the following segments between Greenbrook Blvd/Post Blvd and Meadow Dove Ln/ CR 675.

- Greenbrook Blvd/Post Blvd to Del Webb Blvd
- Del Webb Blvd to Lindrick Ln/ 197th St E, and
- Lindrick Ln/ 197th St E to Meadow Dove Ln/ CR 675

A summary of the HIGHPLAN 2012 analysis for the existing conditions is illustrated in **Table 24.** The results show that under the Build alternative, the entire study corridor operates at an acceptable LOS throughput the design year 2043 during both AM and PM design hour conditions. The HIGHPLAN 2012 outputs for Build roadway analysis are provided in **Appendix T.**

Table 24: Build (after signalization) Arterial LOS Analysis Summary

SR 70 Segment	Year	Number Of Lanes	FDOT LOS Standard	AM LOS	PM LOS
Greenbrook Blvd/Post Blvd to Del Webb Blvd	2023	4	C	B	B
	2033			C	C
	2043			C	C
Del Webb Blvd to Lindrick Ln/197th St E	2023	4	C	B	B
	2033			B	B
	2043			B	B
Lindrick Ln/197th St E to CR 675/Meadow Dove Ln	2023	4	C	B	B
	2033			B	B
	2043			B	B

8.3 Roundabout Analysis

In accordance with FDOT policy, as stated in Section 2.13.1 of the PPM, Volume 1, a roundabout alternative must be evaluated on new construction and reconstruction projects. For the purpose of this report, a roundabout option was evaluated for the 2043 traffic conditions at the following study intersections for both the No Build and Build alternatives.

- SR 70 and Lorraine Rd
- SR 70 and Greenbrook Blvd/Post Blvd
- SR 70 and Del Webb Blvd
- SR 70 and Meadow Dove Ln/ CR 675

SIDRA roundabout software was used to conduct the preliminary analyses. For the No Build alternative, one-lane roundabout (along SR 70) configuration was assumed, with the exception of the roundabout at SR 70 and Lorraine Rd. At SR 70 and Lorraine Road intersection, a two-lane roundabout intersection was assumed (since the intersection currently has a minimum of two approach lanes). For the Build alternative, two-lane roundabouts were evaluated at all the subject intersection mentioned in the above list.

8.3.1 No-Build Alternative – 2043 Conditions

Based on the SIDRA analysis under the No Build alternative, with the exception of SR 70 and CR 675 intersection, the three remaining intersections are projected to fail with LOS F with a roundabout option for both AM and PM peaks. A roundabout traffic control at SR 70 and Meadow Dove Ln/ CR 675 is projected to operate at LOS B during 2043 No Build conditions for both AM and PM peaks.

8.3.2 Build Alternative – 2043 Conditions

Based on the SIDRA analysis under the Build alternative, with the exception of SR 70 and Lorraine Road intersection, the three remaining intersections are projected to operate within the accepted LOS C condition with a roundabout option for both AM and PM peaks. A roundabout traffic control at SR 70 and Lorraine Road is projected to operate at LOS F during 2043 Build conditions for both AM and PM peaks. **Table 25** illustrates the LOS results for the 2043 traffic conditions with roundabouts.

Table 25: LOS Summary with a Roundabout Option – 2043 Conditions

SR 70 @	No Build		Build	
	AM	PM	AM	PM
Lorraine Road	F	F	F	F
Greenbrook Blvd/Post Blvd	F	F	C	C
Del Webb Blvd	F	F	C	B
Meadow Dove Ln./CR 675	B	B	A	A

It should be noted that a roundabout option operates within the acceptable LOS at SR 70 and Greenbrook Blvd/Post Blvd, but not at SR 70 and Lorraine Road. Since these two intersections are closely spaced, a detailed analysis should be conducted to understand the traffic impacts of a signal/roundabout system, before an actual roundabout is constructed at SR 70 and Greenbrook Blvd/Post Blvd.

The No Build and Build alternative geometries are shown in Figures 16 and 17, respectively. These figures also show the recommended intersection control for both No Build and Build alternatives. SIDRA intersection summary reports are provided in **Appendix U**.

\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\graphics\FIGURES

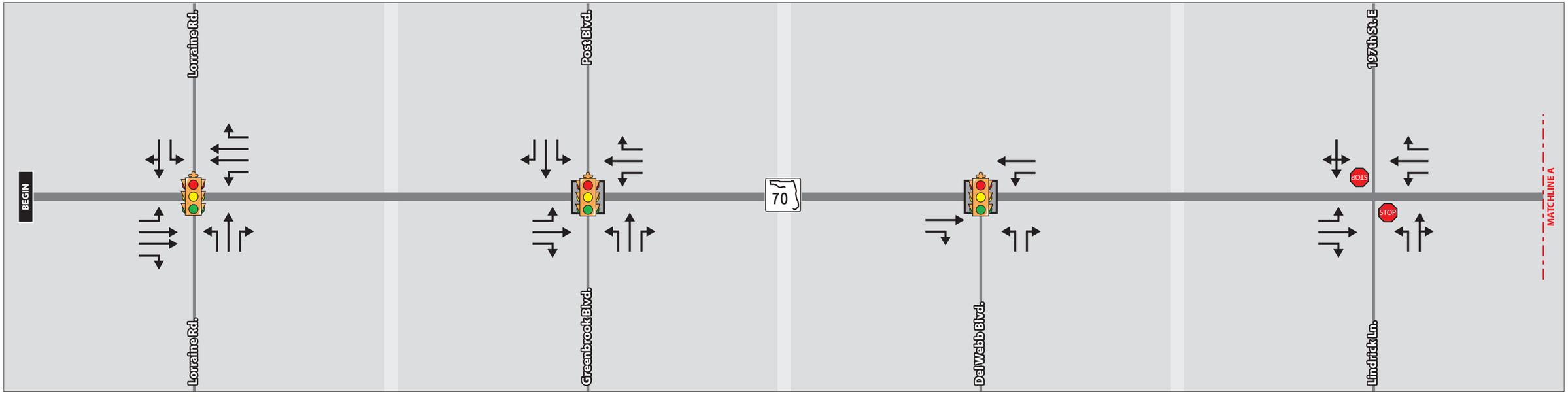


Figure 16

Future No Build
Recommended Geometry

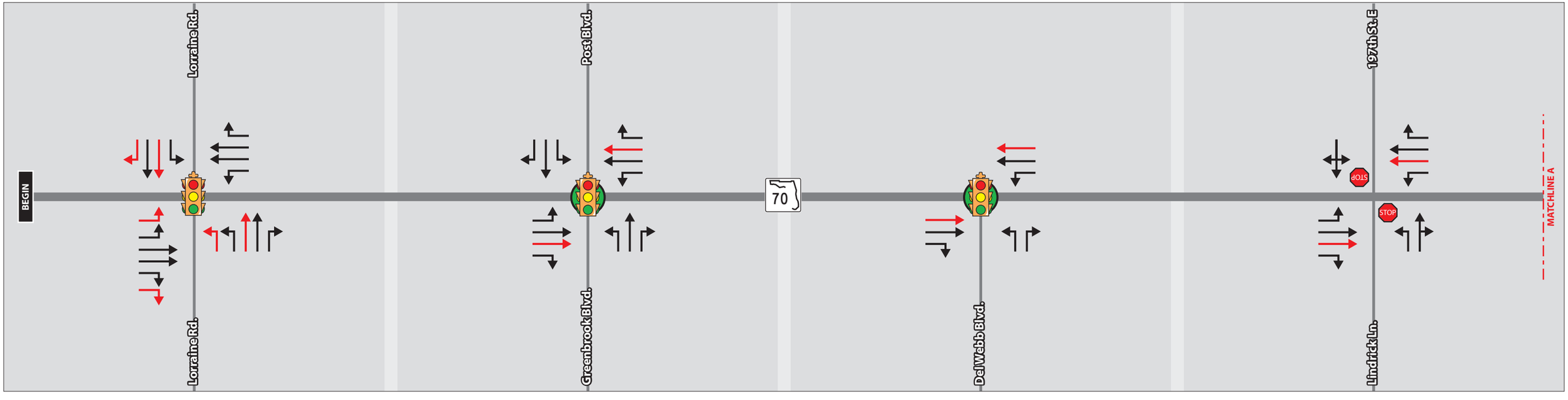


Figure 17

Future Build
Recommended Geometry

9 Access Management Plan

The purpose of this section was to prepare a preliminary access management plan as part of the proposed four-lane widening of SR 70 under the Build Alternative. All the study intersections were considered in this preliminary access management plan analysis. Except for private accesses, there are no other major driveway connections along the SR 70 study corridor.

According to the FDOT, the study corridor is currently classified as an Access Class 3. The following access management standards are set forth in the FDOT's Rule 14-97 for Access Class 3.

- **Full Median Opening – 2,640 feet**
- **Directional Median Opening – 1,320 feet**
- **Signal Spacing – 2,640 feet**
- **Connection Spacing**
    - **Speed Limit > 45 MPH – 660 feet**
    - **Speed Limit <= 45 MPH – 440 feet**

For the purpose of this study, existing and planned traffic conditions, crash history, proposed improvements and anticipated land use along SR 70 were reviewed to prepare the proposed access management plan for the study corridor.

9.1 Existing Conditions

Within the project limits, there are seven major intersecting roadways. The typical section of SR 70 is two-lane undivided facility between just east of Lorraine Road to the Meadow Dove Ln/ CR 675. The posted speed limit is 55 MPH between Lorraine Road to east of Greenbrook Blvd/Post Blvd and 60mph for the reminder of the study corridor. Except for a signalized intersection at SR 70 and Lorraine Road (western study limit), all the other study intersections are currently unsignalized.

There are few minor intersections other than the study intersections within the study corridors. The majority of these intersecting roadways are dirt roads and not listed in the straight-line diagram for SR 70. However, for the purpose of the proposed access management plan, these minor roads were also considered. **Table 26** lists the existing accesses along the project corridor. **Appendix V** provides a map with the aerial snapshots of these intersections obtained from Google Earth.

Table 26: Existing Intersection/Access Road Distances

Milepost	Location	Distance (ft)
9.476	Lorraine Road	-
9.617	Arbor Green Trail	745
10.137	Greenbrook Blvd/Post Blvd	2,745
10.780	Uihlein Road	3,395
11.173	Access Road 1 *	2,076
11.718	Del Webb Blvd	2,877
12.000	Access Road 2 *	1,523
12.363	Access Road 3 *	1,917
13.218	Lindrick Ln./197th Street E.	4,514
13.537	Access Road 4 *	1,686
14.241	213th Street (East)	3,717
14.603	Tree Umph Park	1,911
15.063	225th Street East	2,429
15.567	Meadow Dove Ln/ CR 675	2,661

*Note: * not present in the Straight Line Diagram*

9.2 Crash History

As described in Chapter 5 of this report, a historical crash analysis was conducted as part of this study for a 5 year period (January 1, 2011 to December 31, 2015) along SR 70 within the study limits. Based on the review of historical crash data, recurrent crash patterns (i.e. high number of any specific crash type) were only observed for the signalized intersection of SR 70 and Lorraine Road. This signalized intersection experienced 51 crashes in these five years, with an average of 10 crashes per year. The majority of these crashes were rear-end crashes (58.8% of total), followed by angle and left-turn (each 11.8% of total) crashes.

In addition, the unsignalized intersection of SR 70 at Greenbrook Blvd/Post Blvd experienced 29 crashes in the last five years, with an average of 6 crashes per year. The majority of these crashes were left-turn crashes (48.3% of total), followed by angle (31% of total) and rear-end (6.9% of total) crashes.

The proposed signalization of this intersection for the future conditions is anticipated to mitigate the left-turn crash occurrences.

9.3 Proposed Conditions

Based on the evaluation of roadway and intersection operating conditions under the No Build and Build alternatives, four-lane widening of SR 70 study corridor is anticipated to occur by opening year 2023. Based on preliminary signal warrant analysis and intersection analyses for the future years, a signal is recommended at the intersection of Greenbrook Blvd/Post Blvd and Del Webb Blvd by opening year 2023.

For the purpose of this study, the study corridor is anticipated to remain rural throughout the design year 2043. Therefore, Access Class 3 is assumed for the proposed four-lane typical section of SR 70 within the project limits to define a preliminary access management plan. Below are the recommendations for the proposed access management plans as shown in **Table 27**.

Table 27: Proposed Access Management Plan for SR 70

Milepost	Location	Median Openings	
		Access Type	Successive Opening Spacing (feet)
9.476	Lorraine Road	Full (Signal)	-
9.617	Arbor Green Trail	Right-in Right-out (EB)	745
10.137	Greenbrook Blvd/Post Blvd	Full (Signal)	2,745
10.780	Uihlein Road	Directional (EB/WB)	3,395
11.173	Access Road 1 *	Directional (EB/WB)	2,076
11.718	Del Webb Blvd	Full (Signal)	2,877
12.000	Access Road 2 *	Directional (EB)	1,523
12.363	Access Road 3 *	Directional (EB/WB)	1,917
13.218	Lindrick Ln./197th Street E.	Full (Stop)	4,514
13.537	Access Road 4 *	Directional (EB)	1,686
14.241	213th Street (East)	Full (Stop)	3,717
14.603	Tree Umph Park	Directional (EB)	1,911
15.063	225th Street East	Full (Stop)	2,429
15.567	Meadow Dove Ln/ CR 675	Full (Stop)	2,661

*Note: * not present in the Straight Line Diagram*

It should be noted that the access recommendations presented in **Table 27** are based on the currently available data and anticipated future conditions. As such, a separate Access Management Study should be conducted at the time when SR 70 study corridor is widened (to four lanes) to ascertain the validity of these recommendations.

10 Recommendations

Based on the evaluation of operating conditions for the design year 2043 Build traffic conditions, this study recommends the roadway and intersection capacity improvements as shown in **Table 28** and in **Figure 17** to handle the projected traffic volumes within the study corridor. Please refer to **Table 27** for the proposed access management plan.

Table 28: Recommended Build Alternative Capacity Improvements

Roadway/Intersection	Improvement	Proposed Begin Schedule
SR 70 from Lorraine Road to Meadow Dove Ln/ CR 675	Additional EB and WB through lanes (4-lane section)	Year 2023
SR 70 at Lorraine Road	• Eastbound approach – an additional exclusive left-turn and additional exclusive right-turn lane • Northbound approach – an additional through lane and an additional exclusive left-turn lane • Southbound approach – an additional through lane and convert the shared through-right lane to a through lane and an exclusive right-turn lane.	Year 2023
SR 70 at Greenbrook Blvd/Post Blvd	Proposed Signal/ Roundabout	Year 2023
SR 70 at Del Webb Blvd	Proposed Signal/ Roundabout	Year 2023
SR 70 at Meadow Dove Ln/ CR 675	Proposed Roundabout	Year 2043

In addition to the above improvements, this study used the red time formula (source: ITE Traffic Engineering Manual, 5th Edition), to develop the queue length requirements at the signalized intersections along the study corridor. **Table 29** shows the recommended queue lengths for the design year 2043 design hour conditions. Queue length calculations are shown in **Appendix W**.

It should be noted that the specific lengths do not include the taper or deceleration distance (refer to FDOT index 301 to determine the appropriate specific taper and deceleration length). These queue lengths are recommended at locations where these lengths can be achieved. Actual design and implementation of these queue length requirements will be a function of design and the physical practicality of their construction.

Table 29: Recommended Queue Storage Lengths for Turn Lanes at Signals – Build Alternative

Intersection	Turn Lane Queue Length (feet)					
	EBL	EBR	WBL	WBR	SBL	NBL
SR 70 at Lorraine Road	400	225	150	125	275	575
SR 70 at Greenbrook Blvd/Post Blvd	100	100	100	100	100	225
SR 70 at Del Webb Blvd	-	200	100	-	-	-

11 Appendices

Appendix A – Responses to Comments & Excerpts from plans

Appendix B - Straight Line Diagrams & RCI Data

Appendix C – Raw Traffic Counts

Appendix D – FDOT Counts and Seasonal & Axle Factors

Appendix E – Signal Timings & SYNCHRO Intersection Analysis Outputs

Appendix F – Existing Conditions Roadway Analysis Outputs

Appendix G – Crash Data and Crash Rate

Appendix H – D1RPM before and after validation plots for base year 2010

Appendix I – Future Land Use and DRI Information

Appendix J – 2040 Model Plots

Appendix K – Trends Output Sheets

Appendix L – Population Projection Data (BEBR)

Appendix M – TURNS5 Output Sheets

Appendix N – Signal Warrant Analysis Spreadsheets

Appendix O – Synchro Intersections Output Sheets- No Build

Appendix P – Synchro Intersections Output Sheets- No Build (After Additional Signalizations)

Appendix Q – Roadway Analysis Outputs- No Build

Appendix R – Synchro Intersections Output Sheets- Build

Appendix S – Synchro Intersections Output Sheets- Build (After Additional Signalizations)

Appendix T – Roadway Analysis Outputs- Build

Appendix U – SIDRA Roundabout Analysis Outputs

Appendix V – Existing Accesses along SR 70

Appendix W – Queue Analysis Spreadsheets

Appendix A

Responses to Comments &

Excerpts from plans

Responses to Review Comments for SR 70 Draft Design Traffic Technical Memorandum (August 2016)

Comment 1: Page 1, Last Paragraph: Please correct the typo "preminiary" in the last sentence on the page.

Response: This comment is acknowledged. The report will be revised accordingly.

Comment 2: Page 5, Step 9: Add a period to the end of the sentence to maintain consistency with the rest of the list.

Response: This comment is acknowledged. The report will be revised accordingly.

Comment 3: Page 8, Paragraph 2: Remove the comma after "were balanced" in the second sentence of the paragraph.

Response: This comment is acknowledged. The report will be revised accordingly.

Comment 4: Page 8, Paragraph 2: Remove the word "the" before "Manatee County" in the third sentence of the paragraph.

Response: This comment is acknowledged. The report will be revised accordingly.

Comment 5: Page 8, Paragraph 2: Please state the version of Synchro used in the analysis.

Response: This comment is acknowledged. The report will be revised accordingly.

Comment 6: Page 8, Paragraph 3: Correct "provide" to "provides" and "type" to "types" in the first sentence of the paragraph.

Response: This comment is acknowledged. The report will be revised accordingly.

Comment 7: Page 8, Last Bullet: It is unclear whether "3 axle Trailers (2 or 3 axle Trailers)" should actually read "3 axle Tractors (with 2 or 3 axle Trailers)". Please revise if necessary.

Response: This comment is acknowledged and 3 axle Trailers will be revised to 3 axle Tractors.

Comment 8: Page 9, Paragraph 1: The discussion indicates that 2014 axle adjustment and seasonal adjustment factors were used. The 2015 dataset from FDOT has been available since early summer. Please provide an explanation as to why the 2014 values were utilized.

Response: When the existing conditions report was completed (in the first half of 2016), 2014 was the only available dataset at the time.

Comment 9: Page 16, Paragraph 1: The paragraph mentions balancing the existing year traffic; however, the traffic is not balanced between the study intersections. Please

provide reasoning as to why these intersection volumes are not balanced and revise discussion in the document as needed.

Response: This comment is acknowledged. Removed balancing reference.

Comment 10: Page 16, Paragraph 2: Replace "corridors" "corridor and intersections" in the first sentence of the paragraph. Additionally, this paragraph states that Synchro was used to analyze the corridor, however HIGHPLAN was used for segment analysis. Please include this in the paragraph.

Response: This comment is acknowledged. The report will be revised accordingly.

Comment 11: Page 16, Paragraph 3: Since most of the study intersections are unsignalized, it would be beneficial to also list the unsignalized intersection delay criteria in this paragraph.

Response: This comment is acknowledged. We will add the LOS criteria for unsignalized intersections in the report.

Comment 12: Page 16, Paragraph 4: Remove the word "the" before "Manatee County" in the last sentence of the paragraph.

Response: This comment is acknowledged. The report will be revised accordingly.

Comment 13: Page 18, Paragraph 1: This paragraph is a duplicate of the previous paragraph on Page 16. Please remove.

Response: This comment is acknowledged. The report will be revised accordingly.

Comment 14: Page 18, Paragraph 2: Please remove the second reference to "AM peak hour" at the end of the second sentence of the paragraph.

Response: This comment is acknowledged. The report will be revised accordingly.

Comment 15: Page 19, Table 3: In Note 3, please clarify whether the "worst case" results shown in the table are approach delay/LOS or movement delay/LOS.

Response: We will change the note for this clarification.

Comment 16: Page 20, Arterial LOS Analysis: Why was HIGHPLAN chosen as an analysis tool over the HCS two-lane highway module? Additionally, HIGHPLAN was used to calculate DDHVs for the analysis of existing conditions. Why weren't the actual peak hour traffic volumes used in this analysis?

Response: FDOT has reviewed the existing conditions report and approved the analysis tools. Moreover, HighPlan is recognized as one the FDOT tools to conduct planning level analysis. The estimated existing AADT was used to evaluate average conditions instead of a "single point in time" conditions. In any case, the average conditions are not significantly different from the conditions when the existing TMCs were conducted.

Comment 17: Existing HIGHPLAN Analysis: Throughout the existing segment analysis, a posted speed of 55 is used which is inconsistent with the field posted speed of 60 mph.

Response: This comment is acknowledged. The report will be revised accordingly. Please note that the posted speed limit is 50 between Lorraine Rd and Greenbrook Blvd and 60 east of Greenbrook Blvd.

Comment 18: Page 21, Paragraph 3, first sentence: Insert a comma after "D".

Response: This comment is acknowledged. The report will be revised accordingly.

Comment 19: Page 24, Section 4.3.1: A rounded DHT of 7% is recommended since analysis tools such as HCS and Synchro do not allow decimal percentage inputs for truck factors.

Response: We showed 7.1% to illustrate that DHT is half of Daily Truck Traffic.

Comment 20: Page 26, Table 9: The number of crashes reported in the table for Injury Crashes (2013 and 2015), Dark Condition Crashes (2012 and 2014), and Wet Condition Crashes (2012-2015) are inconsistent with the information provided in Appendix G. Please explain or revise as necessary.

Response: This comment is acknowledged. The table will be revised accordingly.

Comment 21: Page 26, Last paragraph: Please revise "most" to "greatest" or "highest" in the phrase "most number of crashes" in the second sentence of the paragraph.

Response: This comment is acknowledged. The report will be revised accordingly.

Comment 22: Page 29, Crash Rate Equation: Please correct the spelling of "Length" in the Crash Rate of Segment equation.

Response: This comment is acknowledged. The report will be revised accordingly.

Comment 23: Page 31: The header on this page reads "US 41 DDTM" please revise.

Response: This comment is acknowledged. The report will be revised accordingly.

Comment 24: Page 32, Bullet 5: Please revise "bases" to "based".

Response: This comment is acknowledged. The report will be revised accordingly.

Comment 25: Page 33, Table 13: For "Divided Arterial", the table contains a percent error for the "Before" condition and a "N/A" for the "After" condition. Please provide an explanation for why this category is no longer applicable.

Response: As mentioned in section 6.2.1.1, the facility type for University Pkwy was changed to 43 as part of the validation process. Therefore, there is no value to report for facility type (2X) under the validated scenario.

Comment 26: Page 34, Last Paragraph: Please revise "was" to "were" in the first sentence of the paragraph.

Response: This comment is acknowledged. The report will be revised accordingly.

Comment 27: Page 37, Paragraph 2: Please revise the last sentence of the paragraph to "A growth rate of about 1.57% was observed along CR 675."

Response: This comment is acknowledged. The report will be revised accordingly.

Comment 28: Page 37-39, Paragraph 4 and Tables 15 and 16: While it is true that the observed growth rates along the study roadway vary, it seems that they could be grouped into segments with similar growth rates to simplify the traffic development, balancing, and analysis. For example under No-Build conditions:

1. West of Lorraine Road: 4%
2. Lorraine Road to Del Webb Blvd: 2.54%
3. Del Webb Blvd to CR 675: 0.60%
4. East of CR 675: 1.29%

Similar grouping could be conducted for the Build Conditions for the segments from West of Lorraine Road to Del Webb and from Del Webb to East of CR 675.

Response: Please note that FDOT has approved the growth rates as part of the existing conditions report. Moreover, grouping the growth rates will result in insignificant difference in the traffic projections.

Comment 29: Page 41, Last Sentence: Revise "provide" to "provides" for subject-verb agreement.

Response: This comment is acknowledged. The report will be revised accordingly.

Comment 30: Page 42, Figure 8: The font in the AADT labels for Greenbrook Blvd. south of SR 70 and those for the segment between Greenbrook Blvd and Del Webb are inconsistent with the remaining labels on the figure. Additionally, the AADTs for Lindrick Ln are overlapping the road name label. Please review and revise as necessary.

Response: This comment is acknowledged. The Figure will be revised accordingly.

Comment 31: Page 43, Figure 9: The font in the AADT labels for Greenbrook Blvd. south of SR 70 and those for CR 675 are inconsistent with the remaining labels on the figure. Please review and revise as necessary.

Response: This comment is acknowledged. The figure will be revised accordingly.

Comment 32: Pages 42-43, Figures 8 and 9: Please add AADT labels for Del Webb Blvd.

Response: AADT volumes will be shown for Del Webb Blvd. Please note that (as directed by FDOT) existing counts were not collected for Del Webb (as there is no existing traffic). The 2040 model volumes were assumed for this road for 2043 No Build and Build conditions.

Comment 33: Turns5 Volume Development: The following were found during review of the Turns5 input and output sheets provided in the appendix:

No-Build AM:

1. For SR 70 at Lorraine Road, the growth rate used for the side street (Lorraine Road) was 4%, this is inconsistent with the growth rate provided in Table 15 which was 5.03% north of SR 70 and 5.52% south of SR 70.
2. For SR 70 at Del Webb Blvd, the 2016 AADT used as the input for the WB approach is inconsistent with the AADTs shown on the figures. This value should be 13,000. The existing EB and WB through volumes do not appear to be consistent with the EB and WB through volumes between Greenbrook Blvd and Linkdrick Lane. Based on departing volumes, link volumes at this location would be 405 EB and 730 WB; based on arriving volumes, link volumes would be 325 EB and 695 WB. Please review and revise. Additionally, no inputs could be verified for the Del Webb northbound approach as no information is provided in the figures.
3. For SR 70 at CR 675, the side street growth rate used is 0.60% which is inconsistent with the recommended model growth rate of 1.57% shown in Table 15. Please revise.

Response: We used the AADTs listed in the TURNS5 sheet, which are consistent with the AADTs and growth rates shown in the report. Please note that Del Webb Blvd does not carry any volume in the existing conditions and as such the existing TMC percentages are estimates (taken from the model) used to calculate the future projections at SR 70 and Del Webb Rd intersection.

No-Build PM

1. For SR 70 at Lorraine Road, the growth rate used for the side street (Lorraine Road) was 4%, this is inconsistent with the growth rate provided in Table 15 which was 5.03% north of SR 70 and 5.52% south of SR 70.
2. For SR 70 at Greenbrook Blvd, the side street D factor peak direction is northbound for both AM and PM, for design hour traffic the AM and PM should display opposite peak directions. Please review and revise.
3. For SR 70 at Del Webb Blvd, the 2016 AADT used as the input for the WB approach is inconsistent with the AADTs shown on the figures. This value should be 13,000. The existing EB and WB through volumes do not appear to be consistent with the EB and WB through volumes between Greenbrook Blvd and Linkdrick Lane and are identical to those used for the AM. Based on departing volumes, link volumes at this location would be 638 EB and 380 WB; based on arriving volumes, link volumes would be 671 EB and 444 WB. Please review and revise. Additionally, no inputs could be verified for the Del Webb northbound approach as no information is provided in the figures.
4. For SR 70 at 225th St. E, the side street D factor peak direction is northbound for both AM and PM, for design hour traffic the AM and PM should display opposite peak directions. Please review and revise.
5. For SR 70 at CR 675, the side street growth rate used is 0.60% which is inconsistent with the recommended model growth rate of 1.57% shown in Table 15. Please revise.

Response: We used the AADTs listed in the TURNS5 sheet which are consistent with the AADTs and growth rates shown in the report. Please note that Del Webb Blvd does not carry any volume in the existing conditions and as such the existing TMC percentages are estimates (taken from the model) used to calculate the future projections at SR 70 and Del Webb Rd intersection.

Greenbrook Blvd and 225th St are very low volume roads and Northbound is the peak direction under both AM and PM peak periods based on the existing conditions.

Build AM and PM

1. The mainline and side street growth rates in the Turns5 output files for the Build AM and PM match the inputs used for the No-Build. As such, these are inconsistent with the growth rates shown in Table 16. Please review and revise as necessary.

Response: We used the AADTs listed in the TURNS5 sheet which are consistent with the AADTs and growth rates shown in the report.

Build AM

1. For SR 70 at Del Webb Blvd, the 2016 and 2043 AADTs used as the input for the WB approach are inconsistent with the AADTs shown on the figures. This value should be 13,000 and 18,000 for 2016 and 2043, respectively. The existing EB and WB through volumes do not appear to be consistent with the EB and WB through volumes between Greenbrook Blvd and Linkdrick Lane. Based on departing volumes, link volumes at this location would be 405 EB and 730 WB; based on arriving volumes, link volumes would be 325 EB and 695 WB. Please review and revise. Additionally, no inputs could be verified for the Del Webb northbound approach as no information is provided in the figures.
2. For SR 70 at CR 675, the existing EBR turning movement is inconsistent with that provided in Figure 6. Please review and revise.

Response: Please note that Del Webb Blvd does not carry any volume in the existing conditions and as such the existing TMC percentages are estimates (taken from the model) used to calculate the future projections at SR 70 and Del Webb Blvd intersection. We used 19,000 (instead of 18,000) to satisfy the criteria (that is needed to make TURNS5 work). Moreover, the distance between Greenbrook Blvd and Del Webb Blvd and between Del Webb Blvd and Lindrick Ln is significant to warrant a different AADT.

The TURNS5 sheet will be revised to 3 vehicles for the EBR under AM Build alternative.

Build PM

1. For SR 70 at Greenbrook Blvd, the side street D factor peak direction is northbound for both AM and PM, for design hour traffic the AM and PM should display opposite peak directions. Please review and revise.
2. For SR 70 at Del Webb Blvd, the 2016 and 2043 AADTs used as the input for the WB approach are inconsistent with the AADTs shown on the figures. This value should be 13,000 and 18,000 for 2016 and 2043, respectively. The existing EB and WB through volumes do not appear to be consistent with the EB and WB through volumes between Greenbrook Blvd and Linkdrick Lane and are identical to those used for the AM. Based on departing volumes, link volumes at this location

would be 638 EB and 380 WB; based on arriving volumes, link volumes would be 671 EB and 444 WB. Please review and revise. Additionally, no inputs could be verified for the Del Webb northbound approach as no information is provided in the figures.

3. For SR 70 at 225th St. E, the side street D factor peak direction is northbound for both AM and PM, for design hour traffic the AM and PM should display opposite peak directions. Please review and revise.

Response: Please note that Del Webb Blvd does not carry any volume in the existing conditions and as such the existing TMC percentages are estimates (taken from the model) used to calculate the future projections at SR 70 and Del Webb Blvd intersection. We used 19,000 (instead of 18,000) to satisfy the criteria (that is needed to make TURNS5 work). Moreover, the distance between Greenbrook Blvd and Del Webb Blvd and between Del Webb Blvd and Lindrick Ln is significant to warrant a different AADT.

Greenbrook Blvd and 225th St are very low volume roads and Northbound is the peak direction under both AM and PM peak periods based on the existing conditions.

Comment 34: General Turns5 Traffic Development: The "Desired Closure" user input varied by intersection and by peak period throughout the study area. These values ranged from 0.01 to 7.00. The recommended value for this input is 0.01 which is sited in the documentation distributed with the Turns5 spreadsheet tool. Please provide an explanation for the significant variation in values.

Response: With very volume side streets, we had to use a desired closure input of higher than 0.01. This was one of the reasons we adjusted the TURNS5 output for reasonableness.

Comment 35: General Turns5 Traffic Development: Nearly all of the DHVs provided by Turns5 have been manually adjusted. Please provide some discussion within the document describing the methodology used to determine whether the output was adjusted as well as the procedure followed to adjust the output to the final proposed DHVs.

Response: The TURNS5 outputs are manually adjusted to make sure that the opening year volumes are higher than existing and to reduce volume gaps between study intersections (because of the very low side streets, higher closure values). In any case, the adjustments were not very significant and will not change any study conclusions.

Comment 36: Page 45, Figure 10: The PM peak hour volumes for the eastbound through and eastbound right movements at 225th St. do not match the Turns5 output provided in the appendix. Please explain or revise as needed.

Response: The TURNS5 output sheet will be revised accordingly.

Comment 37: Page 48, Figure 13, The PM peak hour volume for the northbound left movement at Lorraine Road does not match the Turns5 output provided in the appendix. Please explain or revise as needed.

Response: Figure 13 will be revised to show 398 (instead of 397).

Comment 38: Table 19: Please move Table 19 to Page 52, this will improve the flow of the document.

Response: This comment is acknowledged. However, Table 19 could not fit on page 52.

Comment 39: Section 8.1.1.2 and Section 8.2.1.2 Future Signal Requirements: Signal Warrant Studies are meant to be conducted with actual traffic counts and are to be implemented for the analysis of existing conditions. Moreover the use of Warrant 1, which is an 8-hour vehicular volume warrant, is not applicable using only peak hour forecasts. While the methodology used to determine the future hourly volumes is logical, it should be noted that each of the 8 hours in the warrant analysis (No-Build 2023) is higher than the peak hour approach volumes reported in the DTTM. Instead, it is recommended that the intersection is tested as signalized within Synchro and if the signalized intersection provides adequate operations a statement such as "it is recommended to signalize this intersection when warranted" should be added to the discussion.

Response: This comment is acknowledged. However, a preliminary signal warrant analysis was included in the study scope. Moreover, the report provides results for both "with" and "without" recommended signals.

Comment 40: General Future Year HIGHPLAN Analysis: The segment volumes used in the HIGHPLAN analysis do not correspond to the peak hour volumes provided in the figures. Since different values are being used, it would be helpful to have a figure showing the peak hour segment volumes used in the analysis and an explanation for why the hourly volumes analyzed in HIGHPLAN are different from the peak hour volumes shown in the document.

*Response: We used AADT*K*D to evaluate the peak direction design hour conditions. Moreover, the difference between segment volumes derived from turning movement and segment volumes derived from AADT and design characteristics is very insignificant and will not change the LOS results.*

Comment 41: Page 57, Paragraph 1: Please revise the first two sentences of the paragraph for clarity. For example: "Intersection operations were evaluated under the Build Alternative. The Build Alternative improvements include widening SR 70 from two lanes to four lanes throughout the project study area as well as the following additional improvements at the Lorraine Road intersection…"

Response: This comment is acknowledged. The report will be revised accordingly.

Comment 42: Table 22: Please move Table 22 to Page 58, this will improve the flow of the document.

Response: This comment is acknowledged. The report will be revised accordingly.

Comment 43: Page 57, Paragraph 3: Please revise "upto" to "until" in the first sentence of the paragraph.

Response: This comment is acknowledged. The report will be revised accordingly.

Comment 44: Page 59, Paragraph 1: Please revise "upto" to "until" in the third sentence of the paragraph.

Response: This comment is acknowledged. The report will be revised accordingly.

Comment 45: Page 63, Paragraph 2: Please add some detail regarding the lane configuration assumed for the roundabout at Lorraine Road.

Response: We will add details regarding the roundabout lane configuration at Lorraine Road for both No Build and Build conditions. Please note that the preliminary SIDRA analysis shows that a roundabout at SR 70 and Lorraine is projected to fail under 2043 No Build and Build conditions.

Comment 46: Page 65-66: Please revise the sentences on these pages that start with "Majority" to "The majority".

Response: This comment is acknowledged. The report will be revised accordingly.

Comment 47: Page 69, Table 28: Please revise "converting" to "convert" in the third bullet point in the table.

Response: This comment is acknowledged. The report will be revised accordingly.

Comment 48: Page 70, Table 29: Please revise the title of the table to "Recommended Queue **Storage** Lengths for Turn Lanes at Signals – Build Alternative" for clarity.

Response: This comment is acknowledged. The report will be revised accordingly.

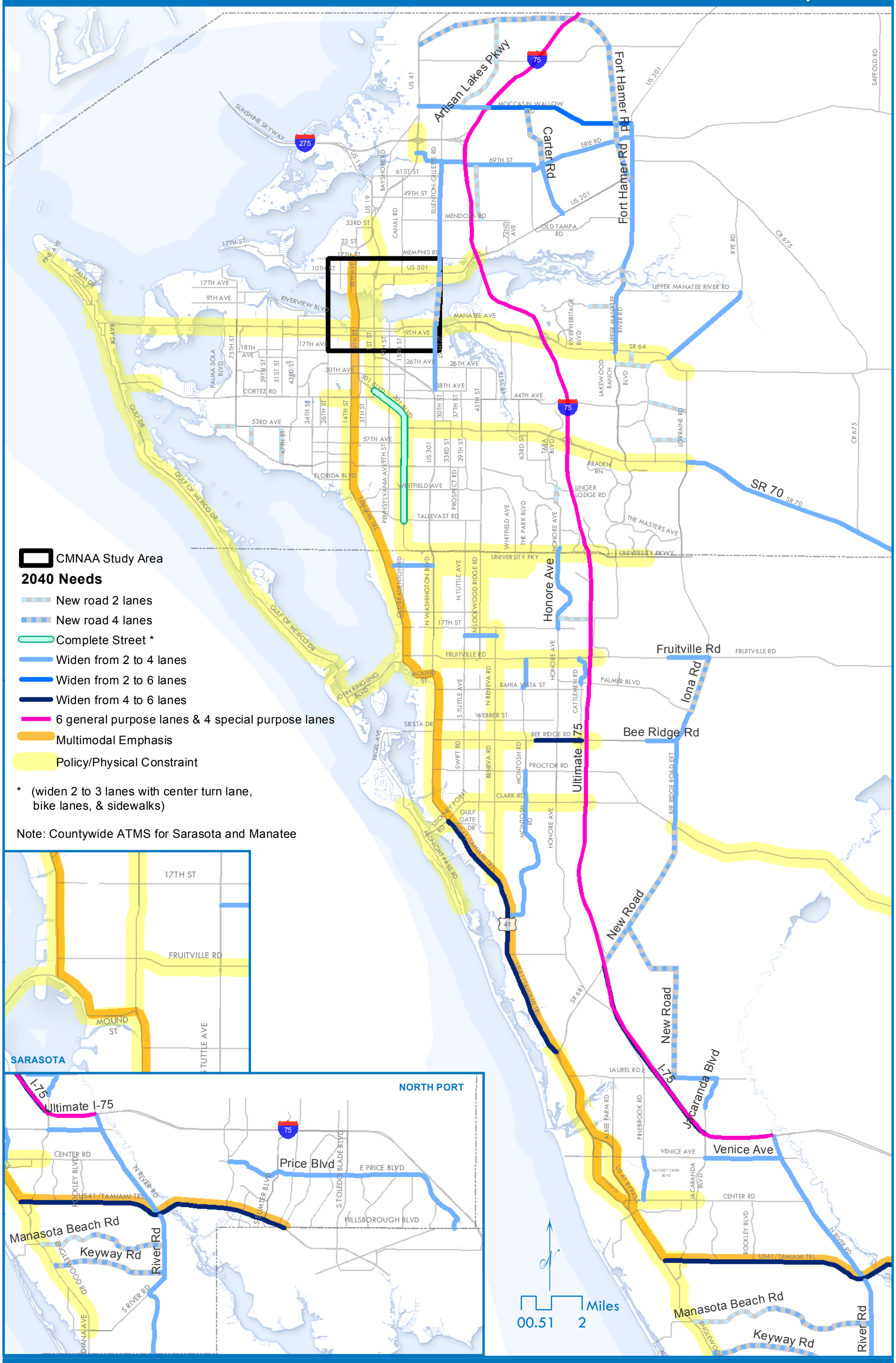
Comment 49: Page 70, Table 29: The table lists queue storage recommendations for the NBR movement however this movement was not analyzed in the backup documentation provided in the Appendix. Should this be NBL? Please review and revise as needed.

Response: This comment is acknowledged. NBR will revised to NBL.

Comment 50: Page 71, Figure 16: There is no reference to this figure within the document. Please include a discussion and a reference to this figure or remove it from the document.

Response: This comment is acknowledged. We will add a discussion about figure 16 in the report.

2040 Roadway Needs



RENAISSANCE PLANNING GROUP

8/2015

Florida Department of

TRANSPORTATION

Office of Work Program and Budget Lisa Saliba - Director

Five Year Work Program

Selection Criteria	
All in State (Updated: 2/17/2016-21.15.02)	2016-2021 G1 Item Number:414506-2

Display current records in a Report Style
Display current records in an Excel Document

Project Summary

Transportation System: INTRASTATE STATE HIGHWAY — District 01 - Manatee County
Description: SR 70 FROM LORRAINE RD TO CR 675/WATERBURY ROAD
Type of Work: PD&E/EMO STUDY — View Scheduled Activities
Item Number: 414506-2 — **Emerging SIS**
Length: 6.091 — View Map of Item

Project Detail

Fiscal Year:	2016	2017	2018	2019	2020	2021
Highways/PD & E						
Amount:	$5,000	$1,630,000				
Highways/Preliminary Engineering						
Amount:		$3,600,000				
Highways/Right of Way						
Amount:				$10,945,385		
Item Total:	$5,000	$5,230,000		$10,945,385		

This site is maintained by the Office of Work Program and Budget, located at 605 Suwannee Street, MS 21, Tallahassee, Florida 32399. For additional information please e-mail questions or comments to:
(Lisa Saliba: Lisa.Saliba@dot.state.fl.us or call 850-414-4622)
View Contact Information for Office of Work Program and Budget

Application Home: Work Program
Office Home: Office of Work Program and Budget

Florida Department of Transportation
Consistent, Predictable, Repeatable

Table 3-18: Prioritization of Long-Term Freight Improvement Projects – Manatee County

Rank	County	Description	From	To	Project Type	Roadway, Railroad, Seaport, Airport Improvement?	SIS/ Emerging SIS?	Construction Costs
1	MANATEE	I-75 AT US 301			INTERCHANGE IMPROVEMENT	ROADWAY	YES	$25,000,000
2	MANATEE	I-75 AT SR 70			INTERCHANGE IMPROVEMENT	ROADWAY	YES	$25,000,000
2	MANATEE	I-75 AT SR 64			INTERCHANGE IMPROVEMENT	ROADWAY	YES	$25,000,000
4	MANATEE	I-75 PORT CONNECTOR CORRIDOR	US 41	I-75	NEW 4-LANE FACILITY	ROADWAY/ SEAPORT	NO	$82,000,000
5	MANATEE	SR 70	LORRAINE ROAD	DESOTO COUNTY LINE	WIDEN TO 4 LANES	ROADWAY	YES	$82,000,000
5	MANATEE	SR 70 AT 30TH STREET E			INTERSECTION IMPROVEMENT	ROADWAY	NO	$1,000,000
7	MANATEE	MOCCASIN WALLOW ROAD	I-75	US 301	WIDEN TO 4 LANES	ROADWAY	NO	$60,000,000
8	MANATEE	NEW MANATEE RIVER BRIDGE	MANATEE AVENUE	US 301	NEW 4-LANE BRIDGE	ROADWAY	NO	$162,000,000
9	MANATEE	SR 684	SR 789 (GULF DRIVE)	123RD STREET W	REPLACE MOVABLE SPAN BRIDGE	ROADWAY	NO	$10,000,000
9	MANATEE	SR 64	SR 789 (GULF DRIVE)	PERICO BAY BOULEVARD	BRIDGE REPLACEMENT	ROADWAY	NO	$10,000,000
11	MANATEE	US 301	CR 675	MOCASSIN WALLOW ROAD	WIDEN TO 4 LANES	ROADWAY	NO	$13,000,000

STRATEGIC INTERMODAL SYSTEM
COST FEASIBLE PLAN 2024-2040

ID	FACILITY	FROM	TO	Design			District Managed Funds			State Managed Funds			State Managed P3 Funds			Other Funds	IMPRV TYPE	Project Phasing			
				PDE	PE	TOTAL	ROW	CON	TOTAL	ROW	CON	TOTAL	COST	Begin Yr	#Yrs	TOTAL		PDE	PE	ROW	CON
909	I-75	at Fruitville Rd						81,088	**81,088**	35,693		**35,693**					M-INCH				
1248	SR 82	Homestead Rd S	Hendry C/L					29,484	**29,484**								A4-6				
1256	SR 29	Collier C/L	CR 832 (Keri Rd)							11,716		**11,716**					A2-4				
1257	SR 29	CR 832 (Keri Rd)	Spencer							3,790		**3,790**					A2-4				
1258	SR 29	Spencer	N of Cowboy Way					38,110	**38,110**								A2-4				
1259	SR 710	US 441	L-63 Canal					41,825	**41,825**								NR				
1287	I-75	at Bee Ridge Rd									72,980	**72,980**					M-INCH				
1288	I-75	at SR 72 (Clark Rd)						98,853	**98,853**								M-INCH				
1385	SR 29	Bermont Rd (CR 74)	US 27							1,900		**1,900**					A2-4				
1392	US 27	CR 630A	Presidents Dr					49,968	**49,968**								A2-6				
1383	SR 29	CR 80-A (Cowboy Way)	Whidden Rd (CR 731)					170,567	**170,567**								A2-4				
1387	I-75	at SR 951									76,348	**76,348**					M-INCH				
1391	US 27	Highlands C/L	CR 630A					85,475	**85,475**								A2-6				
1689	I-4	North Socrum Loop Road	SR 570 (Polk Pkwy)		3,866	**3,866**					1,262,201	**1,262,201**					A4-SUL				
969	US 17	Copley Drive	N of CR 74 (Bermont Rd)	1,077	1,031	**2,108**											A2-6				
1379	SR 29	I-75	Oil Well Rd		6,186	**6,186**	3,630		**3,630**								A2-4				
1386	SR 70	Jefferson Ave	CR 29		4,124	**4,124**											A2-4				
1403	I-4	SR 570 (Polk Pkwy)	US 27 (SR 25)		1,675	**1,675**		645,421	**645,421**								A4-SUL				
1589	SR 70	Lorraine Rd	Singletary Rd (Myakka City)		8,764	**8,764**											A2-4				
1590	SR 70	Singletary Rd (Myakka City)	American Legion Dr (Arcadia)	3,093	10,826	**13,919**											A2-4				
1591	SR 70	American Legion Dr (Arcadia)	Jefferson Ave	5,155	18,455	**23,610**											A2-4				
1592	SR 70	CR 29	US 98 (Eagle Bay Dr)	5,155	18,558	**23,713**											A2-4				
1593	SR 60	CR 630	Kissimmee River Bridge		4,640	**4,640**											A2-4				
1688	I-4	SR570 (Polk Pkwy)	North Socrum Loop Road		2,578	**2,578**					973,070	**973,070**					A4-SUL				
Funded CFP Totals				**95,183**			**1,244,421**			**2,437,698**											

LEGEND

FY 2025/2026 - 2029/2030	Mega Projects Phased Over Time
FY 2030/2031 - 2034/2035	Programmed, Planned, or Completed
FY 2035/2036 - 2039/2040	Unfunded Needs Plan

INFLATION FACTORS

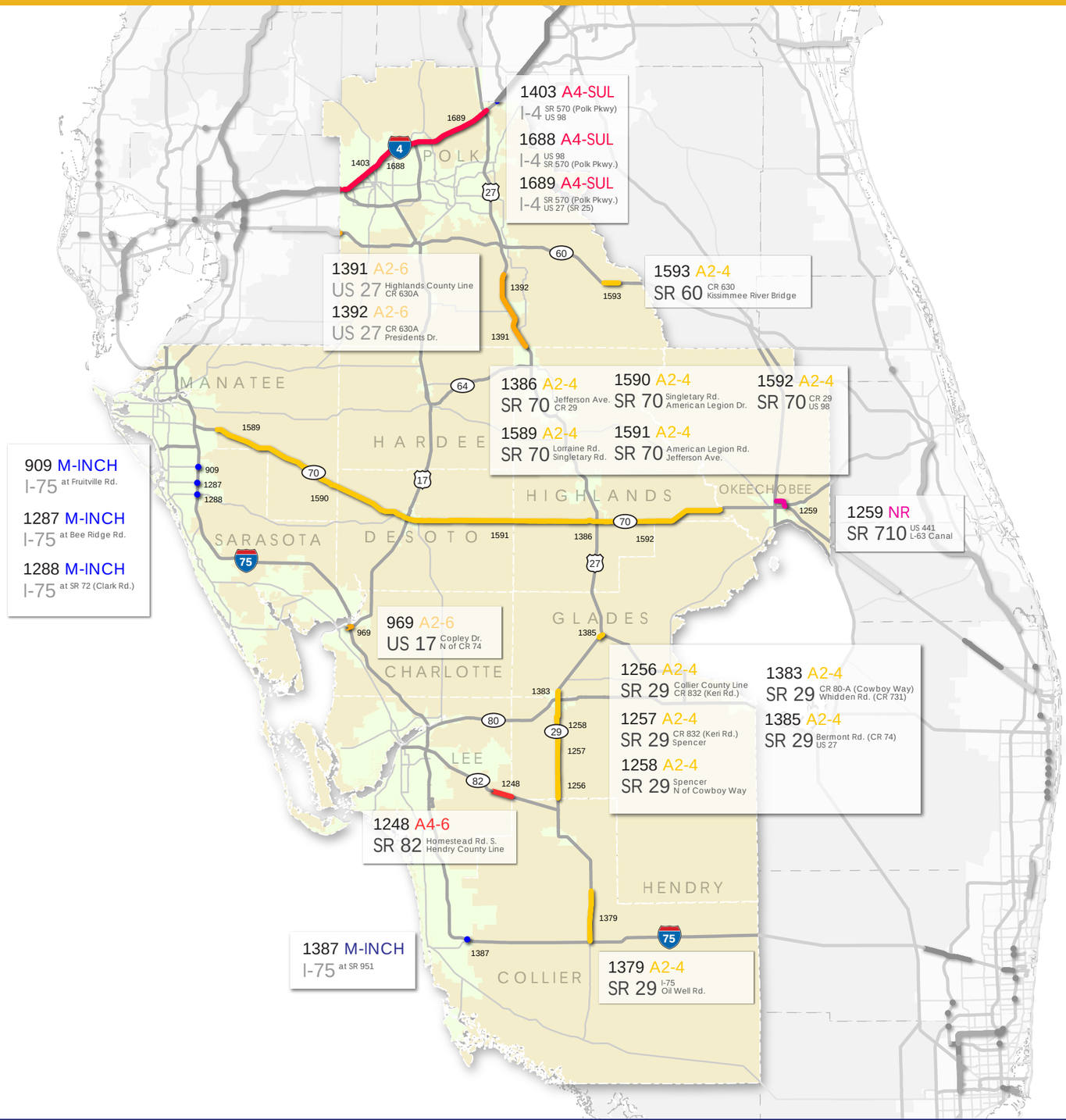
FY 2027/2028 - 1.430
FY 2032/2033 - 1.683
FY 2037/2038 - 1.979

NOTES

(1) Values in thousands of dollars in the year of expenditure, inflated to the middle year in each band.
(2) All phase costs shown as supplied by each District.
(3) CON includes both Construction (CON52) and Construction Support (CEI).
(4) ROW includes both Right-of-Way Acquisition/Mitigation (ROW43/45) and Right-of-Way Support.
(5) Project costs are subject to change.
(6) Revenue forecast provides separate values for PDE and PE than for ROW and CON. Therefore these phases have been separated in this table.
(7) Other Funds- assumed to be toll revenue or partner funded.
(8) Project Phasing- "COMP"- project underway or complete.

IMPROVEMENT TYPES

A2-4: Add 2 Lanes to Build 4
A2-6: Add 2 Lanes to Build 6
A2-8: Add 2 Lanes to Build 8
A4-6: Add 4 Lanes to Build 6
A2-SUL: Add 2 Special Use Lanes
A4-SUL: Add 4 Special Use Lanes
BRIDGE: Bridge
M-INCH: Modify Interchange
N-INCH: New Interchange
MGLANE: Managed Lanes
MCON: Modify Connector
NR: New Road
UP: Ultimate Improvement



IMPROVEMENT TYPE

- A2-4 - Add 2 Lanes to Build 4
- A2-6 - Add 2 Lanes to Build 6
- A4-6 - Add 4 Lanes to Build 6
- A4-SUL - Add 4 Special Use Lanes
- NR - New Road
- M-INCH - Modify Interchange

OTHER FEATURES

- SIS Highways
- Other State Highways
- Urban Areas

PROJECT LABELS

Project ID — 934 A2-4 — Improvement Type
Facility — SR 40 SR 326 (Silver Springs) CR 314 — Limits

N W E S

0 5 10 20 miles

Appendix B

Straight Line Diagrams & RCI Data

STRAIGHT LINE DIAGRAM OF ROAD INVENTORY

FLORIDA DEPARTMENT OF TRANSPORTATION DISTRICT ONE MAINTENANCE STATISTICS OFFICE

	5 YR INV	SLD REV	INTERIM REVISIONS BMP	EMP	INV	SLD REV
DATE	04/25/13	05/02/13	0.000	15.567	12/18/14 FC	12/18/14 FC
BY	FTE	FTE				

INT. or US ROUTE NO	STATE ROAD NO.	COUNTY	DISTRICT	ROADWAY ID	SHEET NO. / OF.
	SR 70	MANATEE	1	13160000	1 / 3

0 – 2

INSIDE URBAN, OUTSIDE CITY
* SARASOTA-BRADENTON
*|<=53RD AVE/ONECO RD
*|<SR 70

INSIDE URBAN, OUTSIDE CITY
* SARASOTA-BRADENTON
*|<=SR-70
*|<SR 70

ROADWAY FEATURES

301 BLVD/15TH ST E 0.000 | 15TH 0.058 | 16TH 0.107 | ST CT E 0.058 | ST E 0.107 | ST CT E 0.223 | RR624690-D 0.258 | 17TH 0.223 | 18TH ST E 0.285 | 18TH ST BLVD E 0.340 | 18TH ST CT E 0.317 | 20TH ST CT E 0.470 | 20TH ST CT E 0.464 | 22ND ST E 0.623 | ST CT E 0.643 | 22ND 0.643 | US POST OFFICE ENT 0.771 | 24TH ST E 0.771 | 24TH ST CT E 0.833 | 26TH ST E 0.865 | 301 683 BLV 1.001 | 15ST 1.001 | 301 683 | WALMART ENT 1.248 | SAM'S CLUB ENT 1.248 | 31ST ST CT E 1.402 | 32ND ST E 1.466 | ST E 1.525 | 33RD 1.525 | MANATEE TOWN CTR ENT 1.617 | 34TH ST E 1.617 | 35TH ST E 1.717 | 36TH ST E 1.773 | ST E 1.875 | 37TH 1.875 | PERIDIA BLVD E 2.017 | OFFICE PARK BLVD 2.130 | CREEK | JEFFS | 42ND ST CT E 2.323 | 39TH ST E 2.311 | 44TH ST E 2.450 | 45TH ST E 2.538 | LOCKWOOD RIDGE RD 2.538 | 46TH ST CT E 2.683 | 47TH ST E 2.758 | ENT TO FDRESTRY SER 2.830

LANE WIDTHS ARE AVERAGED

0.000 104.0' – 72.0' 6 – 12.0' RDWY 20.0 TFSP MED 2 – 1.0' PVD INSHLD1 2 – 4.0' PVD SHLD1 2 – 2.0' C&G SHLD2

0.223 104.0' – 72.0' 6 – 12.0' RDWY 20.0 CB&VEG MED 2 – 2.0' C&G INSHLD1 2 – 4.0' PVD SHLD1 2 – 2.0' C&G SHLD2

0.340 104.0' – 72.0' 6 – 12.0' RDWY 20.0 CB&VEG MED 2 – 2.0' C&G INSHLD1 2 – 4.0' PVD SHLD1 2 – 2.0' C&G SHLD2

0.537 104.0' – 72.0' 6 – 12.0' RDWY 20.0 TFSP MED 2 – 1.0' PVD INSHLD1 2 – 4.0' PVD SHLD1 2 – 2.0' C&G SHLD2

0.771 109.0' – 72.0' 6 – 12.0' RDWY 25.0 TFSP MED 2 – 1.0' PVD INSHLD1 2 – 4.0' PVD SHLD1 2 – 2.0' C&G SHLD2

1.001 114.0' – 72.0' 6 – 12.0' RDWY 30.0 TFSP MED 2 – 4.0' PVD SHLD1 2 – 2.0' C&G SHLD2

1.248 104.0' – 72.0' 6 – 12.0' RDWY 20.0 CB&VEG MED 2 – 2.0' C&G INSHLD1 2 – 4.0' PVD SHLD1 2 – 2.0' C&G SHLD2

1.525 114.0' – 72.0' 6 – 12.0' RDWY 30.0 TFSP MED 2 – 1.0' PVD INSHLD1 2 – 4.0' PVD SHLD1 2 – 2.0' C&G SHLD2

1.651 104.0' – 72.0' 6 – 12.0' RDWY 20.0 CB&VEG MED 2 – 2.0' C&G INSHLD1 2 – 4.0' PVD SHLD1 2 – 2.0' C&G SHLD2

2.311 104.0' – 72.0' 6 – 12.0' RDWY 20.0 TFSP MED 2 – 1.0' PVD INSHLD1 2 – 4.0' PVD SHLD1 2 – 2.0' C&G SHLD2

2.830 104.0' – 72.0' 6 – 12.0' RDWY 20.0 CB&VEG MED 2 – 2.0' C&G INSHLD1 2 – 4.0' PVD SHLD1 2 – 2.0' C&G SHLD2

ROADWAY COMPOSITION	28/FC-4
	28/FC-4
HORIZONTAL ALIGNMENT	CURVE DATA IS NOT FIELD VERIFIED
	B=S89°04'50"E
	PC=2.049 PI=2.112 PT=2.150 Δ=19°45'00.00" D=4°00'00 00
	Δ=19°59'15.00" D=4°00'00 00 PC=2.263 PI=2.316 PT=2.350 B=S89°19'05"E
STRUCTURE DESCRIPTION	2.214 2.223 2-2 CBC *0058
DISTRICT USE	
SIS	
FUN CLASS	0.000 URBAN PRIN ART OTHER

3 – 6

ROADWAY FEATURES

5IST ST E 3.047 | FAIRFIELD BLVD 3.047 | WEST WINDS MHP ENT 3.145 | WAY 3.310 | NATALIE 3.310 | RIVER | BRADEN | 56TH CT E 3.515 | CEMENTERY ENT 3.690 | CARUSD RD/ 60TH ST E 3.800 | RIV LANDINGS CTR ENT 3.917 | MANATEE TECH CNTR 4.046 | BRADEN RIV RD/ 63RD E 4.046 | 0383 4.200 | 66TH ST E 4.351 | 68 ST E 4.388 | FAIRWAY GARDENS DR 4.388 | 71 ST E 4.622 | FAIRWAY GARDENS DR 4.578 | 72NDBLVD E/ CREEKWOOD 4.807 | TARA BLVD 4.807 | SHOPPING CTR ENT 4.967 | 12 OAKS PLZ 4.967 | INTERSTATE 75 93 | RP* 13075008 5.260 | 4-766 TURNOUT | RP* 13075006 5.324 | RP* 13075005 5.483 | RP* 13075007 5.629 | TURNOUT 5.549 | 5.212 RP* 13075004 | 5.579 RP* 13075003 | LENA RD 5.807 | RANCH LAKE BLVD 5.822 | 87TH ST E/ RA LAKE BL 5.957 | RANCH LAKE PLZ 5.957

LANE WIDTHS ARE AVERAGED

3.579 152.0' – 72.0' 6 – 12.0' RDWY 41.0 CB&VEG MED 2.0' C&G INSHLD1 – RT 10.0' PVD SHLD1 – LT 5.0' PVD SHLD1 – RT 2 – 12.0' LWN SHLD2

3.800 139.0' – 72.0' 6 – 12.0' RDWY 40.0 VEG MED 4.0' PVD SHLD1 – LT 5.0' PVD SHLD1 – RT 12.0' LWN SHLD2 – LT 6.0' LWN SHLD2 – RT

4.046 146.0' – 72.0' 6 – 12.0' RDWY 40.0 VEG MED 2 – 5.0' PVD SHLD1 2 – 12.0' LWN SHLD2

4.388 139.0' – 72.0' 6 – 12.0' RDWY 40.0 VEG MED 5.0' PVD SHLD1 – LT 4.0' PVD SHLD1 – RT 12.0' LWN SHLD2 – LT 6.0' LWN SHLD2 – RT

4.510 146.0' – 72.0' 6 – 12.0' RDWY 40.0 VEG MED 2 – 5.0' PVD SHLD1 2 – 12.0' LWN SHLD2

4.622 146.0' – 72.0' 6 – 12.0' RDWY 40.0 CB&VEG MED 2 – 2.0' C&G INSHLD1 2 – 5.0' PVD SHLD1 2 – 12.0' LWN SHLD2

4.807 137.0' – 72.0' 6 – 12.0' RDWY 42.0 CB&VEG MED 2 – 4.0' PVD INSHLD1 2 – 2.0' C&G INSHLD2 4.0' PVD SHLD1 – LT 5.0' PVD SHLD1 – RT 2.0' C&G SHLD2 – LT 12.0' LWN SHLD2 – RT

4.967 148.0' – 72.0' 6 – 12.0' RDWY 42.0 CB&VEG MED 2 – 4.0' PVD INSHLD1 2 – 2.0' C&G INSHLD2 2 – 5.0' PVD SHLD1 2 – 12.0' LWN SHLD2

5.212 124.0' – 72.0' 6 – 12.0' RDWY 42.0 CB&VEG MED 2 – 4.0' PVD INSHLD1 2 – 2.0' C&G INSHLD2 2 – 3.0' PVD SHLD1 2 – 2.0' C&G SHLD2

5.293 132.0' – 72.0' 6 – 12.0' RDWY 48.0 CB&VEG MED 4.0' PVD INSHLD1 – LT 2.0' C&G INSHLD1 – RT 2.0' C&G INSHLD2 – LT 2 – 4.0' PVD SHLD1 2 – 2.0' C&G SHLD2

5.579 148.0' – 72.0' 6 – 12.0' RDWY 42.0 CB&VEG MED 2 – 4.0' PVD INSHLD1 2 – 2.0' C&G INSHLD2 2 – 5.0' PVD SHLD1 2 – 12.0' LWN SHLD2

5.822 126.0' – 72.0' 6 – 12.0' RDWY 42.0 CB&VEG MED 4.0' PVD INSHLD1 – LT 2.0' C&G INSHLD1 – RT 2.0' C&G INSHLD2 – LT 2 – 4.0' PVD SHLD1 2 – 2.0' C&G SHLD2

5.957 119.0' – 72.0' 6 – 12.0' RDWY 35.0 CB&VEG MED 2 – 4.0' PVD INSHLD1 2 – 2.0' C&G INSHLD2 2 – 4.0' PVD SHLD1 2 – 2.0' C&G SHLD2

ROADWAY COMPOSITION	28/FC-4
	28/FC-4
HORIZONTAL ALIGNMENT	CURVE DATA IS NOT FIELD VERIFIED
	B=S89°19'05"E
	Δ=5°46'00.00" D=1°00'00 00 PC=3.578 PI=3.632 PT=3.687 B=N89°54'55"E
	PC=4.327 PI=4.418 PT=4.510 Δ=19°21'30.00" D=2°00'00 00 B=S75°43'35"E
	Δ=1°04'14.00" D=0°20'00 00 PC=4.721 PI=4.747 PT=4.773 PC=4.651 PI=4.686 PT=4.721 Δ=1°04'14.00" D=0°20'00 00 B=S75°43'35"E
STRUCTURE DESCRIPTION	3.390 3.445 290' BR *0144
	3.871 1-18" X 0.14" CC
	4.416 1-18" X 80' CC
	4.581 3'-24" X 174' CC
	4.891 1'-9" X 3'-1" X 210' CBC
	5.411 5.424 5.437 5.450 *0067 68 BR 68 BR *0068
	5.635 1'-6" X 3'-1" X 212' CBC
DISTRICT USE	
SIS	5.438 EMERGING SIS CORRIDOR
FUN CLASS	URBAN PRIN ART OTHER

STRAIGHT LINE DIAGRAM OF ROAD INVENTORY

FLORIDA DEPARTMENT OF TRANSPORTATION DISTRICT ONE MAINTENANCE STATISTICS OFFICE

INTERIM REVISIONS					
	5 YR INV	SLD REV	BMP	EMP	INV	SLD REV
DATE	04/25/13	05/02/13	0.000	15.567	12/18/14 FC	12/18/14 FC
BY	FTE	FTE				

INT. or US ROUTE NO	STATE ROAD NO.	COUNTY	DISTRICT	ROADWAY ID	SHEET NO. / OF.
	SR 70	MANATEE	1	13160000	2 / 3

6 7 8 9

INSIDE URBAN, OUTSIDE CITY
* SARASOTA-BRADENTON
*|<=SR-70
*|<SR 70

ROADWAY FEATURES

LANE WIDTHS ARE AVERAGED

UNSIGNED A 6.318
OAK RUN DR A 6.392
FOREST RUN A 6.745
FOREST RUN A 7.003
111 ST E A 7.178
PUBLIX ENT A 7.308
RANCH BLVD A 7.448
POPE RD A 8.453
SLOUGH
WOLF
RANCH LK PLAZA A 6.089
BRADEN RUN A 6.318
RIVER CLUB BLVD A 7.003
LAKEWOOD A 7.448
PALMBRUSH TRAIL A 7.632
GREENBROOK BLVD A 8.967

6.174 114.0' – 72.0'
6 – 12.0' RDWY
30.0 CB&VEG MED
4.0' PVD INSHLD1 – LT
2.0' C&G INSHLD1 – RT
2.0' C&G INSHLD2 – LT
2 – 4.0' PVD SHLD1
2 – 2.0' C&G SHLD2

119.0' – 72.0'
6 – 12.0' RDWY
35.0 CB&VEG MED
2 – 4.0' PVD INSHLD1
2 – 2.0' C&G INSHLD2
2 – 4.0' PVD SHLD1
2 – 2.0' C&G SHLD2

6.318 136.0' – 72.0'
6 – 12.0' RDWY
30.0 CB&VEG MED
2 – 4.0' PVD INSHLD1
2 – 2.0' C&G INSHLD2
2 – 5.0' PVD SHLD1
2 – 12.0' LWN SHLD2

6.745 115.0' – 72.0'
6 – 12.0' RDWY
30.0 CB&VEG MED
2 – 4.0' PVD INSHLD1
2 – 2.0' C&G INSHLD2
5.0' PVD SHLD1 – LT
4.0' PVD SHLD1 – RT
2 – 2.0' C&G SHLD2

7.285 113.0' – 72.0'
6 – 12.0' RDWY
29.0 TFSP MED
2 – 4.0' PVD SHLD1
2 – 2.0' C&G SHLD2

7.448 135.0' – 72.0'
6 – 12.0' RDWY
29.0 TFSP MED
5.0' PVD INSHLD1 – RT
2 – 5.0' PVD SHLD1
2 – 12.0' LWN SHLD2

7.563 136.0' – 72.0'
6 – 12.0' RDWY
30.0 CB&VEG MED
2 – 4.0' PVD INSHLD1
2 – 2.0' C&G INSHLD2
2 – 5.0' PVD SHLD1
2 – 12.0' LWN SHLD2

8.236 136.0' – 72.0'
6 – 12.0' RDWY
30.0 TFSP MED
4.0' PVD INSHLD1 – LT
2 – 5.0' PVD SHLD1
2 – 12.0' LWN SHLD2

8.453 136.0' – 72.0'
6 – 12.0' RDWY
30.0 CB&VEG MED
2 – 4.0' PVD INSHLD1
2 – 2.0' C&G INSHLD2
2 – 5.0' PVD SHLD1
2 – 12.0' LWN SHLD2

ROADWAY COMPOSITION	28/FC-4 28/FC-4
HORIZONTAL ALIGNMENT	CURVE DATA IS NOT FIELD VERIFIED B=S75°43'35"E; Δ=3°10'00.00" D=0°45'00 00 PC=6.730 PI=6.770 PT=6.810; PC=6.860 PI=6.920 PT=6.940 Δ=3°10'00.00" D=0°45'00 00; B=S75°43'35"E; Δ=18°21'30.00" D=3°00'00 00 PC=7.246 PI=7.302 PT=7.362; B=N85°54'55"E
STRUCTURE DESCRIPTION	6.706 2-36' X 183' CC 8.574 8.580 CM GP *0013
DISTRICT USE	
SIS	EMERGING SIS CORRIDOR
FUN CLASS	URBAN PRIN ART OTHER

9 10 11 12

ROADWAY FEATURES

LANE WIDTHS ARE AVERAGED

LORRAINE RD A 9.476
ARBOR GREEN TRAIL 9.351
LORRAINE RD 9.476
ARBOR GREEN TR A 9.616
POST RD A 10.137
GREENBROOK BLVD 10.137
10.439 OUTSIDE CITY & URBAN
*|<=SR-70
*|<SR 70
BRADEN RIVER
BRADEN RIVER OVERFL

9.476 101.0' – 24.0'L+13.0'R
2 – 12.0'L + 1 – 13.0'R RDWY
30.0 CB&VEG MED
2 – 4.0' PVD INSHLD1
2 – 2.0' C&G INSHLD2
2 – 5.0' PVD SHLD1
2 – 12.0' LWN SHLD2

9.351 116.0' – 36.0'L+24.0'R
3 – 12.0'L + 2 – 12.0'R RDWY
30.0 CB&VEG MED
2 – 4.0' PVD INSHLD1
2 – 2.0' C&G INSHLD2
2 – 5.0' PVD SHLD1
4.0' LWN SHLD2 – LT
12.0' LWN SHLD2 – RT

9.616 58.0' – 24.0'
2 – 12.0' RDWY
2 – 5.0' PVD SHLD1
2 – 12.0' LWN SHLD2

9.915 69.0' – 11.0'L+12.0'R
1 – 11.0'L + 1 – 12.0'R RDWY
12.0 PVD MED
2 – 5.0' PVD SHLD1
2 – 12.0' LWN SHLD2

10.315 58.0' – 24.0'
2 – 12.0' RDWY
2 – 5.0' PVD SHLD1
2 – 12.0' LWN SHLD2

ROADWAY COMPOSITION	28/FC-4 (9.616) 28/FC-4 (9.915) 28/FC-4 (10.315) 28/FC-4 28/FC-4 (9.616) 28/FC-4 (9.915) 28/FC-4
HORIZONTAL ALIGNMENT	CURVE DATA IS NOT FIELD VERIFIED B=N85°54'55"E; PC=10.016 PI=10.233 PT=10.128 Δ=34°23'00.00" D=3°00'00 00 B=S59°42'05"E; Δ=14°58'00.00" D=2°00'00 00 PC=11.565 PI=11.707 PT=11.636 B=S74°40'05"E
STRUCTURE DESCRIPTION	9.041 1-42' X 152' CC 9.136 1-10' X 4' X 150' CBC 9.706 1-48' X 88' CC 10.460 1-36' X 80' CC 10.522 10.530 CM GP *0113 10.667 1-24' X 84' CC 10.972 10.980 CM GP *0114 11.923 2-30" X 88' CC
DISTRICT USE	
SIS	EMERGING SIS CORRIDOR
FUN CLASS	URBAN PRIN ART OTHER (10.439) RURAL PRIN ART OTHER

STRAIGHT LINE DIAGRAM OF ROAD INVENTORY

FLORIDA DEPARTMENT OF TRANSPORTATION DISTRICT ONE MAINTENANCE STATISTICS OFFICE

	5 YR INV	SLD REV
DATE	04/25/13	05/02/13
BY	FTE	FTE

INTERIM REVISIONS

BMP	EMP	INV	SLD REV
12.997	15.567	10/25/13	11/08/13
0.000	15.567	12/18/14 FC	12/18/14 FC

INT. or US ROUTE NO	STATE ROAD NO.	COUNTY	DISTRICT	ROADWAY ID	SHEET NO.	OF.
	SR 70	MANATEE	1	13160000	3	3

12 13 14 15 16

ROADWAY FEATURES

LANE WIDTHS ARE AVERAGED

OUTSIDE CITY & URBAN
*|<=SR-70
*|<SR 70

197TH ST E > 13.218
LINDRICK LN > 13.218
213 ST E > 14.241
TREE LUMPH ADV PARK > 14.603
225TH ST E > 15.063
PANTHER RIDGE TRIAL > 15.063
TURNOUT 15.556
WATERBURY RD
SR-70> 675 A
CR 675

END MP: 15.567
NET ROADWAY ID LENGTH: 15.567

58.0' - 24.0'
2 - 12.0' RDWY
2 - 5.0' PVD SHLD1
2 - 12.0' LWN SHLD2

12.997 66.0' - 24.0'
2 - 12.0' RDWY
12.0 PVD MED
2 - 5.0' PVD SHLD1
2 - 10.0' LWN SHLD2

13.424 54.0' - 24.0'
2 - 12.0' RDWY
2 - 5.0' PVD SHLD1
2 - 10.0' LWN SHLD2

14.020 66.0' - 24.0'
2 - 12.0' RDWY
12.0 PVD MED
2 - 5.0' PVD SHLD1
2 - 10.0' LWN SHLD2

14.697 54.0' - 24.0'
2 - 12.0' RDWY
2 - 5.0' PVD SHLD1
2 - 10.0' LWN SHLD2

14.834 67.0' - 24.0'
2 - 12.0' RDWY
13.0 PVD MED
2 - 5.0' PVD SHLD1
2 - 10.0' LWN SHLD2

15.261 54.0' - 24.0'
2 - 12.0' RDWY
2 - 5.0' PVD SHLD1
2 - 10.0' LWN SHLD2

15.450 66.0' - 24.0'
2 - 12.0' RDWY
12.0 PVD MED
2 - 5.0' PVD SHLD1
2 - 10.0' LWN SHLD2

ROADWAY COMPOSITION

28/FC-4 | 12.997 | 28/FC-4 / 28/FC-4 | 13.424 | 28/FC-4 | 14.020 | 28/FC-4 / 28/FC-4 | 14.697 | 28/FC-4 | 14.834 | 28/FC-4 / 28/FC-4 | 15.261 | 28/FC-4 | 15.450 | 28/FC-4

HORIZONTAL ALIGNMENT

CURVE DATA IS NOT FIELD VERIFIED

B=S74°40'05"E

PC=15.038
PI=15.091
PT=15.144
Δ=6°45'00.00"
D=1°12'00 00

B=S67°55'05"E

STRUCTURE DESCRIPTION

12.052 2-24" X 84" CC
12.252 2-42" X 102" CC
12.629 2-42" X 100" CC
13.028 1-30" X 88" CC
13.589 2-7' X 7'X 88" CBC
13.851 1-24" X 88" CC
14.764 1-36" X 90" CC
15.172 2-7' X 6'X 95" CBC

DISTRICT USE

SIS

EMERGING SIS CORRIDOR

EMERGING SIS CORRIDOR

15.567

FUN CLASS

RURAL PRIN ART OTHER

Roadway Characteristics Inventory

FEATURE/CHARACTERISTIC SORT

Run Date: 06/03/2016 . . Run Time: 10.51.32
Roadway ID: 13160000
Sorted By: Beg. MP, Side of Road, End. MP and Characteristic Code

FEAT NUM	BEG MP	End MP	Side	Characteristic Code	Description	Value	Unit	Tied	Last Updated	
111	000.000	015.567	C	STROADNO	STATE ROAD NUMBER	SR 70	ID		RCICNVRT	11/02/1984
112	000.000	005.412	C	FAHWYSYS	FEDERAL HIGHWAY SYSTEM CODE	5 - NHS	CD		PL934TH	10/05/2012
112	000.000	005.412	C	TRAVLWAY	TRAVEL WAY ALONG ROADWAY	7 - NHS/MAP-21 PRINCIPAL ARTERIALS	CD		PL934TH	10/04/2012
112	000.000	015.567	C	OLDFASYS	OLD FEDERAL HIGHWAY SYSTEM	2 - FA PRIMARY	CD		RCICNVRT	07/15/1982
112	005.412	015.567	C	FAHWYSYS	FEDERAL HIGHWAY SYSTEM CODE	5 - NHS	CD		RCICNVRT	12/13/1995
112	005.412	015.567	C	TRAVLWAY	TRAVEL WAY ALONG ROADWAY	5 - NHS/OTHER	CD		RCICNVRT	01/19/1996
114	000.000	001.248	C	LOCALNAM	LOCAL NAME OF FACILITY	53RD AVE/ONECO RD	ID		KNFTESK	06/10/2009
114	001.248	006.150	C	LOCALNAM	LOCAL NAME OF FACILITY	SR-70	ID		KNRSHCT	10/02/2012
114	006.150	015.567	C	LOCALNAM	LOCAL NAME OF FACILITY	SR-70	ID		KNRSHCT	10/02/2012
118	003.690	004.388	C	ATGROTHR	OTHR OR NO CONTROL AT-GR.INT.	4	EA		KNURCPT	11/12/2010
118	003.690	004.388	C	ATGRSIG	SIGNALS AT-GRADE INTERSECT.	1	EA		RCICNVRT	11/12/2002
118	003.690	004.388	C	ATGRTYPE	AT GRADE TYPE -- FIRST OR LAST	L - LAST - NEW WAY	CD		KNURSRG	10/27/2010
118	003.690	004.388	C	CURCLASA	CURVES BY CLASS - CLASS A	100698	EA		MT110RG	05/27/2005
118	003.690	004.388	C	GRACLASA	GRADES BY CLASS - CLASS A	100698	EA		MT110RG	05/27/2005
118	003.690	004.388	C	HPMSIDNO	HPMS SAMPLE ID NUMBER	131600000659	ID		RCICNVRT	11/12/2002
118	003.690	004.388	C	PEAKLANE	NO. LANES PEAK DIR/PEAK HOUR	3	EA		RCICNVRT	11/12/2002
118	003.690	004.388	C	SIGPREV	PREVAILING TYPE OF SIGNALIZAT.	2 - UNCOORDINATED TRAFFIC ACTUATED	CD		KNFTESK	10/10/2013
118	003.690	004.388	C	TURNLANL	TURN LANE LEFT	1 - MULT. TURNING LANES/BAYS EXIST	CD		KNURCPT	11/12/2010
118	003.690	004.388	C	TURNLANR	TURN LANE RIGHT	3 - SINGLE RIGHT TURN LANE/BAY	CD		KNFTESK	06/02/2005
118	003.690	004.388	C	TYPEOP	TYPE OF PARKING (HPMS)	3 - NO PARKING ALLOWED	CD		KNFTESK	06/02/2005
118	003.690	004.388	C	WIDOBSTC	OTHER PUBLIC FACILITIES	1 - YES	CD		KNFTESK	10/10/2013
118	003.690	004.388	C	WIDPOTNL	WIDENING POTENTIAL LANES	6	EA		KNFTESK	10/10/2013
118	004.388	005.324	C	ATGROTHR	OTHR OR NO CONTROL AT-GR.INT.	3	EA		KNFTESK	10/28/2013
118	004.388	005.324	C	ATGRSIG	SIGNALS AT-GRADE INTERSECT.	2	EA		KNFTESK	10/28/2013
118	004.388	005.324	C	ATGRTYPE	AT GRADE TYPE -- FIRST OR LAST	L - LAST - NEW WAY	CD		KNFTESK	10/28/2013
118	004.388	005.324	C	CURCLASA	CURVES BY CLASS - CLASS A	100936	EA		KNFTESK	11/18/2013
118	004.388	005.324	C	GRACLASA	GRADES BY CLASS - CLASS A	100936	EA		KNFTESK	11/18/2013
118	004.388	005.324	C	HPMSIDNO	HPMS SAMPLE ID NUMBER	131600000450	ID		PL934TH	08/02/2013
118	004.388	005.324	C	PEAKLANE	NO. LANES PEAK DIR/PEAK HOUR	3	EA		KNFTESK	10/28/2013
118	004.388	005.324	C	SIGPREV	PREVAILING TYPE OF SIGNALIZAT.	2 - UNCOORDINATED TRAFFIC ACTUATED	CD		KNFTESK	10/28/2013
118	004.388	005.324	C	TURNLANL	TURN LANE LEFT	1 - MULT. TURNING LANES/BAYS EXIST	CD		KNFTESK	10/28/2013
118	004.388	005.324	C	TURNLANR	TURN LANE RIGHT	3 - SINGLE RIGHT TURN LANE/BAY	CD		KNFTESK	10/28/2013
118	004.388	005.324	C	TYPEOP	TYPE OF PARKING (HPMS)	3 - NO PARKING ALLOWED	CD		KNFTESK	10/28/2013
118	004.388	005.324	C	WIDOBSTX	ROAD CAN BE WIDENED-NO OBSTACL	1 - YES	CD		KNFTESK	10/28/2013
118	004.388	005.324	C	WIDPOTNL	WIDENING POTENTIAL LANES	9	EA		KNFTESK	10/28/2013

Roadway Characteristics Inventory

FEATURE/CHARACTERISTIC SORT

Run Date: 06/03/2016 . . Run Time: 10.51.32
Roadway ID: 13160000
Sorted By: Beg. MP, Side of Road, End. MP and Characteristic Code

FEAT NUM	BEG MP	End MP	Side	Characteristic Code	Description	Value	Unit	Tied	Last Updated	
119	000.223	000.643	C	YRIMPT	YEAR OF LAST IMPROVEMENT	1998	EA		DATAONE	07/07/2011
119	001.001	001.248	C	YRIMPT	YEAR OF LAST IMPROVEMENT	2001	EA		DATAONE	07/07/2011
119	003.690	004.388	C	SURFACTP	SURFACE TYPE	02 - ASPHALT CEMENT CONC BIT (ACC)	CD		KNFTESK	10/10/2013
119	003.690	004.388	C	YRIMPT	YEAR OF LAST IMPROVEMENT	2001	EA		KNFTESK	10/10/2013
119	004.388	005.324	C	SURFACTP	SURFACE TYPE	02 - ASPHALT CEMENT CONC BIT (ACC)	CD		KNFTESK	10/28/2013
120	000.000	009.616	C	TYPEROAD	TYPE OF ROAD	2 - DIVIDED	CD		MT110EH	10/30/2007
120	009.616	009.915	C	TYPEROAD	TYPE OF ROAD	0 - NOT DIVIDED	CD		MT110EH	10/30/2007
120	009.915	010.315	C	TYPEROAD	TYPE OF ROAD	2 - DIVIDED	CD		KNFTESK	01/19/2005
120	010.315	012.997	C	TYPEROAD	TYPE OF ROAD	0 - NOT DIVIDED	CD		KNFTESK	01/19/2005
120	012.997	013.424	C	TYPEROAD	TYPE OF ROAD	2 - DIVIDED	CD		KNFTESK	01/19/2005
120	013.424	014.020	C	TYPEROAD	TYPE OF ROAD	0 - NOT DIVIDED	CD		KNFTESK	01/19/2005
120	014.020	014.697	C	TYPEROAD	TYPE OF ROAD	2 - DIVIDED	CD		RCICNVRT	05/23/2000
120	014.697	014.834	C	TYPEROAD	TYPE OF ROAD	0 - NOT DIVIDED	CD		RCICNVRT	05/23/2000
120	014.834	015.261	C	TYPEROAD	TYPE OF ROAD	2 - DIVIDED	CD		RCICNVRT	05/23/2000
120	015.261	015.450	C	TYPEROAD	TYPE OF ROAD	0 - NOT DIVIDED	CD		RCICNVRT	05/23/2000
120	015.450	015.567	C	TYPEROAD	TYPE OF ROAD	2 - DIVIDED	CD		RCICNVRT	05/23/2000
121	000.000	010.439	C	FUNCLASS	FUNCTIONAL CLASSIFICATION	14 - URBAN PRIN ART OTHER	CD		PL934TH	06/05/2014
121	010.439	015.567	C	FUNCLASS	FUNCTIONAL CLASSIFICATION	04 - RURAL PRIN ART OTHER	CD		PL934TH	06/05/2014
122	000.000	015.567	C	RDACCESS	ACCESS CONTROL TYPE	3 - NONE	CD		RCICNVRT	04/01/1996
122	000.000	015.567	C	TOLLROAD	TOLL ROAD FLAG	0 - FREE	CD		RCICNVRT	04/01/1996
124	000.000	001.248	C	URBSIZE	URBAN SIZE	5 - METROPOLITAN	CD		KNFTESK	05/27/2014
124	000.000	010.439	C	HWYLOCAL	HIGHWAY LOCATION CODE	3 - INSIDE URBAN, OUTSIDE CITY	CD		KNFTESK	06/30/2014
124	000.000	010.439	C	URBAREA	URBAN AREA NUMBER	1930 - SARASOTA-BRADENTON	CD		KNFTESK	06/30/2014
124	001.248	010.439	C	URBSIZE	URBAN SIZE	5 - METROPOLITAN	CD		KNFTESK	05/27/2014
124	010.439	015.567	C	HWYLOCAL	HIGHWAY LOCATION CODE	1 - OUTSIDE CITY & URBAN	CD		KNFTESK	06/30/2014
124	010.439	015.567	C	URBSIZE	URBAN SIZE	1 - RURAL	CD		KNFTESK	05/27/2014
125	000.000	000.979	C	ROUGHIND	PAVEMENT ROUGHNESS INDEX	100	EA		PL934TH	06/18/2014
125	000.979	004.616	C	ROUGHIND	PAVEMENT ROUGHNESS INDEX	88	EA		PL934TH	06/18/2014
125	004.616	007.481	C	ROUGHIND	PAVEMENT ROUGHNESS INDEX	65	EA		PL934TH	06/18/2014
125	007.481	009.728	C	ROUGHIND	PAVEMENT ROUGHNESS INDEX	59	EA		PL934TH	06/18/2014
125	009.728	015.567	C	ROUGHIND	PAVEMENT ROUGHNESS INDEX	54	EA		PL934TH	06/18/2014
137	000.000	015.567	C	CCNUMBER	COST CENTER NUMBER	194 - SARASOTA MAINTENANCE CREWS	CD		MT110PB	04/13/2015
140	000.000	015.567	C	STATEXPT	SECTION STATUS EXCEPTION	02 - ACTIVE ON THE SHS	CD		RCICNVRT	11/09/1988
140	009.458	015.567	C	OSDATE	ON OR OFF-SYSTEM DATE	08/26/1976	DA		RCICNVRT	08/23/1989
145	000.000	001.001	C	LOSSTDK	LOS STANDARD K FACTOR	9	EA		PL934TH	11/21/2011

Roadway Characteristics Inventory

FEATURE/CHARACTERISTIC SORT

Run Date: 06/03/2016 . . Run Time: 10.51.32
Roadway ID: 13160000
Sorted By: Beg. MP, Side of Road, End. MP and Characteristic Code

FEAT NUM	BEG MP	End MP	Side	Characteristic Code	Description	Value	Unit	Tied	Last Updated	
145	001.001	002.538	C	LOSSTDK	LOS STANDARD K FACTOR	9	EA		PL934TH	11/21/2011
145	002.538	004.388	C	LOSSTDK	LOS STANDARD K FACTOR	9	EA		PL934TH	11/21/2011
145	004.388	004.440	C	LOSSTDK	LOS STANDARD K FACTOR	9	EA		PL934TH	11/21/2011
145	004.440	005.400	C	LOSSTDK	LOS STANDARD K FACTOR	9	EA		PL934TH	11/21/2011
145	005.400	005.420	C	LOSSTDK	LOS STANDARD K FACTOR	9	EA		PL934TH	11/21/2011
145	005.420	005.437	C	LOSSTDK	LOS STANDARD K FACTOR	9	EA		PL934TH	11/21/2011
145	005.437	005.438	C	LOSSTDK	LOS STANDARD K FACTOR	9	EA		PL934TH	11/21/2011
145	005.438	007.448	C	LOSSTDK	LOS STANDARD K FACTOR	9	EA		PL934TH	11/21/2011
145	007.448	007.450	C	LOSSTDK	LOS STANDARD K FACTOR	9	EA		PL934TH	11/21/2011
145	007.450	009.450	C	LOSSTDK	LOS STANDARD K FACTOR	9	EA		PL934TH	11/21/2011
145	009.450	009.470	C	LOSSTDK	LOS STANDARD K FACTOR	9	EA		PL934TH	11/21/2011
145	009.470	009.476	C	LOSSTDK	LOS STANDARD K FACTOR	9	EA		PL934TH	11/21/2011
145	009.476	009.576	C	LOSSTDK	LOS STANDARD K FACTOR	9	EA		PL934TH	11/21/2011
145	009.576	009.616	C	LOSSTDK	LOS STANDARD K FACTOR	9	EA		PL934TH	11/21/2011
145	009.616	011.113	C	LOSSTDK	LOS STANDARD K FACTOR	9	EA		PL934TH	11/21/2011
145	011.113	015.567	C	LOSSTDK	LOS STANDARD K FACTOR	9.5	EA		PL934TH	11/21/2011
146	000.000	003.445	C	ACMANCLS	ACCESS MGMT CLASSIFICATION	05 - ACCESS CLASS05	CD		KNFTEBS	10/23/2006
146	003.445	015.567	C	ACMANCLS	ACCESS MGMT CLASSIFICATION	03 - ACCESS CLASS03	CD		KNFTEBS	10/23/2006
147	005.438	015.567	C	SISFCTP1	SIS FACILITY TYPE LEVEL 1	12 - EMERGING SIS CORRIDOR	CD	E	PL934TH	04/10/2009
147	005.438	015.567	C	SISMPID1	SIS FACILITY MAP ID LEVEL 1	100536	ID	E	PL934TH	04/10/2009
212	000.000	009.476	L	NOLANES	NUMBER OF ROADWAY LANES	3	EA		MT110EH	10/30/2007
212	000.000	009.476	L	SURWIDTH	PAVEMENT SURFACE WIDTH	36	FT		MT110EH	10/30/2007
212	000.000	009.351	R	NOLANES	NUMBER OF ROADWAY LANES	3	EA		MT110EH	10/30/2007
212	000.000	009.351	R	SURWIDTH	PAVEMENT SURFACE WIDTH	36	FT		MT110EH	10/30/2007
212	009.351	009.476	R	NOLANES	NUMBER OF ROADWAY LANES	2	EA		KNFTESK	04/29/2013
212	009.351	009.476	R	SURWIDTH	PAVEMENT SURFACE WIDTH	24	FT		KNFTESK	04/29/2013
212	009.476	009.616	L	NOLANES	NUMBER OF ROADWAY LANES	2	EA		MT110EH	10/30/2007
212	009.476	009.616	L	SURWIDTH	PAVEMENT SURFACE WIDTH	24	FT		MT110EH	10/30/2007
212	009.476	009.616	R	NOLANES	NUMBER OF ROADWAY LANES	1	EA		MT110EH	10/30/2007
212	009.476	009.616	R	SURWIDTH	PAVEMENT SURFACE WIDTH	13	FT		KNFTESK	04/29/2013
212	009.616	009.915	C	NOLANES	NUMBER OF ROADWAY LANES	2	EA		MT110EH	10/30/2007
212	009.616	009.915	C	SURWIDTH	PAVEMENT SURFACE WIDTH	24	FT		MT110EH	10/30/2007
212	009.915	010.315	L	NOLANES	NUMBER OF ROADWAY LANES	1	EA		KNFTESK	01/19/2005
212	009.915	010.315	L	SURWIDTH	PAVEMENT SURFACE WIDTH	11	FT		KNFTESK	04/29/2013
212	009.915	010.315	R	NOLANES	NUMBER OF ROADWAY LANES	1	EA		KNFTESK	01/19/2005

Roadway Characteristics Inventory

FEATURE/CHARACTERISTIC SORT

Run Date: 06/03/2016 . . Run Time: 10.51.32
Roadway ID: 13160000
Sorted By: Beg. MP, Side of Road, End. MP and Characteristic Code

FEAT NUM	BEG MP	End MP	Side	Characteristic Code	Description	Value	Unit	Tied	Last Updated	
212	009.915	010.315	R	SURWIDTH	PAVEMENT SURFACE WIDTH	12	FT		KNFTESK	01/19/2005
212	010.315	012.997	C	NOLANES	NUMBER OF ROADWAY LANES	2	EA		KNFTESK	01/19/2005
212	010.315	012.997	C	SURWIDTH	PAVEMENT SURFACE WIDTH	24	FT		KNFTESK	01/19/2005
212	012.997	013.424	L	NOLANES	NUMBER OF ROADWAY LANES	1	EA		KNFTESK	01/19/2005
212	012.997	013.424	L	SURWIDTH	PAVEMENT SURFACE WIDTH	12	FT		KNFTESK	01/19/2005
212	012.997	013.424	R	NOLANES	NUMBER OF ROADWAY LANES	1	EA		KNFTESK	01/19/2005
212	012.997	013.424	R	SURWIDTH	PAVEMENT SURFACE WIDTH	12	FT		KNFTESK	01/19/2005
212	013.424	014.020	C	NOLANES	NUMBER OF ROADWAY LANES	2	EA		KNFTESK	01/19/2005
212	013.424	014.020	C	SURWIDTH	PAVEMENT SURFACE WIDTH	24	FT		KNFTESK	01/19/2005
212	014.020	014.697	L	NOLANES	NUMBER OF ROADWAY LANES	1	EA		RCICNVRT	05/23/2000
212	014.020	014.697	L	SURWIDTH	PAVEMENT SURFACE WIDTH	12	FT		RCICNVRT	05/23/2000
212	014.020	014.697	R	NOLANES	NUMBER OF ROADWAY LANES	1	EA		RCICNVRT	05/23/2000
212	014.020	014.697	R	SURWIDTH	PAVEMENT SURFACE WIDTH	12	FT		RCICNVRT	05/23/2000
212	014.697	014.834	C	NOLANES	NUMBER OF ROADWAY LANES	2	EA		RCICNVRT	05/23/2000
212	014.697	014.834	C	SURWIDTH	PAVEMENT SURFACE WIDTH	24	FT		RCICNVRT	05/23/2000
212	014.834	015.261	L	NOLANES	NUMBER OF ROADWAY LANES	1	EA		RCICNVRT	05/23/2000
212	014.834	015.261	L	SURWIDTH	PAVEMENT SURFACE WIDTH	12	FT		RCICNVRT	05/23/2000
212	014.834	015.261	R	NOLANES	NUMBER OF ROADWAY LANES	1	EA		RCICNVRT	05/23/2000
212	014.834	015.261	R	SURWIDTH	PAVEMENT SURFACE WIDTH	12	FT		RCICNVRT	05/23/2000
212	015.261	015.450	C	NOLANES	NUMBER OF ROADWAY LANES	2	EA		RCICNVRT	05/23/2000
212	015.261	015.450	C	SURWIDTH	PAVEMENT SURFACE WIDTH	24	FT		RCICNVRT	05/23/2000
212	015.450	015.567	L	NOLANES	NUMBER OF ROADWAY LANES	1	EA		RCICNVRT	05/23/2000
212	015.450	015.567	L	SURWIDTH	PAVEMENT SURFACE WIDTH	12	FT		RCICNVRT	05/23/2000
212	015.450	015.567	R	NOLANES	NUMBER OF ROADWAY LANES	1	EA		RCICNVRT	05/23/2000
212	015.450	015.567	R	SURWIDTH	PAVEMENT SURFACE WIDTH	12	FT		RCICNVRT	05/23/2000
213	000.014	000.101	L	AUXLNTYP	AUXILIARY LANE TYPE	8 - LANE WITH BIKE SLOT	CD		KNFTESK	04/30/2013
213	000.014	000.101	L	AUXLNUM	NUMBER OF AUXILIARY LANES	1	EA		KNFTESK	04/30/2013
213	000.014	000.101	L	AUXLNWTH	AVERAGE AUXILIARY LANE WIDTH	16	FT		KNFTESK	04/30/2013
213	000.014	000.161	L	AUXLNTYP	AUXILIARY LANE TYPE	3 - TURNING (LEFT)	CD		KNFTESK	04/30/2013
213	000.014	000.161	L	AUXLNUM	NUMBER OF AUXILIARY LANES	1	EA		KNFTESK	04/30/2013
213	000.014	000.161	L	AUXLNWTH	AVERAGE AUXILIARY LANE WIDTH	12	FT		KNFTESK	04/30/2013
213	000.161	000.210	L	AUXLNTYP	AUXILIARY LANE TYPE	6 - MERGING (INSIDE)	CD		KNFTESK	04/30/2013
213	000.161	000.210	L	AUXLNUM	NUMBER OF AUXILIARY LANES	1	EA		KNFTESK	04/30/2013
213	000.161	000.210	L	AUXLNWTH	AVERAGE AUXILIARY LANE WIDTH	12	FT		KNFTESK	04/30/2013
213	000.281	000.329	R	AUXLNTYP	AUXILIARY LANE TYPE	3 - TURNING (LEFT)	CD		KNFTESK	04/30/2013

Roadway Characteristics Inventory

FEATURE/CHARACTERISTIC SORT

Run Date: 06/03/2016 . . Run Time: 10.51.32
Roadway ID: 13160000
Sorted By: Beg. MP, Side of Road, End. MP and Characteristic Code

FEAT NUM	BEG MP	End MP	Side	Characteristic Code	Description	Value	Unit	Tied	Last Updated	
216	007.395	007.455	R	SIDWLKWD	SIDEWALK WIDTH AND SEP.	6	FT		KNMEIGP	02/11/2014
216	007.422	007.522	L	SIDWLKWD	SIDEWALK WIDTH AND SEP.	6	FT		KNMEIGP	02/11/2014
216	007.422	009.452	L	SDWLKBCD	SIDEWALK BARRIER CODE	4 - GRDRAIL/TRAF RAIL BARR/SWALE	CD		KNMEIGP	02/11/2014
216	007.448	007.537	L	BIKSLTCD	BICYCLE SLOT	1 - DESIGNATED	CD		KNMEIGP	02/11/2014
216	007.455	007.570	R	SIDWLKWD	SIDEWALK WIDTH AND SEP.	6	FT		KNMEIGP	02/11/2014
216	007.455	009.596	R	SDWLKBCD	SIDEWALK BARRIER CODE	4 - GRDRAIL/TRAF RAIL BARR/SWALE	CD		KNMEIGP	02/11/2014
216	007.522	008.427	L	SIDWLKWD	SIDEWALK WIDTH AND SEP.	6	FT		KNMEIGP	02/11/2014
216	007.570	007.625	R	SIDWLKWD	SIDEWALK WIDTH AND SEP.	6	FT		KNMEIGP	02/11/2014
216	007.625	009.266	R	SIDWLKWD	SIDEWALK WIDTH AND SEP.	6	FT		KNMEIGP	02/11/2014
216	008.427	008.557	L	SIDWLKWD	SIDEWALK WIDTH AND SEP.	6	FT		KNMEIGP	02/11/2014
216	008.557	009.202	L	SIDWLKWD	SIDEWALK WIDTH AND SEP.	6	FT		KNMEIGP	02/11/2014
216	009.202	009.337	L	SIDWLKWD	SIDEWALK WIDTH AND SEP.	6	FT		KNMEIGP	02/11/2014
216	009.266	009.341	R	SIDWLKWD	SIDEWALK WIDTH AND SEP.	6	FT		KNMEIGP	02/11/2014
216	009.337	009.452	L	SIDWLKWD	SIDEWALK WIDTH AND SEP.	6	FT		KNMEIGP	02/11/2014
216	009.341	009.396	R	SIDWLKWD	SIDEWALK WIDTH AND SEP.	6	FT		KNMEIGP	02/11/2014
216	009.396	009.471	R	SIDWLKWD	SIDEWALK WIDTH AND SEP.	6	FT		KNMEIGP	02/11/2014
216	009.471	009.596	R	SIDWLKWD	SIDEWALK WIDTH AND SEP.	5	FT		KNMEIGP	02/11/2014
216	009.476	009.547	L	BIKSLTCD	BICYCLE SLOT	0 - UNDESIGNATED	CD		KNMEIGP	02/11/2014
217	000.000	000.500	L	SIDEWALK	SIDEWALK WIDTH	5	FT		MT110MT	06/12/2012
217	000.000	001.000	R	SIDEWALK	SIDEWALK WIDTH	5	FT		MT110MT	06/12/2012
217	000.500	000.616	L	SIDEWALK	SIDEWALK WIDTH	8	FT		MT110MT	06/12/2012
217	000.616	001.000	L	SIDEWALK	SIDEWALK WIDTH	5	FT		MT110MT	06/12/2012
217	001.000	002.000	L	SIDEWALK	SIDEWALK WIDTH	5	FT		MT110MT	06/12/2012
217	001.000	002.000	R	SIDEWALK	SIDEWALK WIDTH	5	FT		MT110MT	06/12/2012
217	002.000	003.000	L	SIDEWALK	SIDEWALK WIDTH	5	FT		MT110MT	06/12/2012
217	002.000	002.022	R	SIDEWALK	SIDEWALK WIDTH	5	FT		MT110MT	06/12/2012
217	002.022	002.216	R	SIDEWALK	SIDEWALK WIDTH	6	FT		MT110MT	06/12/2012
217	002.216	002.325	R	SIDEWALK	SIDEWALK WIDTH	5	FT		MT110MT	06/12/2012
217	002.325	002.564	R	SIDEWALK	SIDEWALK WIDTH	6	FT		MT110MT	06/12/2012
217	002.564	003.000	R	SIDEWALK	SIDEWALK WIDTH	5	FT		MT110MT	06/12/2012
217	003.000	004.000	L	SIDEWALK	SIDEWALK WIDTH	5	FT		MT110MT	06/12/2012
217	003.000	004.000	R	SIDEWALK	SIDEWALK WIDTH	5	FT		MT110MT	06/12/2012
217	004.000	005.000	L	SIDEWALK	SIDEWALK WIDTH	5	FT		MT110MT	06/12/2012
217	004.000	005.000	R	SIDEWALK	SIDEWALK WIDTH	5	FT		MT110MT	06/12/2012
217	005.000	005.383	L	SIDEWALK	SIDEWALK WIDTH	5	FT		MT110MT	06/12/2012

Roadway Characteristics Inventory

FEATURE/CHARACTERISTIC SORT

Run Date: 06/03/2016 . . Run Time: 10.51.32
Roadway ID: 13160000
Sorted By: Beg. MP, Side of Road, End. MP and Characteristic Code

FEAT NUM	BEG MP	End MP	Side	Characteristic Code	Description	Value	Unit	Tied	Last Updated	
217	005.000	006.000	R	SIDEWALK	SIDEWALK WIDTH	5	FT		MT110MT	06/12/2012
217	005.383	005.438	L	SIDEWALK	SIDEWALK WIDTH	8	FT		MT110MT	06/12/2012
217	005.438	006.000	L	SIDEWALK	SIDEWALK WIDTH	5	FT		MT110MT	06/12/2012
217	006.000	007.000	L	SIDEWALK	SIDEWALK WIDTH	5	FT		MT110MT	06/12/2012
217	006.000	007.000	R	SIDEWALK	SIDEWALK WIDTH	5	FT		MT110MT	06/12/2012
217	007.000	007.299	L	SIDEWALK	SIDEWALK WIDTH	5	FT		MT110MT	06/12/2012
217	007.000	008.000	R	SIDEWALK	SIDEWALK WIDTH	5	FT		MT110MT	06/12/2012
217	007.299	007.363	L	SIDEWALK	SIDEWALK WIDTH	6	FT		MT110MT	06/12/2012
217	007.363	008.000	L	SIDEWALK	SIDEWALK WIDTH	5	FT		MT110MT	06/12/2012
217	008.000	009.000	L	SIDEWALK	SIDEWALK WIDTH	5	FT		MT110MT	06/12/2012
217	008.000	009.000	R	SIDEWALK	SIDEWALK WIDTH	5	FT		MT110MT	06/12/2012
217	009.000	009.469	L	SIDEWALK	SIDEWALK WIDTH	5	FT		MT110MT	06/12/2012
217	009.000	009.639	R	SIDEWALK	SIDEWALK WIDTH	5	FT		MT110MT	06/12/2012
219	000.000	000.223	L	ISLDTYPE	INSIDE SHOULDER TYPE	1 - PAVED	CD		KNFTESK	04/29/2013
219	000.000	000.223	L	ISLDWDTH	INSIDE SHOULDER WIDTH	1	FT		KNFTESK	04/29/2013
219	000.000	000.223	R	ISLDTYPE	INSIDE SHOULDER TYPE	1 - PAVED	CD		KNFTESK	04/29/2013
219	000.000	000.223	R	ISLDWDTH	INSIDE SHOULDER WIDTH	1	FT		KNFTESK	04/29/2013
219	000.223	000.537	L	ISLDTYPE	INSIDE SHOULDER TYPE	6 - CURB&GUTTER	CD		KNFTESK	04/29/2013
219	000.223	000.537	L	ISLDWDTH	INSIDE SHOULDER WIDTH	2	FT		KNFTESK	04/29/2013
219	000.223	000.537	R	ISLDTYPE	INSIDE SHOULDER TYPE	6 - CURB&GUTTER	CD		KNFTESK	04/29/2013
219	000.223	000.537	R	ISLDWDTH	INSIDE SHOULDER WIDTH	2	FT		KNFTESK	04/29/2013
219	000.537	001.001	L	ISLDTYPE	INSIDE SHOULDER TYPE	1 - PAVED	CD		KNFTESK	04/29/2013
219	000.537	001.001	L	ISLDWDTH	INSIDE SHOULDER WIDTH	1	FT		KNFTESK	04/29/2013
219	000.537	001.001	R	ISLDTYPE	INSIDE SHOULDER TYPE	1 - PAVED	CD		KNFTESK	04/29/2013
219	000.537	001.001	R	ISLDWDTH	INSIDE SHOULDER WIDTH	1	FT		KNFTESK	04/29/2013
219	001.248	001.525	L	ISLDTYPE	INSIDE SHOULDER TYPE	6 - CURB&GUTTER	CD		KNFTESK	04/29/2013
219	001.248	001.525	L	ISLDWDTH	INSIDE SHOULDER WIDTH	2	FT		KNFTESK	04/29/2013
219	001.248	001.525	R	ISLDTYPE	INSIDE SHOULDER TYPE	6 - CURB&GUTTER	CD		KNFTESK	04/29/2013
219	001.248	001.525	R	ISLDWDTH	INSIDE SHOULDER WIDTH	2	FT		KNFTESK	04/29/2013
219	001.525	001.651	L	ISLDTYPE	INSIDE SHOULDER TYPE	1 - PAVED	CD		KNFTESK	04/29/2013
219	001.525	001.651	L	ISLDWDTH	INSIDE SHOULDER WIDTH	1	FT		KNFTESK	04/29/2013
219	001.525	001.651	R	ISLDTYPE	INSIDE SHOULDER TYPE	1 - PAVED	CD		KNFTESK	04/29/2013
219	001.525	001.651	R	ISLDWDTH	INSIDE SHOULDER WIDTH	1	FT		KNFTESK	04/29/2013
219	001.651	002.311	L	ISLDTYPE	INSIDE SHOULDER TYPE	6 - CURB&GUTTER	CD		KNFTESK	04/29/2013
219	001.651	002.311	L	ISLDWDTH	INSIDE SHOULDER WIDTH	2	FT		KNFTESK	04/29/2013

Roadway Characteristics Inventory

FEATURE/CHARACTERISTIC SORT

Run Date: 06/03/2016 . . Run Time: 10.51.32
Roadway ID: 13160000
Sorted By: Beg. MP, Side of Road, End. MP and Characteristic Code

FEAT NUM	BEG MP	End MP	Side	Characteristic Code	Description	Value	Unit	Tied	Last Updated	
251	004.388	000.000	C	INTSDIR5	90 DEGREES RIGHT	FAIRWAY GARDENS DR	ID		RCICNVRT	05/25/2000
251	004.578	000.000	C	INTSDIR5	90 DEGREES RIGHT	FAIRWAY GARDENS DR	ID		RCICNVRT	05/23/2000
251	004.622	000.000	C	INTSDIR2	90 DEGREES LEFT	71 ST E	ID		RCICNVRT	05/25/2000
251	004.807	000.000	C	INTSDIR2	90 DEGREES LEFT	72NDBLVD E/CREEKWOOD	ID		KNFTESK	05/05/2008
251	004.807	000.000	C	INTSDIR5	90 DEGREES RIGHT	TARA BLVD	ID		KNFTEBS	07/24/2008
251	004.967	000.000	C	INTSDIR2	90 DEGREES LEFT	SHOPPING CTR ENT	ID		KNFTEBS	07/24/2008
251	004.967	000.000	C	INTSDIR5	90 DEGREES RIGHT	12 OAKS PLZ ENT	ID		KNFTESK	04/30/2013
251	005.212	000.000	C	INTSDIR4	45 DEGREES RIGHT	13075004 EB OFF	ID		MT110DC	04/14/2016
251	005.260	000.000	C	INTSDIR3	45 DEGREES LEFT	13075008 WB ON	ID		MT110DC	04/14/2016
251	005.265	000.000	C	INTSDIR1	135 DEGREES LEFT	TURNOUT	ID		MT110DC	04/14/2016
251	005.324	000.000	C	INTSDIR1	135 DEGREES LEFT	13075006 WB OFF	ID		MT110DC	04/14/2016
251	005.493	000.000	C	INTSDIR3	45 DEGREES LEFT	13075005 WB ON	ID		MT110DC	04/14/2016
251	005.566	000.000	C	INTSDIR3	45 DEGREES LEFT	TURNOUT	ID		MT110DC	04/14/2016
251	005.579	000.000	C	INTSDIR6	135 DEGREES RIGHT	13075003 EB ON	ID		MT110DC	04/14/2016
251	005.625	000.000	C	INTSDIR1	135 DEGREES LEFT	13075007 WB OFF	ID		MT110DC	04/14/2016
251	005.807	000.000	C	INTSDIR2	90 DEGREES LEFT	LENA RD	ID		KNFTESK	01/19/2005
251	005.822	000.000	C	INTSDIR5	90 DEGREES RIGHT	RANCH LAKE BLVD	ID		KNFTESK	04/30/2013
251	005.957	000.000	C	INTSDIR2	90 DEGREES LEFT	87TH ST E/RA LAKE BL	ID		KNFTEBS	07/24/2008
251	005.957	000.000	C	INTSDIR5	90 DEGREES RIGHT	RANCH LAKE PLZ	ID		KNFTEBS	07/24/2008
251	006.089	000.000	C	INTSDIR5	90 DEGREES RIGHT	RANCH LK PLAZA	ID		KNFTESK	04/30/2013
251	006.318	000.000	C	INTSDIR2	90 DEGREES LEFT	UNSIGNED	ID		KNFTESK	04/30/2013
251	006.318	000.000	C	INTSDIR5	90 DEGREES RIGHT	BRADEN RUN	ID		RCICNVRT	05/23/2000
251	006.392	000.000	C	INTSDIR2	90 DEGREES LEFT	OAK RUN DR	ID		RCICNVRT	05/23/2000
251	006.745	000.000	C	INTSDIR2	90 DEGREES LEFT	FOREST RUN	ID		KNFTESK	01/19/2005
251	007.003	000.000	C	INTSDIR2	90 DEGREES LEFT	FOREST RUN	ID		RCICNVRT	05/25/2000
251	007.003	000.000	C	INTSDIR5	90 DEGREES RIGHT	RIVER CLUB BLVD	ID		RCICNVRT	05/25/2000
251	007.178	000.000	C	INTSDIR2	90 DEGREES LEFT	111 ST E	ID		KNFTEBS	07/24/2008
251	007.308	000.000	C	INTSDIR2	90 DEGREES LEFT	PUBLIX ENT	ID		KNFTEBS	07/24/2008
251	007.448	000.000	C	INTSDIR8	90 DEGREES L. & 90 DEGREES R.	LAKEWOOD RANCH BLVD	ID		RCICNVRT	05/23/2000
251	007.632	000.000	C	INTSDIR5	90 DEGREES RIGHT	PALMBRUSH TRAIL	ID		KNFTESK	05/05/2008
251	008.453	000.000	C	INTSDIR2	90 DEGREES LEFT	POPE RD	ID		KNFTESK	02/25/2008
251	008.967	000.000	C	INTSDIR5	90 DEGREES RIGHT	GREENBROOK BLVD	ID		MT110EH	10/29/2007
251	009.351	000.000	C	INTSDIR5	90 DEGREES RIGHT	ARBOR GREEN TRAIL	ID		KNFTESK	04/30/2013
251	009.476	000.000	C	INTSDIR2	90 DEGREES LEFT	LORRAINE RD	ID		RCICNVRT	05/25/2000
251	009.476	000.000	C	INTSDIR5	90 DEGREES RIGHT	LORRAINE RD	ID		RCICNVRT	05/25/2000

Roadway Characteristics Inventory

FEATURE/CHARACTERISTIC SORT

Run Date: 06/03/2016 . . Run Time: 10.51.32
Roadway ID: 13160000
Sorted By: Beg. MP, Side of Road, End. MP and Characteristic Code

FEAT NUM	BEG MP	End MP	Side	Characteristic Code	Description	Value	Unit	Tied	Last Updated	
251	009.616	000.000	C	INTSDIR5	90 DEGREES RIGHT	ARBOR GREEN TR	ID		KNFTESK	02/25/2008
251	010.137	000.000	C	INTSDIR2	90 DEGREES LEFT	POST BLVD	ID		KNFTESK	04/30/2013
251	010.137	000.000	C	INTSDIR5	90 DEGREES RIGHT	GREENBROOK BLVD	ID		KNFTESK	05/05/2008
251	013.218	000.000	C	INTSDIR2	90 DEGREES LEFT	197TH ST E	ID		RCICNVRT	05/25/2000
251	013.218	000.000	C	INTSDIR5	90 DEGREES RIGHT	LINDRICK LN	ID		KNFTESK	02/25/2008
251	014.241	000.000	C	INTSDIR5	90 DEGREES RIGHT	213 ST E	ID		RCICNVRT	05/23/2000
251	014.603	000.000	C	INTSDIR2	90 DEGREES LEFT	TREE UMPH ADV PARK	ID		KNFTESK	04/30/2013
251	015.063	000.000	C	INTSDIR2	90 DEGREES LEFT	225TH ST E	ID		RCICNVRT	05/23/2000
251	015.063	000.000	C	INTSDIR5	90 DEGREES RIGHT	PANTHER RIDGE TRIAL	ID		RCICNVRT	05/25/2000
251	015.556	000.000	C	INTSDIR3	45 DEGREES LEFT	TURNOUT	ID		KNFTESK	04/30/2013
251	015.567	000.000	C	ENDSECNM	END OF SECT. DESC.	CR 675	ID		RCICNVRT	04/27/1988
251	015.567	000.000	C	INTSDIR2	90 DEGREES LEFT	CR 675/WATERBURY RD	ID		RCICNVRT	04/06/2001
253	000.258	000.000	C	CHKDIGIT	CHECK DIGIT	D	ID		RCICNVRT	05/23/2000
253	000.258	000.000	C	RRCROSNO	NATIONAL RR GRADE CROSSING NO.	624690	ID		RCICNVRT	05/23/2000
256	000.000	001.000	L	TRNOTPNP	PAVED TURNOUTS WITHOUT PIPE	10	EA		MT110MT	06/12/2012
256	000.000	001.000	L	WDTRNPNP	AV. WIDTH TRNOUT,PAVED,NO PIPE	45	FT		MT110RP	06/13/2012
256	000.000	001.000	R	TRNOTPNP	PAVED TURNOUTS WITHOUT PIPE	18	EA		MT110MT	06/12/2012
256	000.000	001.000	R	WDTRNPNP	AV. WIDTH TRNOUT,PAVED,NO PIPE	37	FT		MT110MT	06/12/2012
256	001.000	002.000	L	TRNOTPNP	PAVED TURNOUTS WITHOUT PIPE	8	EA		MT110MT	06/12/2012
256	001.000	002.000	L	WDTRNPNP	AV. WIDTH TRNOUT,PAVED,NO PIPE	47	FT		MT110MT	06/12/2012
256	001.000	002.000	R	TRNOTPNP	PAVED TURNOUTS WITHOUT PIPE	15	EA		MT110MT	06/12/2012
256	001.000	002.000	R	WDTRNPNP	AV. WIDTH TRNOUT,PAVED,NO PIPE	45	FT		MT110MT	06/12/2012
256	002.000	003.000	L	TRNOTPNP	PAVED TURNOUTS WITHOUT PIPE	19	EA		MT110MT	06/12/2012
256	002.000	003.000	L	TRNOTPPI	PAVED TURNOUTS WITH PIPE	1	EA		MT110MT	06/12/2012
256	002.000	003.000	L	WDTRNPNP	AV. WIDTH TRNOUT,PAVED,NO PIPE	38	FT		MT110MT	06/12/2012
256	002.000	003.000	L	WDTRNPPI	AV. WIDTH TRNOUT, PAVED, PIPE	53	FT		MT110MT	06/12/2012
256	002.000	003.000	R	TRNOTPNP	PAVED TURNOUTS WITHOUT PIPE	11	EA		MT110MT	06/12/2012
256	002.000	003.000	R	WDTRNPNP	AV. WIDTH TRNOUT,PAVED,NO PIPE	48	FT		MT110MT	06/12/2012
256	003.000	004.000	L	TRNOTPNP	PAVED TURNOUTS WITHOUT PIPE	9	EA		MT110MT	06/12/2012
256	003.000	004.000	L	TRNOTPPI	PAVED TURNOUTS WITH PIPE	1	EA		MT110MT	06/12/2012
256	003.000	004.000	L	TRNOTUPI	UNPAVED TURNOUTS WITH PIPE	1	EA		MT110MT	06/12/2012
256	003.000	004.000	L	WDTRNPNP	AV. WIDTH TRNOUT,PAVED,NO PIPE	39	FT		MT110MT	06/12/2012
256	003.000	004.000	L	WDTRNPPI	AV. WIDTH TRNOUT, PAVED, PIPE	74	FT		MT110MT	06/12/2012
256	003.000	004.000	L	WDTRNUPI	AV. WIDTH TRNOUT,UNPAVE,PIPE	21	FT		MT110MT	06/12/2012
256	003.000	004.000	R	TRNOTPNP	PAVED TURNOUTS WITHOUT PIPE	3	EA		MT110MT	06/12/2012

Roadway Characteristics Inventory

FEATURE/CHARACTERISTIC SORT

Run Date: 06/03/2016 . . Run Time: 10.51.32
Roadway ID: 13160000
Sorted By: Beg. MP, Side of Road, End. MP and Characteristic Code

FEAT NUM	BEG MP	End MP	Side	Characteristic Code	Description	Value	Unit	Tied	Last Updated	
271	009.000	010.000	R	SPCGRAIL	MISC. GUARDRAIL LENGTH	0.079	MI		MT110MT	06/12/2012
271	010.000	011.000	R	STDGRAIL	STANDARD GUARDRAIL LENGTH	0.097	MI		MT110MT	06/12/2012
271	011.000	012.000	R	STDGRAIL	STANDARD GUARDRAIL LENGTH	0.007	MI		MT110MT	06/12/2012
272	000.000	001.000	L	MISCFCS	LENGTH OF MISCELLANEOUS FENCES	765	FT		MT110MT	06/12/2012
272	000.000	001.000	R	MISCFCS	LENGTH OF MISCELLANEOUS FENCES	2945	FT		MT110MT	06/12/2012
272	001.000	002.000	L	MISCFCS	LENGTH OF MISCELLANEOUS FENCES	2940	FT		MT110MT	06/12/2012
272	002.000	003.000	L	MISCFCS	LENGTH OF MISCELLANEOUS FENCES	2040	FT		MT110MT	06/12/2012
272	003.000	004.000	L	MISCFCS	LENGTH OF MISCELLANEOUS FENCES	2940	FT		MT110MT	06/12/2012
272	003.000	004.000	R	MISCFCS	LENGTH OF MISCELLANEOUS FENCES	1340	FT		MT110MT	06/12/2012
272	007.000	008.000	L	MISCFCS	LENGTH OF MISCELLANEOUS FENCES	1945	FT		MT110MT	06/12/2012
272	008.000	009.000	L	MISCFCS	LENGTH OF MISCELLANEOUS FENCES	2820	FT		MT110MT	06/12/2012
272	009.000	010.000	L	MISCFCS	LENGTH OF MISCELLANEOUS FENCES	2650	FT		MT110MT	06/12/2012
275	000.000	001.000	L	RETWALL	RETAINING WALL LENGTH	847	FT		MT110MT	06/12/2012
275	000.000	001.000	R	RETWALL	RETAINING WALL LENGTH	145	FT		MT110MT	06/12/2012
275	001.000	002.000	L	RETWALL	RETAINING WALL LENGTH	1303	FT		MT110MT	06/12/2012
275	001.000	002.000	R	RETWALL	RETAINING WALL LENGTH	375	FT		MT110MT	06/12/2012
275	001.000	002.000	R	SLOPERIP	SLPE PAV AREA RIP-RAP	167	SY		MT110MT	06/12/2012
275	002.000	003.000	L	RETWALL	RETAINING WALL LENGTH	80	FT		MT110MT	06/12/2012
275	002.000	003.000	R	RETWALL	RETAINING WALL LENGTH	408	FT		MT110MT	06/12/2012
275	003.000	004.000	L	RETWALL	RETAINING WALL LENGTH	130	FT		MT110MT	06/12/2012
275	004.000	005.000	L	SLOPEPAV	SLPE PAV AREA CONCRETE	50	SY		MT110MT	06/12/2012
275	005.000	006.000	L	RETWALL	RETAINING WALL LENGTH	306	FT		MT110MT	06/12/2012
275	005.000	006.000	L	SLOPERIP	SLPE PAV AREA RIP-RAP	67	SY		MT110MT	06/12/2012
275	006.000	007.000	R	RETWALL	RETAINING WALL LENGTH	140	FT		MT110MT	06/12/2012
275	007.000	008.000	L	SLOPERIP	SLPE PAV AREA RIP-RAP	167	SY		MT110MT	06/12/2012
275	007.000	008.000	R	NOISBARR	NOISE BARRIER WALL	2693	SY		MT110MT	06/12/2012
275	008.000	009.000	R	NOISBARR	NOISE BARRIER WALL	4248	SY		MT110MT	06/12/2012
275	009.000	010.000	R	RETWALL	RETAINING WALL LENGTH	235	FT		MT110MT	06/12/2012
311	000.000	001.040	C	DTESZAPP	DATE SPEED ZONE APPROVED	06/07/1988	DA	B/E	RCICNVRT	06/15/1988
311	000.000	001.040	C	MAXSPEED	MAXIMUM SPEED LIMIT	40	MH	B/E	RCICNVRT	06/15/1988
311	001.040	002.694	C	DTESZAPP	DATE SPEED ZONE APPROVED	10/19/1993	DA	B/E	RCICNVRT	10/25/1993
311	001.040	002.694	C	MAXSPEED	MAXIMUM SPEED LIMIT	45	MH	B/E	RCICNVRT	10/25/1993
311	002.694	010.335	C	DTESZAPP	DATE SPEED ZONE APPROVED	04/08/2016	DA	B/E	TO162SM	04/12/2016
311	002.694	010.335	C	DTESZIMP	DATE SPEED ZONE IMPLEMENTED	04/13/2016	DA	B/E	TO162SM	04/14/2016
311	002.694	010.335	C	MAXSPEED	MAXIMUM SPEED LIMIT	50	MH	B/E	RCICNVRT	10/25/1993

Roadway Characteristics Inventory

FEATURE/CHARACTERISTIC SORT

Run Date: 06/03/2016 . . Run Time: 10.51.32
Roadway ID: 13160000
Sorted By: Beg. MP, Side of Road, End. MP and Characteristic Code

FEAT NUM	BEG MP	End MP	Side	Characteristic Code	Description	Value	Unit	Tied	Last Updated	
311	010.335	015.567	C	DTESZAPP	DATE SPEED ZONE APPROVED	04/08/2016	DA	B	TO162SM	04/12/2016
311	010.335	015.567	C	DTESZIMP	DATE SPEED ZONE IMPLEMENTED	04/13/2016	DA	B	TO162SM	04/14/2016
311	010.335	015.567	C	MAXSPEED	MAXIMUM SPEED LIMIT	60	MH	B	RCICNVRT	01/21/1997
312	001.248	000.000	R	DTETMAPP	DATE TURN MOVEMENT APPROVED	08/25/2014	DA		TO162SM	08/25/2014
312	001.248	000.000	R	DTETMIMP	DATE TURN.MOVE.IMPLEMENTED	08/25/2014	DA		TO162SM	08/27/2014
312	001.248	000.000	R	TURNMOVE	TURNING MOVEMENT RESTRICTION	09 - NO U-TURN (W/STA.)	CD		TO162SM	08/25/2014
312	005.957	000.000	R	DTETMAPP	DATE TURN MOVEMENT APPROVED	07/29/2015	DA		TO162SM	08/05/2015
312	005.957	000.000	R	TURNMOVE	TURNING MOVEMENT RESTRICTION	09 - NO U-TURN (W/STA.)	CD		TO162SM	08/05/2015
313	000.000	000.166	L	DTEPKAPP	DATE PARKING APPROVED	05/07/1982	DA		RCICNVRT	05/24/1994
313	000.000	000.166	L	TYPEPARK	TYPE OF ROADWAY PARKING	1 - NO PARKING	CD		RCICNVRT	05/24/1994
313	000.000	000.166	R	DTEPKAPP	DATE PARKING APPROVED	05/07/1982	DA		RCICNVRT	05/24/1994
313	000.000	000.166	R	TYPEPARK	TYPE OF ROADWAY PARKING	1 - NO PARKING	CD		RCICNVRT	05/24/1994
313	000.166	000.695	C	DTEPKAPP	DATE PARKING APPROVED	05/07/1982	DA		RCICNVRT	05/24/1994
313	000.166	000.695	C	TYPEPARK	TYPE OF ROADWAY PARKING	1 - NO PARKING	CD		RCICNVRT	05/24/1994
313	000.695	002.691	L	DTEPKAPP	DATE PARKING APPROVED	05/07/1982	DA		RCICNVRT	07/05/1994
313	000.695	002.691	L	TYPEPARK	TYPE OF ROADWAY PARKING	1 - NO PARKING	CD		RCICNVRT	05/24/1994
313	000.695	002.691	R	DTEPKAPP	DATE PARKING APPROVED	05/07/1982	DA		RCICNVRT	05/24/1994
313	000.695	002.691	R	TYPEPARK	TYPE OF ROADWAY PARKING	1 - NO PARKING	CD		RCICNVRT	05/24/1994
313	002.691	003.239	C	DTEPKAPP	DATE PARKING APPROVED	05/07/1982	DA		RCICNVRT	05/24/1994
313	002.691	003.239	C	TYPEPARK	TYPE OF ROADWAY PARKING	1 - NO PARKING	CD		RCICNVRT	05/24/1994
313	003.239	003.943	L	DTEPKAPP	DATE PARKING APPROVED	05/07/1982	DA		RCICNVRT	05/24/1994
313	003.239	003.943	L	TYPEPARK	TYPE OF ROADWAY PARKING	1 - NO PARKING	CD		RCICNVRT	05/24/1994
313	003.239	003.943	R	DTEPKAPP	DATE PARKING APPROVED	05/07/1982	DA		RCICNVRT	05/24/1994
313	003.239	003.943	R	TYPEPARK	TYPE OF ROADWAY PARKING	1 - NO PARKING	CD		RCICNVRT	05/24/1994
313	003.943	004.258	C	DTEPKAPP	DATE PARKING APPROVED	05/07/1982	DA		RCICNVRT	05/24/1994
313	003.943	004.258	C	TYPEPARK	TYPE OF ROADWAY PARKING	1 - NO PARKING	CD		RCICNVRT	05/24/1994
313	004.258	006.150	L	DTEPKAPP	DATE PARKING APPROVED	05/07/1982	DA		RCICNVRT	05/24/1994
313	004.258	006.150	L	TYPEPARK	TYPE OF ROADWAY PARKING	1 - NO PARKING	CD		RCICNVRT	05/24/1994
313	004.258	006.150	R	DTEPKAPP	DATE PARKING APPROVED	05/07/1982	DA		RCICNVRT	05/24/1994
313	004.258	006.150	R	TYPEPARK	TYPE OF ROADWAY PARKING	1 - NO PARKING	CD		RCICNVRT	05/24/1994
313	006.150	006.424	L	TYPEPARK	TYPE OF ROADWAY PARKING	0 - HIGHWAY TYPE	CD		RCICNVRT	05/24/1994
313	006.150	006.424	R	TYPEPARK	TYPE OF ROADWAY PARKING	0 - HIGHWAY TYPE	CD		RCICNVRT	05/24/1994
313	006.424	006.860	C	TYPEPARK	TYPE OF ROADWAY PARKING	0 - HIGHWAY TYPE	CD		RCICNVRT	05/24/1994
313	006.860	007.116	L	TYPEPARK	TYPE OF ROADWAY PARKING	0 - HIGHWAY TYPE	CD		RCICNVRT	05/24/1994
313	006.860	007.116	R	TYPEPARK	TYPE OF ROADWAY PARKING	0 - HIGHWAY TYPE	CD		RCICNVRT	05/24/1994

Roadway Characteristics Inventory

FEATURE/CHARACTERISTIC SORT

Run Date: 06/03/2016 . . Run Time: 10.51.32
Roadway ID: 13160000
Sorted By: Beg. MP, Side of Road, End. MP and Characteristic Code

FEAT NUM	BEG MP	End MP	Side	Characteristic Code	Description	Value	Unit	Tied	Last Updated	
322	005.579	000.000	C	SIGOPDTE	DATE SIGNAL OPERATIONAL	05/30/2001	DA	B	RCICNVRT	06/04/2001
322	005.579	000.000	C	SIGSTRCT	TYPE OF SIGNAL STRUCTURE	01 - MAST ARM	CD	B	TO162SM	02/23/2009
322	005.957	000.000	C	CNTLRDES	CONTROLLER DESCRIPTION	SR 70 / 53RD AVE E	ID	B	TO162SM	02/23/2009
322	005.957	000.000	C	MAINTAGC	MAINTAINING AGENCY NAME	MANATEE	ID	B	TO162JG	04/16/2008
322	005.957	000.000	C	SDESTRET	SIDE STREET NAME	87TH ST	ID	B	TO162SM	02/23/2009
322	005.957	000.000	C	SIGNALID	SIGNAL CABINET ID NUMBER	534	ID	B	TO162TM	02/26/2008
322	005.957	000.000	C	SIGNALTY	TYPE OF TRAFFIC SIGNAL	02 - INTERSECTION CONTROL SIGNAL	CD	B	RCICNVRT	04/26/2002
322	005.957	000.000	C	SIGOPDTE	DATE SIGNAL OPERATIONAL	12/17/2002	DA	B	RCICNVRT	01/15/2003
322	005.957	000.000	C	SIGSTRCT	TYPE OF SIGNAL STRUCTURE	01 - MAST ARM	CD	B	TO162SM	02/23/2009
322	006.220	000.000	C	CNTLRDES	CONTROLLER DESCRIPTION	SR 70 / 53RD AVE E	ID	B	TO162SM	02/23/2009
322	006.220	000.000	C	MAINTAGC	MAINTAINING AGENCY NAME	MANATEE	ID	B	TO162JG	04/16/2008
322	006.220	000.000	C	SDESTRET	SIDE STREET NAME	FIRE HOUSE	ID	B	TO162SM	02/23/2009
322	006.220	000.000	C	SIGNALID	SIGNAL CABINET ID NUMBER	535	ID	B	TO162TM	02/25/2008
322	006.220	000.000	C	SIGNALTY	TYPE OF TRAFFIC SIGNAL	04 - EMERGENCY SIGNAL	CD	B	TO162TM	09/13/2007
322	006.220	000.000	C	SIGSTRCT	TYPE OF SIGNAL STRUCTURE	01 - MAST ARM	CD	B	TO162SM	02/23/2009
322	006.318	000.000	C	CNTLRDES	CONTROLLER DESCRIPTION	SR 70 / 53RD AVE E	ID	B	TO162SM	02/23/2009
322	006.318	000.000	C	MAINTAGC	MAINTAINING AGENCY NAME	MANATEE	ID	B	TO162JG	04/16/2008
322	006.318	000.000	C	SDESTRET	SIDE STREET NAME	BRADEN RUN	ID	B	TO162SM	02/23/2009
322	006.318	000.000	C	SIGNALID	SIGNAL CABINET ID NUMBER	536	ID	B	TO162TM	02/25/2008
322	006.318	000.000	C	SIGNALTY	TYPE OF TRAFFIC SIGNAL	02 - INTERSECTION CONTROL SIGNAL	CD	B	RCICNVRT	03/02/1998
322	006.318	000.000	C	SIGSTRCT	TYPE OF SIGNAL STRUCTURE	01 - MAST ARM	CD	B	TO162SM	02/23/2009
322	007.003	000.000	C	CNTLRDES	CONTROLLER DESCRIPTION	SR 70 / 53RD AVE E	ID	B	TO162SM	02/23/2009
322	007.003	000.000	C	MAINTAGC	MAINTAINING AGENCY NAME	MANATEE	ID	B	TO162JG	04/16/2008
322	007.003	000.000	C	SDESTRET	SIDE STREET NAME	RIVER CLUB BLVD	ID	B	TO162SM	02/23/2009
322	007.003	000.000	C	SIGNALID	SIGNAL CABINET ID NUMBER	537	ID	B	TO162TM	02/25/2008
322	007.003	000.000	C	SIGNALTY	TYPE OF TRAFFIC SIGNAL	02 - INTERSECTION CONTROL SIGNAL	CD	B	RCICNVRT	06/26/1990
322	007.003	000.000	C	SIGOPDTE	DATE SIGNAL OPERATIONAL	09/15/1988	DA	B	RCICNVRT	04/26/1993
322	007.003	000.000	C	SIGSTRCT	TYPE OF SIGNAL STRUCTURE	01 - MAST ARM	CD	B	TO162SM	02/23/2009
322	007.448	000.000	C	CNTLRDES	CONTROLLER DESCRIPTION	SR 70 / 53RD AVE E	ID	B	TO162SM	02/23/2009
322	007.448	000.000	C	MAINTAGC	MAINTAINING AGENCY NAME	MANATEE	ID	B	TO162JG	04/16/2008
322	007.448	000.000	C	SDESTRET	SIDE STREET NAME	LAKEWOOD RANCH BLVD	ID	B	TO162SM	02/23/2009
322	007.448	000.000	C	SIGNALID	SIGNAL CABINET ID NUMBER	538	ID	B	TO162TM	02/25/2008
322	007.448	000.000	C	SIGNALTY	TYPE OF TRAFFIC SIGNAL	02 - INTERSECTION CONTROL SIGNAL	CD	B	RCICNVRT	09/11/1997
322	007.448	000.000	C	SIGSTRCT	TYPE OF SIGNAL STRUCTURE	01 - MAST ARM	CD	B	TO162SM	02/15/2016
322	009.476	000.000	C	CNTLRDES	CONTROLLER DESCRIPTION	SR 70 / 53RD AVE E	ID	B	TO162SM	02/23/2009

Roadway Characteristics Inventory

FEATURE/CHARACTERISTIC SORT

Run Date: 06/03/2016 . . Run Time: 10.51.32
Roadway ID: 13160000
Sorted By: Beg. MP, Side of Road, End. MP and Characteristic Code

FEAT NUM	BEG MP	End MP	Side	Characteristic Code	Description	Value	Unit	Tied	Last Updated	
331	005.420	007.448	C	AVGTFACT	SECTION AVERAGE T FACTOR	5.6	EA	B/E	PL934TH	05/11/2016
331	005.420	007.448	C	SECTADT	SECTION AVERAGE ADT	44000	EA	B/E	PL934TH	05/11/2016
331	007.448	009.476	C	AADTDATE	AADT DATE	12/31/2015	DA	B/E	PL934TH	05/11/2016
331	007.448	009.476	C	AADTTYPE	AADT TYPE	1 - FINAL ESTIMATE FROM SURVEY	CD	B/E	PL934TH	05/11/2016
331	007.448	009.476	C	AVGDFACT	RDWY SECTION AVG "D" FACTOR	56.1	EA	B/E	PL934TH	05/11/2016
331	007.448	009.476	C	AVGKFACT	K FACTOR	9	EA	B/E	PL934TH	05/11/2016
331	007.448	009.476	C	AVGTFACT	SECTION AVERAGE T FACTOR	7.7	EA	B/E	PL934TH	05/11/2016
331	007.448	009.476	C	SECTADT	SECTION AVERAGE ADT	24500	EA	B/E	PL934TH	05/11/2016
331	009.476	015.567	C	AADTDATE	AADT DATE	12/31/2015	DA	B/E	PL934TH	05/11/2016
331	009.476	015.567	C	AADTTYPE	AADT TYPE	1 - FINAL ESTIMATE FROM SURVEY	CD	B/E	PL934TH	05/11/2016
331	009.476	015.567	C	AVGDFACT	RDWY SECTION AVG "D" FACTOR	56.1	EA	B/E	PL934TH	05/11/2016
331	009.476	015.567	C	AVGKFACT	K FACTOR	9	EA	B/E	PL934TH	05/11/2016
331	009.476	015.567	C	AVGTFACT	SECTION AVERAGE T FACTOR	12	EA	B/E	PL934TH	05/11/2016
331	009.476	015.567	C	SECTADT	SECTION AVERAGE ADT	12600	EA	B/E	PL934TH	05/11/2016
341	000.000	001.000	L	LOCOWNER	OWNER OF LOCAL LUMINARIES	MANATEE COUNTY	EA		MT194HA	07/25/2011
341	000.000	001.000	L	NOLOCLUM	LUMINAIRES UNDER LOCAL AGRMNT	13	EA		MT194HA	07/25/2011
341	000.000	001.000	R	LOCOWNER	OWNER OF LOCAL LUMINARIES	MANATEE COUNTY	EA		MT194HA	07/25/2011
341	000.000	001.000	R	NOLOCLUM	LUMINAIRES UNDER LOCAL AGRMNT	8	EA		MT194HA	07/25/2011
341	001.000	002.000	L	LOCOWNER	OWNER OF LOCAL LUMINARIES	MANATEE COUNTY	EA		MT194HA	07/25/2011
341	001.000	002.000	L	NOLOCLUM	LUMINAIRES UNDER LOCAL AGRMNT	12	EA		MT194HA	07/27/2011
341	001.000	002.000	R	LOCOWNER	OWNER OF LOCAL LUMINARIES	MANATEE COUNTY	EA		MT194HA	07/25/2011
341	001.000	002.000	R	NOLOCLUM	LUMINAIRES UNDER LOCAL AGRMNT	12	EA		MT194HA	07/27/2011
341	002.000	003.000	L	LOCOWNER	OWNER OF LOCAL LUMINARIES	MANATEE COUNTY	EA		MT194HA	07/26/2011
341	002.000	003.000	L	NOLOCLUM	LUMINAIRES UNDER LOCAL AGRMNT	46	EA		MT194HA	07/25/2011
341	003.000	004.000	L	LOCOWNER	OWNER OF LOCAL LUMINARIES	MANATEE COUNTY	EA		MT194HA	07/25/2011
341	003.000	004.000	L	NOLOCLUM	LUMINAIRES UNDER LOCAL AGRMNT	32	EA		MT194HA	07/25/2011
411	000.000	001.000	L	RDSDMOW	ROADSIDE MOWABLE AREA (LARGE)	0.4	AC		MT110MT	06/12/2012
411	000.000	001.000	L	SMMACMOW	SMALL MACHINE MOWING AREA	0.73	AC		MT110MT	06/12/2012
411	000.000	001.000	R	INMACHMW	INTERMEDIATE MACHINE MOWING	0.3	AC		MT110MT	06/12/2012
411	000.000	001.000	R	RDSDMOW	ROADSIDE MOWABLE AREA (LARGE)	2.1	AC		MT110MT	06/12/2012
411	000.000	001.000	R	SMMACMOW	SMALL MACHINE MOWING AREA	0.53	AC		MT110MT	06/12/2012
411	001.000	002.000	L	RDSDMOW	ROADSIDE MOWABLE AREA (LARGE)	2.9	AC		MT110MT	06/12/2012
411	001.000	002.000	L	SMMACMOW	SMALL MACHINE MOWING AREA	0.73	AC		MT110MT	06/12/2012
411	001.000	002.000	R	INMACHMW	INTERMEDIATE MACHINE MOWING	0.6	AC		MT110MT	06/12/2012
411	001.000	002.000	R	SMMACMOW	SMALL MACHINE MOWING AREA	1.53	AC		MT110MT	06/12/2012

Appendix C

Raw Traffic Counts

TRAFFIC COUNT DATA

VHB PROJECT NO:	62558.13
LOCATION CODE:	C-1
COUNT LOCATION:	SR 70: 1,100 Ft. East of Lorraine Rd.
EQUIPMENT ID:	J92

TYPE OF COUNT: 72 Hour Classification Count

TIME OF COUNT:

Start Date:	4/19/2016	Start Time:	Midnight
End Date:	4/22/2016	End Time:	Midnight

VOLUMES:

		Peak Hour Time:	5:00 PM
Average Daily:	15,834	Average Peak Hour:	1,281
Daily Truck Avg:	2,250	Max Hour Truck Avg:	215
		Peak Hour Truck Avg:	117

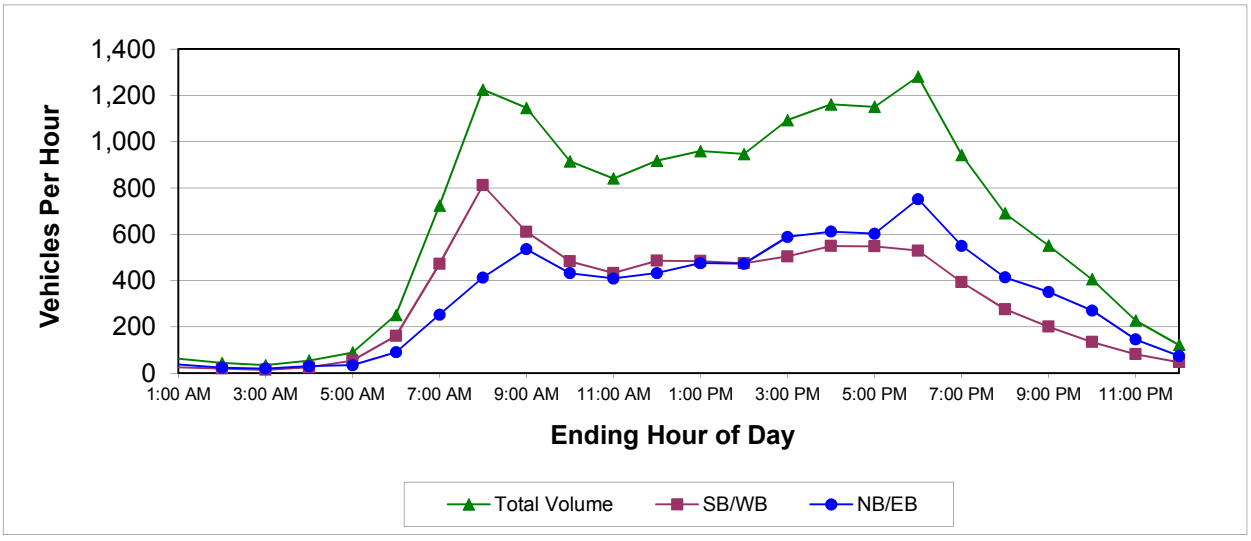
TRAVEL CHARACTERISTICS:

K MEASURED		D MEASURED	
K=	8.1%	D=	58.7%
T Max Hour	16.8%	T daily	14.2%
T med (max)	6.4%	T med Daily	5.3%
T heavy (max)	10.4%	T heavy Daily	8.9%
T Peak Hour	9.1%		
T med Peak Hour	4.8%		
T heavy Peak Hour	4.3%		

HOURLY DISTRIBUTIONS OF TRAFFIC VOLUMES

VHB PROJECT NO: 62558.13
LOCATION CODE: C-1
COUNT LOCATION: SR 70: 1,100 Ft. East of Lorraine Rd.
EQUIPMENT ID: J92

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	38	24	62	0.47%	0.31%	0.39%
2:00 AM	24	20	44	0.30%	0.26%	0.28%
3:00 AM	20	14	34	0.25%	0.18%	0.21%
4:00 AM	30	24	55	0.38%	0.31%	0.35%
5:00 AM	34	54	89	0.43%	0.70%	0.56%
6:00 AM	91	161	252	1.13%	2.06%	1.59%
7:00 AM	253	472	724	3.15%	6.03%	4.57%
8:00 AM	413	812	1,225	5.15%	10.39%	7.73%
9:00 AM	536	610	1,146	6.68%	7.80%	7.24%
10:00 AM	432	483	915	5.39%	6.18%	5.78%
11:00 AM	409	432	841	5.10%	5.53%	5.31%
12:00 PM	432	485	918	5.39%	6.21%	5.80%
1:00 PM	475	484	959	5.92%	6.20%	6.06%
2:00 PM	472	474	947	5.89%	6.07%	5.98%
3:00 PM	589	504	1,093	7.34%	6.45%	6.90%
4:00 PM	612	549	1,161	7.63%	7.02%	7.33%
5:00 PM	602	548	1,150	7.51%	7.01%	7.27%
6:00 PM	752	529	1,281	9.38%	6.77%	8.09%
7:00 PM	550	393	943	6.86%	5.03%	5.95%
8:00 PM	414	276	690	5.16%	3.54%	4.36%
9:00 PM	351	201	551	4.37%	2.57%	3.48%
10:00 PM	271	135	405	3.38%	1.72%	2.56%
11:00 PM	145	82	228	1.81%	1.05%	1.44%
12:00 AM	74	48	122	0.93%	0.61%	0.77%
TOTALS	8,018	7,816	15,834	100.0%	100.0%	100.0%



ANNUAL VEHICLE CLASSIFICATION REPORT

VHB PROJECT NO: 62558.13
LOCATION CODE: C-1
COUNT LOCATION: SR 70: 1,100 Ft. East of Lorraine Rd.
EQUIPMENT ID: J92

Vehicle Classification	Vehicle Type	Average Daily Statistics	
		Volume	Percentage
Class 1	Motorcycles	158	1.00%
Class 2	Cars	10,577	66.81%
Class 3	Pick-Ups & Vans	2,848	17.99%
Class 4	Buses	132	0.83%
Class 5	2 Axle, Single Unit Trucks	710	4.48%
Class 6	3 Axle, Single Unit Trucks	382	2.41%
Class 7	4 Axle, Single Unit Trucks	123	0.78%
Class 8	2 Axle Trctr with 1 or 2 Axle Trlr, 3 Axle Trctr with 1 Axle	268	1.69%
Class 9	3 Axle Tractor with 2 Axle Trailer	585	3.70%
Class 10	3 Axle Tractor with 3 Axle Trailer	31	0.20%
Class 11	5 Axle Multi Trailer	3	0.02%
Class 12	6 Axle Multi Trailer	1	0.01%
Class 13	7 or more Axles	14	0.09%
Class 14	Not Used	0	0.00%
Class 15	Other	0	0.00%
TOTALS		**15,832**	**100.00%**

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

Start Date : April 19, 2016
Stop Date : April 19, 2016
County : Manatee

Start Time 00:00
Stop Time 24:00
Station Number 1
Equipment ID P152

Location : SR 70 west of Lorraine Rd

19-Apr-16 **Eastbound Volume**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	12	12	4	8	15	33	70	158	231	199	179	137
30	11	4	8	12	15	30	75	154	229	177	170	194
45	21	14	5	12	10	47	119	198	213	167	159	169
00	8	10	14	10	22	60	176	210	243	154	118	164
Hr Total	**52**	**40**	**31**	**42**	**62**	**170**	**440**	**720**	**916**	**697**	**626**	**664**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	152	173	193	193	219	259	238	146	101	128	60	28
30	161	159	234	199	211	249	166	150	107	64	48	26
45	169	194	262	253	192	250	165	145	118	56	34	20
00	174	172	248	220	241	242	163	111	79	61	43	15
Hr Total	**656**	**698**	**937**	**865**	**863**	**1,000**	**732**	**552**	**405**	**309**	**185**	**89**

24 Hour Total : 11,751
AM Peak Hour begins : 8:00 AM Peak Volume : 916 AM Peak Hour Factor : 0.94
PM Peak Hour begins : 17:00 PM Peak Volume : 1,000 PM PeaK Hour Factor : 0.97

19-Apr-16 **Westbound Volume**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	14	11	5	12	13	33	107	272	235	250	186	180
30	11	4	4	6	14	42	121	333	240	234	165	190
45	6	8	6	19	18	62	161	251	256	184	173	190
00	4	12	8	12	24	84	216	262	237	217	181	183
Hr Total	**35**	**35**	**23**	**49**	**69**	**221**	**605**	**1,118**	**968**	**885**	**705**	**743**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	190	180	192	303	249	253	195	103	107	52	51	27
30	190	208	226	240	204	224	155	97	93	61	33	24
45	208	197	213	196	212	249	130	95	71	55	22	20
00	211	190	227	286	224	217	124	84	60	33	21	14
Hr Total	**799**	**775**	**858**	**1,025**	**889**	**943**	**604**	**379**	**331**	**201**	**127**	**85**

24 Hour Total : 12,472
AM Peak Hour begins : 7:00 AM Peak Volume : 1,118 AM Peak Hour Factor : 0.84
PM Peak Hour begins : 15:00 PM Peak Volume : 1,025 PM PeaK Hour Factor : 0.85

19-Apr-16 **Total Volume for All Lanes**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	26	23	9	20	28	66	177	430	466	449	365	317
30	22	8	12	18	29	72	196	487	469	411	335	384
45	27	22	11	31	28	109	280	449	469	351	332	359
00	12	22	22	22	46	144	392	472	480	371	299	347
Hr Total	**87**	**75**	**54**	**91**	**131**	**391**	**1,045**	**1,838**	**1,884**	**1,582**	**1,331**	**1,407**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	342	353	385	496	468	512	433	249	208	180	111	55
30	351	367	460	439	415	473	321	247	200	125	81	50
45	377	391	475	449	404	499	295	240	189	111	56	40
00	385	362	475	506	465	459	287	195	139	94	64	29
Hr Total	**1,455**	**1,473**	**1,795**	**1,890**	**1,752**	**1,943**	**1,336**	**931**	**736**	**510**	**312**	**174**

24 Hour Total : 24,223
AM Peak Hour begins : 8:00 AM Peak Volume : 1,884 AM Peak Hour Factor : 0.98
PM Peak Hour begins : 16:45 PM Peak Volume : 1,949 PM PeaK Hour Factor : 0.95

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

Start Date : April 19, 2016
Stop Date : April 19, 2016
County : Manatee

Start Time 00:00
Stop Time 24:00
Station Number 2
Equipment ID P41

Location : Lorraine Rd south of SR 70

19-Apr-16 **Northbound Volume**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	1	3	1	1	1	9	14	83	127	162	71	86
30	4	0	0	2	2	3	28	122	176	117	67	76
45	3	0	0	2	1	10	26	84	182	89	69	69
00	5	1	0	2	5	15	60	104	164	90	75	98
Hr Total	**13**	**4**	**1**	**7**	**9**	**37**	**128**	**393**	**649**	**458**	**282**	**329**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	90	63	94	216	180	141	107	59	40	20	14	5
30	101	100	104	110	126	167	61	49	30	15	11	2
45	86	71	99	127	124	137	69	42	28	14	7	4
00	68	100	122	210	121	163	66	41	20	7	6	1
Hr Total	**345**	**334**	**419**	**663**	**551**	**608**	**303**	**191**	**118**	**56**	**38**	**12**

24 Hour Total : 5,948
AM Peak Hour begins : 8:15 AM Peak Volume : 684 AM Peak Hour Factor : 0.94
PM Peak Hour begins : 15:00 PM Peak Volume : 663 PM PeaK Hour Factor : 0.77

19-Apr-16 **Southbound Volume**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	2	5	1	1	1	2	28	108	243	108	61	54
30	3	1	0	0	3	9	28	114	206	91	74	58
45	2	4	0	1	0	9	43	172	191	80	67	73
00	4	2	0	0	3	24	71	219	183	69	72	77
Hr Total	**11**	**12**	**1**	**2**	**7**	**44**	**170**	**613**	**823**	**348**	**274**	**262**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	69	82	79	101	85	97	76	42	44	26	7	10
30	76	76	126	102	85	61	71	49	37	22	13	6
45	73	85	145	117	86	77	71	52	33	19	7	5
00	78	83	115	98	102	85	68	56	38	10	5	3
Hr Total	**296**	**326**	**465**	**418**	**358**	**320**	**286**	**199**	**152**	**77**	**32**	**24**

24 Hour Total : 5,520
AM Peak Hour begins : 7:45 AM Peak Volume : 859 AM Peak Hour Factor : 0.88
PM Peak Hour begins : 14:15 PM Peak Volume : 487 PM PeaK Hour Factor : 0.84

19-Apr-16 **Total Volume for All Lanes**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	3	8	2	2	2	11	42	191	370	270	132	140
30	7	1	0	2	5	12	56	236	382	208	141	134
45	5	4	0	3	1	19	69	256	373	169	136	142
00	9	3	0	2	8	39	131	323	347	159	147	175
Hr Total	**24**	**16**	**2**	**9**	**16**	**81**	**298**	**1,006**	**1,472**	**806**	**556**	**591**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	159	145	173	317	265	238	183	101	84	46	21	15
30	177	176	230	212	211	228	132	98	67	37	24	8
45	159	156	244	244	210	214	140	94	61	33	14	9
00	146	183	237	308	223	248	134	97	58	17	11	4
Hr Total	**641**	**660**	**884**	**1,081**	**909**	**928**	**589**	**390**	**270**	**133**	**70**	**36**

24 Hour Total : 11,468
AM Peak Hour begins : 8:00 AM Peak Volume : 1,472 AM Peak Hour Factor : 0.96
PM Peak Hour begins : 15:00 PM Peak Volume : 1,081 PM PeaK Hour Factor : 0.85

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

Start Date : April 19, 2016
Stop Date : April 19, 2016
County : Manatee
Location : Lorraine Rd north of SR 70 - Count Site 134214

Start Time 00:00
Stop Time 24:00
Station Number 3
Equipment ID P140

19-Apr-16 **Northbound Volume**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	2	2	0	0	1	6	18	33	54	69	55	39
30	2	0	0	0	3	2	25	58	65	52	47	50
45	5	3	0	0	3	6	13	46	71	44	43	48
00	3	1	1	2	8	11	32	49	80	40	25	50
Hr Total	**12**	**6**	**1**	**2**	**15**	**25**	**88**	**186**	**270**	**205**	**170**	**187**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	43	44	50	95	110	98	69	53	31	21	16	4
30	56	53	59	61	94	104	57	46	30	19	13	6
45	55	47	74	53	100	103	58	33	25	9	7	3
00	53	63	71	106	83	101	51	31	15	6	5	5
Hr Total	**207**	**207**	**254**	**315**	**387**	**406**	**235**	**163**	**101**	**55**	**41**	**18**

24 Hour Total : 3,556
AM Peak Hour begins : 8:15 AM Peak Volume : 285 AM Peak Hour Factor : 0.89
PM Peak Hour begins : 15:45 PM Peak Volume : 410 PM PeaK Hour Factor : 0.93

19-Apr-16 **Southbound Volume**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	5	0	1	0	7	12	21	95	163	88	56	45
30	1	1	2	0	2	10	44	146	121	55	46	40
45	0	3	0	2	2	13	82	142	103	45	47	50
00	1	3	0	0	9	23	99	166	100	47	35	42
Hr Total	**7**	**7**	**3**	**2**	**20**	**58**	**246**	**549**	**487**	**235**	**184**	**177**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	58	63	69	44	50	68	37	16	12	12	8	3
30	48	64	69	71	44	49	40	20	31	13	11	2
45	50	46	59	62	45	74	33	13	16	5	3	2
00	48	50	57	49	68	62	33	26	13	7	5	7
Hr Total	**204**	**223**	**254**	**226**	**207**	**253**	**143**	**75**	**72**	**37**	**27**	**14**

24 Hour Total : 3,710
AM Peak Hour begins : 7:15 AM Peak Volume : 617 AM Peak Hour Factor : 0.93
PM Peak Hour begins : 16:45 PM Peak Volume : 259 PM PeaK Hour Factor : 0.88

19-Apr-16 **Total Volume for All Lanes**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	7	2	1	0	8	18	39	128	217	157	111	84
30	3	1	2	0	5	12	69	204	186	107	93	90
45	5	6	0	2	5	19	95	188	174	89	90	98
00	4	4	1	2	17	34	131	215	180	87	60	92
Hr Total	**19**	**13**	**4**	**4**	**35**	**83**	**334**	**735**	**757**	**440**	**354**	**364**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	101	107	119	139	160	166	106	69	43	33	24	7
30	104	117	128	132	138	153	97	66	61	32	24	8
45	105	93	133	115	145	177	91	46	41	14	10	5
00	101	113	128	155	151	163	84	57	28	13	10	12
Hr Total	**411**	**430**	**508**	**541**	**594**	**659**	**378**	**238**	**173**	**92**	**68**	**32**

24 Hour Total : 7,266
AM Peak Hour begins : 7:15 AM Peak Volume : 824 AM Peak Hour Factor : 0.95
PM Peak Hour begins : 17:00 PM Peak Volume : 659 PM PeaK Hour Factor : 0.93

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

Start Date : April 19, 2016
Stop Date : April 19, 2016
County : Manatee

Start Time 00:00
Stop Time 24:00
Station Number 4
Equipment ID P201

Location : Greenbrook Blvd south of SR 70

19-Apr-16 **Northbound Volume**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	0	2	0	1	2	3	8	35	30	24	12	18
30	4	0	1	0	1	3	13	34	28	14	17	11
45	2	3	1	1	3	2	17	30	28	22	12	12
00	1	2	6	0	2	10	24	27	36	17	14	17
Hr Total	**7**	**7**	**8**	**2**	**8**	**18**	**62**	**126**	**122**	**77**	**55**	**58**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	9	15	15	31	23	32	26	17	5	6	5	1
30	13	10	26	24	18	20	22	9	4	2	3	2
45	15	18	12	18	34	21	15	11	10	8	0	2
00	10	10	21	58	26	34	16	16	18	6	4	0
Hr Total	**47**	**53**	**74**	**131**	**101**	**107**	**79**	**53**	**37**	**22**	**12**	**5**

24 Hour Total : 1,271
AM Peak Hour begins : 7:00 AM Peak Volume : 126 AM Peak Hour Factor : 0.90
PM Peak Hour begins : 15:45 PM Peak Volume : 133 PM PeaK Hour Factor : 0.57

19-Apr-16 **Southbound Volume**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	1	4	1	0	0	0	0	10	46	40	14	18
30	2	2	1	0	1	0	4	15	41	12	10	21
45	5	1	1	0	1	0	4	22	32	18	9	19
00	3	2	1	0	0	0	11	30	46	10	14	27
Hr Total	**11**	**9**	**4**	**0**	**2**	**0**	**19**	**77**	**165**	**80**	**47**	**85**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	13	23	18	25	30	39	34	24	28	19	13	2
30	20	17	31	38	25	31	28	21	18	11	10	5
45	14	15	40	38	27	31	31	24	23	7	6	5
00	18	18	42	47	40	29	20	26	17	14	4	4
Hr Total	**65**	**73**	**131**	**148**	**122**	**130**	**113**	**95**	**86**	**51**	**33**	**16**

24 Hour Total : 1,562
AM Peak Hour begins : 8:00 AM Peak Volume : 165 AM Peak Hour Factor : 0.90
PM Peak Hour begins : 15:15 PM Peak Volume : 153 PM PeaK Hour Factor : 0.81

19-Apr-16 **Total Volume for All Lanes**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	1	6	1	1	2	3	8	45	76	64	26	36
30	6	2	2	0	2	3	17	49	69	26	27	32
45	7	4	2	1	4	2	21	52	60	40	21	31
00	4	4	7	0	2	10	35	57	82	27	28	44
Hr Total	**18**	**16**	**12**	**2**	**10**	**18**	**81**	**203**	**287**	**157**	**102**	**143**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	22	38	33	56	53	71	60	41	33	25	18	3
30	33	27	57	62	43	51	50	30	22	13	13	7
45	29	33	52	56	61	52	46	35	33	15	6	7
00	28	28	63	105	66	63	36	42	35	20	8	4
Hr Total	**112**	**126**	**205**	**279**	**223**	**237**	**192**	**148**	**123**	**73**	**45**	**21**

24 Hour Total : 2,833
AM Peak Hour begins : 8:00 AM Peak Volume : 287 AM Peak Hour Factor : 0.88
PM Peak Hour begins : 15:00 PM Peak Volume : 279 PM PeaK Hour Factor : 0.66

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

Start Date : April 19, 2016
Stop Date : April 19, 2016
County : Manatee

Start Time 00:00
Stop Time 24:00
Station Number 5
Equipment ID 120

Location : Post Blvd north of SR 70

19-Apr-16 **Northbound Volume**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	1	1	0	0	1	2	4	8	6	20	11	13
30	1	0	1	0	0	0	3	2	10	18	10	17
45	0	0	2	1	1	0	3	7	16	20	17	17
00	1	0	0	0	1	1	10	2	14	9	9	21
Hr Total	**3**	**1**	**3**	**1**	**3**	**3**	**20**	**19**	**46**	**67**	**47**	**68**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	20	14	22	25	19	11	24	8	8	1	0	0
30	17	18	21	17	20	17	15	7	3	1	1	1
45	14	19	21	19	16	23	8	8	4	0	0	0
00	13	10	18	28	19	34	7	7	4	0	1	0
Hr Total	**64**	**61**	**82**	**89**	**74**	**85**	**54**	**30**	**19**	**2**	**2**	**1**

24 Hour Total : 844
AM Peak Hour begins : 11:15 AM Peak Volume : 75 AM Peak Hour Factor : 0.89
PM Peak Hour begins : 17:15 PM Peak Volume : 98 PM PeaK Hour Factor : 0.72

19-Apr-16 **Southbound Volume**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	0	0	0	0	0	0	1	2	10	12	11	12
30	3	1	1	0	3	1	1	3	15	22	9	21
45	0	0	0	0	0	0	1	6	11	11	18	13
00	0	0	0	0	0	0	1	13	12	19	25	25
Hr Total	**3**	**1**	**1**	**0**	**3**	**1**	**4**	**24**	**48**	**64**	**63**	**71**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	26	16	19	22	27	14	16	7	53	3	0	0
30	14	11	26	26	20	7	6	4	8	4	0	0
45	16	23	22	9	18	11	11	17	3	0	0	1
00	13	13	18	26	23	12	8	14	1	0	1	0
Hr Total	**69**	**63**	**85**	**83**	**88**	**44**	**41**	**42**	**65**	**7**	**1**	**1**

24 Hour Total : 872
AM Peak Hour begins : 11:15 AM Peak Volume : 85 AM Peak Hour Factor : 0.82
PM Peak Hour begins : 19:30 PM Peak Volume : 92 PM PeaK Hour Factor : 0.43

19-Apr-16 **Total Volume for All Lanes**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	1	1	0	0	1	2	5	10	16	32	22	25
30	4	1	2	0	3	1	4	5	25	40	19	38
45	0	0	2	1	1	0	4	13	27	31	35	30
00	1	0	0	0	1	1	11	15	26	28	34	46
Hr Total	**6**	**2**	**4**	**1**	**6**	**4**	**24**	**43**	**94**	**131**	**110**	**139**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	46	30	41	47	46	25	40	15	61	4	0	0
30	31	29	47	43	40	24	21	11	11	5	1	1
45	30	42	43	28	34	34	19	25	7	0	0	1
00	26	23	36	54	42	46	15	21	5	0	2	0
Hr Total	**133**	**124**	**167**	**172**	**162**	**129**	**95**	**72**	**84**	**9**	**3**	**2**

24 Hour Total : 1,716
AM Peak Hour begins : 11:15 AM Peak Volume : 160 AM Peak Hour Factor : 0.87
PM Peak Hour begins : 15:45 PM Peak Volume : 174 PM PeaK Hour Factor : 0.81

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

Start Date : April 19, 2016
Stop Date : April 19, 2016
County : Manatee

Start Time 00:00
Stop Time 24:00
Station Number 6
Equipment ID P233

Location : SR 70 east of Greenbrook Blvd

19-Apr-16 **Eastbound Volume**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	10	6	3	8	3	21	34	81	124	105	104	103
30	9	2	5	8	15	21	47	105	120	105	92	102
45	12	5	2	11	8	31	63	110	105	85	95	86
00	4	12	9	11	11	35	117	112	119	100	69	101
Hr Total	**35**	**25**	**19**	**38**	**37**	**108**	**261**	**408**	**468**	**395**	**360**	**392**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	115	106	113	123	125	170	182	74	56	88	51	16
30	99	97	118	123	143	162	116	84	72	51	29	13
45	105	123	148	130	121	159	98	91	76	41	26	17
00	97	91	119	153	134	144	92	72	49	40	27	9
Hr Total	**416**	**417**	**498**	**529**	**523**	**635**	**488**	**321**	**253**	**220**	**133**	**55**

24 Hour Total : 7,034
AM Peak Hour begins : 8:00 AM Peak Volume : 468 AM Peak Hour Factor : 0.94
PM Peak Hour begins : 17:15 PM Peak Volume : 647 PM PeaK Hour Factor : 0.89

19-Apr-16 **Westbound Volume**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	7	6	2	5	7	15	90	220	170	119	93	92
30	7	3	2	5	9	34	86	202	149	109	89	128
45	3	5	2	12	13	46	121	188	146	99	114	112
00	3	7	3	10	16	61	167	185	140	128	97	107
Hr Total	**20**	**21**	**9**	**32**	**45**	**156**	**464**	**795**	**605**	**455**	**393**	**439**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	128	104	99	134	122	130	110	50	40	38	39	12
30	105	112	121	114	87	124	70	57	41	48	23	14
45	125	124	160	119	131	110	84	59	45	44	11	15
00	123	82	127	113	102	113	61	47	31	15	14	5
Hr Total	**481**	**422**	**507**	**480**	**442**	**477**	**325**	**213**	**157**	**145**	**87**	**46**

24 Hour Total : 7,216
AM Peak Hour begins : 7:00 AM Peak Volume : 795 AM Peak Hour Factor : 0.90
PM Peak Hour begins : 14:15 PM Peak Volume : 542 PM PeaK Hour Factor : 0.85

19-Apr-16 **Total Volume for All Lanes**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	17	12	5	13	10	36	124	301	294	224	197	195
30	16	5	7	13	24	55	133	307	269	214	181	230
45	15	10	4	23	21	77	184	298	251	184	209	198
00	7	19	12	21	27	96	284	297	259	228	166	208
Hr Total	**55**	**46**	**28**	**70**	**82**	**264**	**725**	**1,203**	**1,073**	**850**	**753**	**831**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	243	210	212	257	247	300	292	124	96	126	90	28
30	204	209	239	237	230	286	186	141	113	99	52	27
45	230	247	308	249	252	269	182	150	121	85	37	32
00	220	173	246	266	236	257	153	119	80	55	41	14
Hr Total	**897**	**839**	**1,005**	**1,009**	**965**	**1,112**	**813**	**534**	**410**	**365**	**220**	**101**

24 Hour Total : 14,250
AM Peak Hour begins : 7:00 AM Peak Volume : 1,203 AM Peak Hour Factor : 0.98
PM Peak Hour begins : 17:00 PM Peak Volume : 1,112 PM PeaK Hour Factor : 0.93

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

Start Date : April 19, 2016
Stop Date : April 19, 2016
County : Manatee

Start Time 00:00
Stop Time 24:00
Station Number 7
Equipment ID P236

Location : Lindrick Ln south of SR 70

19-Apr-16 **Northbound Volume**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	0	0	0	0	1	0	1	10	6	17	11	15
30	0	0	0	0	0	1	1	3	2	18	7	23
45	0	0	0	0	1	0	1	10	16	14	11	13
00	0	0	0	0	0	0	6	12	3	4	18	8
Hr Total	**0**	**0**	**0**	**0**	**2**	**1**	**9**	**35**	**27**	**53**	**47**	**59**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	20	8	15	14	13	29	5	8	2	7	7	4
30	10	10	22	10	15	20	11	5	2	26	12	3
45	11	9	20	21	23	10	4	4	15	12	3	2
00	18	9	11	14	13	10	7	1	6	15	3	0
Hr Total	**59**	**36**	**68**	**59**	**64**	**69**	**27**	**18**	**25**	**60**	**25**	**9**

24 Hour Total : 752
AM Peak Hour begins : 10:45 AM Peak Volume : 69 AM Peak Hour Factor : 0.75
PM Peak Hour begins : 16:30 PM Peak Volume : 85 PM PeaK Hour Factor : 0.73

19-Apr-16 **Southbound Volume**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	0	0	0	0	0	1	1	22	33	24	13	15
30	0	3	0	0	0	1	1	16	27	10	16	17
45	0	0	0	0	0	3	8	20	32	12	12	12
00	0	0	0	1	0	9	22	26	22	14	9	11
Hr Total	**0**	**3**	**0**	**1**	**0**	**14**	**32**	**84**	**114**	**60**	**50**	**55**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	8	19	20	17	13	16	28	1	5	2	4	1
30	15	12	5	24	20	12	4	3	2	6	1	0
45	14	14	18	23	10	10	11	3	5	2	3	0
00	17	5	8	19	14	19	9	11	3	1	1	1
Hr Total	**54**	**50**	**51**	**83**	**57**	**57**	**52**	**18**	**15**	**11**	**9**	**2**

24 Hour Total : 872
AM Peak Hour begins : 7:45 AM Peak Volume : 118 AM Peak Hour Factor : 0.89
PM Peak Hour begins : 15:00 PM Peak Volume : 83 PM PeaK Hour Factor : 0.87

19-Apr-16 **Total Volume for All Lanes**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	0	0	0	0	1	1	2	32	39	41	24	30
30	0	3	0	0	0	2	2	19	29	28	23	40
45	0	0	0	0	1	3	9	30	48	26	23	25
00	0	0	0	1	0	9	28	38	25	18	27	19
Hr Total	**0**	**3**	**0**	**1**	**2**	**15**	**41**	**119**	**141**	**113**	**97**	**114**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	28	27	35	31	26	45	33	9	7	9	11	5
30	25	22	27	34	35	32	15	8	4	32	13	3
45	25	23	38	44	33	20	15	7	20	14	6	2
00	35	14	19	33	27	29	16	12	9	16	4	1
Hr Total	**113**	**86**	**119**	**142**	**121**	**126**	**79**	**36**	**40**	**71**	**34**	**11**

24 Hour Total : 1,624
AM Peak Hour begins : 7:45 AM Peak Volume : 154 AM Peak Hour Factor : 0.80
PM Peak Hour begins : 15:00 PM Peak Volume : 142 PM PeaK Hour Factor : 0.81

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

Start Date : April 19, 2016
Stop Date : April 19, 2016
County : Manatee

Start Time 00:00
Stop Time 24:00
Station Number 8
Equipment ID P134

Location : 197th St E north of SR 70

19-Apr-16 **Northbound Volume**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	0	0	0	0	0	1	0	2	17	8	8	9
30	0	0	0	0	0	0	3	4	12	10	7	5
45	0	1	0	1	0	0	2	7	5	6	10	12
00	1	1	0	0	1	0	4	7	10	14	8	10
Hr Total	**1**	**2**	**0**	**1**	**1**	**1**	**9**	**20**	**44**	**38**	**33**	**36**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	10	9	11	10	16	20	11	6	9	13	4	1
30	16	8	7	16	23	15	11	13	4	10	2	1
45	8	9	18	13	10	16	9	10	5	6	0	3
00	5	12	13	16	8	12	8	10	5	3	1	2
Hr Total	**39**	**38**	**49**	**55**	**57**	**63**	**39**	**39**	**23**	**32**	**7**	**7**

24 Hour Total : 634
AM Peak Hour begins : 11:30 AM Peak Volume : 48 AM Peak Hour Factor : 0.75
PM Peak Hour begins : 15:30 PM Peak Volume : 68 PM PeaK Hour Factor : 0.74

19-Apr-16 **Southbound Volume**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	1	0	0	0	0	1	2	29	10	9	15	7
30	0	0	1	1	0	2	2	13	16	15	14	4
45	0	0	0	0	0	4	14	23	12	10	11	14
00	0	0	0	1	1	5	13	12	11	8	18	9
Hr Total	**1**	**0**	**1**	**2**	**1**	**12**	**31**	**77**	**49**	**42**	**58**	**34**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	11	10	4	17	8	6	13	12	4	3	2	2
30	8	17	20	6	13	10	3	5	1	2	0	0
45	9	12	13	9	9	8	9	6	0	4	0	2
00	9	11	8	12	12	9	4	4	1	0	1	0
Hr Total	**37**	**50**	**45**	**44**	**42**	**33**	**29**	**27**	**6**	**9**	**3**	**4**

24 Hour Total : 637
AM Peak Hour begins : 6:45 AM Peak Volume : 78 AM Peak Hour Factor : 0.67
PM Peak Hour begins : 14:15 PM Peak Volume : 58 PM PeaK Hour Factor : 0.73

19-Apr-16 **Total Volume for All Lanes**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	1	0	0	0	0	2	2	31	27	17	23	16
30	0	0	1	1	0	2	5	17	28	25	21	9
45	0	1	0	1	0	4	16	30	17	16	21	26
00	1	1	0	1	2	5	17	19	21	22	26	19
Hr Total	**2**	**2**	**1**	**3**	**2**	**13**	**40**	**97**	**93**	**80**	**91**	**70**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	21	19	15	27	24	26	24	18	13	16	6	3
30	24	25	27	22	36	25	14	18	5	12	2	1
45	17	21	31	22	19	24	18	16	5	10	0	5
00	14	23	21	28	20	21	12	14	6	3	2	2
Hr Total	**76**	**88**	**94**	**99**	**99**	**96**	**68**	**66**	**29**	**41**	**10**	**11**

24 Hour Total : 1,271
AM Peak Hour begins : 7:30 AM Peak Volume : 104 AM Peak Hour Factor : 0.87
PM Peak Hour begins : 15:30 PM Peak Volume : 110 PM PeaK Hour Factor : 0.76

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

Start Date : April 19, 2016
Stop Date : April 19, 2016
County : Manatee

Start Time 00:00
Stop Time 24:00
Station Number 9
Equipment ID P225

Location : SR 70 east of Lindrick Ln

19-Apr-16 **Eastbound Volume**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	15	8	1	1	13	18	26	59	52	85	70	63
30	10	5	4	2	5	16	33	65	59	97	91	68
45	6	5	8	9	1	18	49	96	91	57	76	85
00	7	4	4	10	17	27	49	88	80	87	58	85
Hr Total	**38**	**22**	**17**	**22**	**36**	**79**	**157**	**308**	**282**	**326**	**295**	**301**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	80	84	98	104	135	144	114	97	49	56	30	14
30	87	86	126	90	124	154	103	67	66	44	21	12
45	105	89	115	107	128	140	92	61	65	40	19	10
00	95	95	81	115	125	108	100	53	48	25	12	6
Hr Total	**367**	**354**	**420**	**416**	**512**	**546**	**409**	**278**	**228**	**165**	**82**	**42**

24 Hour Total : 5,702
AM Peak Hour begins : 11:45 AM Peak Volume : 357 AM Peak Hour Factor : 0.85
PM Peak Hour begins : 16:45 PM Peak Volume : 563 PM PeaK Hour Factor : 0.91

19-Apr-16 **Westbound Volume**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	8	1	4	6	6	20	94	183	166	130	80	108
30	3	2	5	6	7	38	95	205	145	87	78	106
45	6	4	7	3	11	34	142	148	128	108	120	86
00	5	7	4	11	15	62	169	176	107	87	73	91
Hr Total	**22**	**14**	**20**	**26**	**39**	**154**	**500**	**712**	**546**	**412**	**351**	**391**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	90	92	86	101	64	67	62	39	45	16	8	13
30	99	89	103	85	70	77	78	38	25	23	14	9
45	110	88	110	90	95	91	73	45	18	17	11	12
00	111	73	99	93	82	62	48	36	32	18	10	4
Hr Total	**410**	**342**	**398**	**369**	**311**	**297**	**261**	**158**	**120**	**74**	**43**	**38**

24 Hour Total : 6,008
AM Peak Hour begins : 7:00 AM Peak Volume : 712 AM Peak Hour Factor : 0.87
PM Peak Hour begins : 14:15 PM Peak Volume : 413 PM PeaK Hour Factor : 0.94

19-Apr-16 **Total Volume for All Lanes**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	23	9	5	7	19	38	120	242	218	215	150	171
30	13	7	9	8	12	54	128	270	204	184	169	174
45	12	9	15	12	12	52	191	244	219	165	196	171
00	12	11	8	21	32	89	218	264	187	174	131	176
Hr Total	**60**	**36**	**37**	**48**	**75**	**233**	**657**	**1,020**	**828**	**738**	**646**	**692**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	170	176	184	205	199	211	176	136	94	72	38	27
30	186	175	229	175	194	231	181	105	91	67	35	21
45	215	177	225	197	223	231	165	106	83	57	30	22
00	206	168	180	208	207	170	148	89	80	43	22	10
Hr Total	**777**	**696**	**818**	**785**	**823**	**843**	**670**	**436**	**348**	**239**	**125**	**80**

24 Hour Total : 11,710
AM Peak Hour begins : 7:00 AM Peak Volume : 1,020 AM Peak Hour Factor : 0.94
PM Peak Hour begins : 16:45 PM Peak Volume : 880 PM PeaK Hour Factor : 0.95

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

Start Date : April 19, 2016
Stop Date : April 19, 2016
County : Manatee

Start Time 00:00
Stop Time 24:00
Station Number 10
Equipment ID P228

Location : 213th St E south of SR 70

19-Apr-16 **Northbound Volume**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	0	0	0	0	0	0	2	6	5	6	1	0
30	0	0	0	0	0	1	1	6	7	3	4	2
45	0	2	0	1	0	2	1	4	4	2	5	1
00	0	0	0	0	0	1	7	4	3	2	2	5
Hr Total	**0**	**2**	**0**	**1**	**0**	**4**	**11**	**20**	**19**	**13**	**12**	**8**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	4	5	1	1	3	2	6	4	0	1	0	0
30	2	3	0	3	3	4	1	3	1	0	0	0
45	4	2	2	2	2	2	0	0	0	0	0	0
00	3	3	1	5	1	3	2	0	0	0	0	0
Hr Total	**13**	**13**	**4**	**11**	**9**	**11**	**9**	**7**	**1**	**1**	**0**	**0**

24 Hour Total : 169
AM Peak Hour begins : 6:45 AM Peak Volume : 23 AM Peak Hour Factor : 0.82
PM Peak Hour begins : 12:30 PM Peak Volume : 15 PM PeaK Hour Factor : 0.75

19-Apr-16 **Southbound Volume**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	0	0	0	0	0	0	0	0	0	3	2	3
30	0	0	0	0	0	0	0	2	3	5	6	3
45	0	0	0	0	0	0	3	2	2	1	0	1
00	0	0	0	0	0	0	5	2	0	2	1	2
Hr Total	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**6**	**5**	**11**	**9**	**9**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	3	4	1	2	2	7	5	4	2	3	2	0
30	2	1	6	3	4	5	4	5	0	1	0	0
45	3	1	3	2	2	6	1	5	2	1	0	0
00	2	3	1	3	7	3	4	2	2	2	1	0
Hr Total	**10**	**9**	**11**	**10**	**15**	**21**	**14**	**16**	**6**	**7**	**3**	**0**

24 Hour Total : 170
AM Peak Hour begins : 9:00 AM Peak Volume : 11 AM Peak Hour Factor : 0.55
PM Peak Hour begins : 16:45 PM Peak Volume : 25 PM PeaK Hour Factor : 0.89

19-Apr-16 **Total Volume for All Lanes**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	0	0	0	0	0	0	2	6	5	9	3	3
30	0	0	0	0	0	1	1	8	10	8	10	5
45	0	2	0	1	0	2	4	6	6	3	5	2
00	0	0	0	0	0	1	12	6	3	4	3	7
Hr Total	**0**	**2**	**0**	**1**	**0**	**4**	**19**	**26**	**24**	**24**	**21**	**17**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	7	9	2	3	5	9	11	8	2	4	2	0
30	4	4	6	6	7	9	5	8	1	1	0	0
45	7	3	5	4	4	8	1	5	2	1	0	0
00	5	6	2	8	8	6	6	2	2	2	1	0
Hr Total	**23**	**22**	**15**	**21**	**24**	**32**	**23**	**23**	**7**	**8**	**3**	**0**

24 Hour Total : 339
AM Peak Hour begins : 6:45 AM Peak Volume : 32 AM Peak Hour Factor : 0.67
PM Peak Hour begins : 16:45 PM Peak Volume : 34 PM PeaK Hour Factor : 0.94

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

Start Date : April 19, 2016
Stop Date : April 19, 2016
County : Manatee

Start Time 00:00
Stop Time 24:00
Station Number 11
Equipment ID P59

Location : SR 70 east of 213th St E

19-Apr-16 **Eastbound Volume**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	8	6	3	5	2	16	29	51	57	78	86	71
30	5	1	6	9	15	24	47	76	89	78	81	87
45	16	4	1	11	3	19	44	67	81	79	86	55
00	4	9	9	17	6	31	56	88	86	68	63	74
Hr Total	**33**	**20**	**19**	**42**	**26**	**90**	**176**	**282**	**313**	**303**	**316**	**287**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	83	87	87	97	90	140	135	74	50	64	37	25
30	75	94	112	87	117	166	116	67	59	53	26	7
45	74	85	108	105	115	138	78	64	74	27	21	13
00	71	73	102	120	103	134	83	56	42	44	23	5
Hr Total	**303**	**339**	**409**	**409**	**425**	**578**	**412**	**261**	**225**	**188**	**107**	**50**

24 Hour Total : 5,613
AM Peak Hour begins : 8:15 AM Peak Volume : 334 AM Peak Hour Factor : 0.94
PM Peak Hour begins : 17:00 PM Peak Volume : 578 PM PeaK Hour Factor : 0.87

19-Apr-16 **Westbound Volume**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	8	4	1	1	7	20	91	190	149	97	72	70
30	8	4	2	13	13	34	103	180	127	99	63	76
45	2	5	4	5	12	54	115	164	114	92	95	85
00	9	11	7	12	15	61	189	161	127	88	71	63
Hr Total	**27**	**24**	**14**	**31**	**47**	**169**	**498**	**695**	**517**	**376**	**301**	**294**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	90	83	74	91	90	88	75	29	47	36	15	15
30	96	75	100	85	77	80	62	55	31	24	11	8
45	93	108	118	83	71	78	61	46	35	21	12	13
00	93	65	99	85	82	77	38	37	21	21	9	8
Hr Total	**372**	**331**	**391**	**344**	**320**	**323**	**236**	**167**	**134**	**102**	**47**	**44**

24 Hour Total : 5,804
AM Peak Hour begins : 6:45 AM Peak Volume : 723 AM Peak Hour Factor : 0.95
PM Peak Hour begins : 14:15 PM Peak Volume : 408 PM PeaK Hour Factor : 0.86

19-Apr-16 **Total Volume for All Lanes**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	16	10	4	6	9	36	120	241	206	175	158	141
30	13	5	8	22	28	58	150	256	216	177	144	163
45	18	9	5	16	15	73	159	231	195	171	181	140
00	13	20	16	29	21	92	245	249	213	156	134	137
Hr Total	**60**	**44**	**33**	**73**	**73**	**259**	**674**	**977**	**830**	**679**	**617**	**581**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	173	170	161	188	180	228	210	103	97	100	52	40
30	171	169	212	172	194	246	178	122	90	77	37	15
45	167	193	226	188	186	216	139	110	109	48	33	26
00	164	138	201	205	185	211	121	93	63	65	32	13
Hr Total	**675**	**670**	**800**	**753**	**745**	**901**	**648**	**428**	**359**	**290**	**154**	**94**

24 Hour Total : 11,417
AM Peak Hour begins : 7:00 AM Peak Volume : 977 AM Peak Hour Factor : 0.95
PM Peak Hour begins : 17:00 PM Peak Volume : 901 PM PeaK Hour Factor : 0.92

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

Start Date : April 20, 2016
Stop Date : April 20, 2016
County : Manatee
Location : Treeumph Adventure Park Entrance north of SR 70

Start Time 00:00
Stop Time 24:00
Station Number 12
Equipment ID P215

20-Apr-16 **Northbound Volume**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	0	0	0	0	0	0	0	0	4	0	0	1
30	0	0	0	0	0	0	0	2	13	0	0	0
45	0	0	0	0	0	0	0	1	2	1	0	0
00	0	0	0	0	0	0	0	5	5	0	0	1
Hr Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**24**	**1**	**0**	**2**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	0	0	0	0	0	0	0	0	0	0	0	0
30	3	2	0	1	0	1	0	0	0	0	0	0
45	0	2	0	0	0	1	0	0	2	0	0	0
00	0	0	0	1	0	0	0	0	0	0	0	0
Hr Total	**3**	**4**	**0**	**2**	**0**	**2**	**0**	**0**	**2**	**0**	**0**	**0**

24 Hour Total : 48
AM Peak Hour begins : 7:45 AM Peak Volume : 24 AM Peak Hour Factor : 0.46
PM Peak Hour begins : 12:45 PM Peak Volume : 4 PM PeaK Hour Factor : 0.50

20-Apr-16 **Southbound Volume**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	0	0	0	0	0	0	0	1	0	0	0	1
30	0	0	0	0	0	0	0	1	0	0	0	0
45	0	0	0	0	0	0	0	0	0	1	0	0
00	0	0	0	0	0	0	0	0	0	0	0	2
Hr Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**0**	**3**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	0	0	0	0	2	0	0	0	0	0	0	0
30	2	2	0	0	0	0	0	0	0	0	0	0
45	0	3	0	0	0	0	0	0	2	0	0	0
00	0	0	0	1	2	0	0	0	0	0	0	0
Hr Total	**2**	**5**	**0**	**1**	**4**	**0**	**0**	**0**	**2**	**0**	**0**	**0**

24 Hour Total : 20
AM Peak Hour begins : 11:30 AM Peak Volume : 4 AM Peak Hour Factor : 0.50
PM Peak Hour begins : 12:45 PM Peak Volume : 5 PM PeaK Hour Factor : 0.42

20-Apr-16 **Total Volume for All Lanes**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	0	0	0	0	0	0	0	1	4	0	0	2
30	0	0	0	0	0	0	0	3	13	0	0	0
45	0	0	0	0	0	0	0	1	2	2	0	0
00	0	0	0	0	0	0	0	5	5	0	0	3
Hr Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**10**	**24**	**2**	**0**	**5**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	0	0	0	0	2	0	0	0	0	0	0	0
30	5	4	0	1	0	1	0	0	0	0	0	0
45	0	5	0	0	0	1	0	0	4	0	0	0
00	0	0	0	2	2	0	0	0	0	0	0	0
Hr Total	**5**	**9**	**0**	**3**	**4**	**2**	**0**	**0**	**4**	**0**	**0**	**0**

24 Hour Total : 68
AM Peak Hour begins : 7:45 AM Peak Volume : 24 AM Peak Hour Factor : 0.46
PM Peak Hour begins : 12:45 PM Peak Volume : 9 PM PeaK Hour Factor : 0.45

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

Start Date : April 19, 2016
Stop Date : April 19, 2016
County : Manatee

Start Time 00:00
Stop Time 24:00
Station Number 13
Equipment ID P208

Location : 225th St E south of SR 70

19-Apr-16 **Northbound Volume**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	0	0	0	0	0	1	4	12	20	9	4	7
30	0	0	0	0	1	0	1	16	11	1	9	6
45	0	0	2	1	1	0	10	11	11	5	11	5
00	0	0	0	0	0	2	15	17	11	12	5	5
Hr Total	**0**	**0**	**2**	**1**	**2**	**3**	**30**	**56**	**53**	**27**	**29**	**23**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	12	4	4	3	11	7	10	2	1	1	2	0
30	5	7	10	5	10	4	4	2	3	2	0	1
45	6	7	4	4	12	8	4	1	1	0	0	0
00	5	2	4	6	6	8	1	3	0	2	0	0
Hr Total	**28**	**20**	**22**	**18**	**39**	**27**	**19**	**8**	**5**	**5**	**2**	**1**

24 Hour Total : 420
AM Peak Hour begins : 7:15 AM Peak Volume : 64 AM Peak Hour Factor : 0.80
PM Peak Hour begins : 15:45 PM Peak Volume : 39 PM PeaK Hour Factor : 0.81

19-Apr-16 **Southbound Volume**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	0	0	0	0	0	0	0	3	4	12	4	6
30	0	0	0	0	1	0	1	3	11	5	0	6
45	0	0	0	0	0	0	1	3	12	6	4	6
00	0	0	0	2	1	0	1	7	7	12	5	2
Hr Total	**0**	**0**	**0**	**2**	**2**	**0**	**3**	**16**	**34**	**35**	**13**	**20**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	14	5	7	10	6	14	16	5	6	6	2	1
30	9	6	5	8	7	16	13	13	9	8	1	2
45	11	8	4	11	8	8	5	4	10	2	1	3
00	6	3	11	8	8	14	15	9	6	2	3	1
Hr Total	**40**	**22**	**27**	**37**	**29**	**52**	**49**	**31**	**31**	**18**	**7**	**7**

24 Hour Total : 475
AM Peak Hour begins : 8:15 AM Peak Volume : 42 AM Peak Hour Factor : 0.88
PM Peak Hour begins : 17:15 PM Peak Volume : 54 PM PeaK Hour Factor : 0.84

19-Apr-16 **Total Volume for All Lanes**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	0	0	0	0	0	1	4	15	24	21	8	13
30	0	0	0	0	2	0	2	19	22	6	9	12
45	0	0	2	1	1	0	11	14	23	11	15	11
00	0	0	0	2	1	2	16	24	18	24	10	7
Hr Total	**0**	**0**	**2**	**3**	**4**	**3**	**33**	**72**	**87**	**62**	**42**	**43**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	26	9	11	13	17	21	26	7	7	7	4	1
30	14	13	15	13	17	20	17	15	12	10	1	3
45	17	15	8	15	20	16	9	5	11	2	1	3
00	11	5	15	14	14	22	16	12	6	4	3	1
Hr Total	**68**	**42**	**49**	**55**	**68**	**79**	**68**	**39**	**36**	**23**	**9**	**8**

24 Hour Total : 895
AM Peak Hour begins : 7:45 AM Peak Volume : 93 AM Peak Hour Factor : 0.97
PM Peak Hour begins : 17:15 PM Peak Volume : 84 PM PeaK Hour Factor : 0.81

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

Start Date : April 19, 2016
Stop Date : April 19, 2016
County : Manatee

Start Time 00:00
Stop Time 24:00
Station Number 14
Equipment ID P227

Location : 225th St E north of SR 70

19-Apr-16 **Northbound Volume**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	0	0	0	0	0	0	0	2	0	2	1	0
30	0	0	0	0	1	0	0	1	2	1	0	3
45	1	0	0	0	0	0	0	1	4	3	2	0
00	0	1	2	0	0	0	0	1	3	0	0	3
Hr Total	**1**	**1**	**2**	**0**	**1**	**0**	**0**	**5**	**9**	**6**	**3**	**6**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	2	1	0	4	3	2	1	0	4	3	0	0
30	1	2	1	2	2	2	1	1	4	0	1	0
45	1	4	0	3	3	3	2	1	3	0	0	0
00	1	1	0	9	5	4	2	1	0	1	0	0
Hr Total	**5**	**8**	**1**	**18**	**13**	**11**	**6**	**3**	**11**	**4**	**1**	**0**

24 Hour Total : 115
AM Peak Hour begins : 8:15 AM Peak Volume : 11 AM Peak Hour Factor : 0.69
PM Peak Hour begins : 15:00 PM Peak Volume : 18 PM PeaK Hour Factor : 0.50

19-Apr-16 **Southbound Volume**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	0	0	0	1	0	1	1	6	5	4	3	2
30	0	0	0	0	1	2	2	10	1	3	0	2
45	0	0	0	0	0	0	2	5	2	3	1	0
00	0	0	1	0	0	0	1	1	2	2	0	1
Hr Total	**0**	**0**	**1**	**1**	**1**	**3**	**6**	**22**	**10**	**12**	**4**	**5**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	1	0	0	0	3	5	0	0	2	0	0	0
30	2	0	2	1	1	0	0	0	1	0	0	0
45	1	3	1	1	1	2	0	1	0	0	0	0
00	2	2	1	5	1	3	0	1	0	0	0	0
Hr Total	**6**	**5**	**4**	**7**	**6**	**10**	**0**	**2**	**3**	**0**	**0**	**0**

24 Hour Total : 108
AM Peak Hour begins : 6:45 AM Peak Volume : 22 AM Peak Hour Factor : 0.55
PM Peak Hour begins : 15:15 PM Peak Volume : 10 PM PeaK Hour Factor : 0.50

19-Apr-16 **Total Volume for All Lanes**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	0	0	0	1	0	1	1	8	5	6	4	2
30	0	0	0	0	2	2	2	11	3	4	0	5
45	1	0	0	0	0	0	2	6	6	6	3	0
00	0	1	3	0	0	0	1	2	5	2	0	4
Hr Total	**1**	**1**	**3**	**1**	**2**	**3**	**6**	**27**	**19**	**18**	**7**	**11**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	3	1	0	4	6	7	1	0	6	3	0	0
30	3	2	3	3	3	2	1	1	5	0	1	0
45	2	7	1	4	4	5	2	2	3	0	0	0
00	3	3	1	14	6	7	2	2	0	1	0	0
Hr Total	**11**	**13**	**5**	**25**	**19**	**21**	**6**	**5**	**14**	**4**	**1**	**0**

24 Hour Total : 223
AM Peak Hour begins : 7:00 AM Peak Volume : 27 AM Peak Hour Factor : 0.61
PM Peak Hour begins : 15:15 PM Peak Volume : 27 PM PeaK Hour Factor : 0.48

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

Start Date : April 19, 2016
Stop Date : April 19, 2016
County : Manatee

Start Time 00:00
Stop Time 24:00
Station Number 15
Equipment ID P81

Location : SR 70 east of 225th St E

19-Apr-16 **Eastbound Volume**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	10	7	2	1	17	20	28	58	66	80	67	67
30	13	4	4	1	5	15	32	64	48	76	83	63
45	7	7	10	10	2	19	48	84	80	64	61	64
00	8	3	5	7	19	29	47	83	73	70	49	81
Hr Total	**38**	**21**	**21**	**19**	**43**	**83**	**155**	**289**	**267**	**290**	**260**	**275**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	73	88	86	91	137	122	96	85	36	49	25	14
30	76	85	116	69	112	136	92	52	56	34	20	12
45	108	75	101	95	103	134	67	54	51	37	15	11
00	81	83	74	100	124	87	99	44	41	23	8	5
Hr Total	**338**	**331**	**377**	**355**	**476**	**479**	**354**	**235**	**184**	**143**	**68**	**42**

24 Hour Total : 5,143
AM Peak Hour begins : 11:45 AM Peak Volume : 338 AM Peak Hour Factor : 0.78
PM Peak Hour begins : 16:45 PM Peak Volume : 516 PM PeaK Hour Factor : 0.95

19-Apr-16 **Westbound Volume**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	7	3	1	1	7	20	91	176	128	90	64	60
30	9	5	5	13	16	34	108	158	121	89	59	79
45	3	6	4	4	9	54	110	156	107	90	79	76
00	8	9	7	12	16	59	170	140	114	81	69	68
Hr Total	**27**	**23**	**17**	**30**	**48**	**167**	**479**	**630**	**470**	**350**	**271**	**283**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	77	74	80	95	77	86	68	28	45	31	11	16
30	84	70	89	77	78	77	60	62	28	24	10	7
45	97	101	113	94	63	70	60	40	34	19	12	13
00	77	60	102	80	81	67	35	37	28	22	10	8
Hr Total	**335**	**305**	**384**	**346**	**299**	**300**	**223**	**167**	**135**	**96**	**43**	**44**

24 Hour Total : 5,472
AM Peak Hour begins : 6:45 AM Peak Volume : 660 AM Peak Hour Factor : 0.94
PM Peak Hour begins : 14:15 PM Peak Volume : 399 PM PeaK Hour Factor : 0.88

19-Apr-16 **Total Volume for All Lanes**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	17	10	3	2	24	40	119	234	194	170	131	127
30	22	9	9	14	21	49	140	222	169	165	142	142
45	10	13	14	14	11	73	158	240	187	154	140	140
00	16	12	12	19	35	88	217	223	187	151	118	149
Hr Total	**65**	**44**	**38**	**49**	**91**	**250**	**634**	**919**	**737**	**640**	**531**	**558**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	150	162	166	186	214	208	164	113	81	80	36	30
30	160	155	205	146	190	213	152	114	84	58	30	19
45	205	176	214	189	166	204	127	94	85	56	27	24
00	158	143	176	180	205	154	134	81	69	45	18	13
Hr Total	**673**	**636**	**761**	**701**	**775**	**779**	**577**	**402**	**319**	**239**	**111**	**86**

24 Hour Total : 10,615
AM Peak Hour begins : 7:00 AM Peak Volume : 919 AM Peak Hour Factor : 0.96
PM Peak Hour begins : 16:45 PM Peak Volume : 830 PM PeaK Hour Factor : 0.97

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

Start Date : April 19, 2016
Stop Date : April 19, 2016
County : Manatee

Start Time 00:00
Stop Time 24:00
Station Number 16
Equipment ID P213

Location : Meadow Dove Ln south of SR 70

19-Apr-16 **Northbound Volume**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	0	0	0	0	0	1	1	8	9	5	2	3
30	0	0	0	0	0	1	2	8	3	4	4	5
45	1	0	0	0	0	2	3	11	9	3	6	4
00	0	0	0	0	0	3	6	10	5	2	6	4
Hr Total	**1**	**0**	**0**	**0**	**0**	**7**	**12**	**37**	**26**	**14**	**18**	**16**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	1	4	2	3	3	7	0	0	1	2	0	0
30	1	5	1	5	3	5	2	2	0	2	2	0
45	1	3	0	2	7	4	1	0	2	0	1	0
00	1	2	4	3	2	3	2	0	0	0	0	0
Hr Total	**4**	**14**	**7**	**13**	**15**	**19**	**5**	**2**	**3**	**4**	**3**	**0**

24 Hour Total : 220
AM Peak Hour begins : 7:15 AM Peak Volume : 38 AM Peak Hour Factor : 0.86
PM Peak Hour begins : 16:30 PM Peak Volume : 21 PM PeaK Hour Factor : 0.75

19-Apr-16 **Southbound Volume**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	0	0	0	0	0	0	0	0	7	2	4	4
30	0	0	2	0	1	0	0	1	3	5	1	5
45	0	0	0	0	1	0	0	2	5	4	4	4
00	0	0	0	0	0	0	0	0	4	0	0	1
Hr Total	**0**	**0**	**2**	**0**	**2**	**0**	**0**	**3**	**19**	**11**	**9**	**14**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	5	1	4	4	0	1	5	4	1	2	0	1
30	3	1	8	3	4	10	3	2	2	2	1	0
45	3	7	2	2	2	4	5	0	4	0	0	0
00	0	5	0	5	5	5	1	4	1	3	0	0
Hr Total	**11**	**14**	**14**	**14**	**11**	**20**	**14**	**10**	**8**	**7**	**1**	**1**

24 Hour Total : 185
AM Peak Hour begins : 8:00 AM Peak Volume : 19 AM Peak Hour Factor : 0.68
PM Peak Hour begins : 13:30 PM Peak Volume : 24 PM PeaK Hour Factor : 0.75

19-Apr-16 **Total Volume for All Lanes**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	0	0	0	0	0	1	1	8	16	7	6	7
30	0	0	2	0	1	1	2	9	6	9	5	10
45	1	0	0	0	1	2	3	13	14	7	10	8
00	0	0	0	0	0	3	6	10	9	2	6	5
Hr Total	**1**	**0**	**2**	**0**	**2**	**7**	**12**	**40**	**45**	**25**	**27**	**30**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	6	5	6	7	3	8	5	4	2	4	0	1
30	4	6	9	8	7	15	5	4	2	4	3	0
45	4	10	2	4	9	8	6	0	6	0	1	0
00	1	7	4	8	7	8	3	4	1	3	0	0
Hr Total	**15**	**28**	**21**	**27**	**26**	**39**	**19**	**12**	**11**	**11**	**4**	**1**

24 Hour Total : 405
AM Peak Hour begins : 7:15 AM Peak Volume : 48 AM Peak Hour Factor : 0.75
PM Peak Hour begins : 16:30 PM Peak Volume : 39 PM PeaK Hour Factor : 0.65

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

Start Date : April 19, 2016
Stop Date : April 19, 2016
County : Manatee

Location : CR 675 north of SR 70

Start Time 00:00
Stop Time 24:00
Station Number 17
Equipment ID 125

19-Apr-16 **Northbound Volume**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	5	0	1	1	1	2	9	14	20	25	26	20
30	1	1	0	0	4	3	2	27	31	31	20	30
45	3	0	2	1	3	4	13	19	24	28	20	21
00	3	1	1	0	4	0	18	32	29	22	28	30
Hr Total	**12**	**2**	**4**	**2**	**12**	**9**	**42**	**92**	**104**	**106**	**94**	**101**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	24	21	27	22	29	37	28	18	10	7	6	0
30	28	26	25	28	30	42	30	16	10	12	12	3
45	23	17	33	32	41	43	18	28	18	9	5	5
00	15	23	26	27	28	34	20	4	11	15	2	2
Hr Total	**90**	**87**	**111**	**109**	**128**	**156**	**96**	**66**	**49**	**43**	**25**	**10**

24 Hour Total : 1,550
AM Peak Hour begins : 8:45 AM Peak Volume : 113 AM Peak Hour Factor : 0.91
PM Peak Hour begins : 17:00 PM Peak Volume : 156 PM PeaK Hour Factor : 0.91

19-Apr-16 **Southbound Volume**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	3	0	2	0	1	6	13	36	41	38	11	18
30	0	0	1	1	3	4	16	38	36	27	20	27
45	1	1	0	0	1	10	23	41	34	27	21	26
00	0	0	1	0	0	15	33	43	31	27	29	17
Hr Total	**4**	**1**	**4**	**1**	**5**	**35**	**85**	**158**	**142**	**119**	**81**	**88**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	25	16	27	22	16	24	23	14	7	14	7	1
30	20	23	22	15	18	25	15	13	12	7	4	0
45	14	24	18	32	15	18	7	10	5	4	0	1
00	21	23	27	22	22	20	9	9	13	5	1	0
Hr Total	**80**	**86**	**94**	**91**	**71**	**87**	**54**	**46**	**37**	**30**	**12**	**2**

24 Hour Total : 1,413
AM Peak Hour begins : 7:15 AM Peak Volume : 163 AM Peak Hour Factor : 0.95
PM Peak Hour begins : 13:15 PM Peak Volume : 97 PM PeaK Hour Factor : 0.90

19-Apr-16 **Total Volume for All Lanes**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	8	0	3	1	2	8	22	50	61	63	37	38
30	1	1	1	1	7	7	18	65	67	58	40	57
45	4	1	2	1	4	14	36	60	58	55	41	47
00	3	1	2	0	4	15	51	75	60	49	57	47
Hr Total	**16**	**3**	**8**	**3**	**17**	**44**	**127**	**250**	**246**	**225**	**175**	**189**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	49	37	54	44	45	61	51	32	17	21	13	1
30	48	49	47	43	48	67	45	29	22	19	16	3
45	37	41	51	64	56	61	25	38	23	13	5	6
00	36	46	53	49	50	54	29	13	24	20	3	2
Hr Total	**170**	**173**	**205**	**200**	**199**	**243**	**150**	**112**	**86**	**73**	**37**	**12**

24 Hour Total : 2,963
AM Peak Hour begins : 7:30 AM Peak Volume : 263 AM Peak Hour Factor : 0.88
PM Peak Hour begins : 17:00 PM Peak Volume : 243 PM PeaK Hour Factor : 0.91

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

Start Date : April 19, 2016
Stop Date : April 19, 2016
County : Manatee

Start Time 00:00
Stop Time 24:00
Station Number 18
Equipment ID P232

Location : SR 70 east of CR 675

19-Apr-16 **Eastbound Volume**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	7	7	6	8	1	20	34	60	65	84	85	68
30	4	1	8	11	16	36	54	74	96	92	85	109
45	10	3	1	8	4	25	61	84	73	87	88	61
00	5	10	7	17	8	46	65	98	90	75	81	89
Hr Total	**26**	**21**	**22**	**44**	**29**	**127**	**214**	**316**	**324**	**338**	**339**	**327**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	82	87	83	76	133	100	74	78	26	30	20	12
30	77	106	106	66	102	123	84	50	53	36	19	8
45	64	86	99	89	81	138	57	46	50	30	14	9
00	77	89	98	107	133	81	90	37	36	20	5	5
Hr Total	**300**	**368**	**386**	**338**	**449**	**442**	**305**	**211**	**165**	**116**	**58**	**34**

24 Hour Total : 5,299
AM Peak Hour begins : 8:45 AM Peak Volume : 353 AM Peak Hour Factor : 0.96
PM Peak Hour begins : 16:45 PM Peak Volume : 494 PM PeaK Hour Factor : 0.90

19-Apr-16 **Westbound Volume**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	11	4	1	3	6	19	99	179	139	99	100	80
30	8	8	2	13	21	34	100	138	127	123	75	120
45	3	6	7	4	14	49	111	141	112	117	96	91
00	8	8	8	11	22	52	167	151	144	85	94	105
Hr Total	**30**	**26**	**18**	**31**	**63**	**154**	**477**	**609**	**522**	**424**	**365**	**396**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	102	83	99	84	33	41	25	7	6	13	1	1
30	117	100	106	90	39	49	31	17	13	8	10	4
45	109	92	139	101	43	29	21	16	8	11	4	5
00	93	76	98	40	42	31	7	6	5	10	1	5
Hr Total	**421**	**351**	**442**	**315**	**157**	**150**	**84**	**46**	**32**	**42**	**16**	**15**

24 Hour Total : 5,186
AM Peak Hour begins : 6:45 AM Peak Volume : 625 AM Peak Hour Factor : 0.87
PM Peak Hour begins : 14:00 PM Peak Volume : 442 PM PeaK Hour Factor : 0.80

19-Apr-16 **Total Volume for All Lanes**

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	18	11	7	11	7	39	133	239	204	183	185	148
30	12	9	10	24	37	70	154	212	223	215	160	229
45	13	9	8	12	18	74	172	225	185	204	184	152
00	13	18	15	28	30	98	232	249	234	160	175	194
Hr Total	**56**	**47**	**40**	**75**	**92**	**281**	**691**	**925**	**846**	**762**	**704**	**723**

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	184	170	182	160	166	141	99	85	32	43	21	13
30	194	206	212	156	141	172	115	67	66	44	29	12
45	173	178	238	190	124	167	78	62	58	41	18	14
00	170	165	196	147	175	112	97	43	41	30	6	10
Hr Total	**721**	**719**	**828**	**653**	**606**	**592**	**389**	**257**	**197**	**158**	**74**	**49**

24 Hour Total : 10,485
AM Peak Hour begins : 7:00 AM Peak Volume : 925 AM Peak Hour Factor : 0.93
PM Peak Hour begins : 14:00 PM Peak Volume : 828 PM PeaK Hour Factor : 0.87

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee	**City**	Bradenton
Intersection	Lorraine Rd	&	SR 70
Date	April 19, 2016		**All Vehicles**
Time Period	7:00 to 9:00		

VHB Project #: 62558.13

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	72	11	2	9	54	33
7:15 - 7:30	108	25	10	17	58	34
7:30 - 7:45	64	18	4	31	78	33
7:45 - 8:00	76	20	8	18	96	18
8:00 - 8:15	88	41	12	28	107	22
8:15 - 8:30	96	46	15	24	91	21
8:30 - 8:45	119	59	20	15	79	16
8:45 - 9:00	97	55	16	25	65	15
	720	275	87	167	628	192

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	21	63	51	22	188	24
7:15 - 7:30	20	70	53	19	155	27
7:30 - 7:45	25	87	72	32	136	22
7:45 - 8:00	30	81	91	30	126	17
8:00 - 8:15	32	82	104	47	101	10
8:15 - 8:30	30	100	87	31	112	10
8:30 - 8:45	32	85	80	24	104	11
8:45 - 9:00	38	94	94	25	108	7
	228	662	632	230	1,030	128

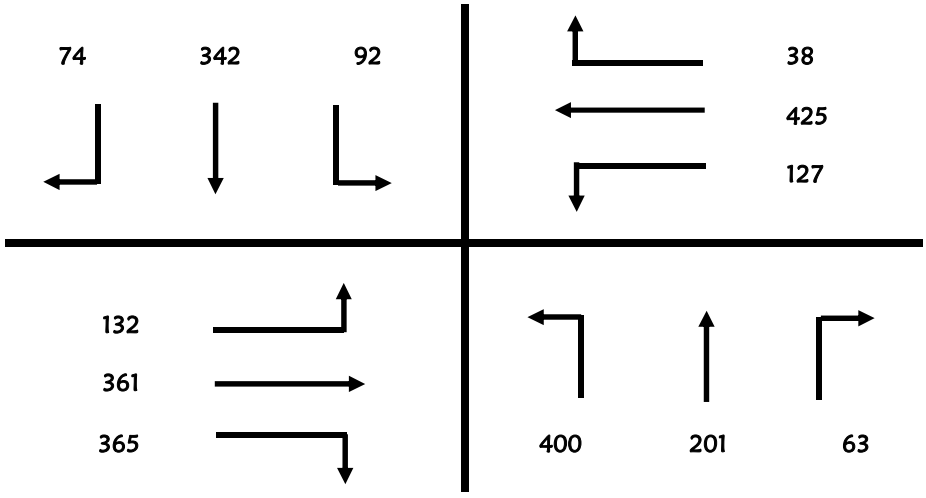
North / South
Lorraine Rd

East / West
SR 70

Peak Hour
8:00 - 9:00

Peak Hour Factor
0.97

Total Pk Hr Voume
2,620



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee	**City**	Bradenton
Intersection	Lorraine Rd	&	SR 70
Date	April 19, 2016		
Time Period	7:00 to 9:00		**Trucks**

VHB Project #: 62558.1

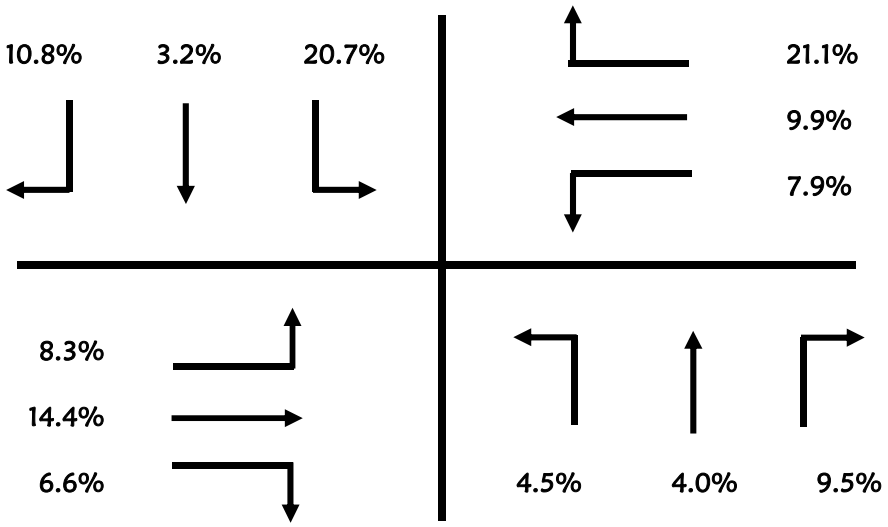
Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	2	0	0	0	2	0
7:15 - 7:30	2	1	1	5	1	1
7:30 - 7:45	6	0	1	4	4	2
7:45 - 8:00	5	2	1	5	4	2
8:00 - 8:15	5	2	2	7	3	2
8:15 - 8:30	5	1	2	4	2	2
8:30 - 8:45	4	2	0	4	2	2
8:45 - 9:00	4	3	2	4	4	2

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	7	3	2	8	6
7:15 - 7:30	1	8	4	0	10	10
7:30 - 7:45	1	13	1	5	12	5
7:45 - 8:00	1	18	1	0	11	3
8:00 - 8:15	1	12	4	3	10	3
8:15 - 8:30	5	15	3	1	11	3
8:30 - 8:45	3	10	9	4	13	1
8:45 - 9:00	2	15	8	2	8	1

North / South
Lorraine Rd

East / West
SR 70

Peak Hour
8:00 - 9:00



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee		**City**	Bradenton	
Intersection	Lorraine Rd		&	SR 70	
Date	April 19, 2016				
Time Period	7:00	to	9:00	**U-Turn & RTOR**	

VHB Project #: 62558.13

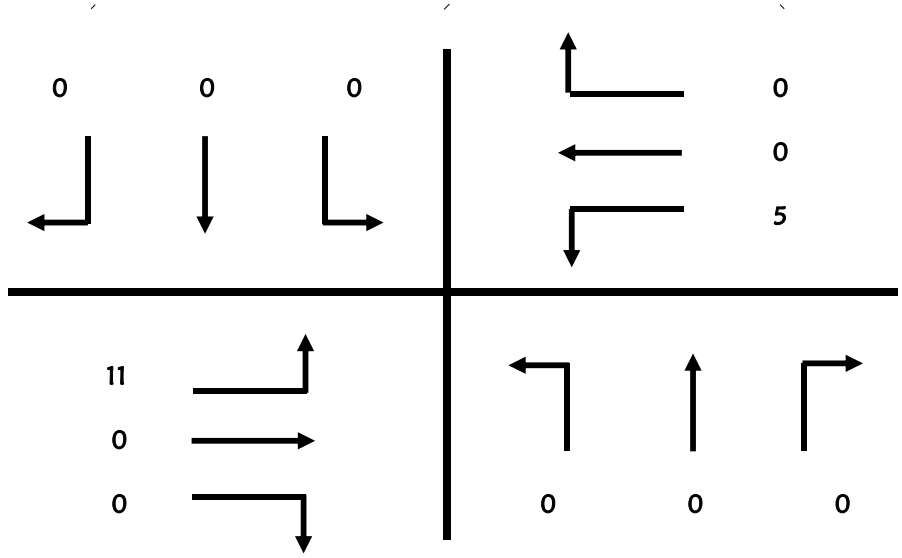
Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	1	0	0	0	0	0
7:15 - 7:30	3	0	0	0	0	0
7:30 - 7:45	3	0	0	1	0	0
7:45 - 8:00	6	0	0	0	0	0
8:00 - 8:15	2	0	0	1	0	0
8:15 - 8:30	4	0	0	1	0	0
8:30 - 8:45	3	0	0	3	0	0
8:45 - 9:00	2	0	0	0	0	0

North / South
Lorraine Rd

East / West
SR 70

Peak Hour
8:00 - 9:00



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee	**City**	Bradenton
Intersection	Lorraine Rd	&	SR 70
Date	April 19, 2016		**All Vehicles**
Time Period	16:00 to 18:00		

VHB Project #: 62558.13

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	97	61	21	14	19	19
16:15 - 16:30	81	48	23	15	18	20
16:30 - 16:45	55	45	19	15	26	18
16:45 - 17:00	80	45	14	17	30	15
17:00 - 17:15	78	57	23	17	27	36
17:15 - 17:30	73	62	35	23	16	17
17:30 - 17:45	88	54	23	23	25	34
17:45 - 18:00	93	45	28	17	23	16
	645	417	186	141	184	175

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	43	103	62	20	106	12
16:15 - 16:30	43	108	59	11	72	10
16:30 - 16:45	44	103	51	12	116	15
16:45 - 17:00	41	128	69	14	84	14
17:00 - 17:15	47	157	47	11	116	14
17:15 - 17:30	56	137	49	5	114	19
17:30 - 17:45	53	131	57	12	92	10
17:45 - 18:00	46	148	52	15	101	12
	373	1,015	446	100	801	106

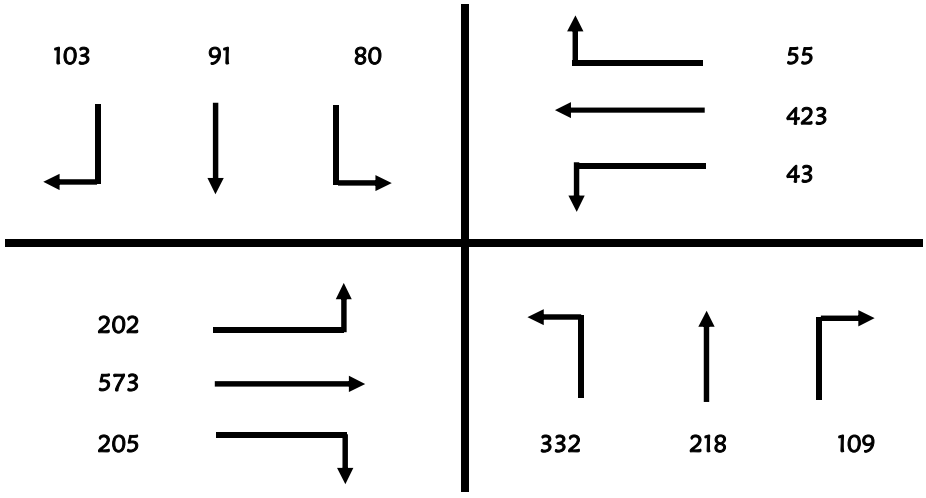
North / South
Lorraine Rd

East / West
SR 70

Peak Hour
17:00 - 18:00

Peak Hour Factor
0.97

Total Pk Hr Voume
2,434



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee		**City**	Bradenton	
Intersection	Lorraine Rd		&	SR 70	
Date	April 19, 2016				
Time Period	16:00	to	18:00	**Trucks**	

VHB Project #: 62558.1

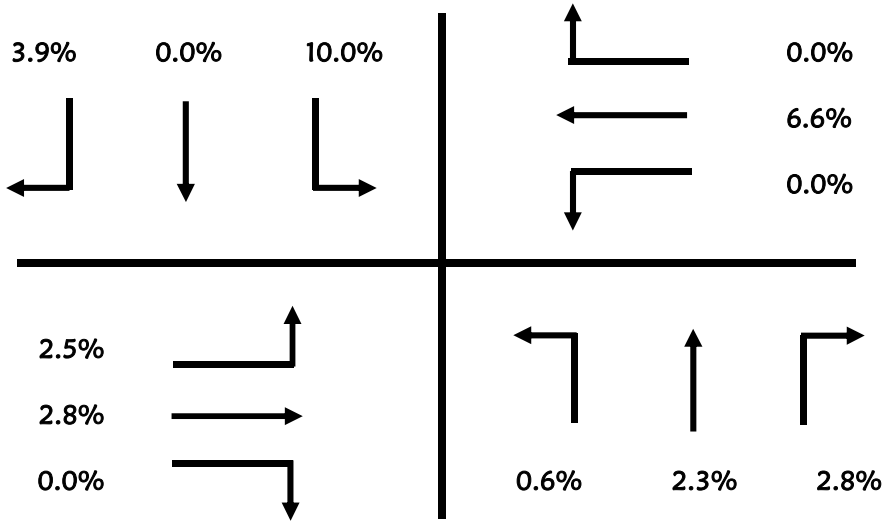
Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	6	6	0	4	1	2
16:15 - 16:30	4	1	0	0	0	0
16:30 - 16:45	1	0	0	0	0	1
16:45 - 17:00	4	0	0	0	0	2
17:00 - 17:15	0	3	1	1	0	1
17:15 - 17:30	0	1	1	2	0	2
17:30 - 17:45	1	0	1	4	0	0
17:45 - 18:00	1	1	0	1	0	1

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	2	4	0	0	13	0
16:15 - 16:30	7	6	0	0	2	1
16:30 - 16:45	1	2	1	0	8	3
16:45 - 17:00	6	3	1	0	5	1
17:00 - 17:15	3	4	0	0	10	0
17:15 - 17:30	1	7	0	0	5	0
17:30 - 17:45	1	2	0	0	7	0
17:45 - 18:00	0	3	0	0	6	0

North / South
Lorraine Rd

East / West
SR 70

Peak Hour
17:00 - 18:00



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee		**City**	Bradenton	
Intersection	Lorraine Rd		&	SR 70	
Date	April 19, 2016				
Time Period	16:00	to	18:00	**U-Turn & RTOR**	

VHB Project #: 62558.13

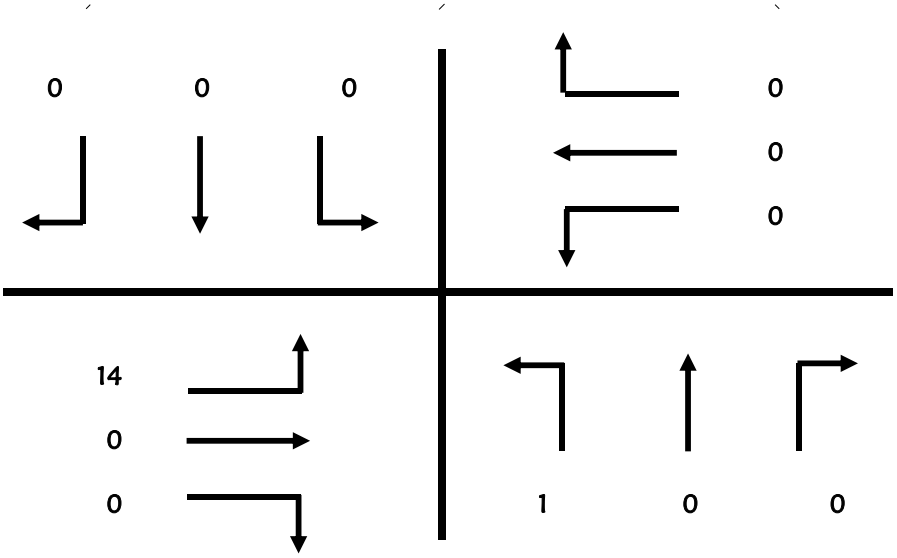
Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	1	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	5	0	0	4	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	2	0	0	3	0	0
16:45 - 17:00	4	0	0	1	0	0
17:00 - 17:15	2	0	0	0	0	0
17:15 - 17:30	5	0	0	0	0	0
17:30 - 17:45	4	0	0	0	0	0
17:45 - 18:00	3	0	0	0	0	0

North / South
Lorraine Rd

East / West
SR 70

Peak Hour
17:00 - 18:00



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee	**City**	Bradenton
Intersection	Greenbrook Blvd-Post Blvd	&	SR 70
Date	April 19, 2016		**All Vehicles**
Time Period	7:00 to 9:00		

VHB Project #: 62558.13

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	35	0	0	0	0	1
7:15 - 7:30	24	0	5	3	1	0
7:30 - 7:45	29	1	4	0	2	2
7:45 - 8:00	24	0	2	5	2	6
8:00 - 8:15	26	1	4	3	4	2
8:15 - 8:30	20	4	6	2	7	7
8:30 - 8:45	17	5	4	1	2	7
8:45 - 9:00	22	4	9	2	3	6
	197	15	34	16	21	31

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	5	62	2	8	203	2
7:15 - 7:30	2	94	9	4	180	0
7:30 - 7:45	4	96	8	11	162	1
7:45 - 8:00	3	86	12	18	152	0
8:00 - 8:15	3	103	18	24	142	1
8:15 - 8:30	4	104	20	11	122	3
8:30 - 8:45	9	85	18	12	116	1
8:45 - 9:00	8	110	28	11	115	2
	38	740	115	99	1,192	10

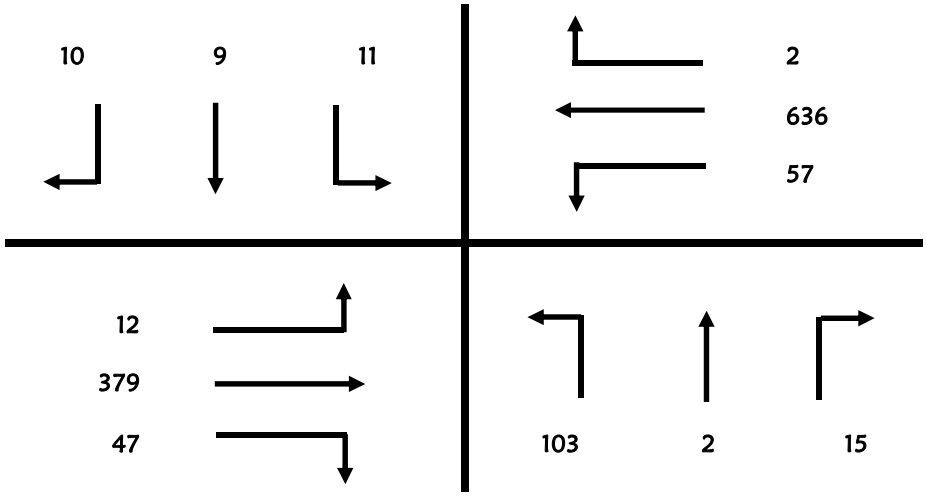
North / South
Greenbrook Blvd-Post Blvd

East / West
SR 70

Peak Hour
7:15 - 8:15

Peak Hour Factor
0.97

Total Pk Hr Voume
1,283



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee		**City**	Bradenton	
Intersection	Greenbrook Blvd-Post Blvd		&	SR 70	
Date	April 19, 2016				
Time Period	7:00	to	9:00	**Trucks**	

VHB Project #: 62558.1

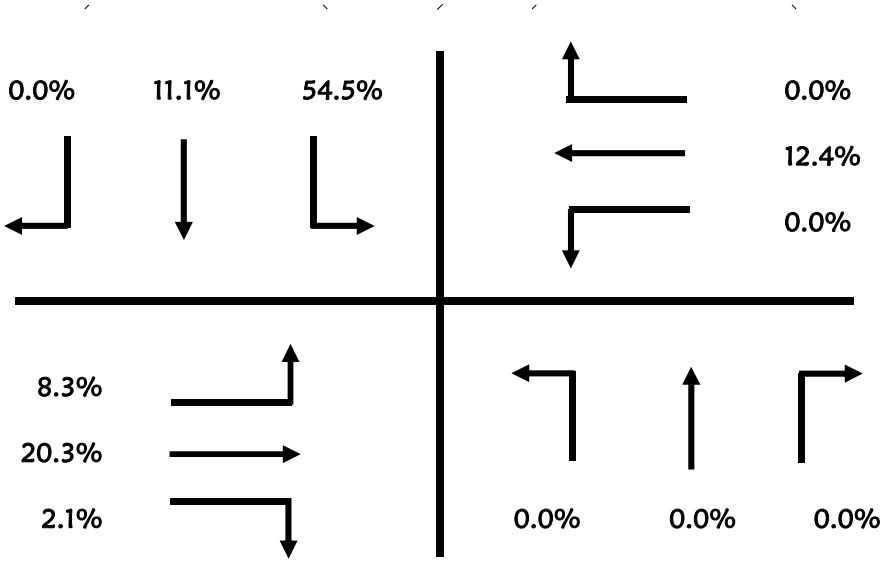
Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	2	0	0
7:30 - 7:45	0	0	0	0	1	0
7:45 - 8:00	0	0	0	4	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	1
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	0	1	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	12	0	0	20	0
7:15 - 7:30	0	17	0	0	23	0
7:30 - 7:45	1	16	1	0	24	0
7:45 - 8:00	0	23	0	0	17	0
8:00 - 8:15	0	21	0	0	15	0
8:15 - 8:30	0	17	0	0	18	0
8:30 - 8:45	0	8	0	2	16	0
8:45 - 9:00	0	21	0	2	10	0

North / South
Greenbrook Blvd-Post Blvd

East / West
SR 70

Peak Hour
7:15 - 8:15



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee		**City**	Bradenton	
Intersection	Greenbrook Blvd-Post Blvd		&	SR 70	
Date	April 19, 2016				
Time Period	7:00	to	9:00	**U-Turn & RTOR**	

VHB Project #: 62558.13

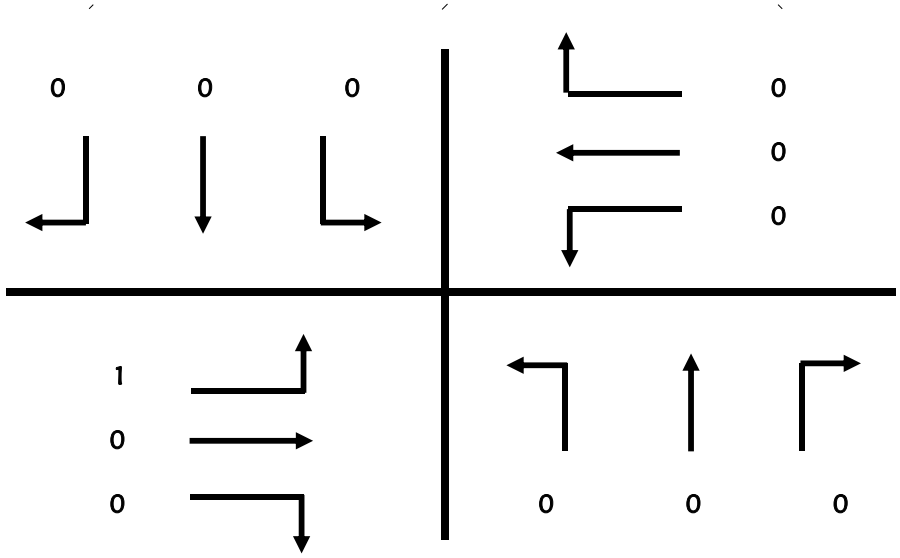
Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	1	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0

North / South
Greenbrook Blvd-Post Blvd

East / West
SR 70

Peak Hour
7:15 - 8:15



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee	**City**	Bradenton
Intersection	Greenbrook Blvd-Post Blvd	&	SR 70
Date	April 19, 2016		**All Vehicles**
Time Period	16:00 to 18:00		

VHB Project #: 62558.13

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	13	0	8	3	2	21
16:15 - 16:30	9	3	6	3	3	15
16:30 - 16:45	22	3	7	5	3	11
16:45 - 17:00	18	1	10	3	5	16
17:00 - 17:15	16	3	8	1	3	8
17:15 - 17:30	18	4	3	2	1	5
17:30 - 17:45	12	6	3	2	1	7
17:45 - 18:00	21	6	7	1	2	8
	129	26	52	20	20	91

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	18	112	24	5	112	3
16:15 - 16:30	13	120	15	7	71	3
16:30 - 16:45	11	110	17	4	114	1
16:45 - 17:00	13	123	35	4	90	5
17:00 - 17:15	7	170	32	3	119	0
17:15 - 17:30	11	149	28	1	116	2
17:30 - 17:45	19	156	31	1	92	0
17:45 - 18:00	22	136	23	3	103	4
	114	1,076	205	28	817	18

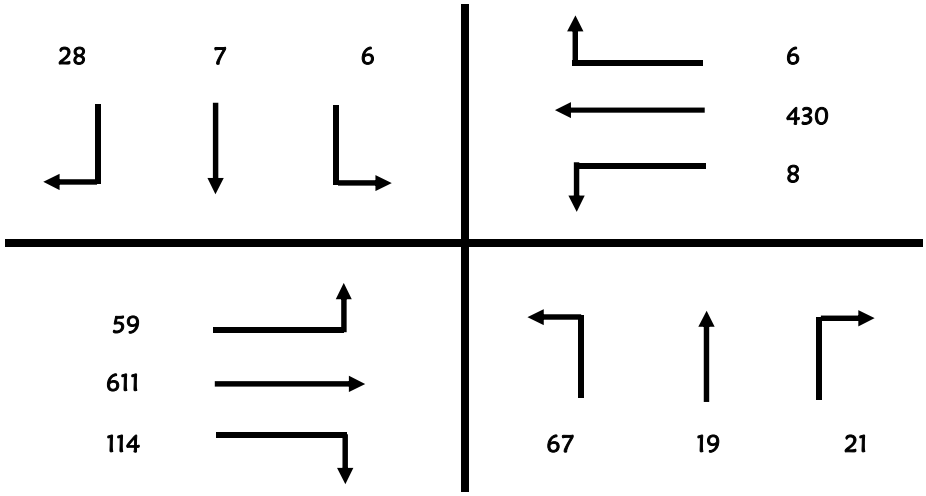
North / South
Greenbrook Blvd-Post Blvd

East / West
SR 70

Peak Hour
17:00 - 18:00

Peak Hour Factor
0.93

Total Pk Hr Voume
1,376



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee		**City**	Bradenton	
Intersection	Greenbrook Blvd-Post Blvd		&	SR 70	
Date	April 19, 2016				
Time Period	16:00	to	18:00	**Trucks**	

VHB Project #: 62558.1

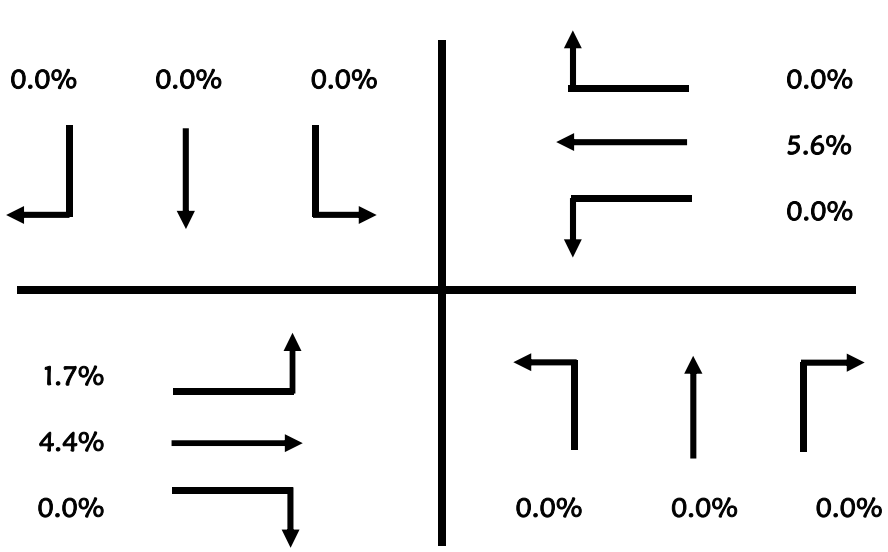
Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	1	0	0	1
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	9	0	0	11	0
16:15 - 16:30	0	6	0	0	3	1
16:30 - 16:45	0	2	1	0	10	0
16:45 - 17:00	0	3	0	0	7	0
17:00 - 17:15	0	8	0	0	8	0
17:15 - 17:30	1	9	0	0	5	0
17:30 - 17:45	0	6	0	0	6	0
17:45 - 18:00	0	4	0	0	5	0

North / South
Greenbrook Blvd-Post Blvd

East / West
SR 70

Peak Hour
17:00 - 18:00



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee		**City**	Bradenton	
Intersection	Greenbrook Blvd-Post Blvd		&	SR 70	
Date	April 19, 2016				
Time Period	16:00	to	18:00	**U-Turn & RTOR**	

VHB Project #: 62558.13

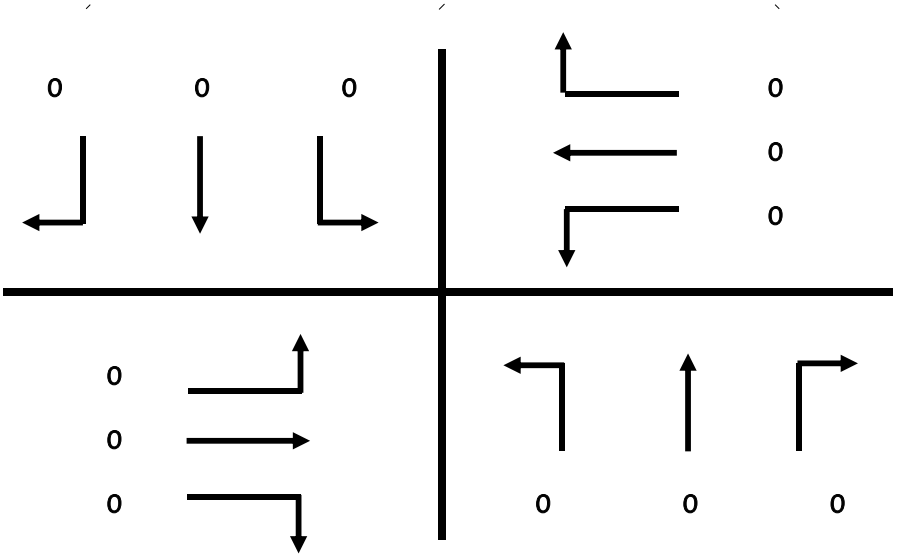
Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	1	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0

North / South
Greenbrook Blvd-Post Blvd

East / West
SR 70

Peak Hour
17:00 - 18:00



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee	**City**	Bradenton
Intersection	Lindrick Ln-197th St E	&	SR 70
Date	April 19, 2016		**All Vehicles**
Time Period	7:00 to 9:00		

VHB Project #: 62558.13

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	10	0	0	0	1	27
7:15 - 7:30	3	0	0	0	0	10
7:30 - 7:45	8	0	2	1	1	21
7:45 - 8:00	6	0	2	1	0	10
8:00 - 8:15	4	1	1	0	1	9
8:15 - 8:30	2	0	0	2	0	15
8:30 - 8:45	10	0	1	1	0	12
8:45 - 9:00	3	0	0	0	1	7
	46	1	6	5	4	111

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	2	40	16	1	180	0
7:15 - 7:30	5	74	11	2	163	0
7:30 - 7:45	7	62	15	1	145	0
7:45 - 8:00	6	67	20	3	147	0
8:00 - 8:15	13	55	20	3	133	2
8:15 - 8:30	6	78	18	1	110	2
8:30 - 8:45	3	68	20	4	102	1
8:45 - 9:00	9	73	18	2	110	0
	51	517	138	17	1,090	5

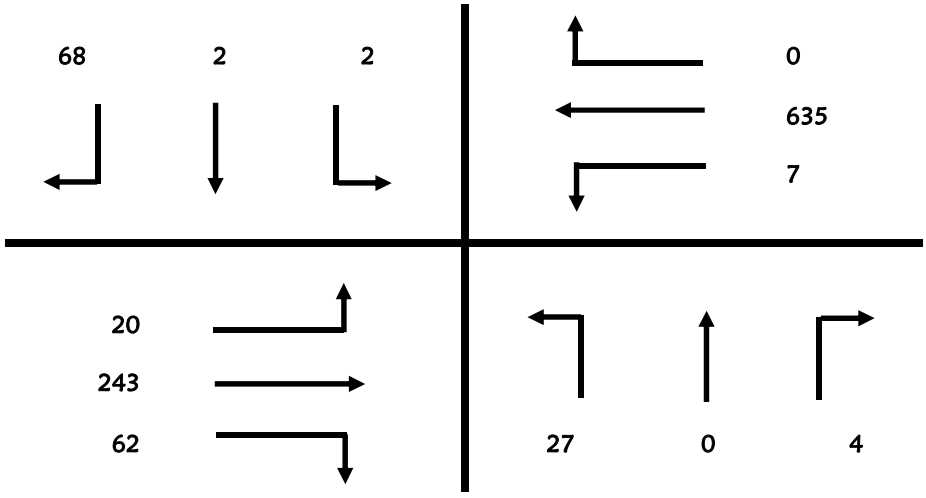
North / South
Lindrick Ln-197th St E

East / West
SR 70

Peak Hour
7:00 - 8:00

Peak Hour Factor
0.97

Total Pk Hr Voume
1,070



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee		**City**	Bradenton	
Intersection	Lindrick Ln-197th St E		&	SR 70	
Date	April 19, 2016				
Time Period	7:00	to	9:00	**Trucks**	

VHB Project #: 62558.1

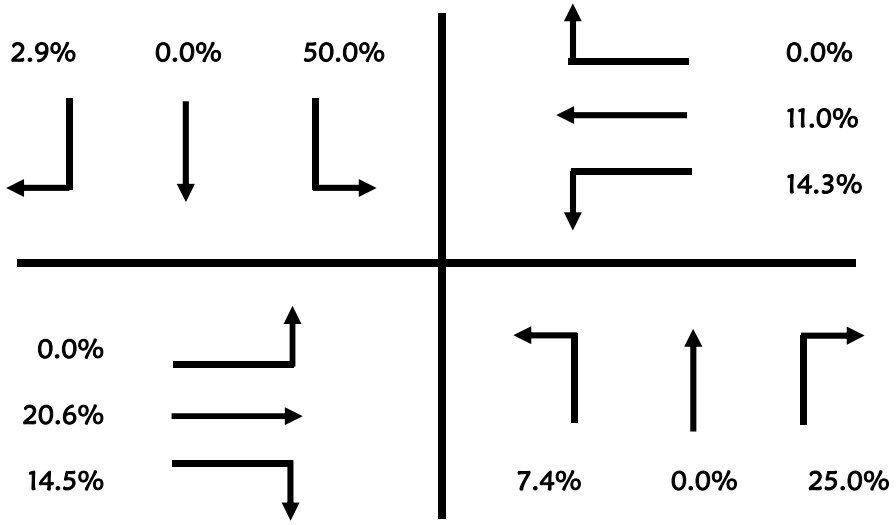
Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	1	0	2
7:45 - 8:00	2	0	1	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	1
8:30 - 8:45	2	0	0	1	0	1
8:45 - 9:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	6	3	0	15	0
7:15 - 7:30	0	14	1	0	25	0
7:30 - 7:45	0	11	3	0	18	0
7:45 - 8:00	0	19	2	1	12	0
8:00 - 8:15	2	13	2	0	12	0
8:15 - 8:30	1	17	4	0	14	0
8:30 - 8:45	0	9	2	0	10	1
8:45 - 9:00	1	13	3	0	15	0

North / South
Lindrick Ln-197th St E

East / West
SR 70

Peak Hour
7:00 - 8:00



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee		**City**	Bradenton	
Intersection	Lindrick Ln-197th St E		&	SR 70	
Date	April 19, 2016				
Time Period	7:00	to	9:00	**U-Turn & RTOR**	

VHB Project #: 62558.13

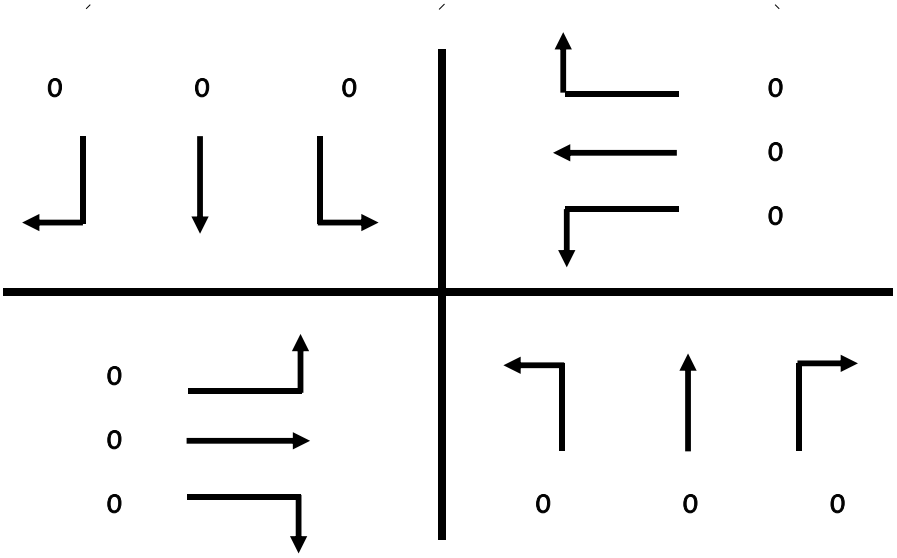
Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0

North / South
Lindrick Ln-197th St E

East / West
SR 70

Peak Hour
7:00 - 8:00



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee	**City**	Bradenton
Intersection	Lindrick Ln-197th St E	&	SR 70
Date	April 19, 2016		**All Vehicles**
Time Period	16:00 to 18:00		

VHB Project #: 62558.13

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	8	1	2	1	0	5
16:15 - 16:30	14	1	1	0	0	12
16:30 - 16:45	19	0	2	0	0	10
16:45 - 17:00	12	0	2	3	0	7
17:00 - 17:15	24	0	4	0	0	5
17:15 - 17:30	14	0	1	0	0	11
17:30 - 17:45	7	0	4	0	0	7
17:45 - 18:00	9	0	0	1	0	8
	107	2	16	5	0	65

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	14	86	10	2	82	1
16:15 - 16:30	19	99	14	0	75	0
16:30 - 16:45	9	111	5	0	64	1
16:45 - 17:00	7	97	9	2	72	1
17:00 - 17:15	17	151	11	0	78	1
17:15 - 17:30	15	153	8	3	73	0
17:30 - 17:45	17	136	8	1	70	0
17:45 - 18:00	12	128	15	1	74	0
	110	961	80	9	588	4

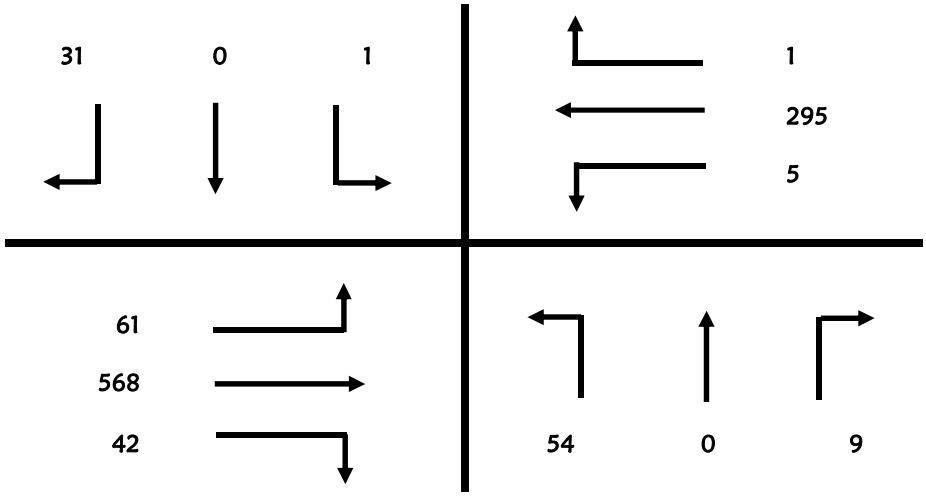
North / South
Lindrick Ln-197th St E

East / West
SR 70

Peak Hour
17:00 - 18:00

Peak Hour Factor
0.92

Total Pk Hr Voume
1,067



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee		**City**	Bradenton	
Intersection	Lindrick Ln-197th St E		&	SR 70	
Date	April 19, 2016				
Time Period	16:00	to	18:00	**Trucks**	

VHB Project #: 62558.1

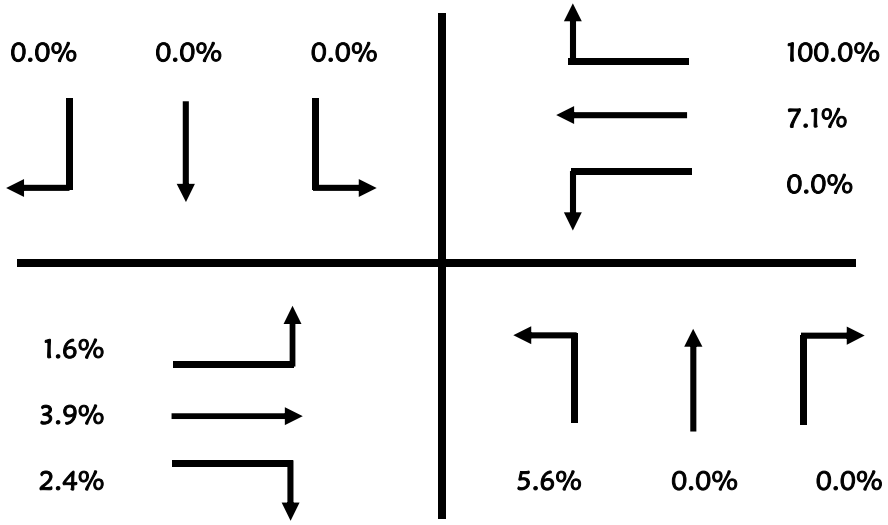
Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	2	1	1	1	0	1
16:15 - 16:30	0	0	0	0	0	1
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	1
17:00 - 17:15	2	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	1	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	1	7	0	0	6	0
16:15 - 16:30	1	6	1	0	7	0
16:30 - 16:45	0	4	0	0	4	0
16:45 - 17:00	0	1	0	0	6	0
17:00 - 17:15	0	7	1	0	5	1
17:15 - 17:30	1	7	0	0	7	0
17:30 - 17:45	0	5	0	0	5	0
17:45 - 18:00	0	3	0	0	4	0

North / South
Lindrick Ln-197th St E

East / West
SR 70

Peak Hour
17:00 - 18:00



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee	**City**	Bradenton
Intersection	Lindrick Ln-197th St E	&	SR 70
Date	April 19, 2016		
Time Period	16:00 to 18:00		**U-Turn & RTOR**

VHB Project #: 62558.13

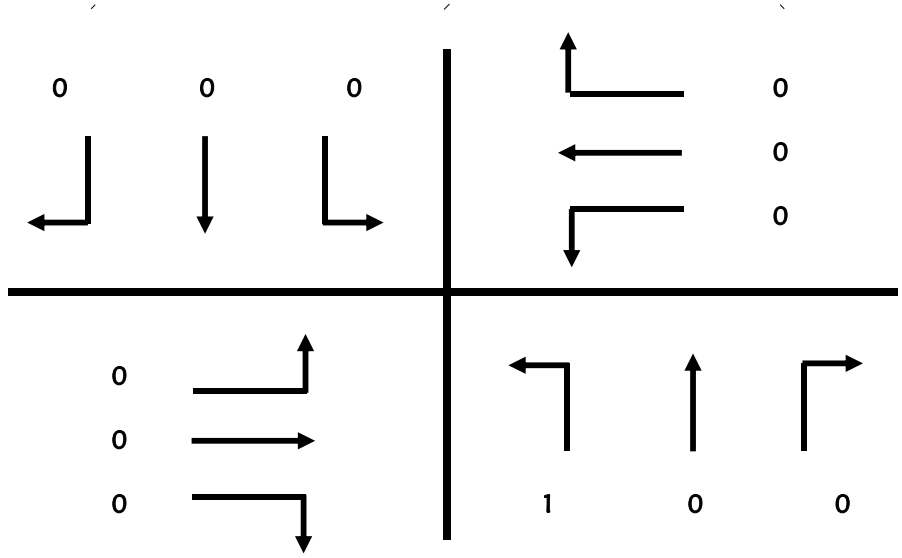
Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	1	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	1	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0

North / South
Lindrick Ln-197th St E

East / West
SR 70

Peak Hour
17:00 - 18:00



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee	**City**	Bradenton
Intersection	213th St E	&	SR 70
Date	April 19, 2016		**All Vehicles**
Time Period	7:00 to 9:00		

VHB Project #: 62558.13

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	5	0	0	0	0	0
7:15 - 7:30	6	0	1	0	0	0
7:30 - 7:45	4	0	0	0	0	0
7:45 - 8:00	2	0	2	0	0	0
8:00 - 8:15	5	0	0	0	0	0
8:15 - 8:30	6	0	1	0	0	0
8:30 - 8:45	4	0	0	0	0	0
8:45 - 9:00	3	0	0	0	0	0
	35	0	4	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	44	0	0	172	0
7:15 - 7:30	0	68	2	1	158	0
7:30 - 7:45	0	60	2	0	141	0
7:45 - 8:00	0	73	2	0	146	0
8:00 - 8:15	0	48	0	0	135	0
8:15 - 8:30	0	84	2	0	109	0
8:30 - 8:45	0	69	2	0	102	0
8:45 - 9:00	0	75	0	0	111	0
	0	521	10	1	1,074	0

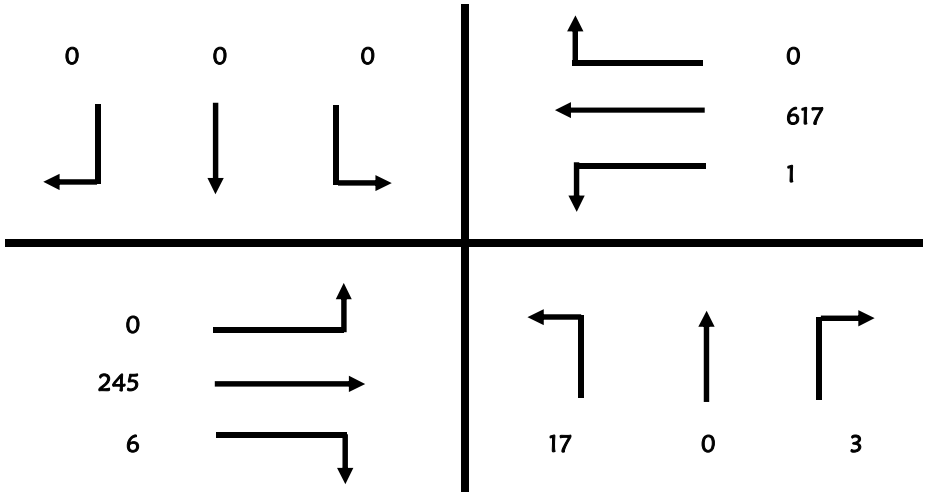
North / South
213th St E

East / West
SR 70

Peak Hour
7:00 - 8:00

Peak Hour Factor
0.94

Total Pk Hr Voume
889



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee		**City**	Bradenton	
Intersection	213th St E		&	SR 70	
Date	April 19, 2016				
Time Period	7:00	to	9:00	**Trucks**	

VHB Project #: 62558.1

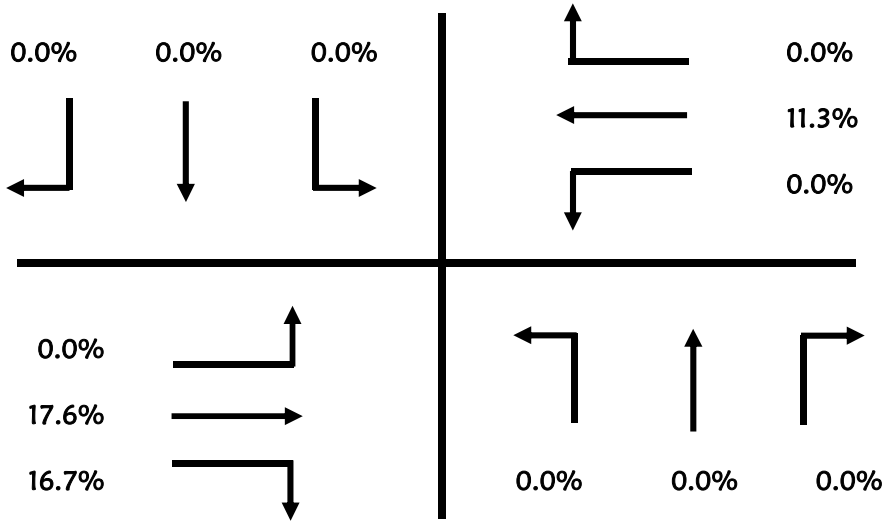
Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	1	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	5	0	0	11	0
7:15 - 7:30	0	11	0	0	23	0
7:30 - 7:45	0	10	0	0	19	0
7:45 - 8:00	0	17	1	0	17	0
8:00 - 8:15	0	11	0	0	10	0
8:15 - 8:30	0	17	0	0	14	0
8:30 - 8:45	0	7	0	0	11	0
8:45 - 9:00	0	15	0	0	13	0

North / South
213th St E

East / West
SR 70

Peak Hour
7:00 - 8:00



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee		**City**	Bradenton	
Intersection	213th St E		&	SR 70	
Date	April 19, 2016				
Time Period	7:00	to	9:00	**U-Turn & RTOR**	

VHB Project #: 62558.13

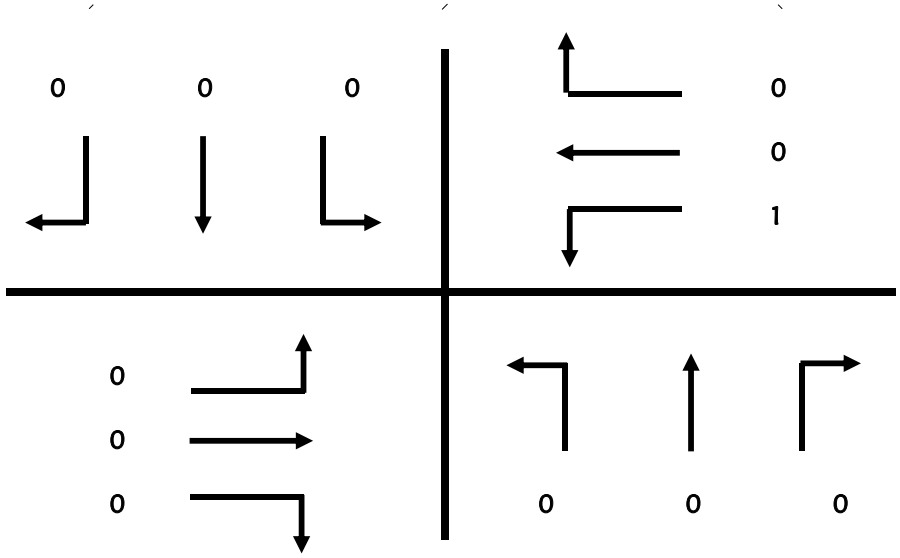
Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	1	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0

North / South
213th St E

East / West
SR 70

Peak Hour
7:00 - 8:00



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee	**City**	Bradenton
Intersection	213th St E	&	SR 70
Date	April 19, 2016		**All Vehicles**
Time Period	16:00 to 18:00		

VHB Project #: 62558.13

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	3	0	0	0	0	0
16:15 - 16:30	3	0	0	0	0	0
16:30 - 16:45	2	0	0	0	0	0
16:45 - 17:00	1	0	0	0	0	0
17:00 - 17:15	1	0	0	0	0	0
17:15 - 17:30	4	0	0	0	0	0
17:30 - 17:45	2	0	0	0	0	0
17:45 - 18:00	3	0	0	0	0	0
	19	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	92	2	0	82	0
16:15 - 16:30	0	106	4	0	73	0
16:30 - 16:45	0	110	0	1	64	0
16:45 - 17:00	0	100	6	1	69	0
17:00 - 17:15	0	142	3	0	80	0
17:15 - 17:30	0	159	5	0	71	0
17:30 - 17:45	0	132	5	1	69	0
17:45 - 18:00	0	129	3	0	74	0
	0	970	28	3	582	0

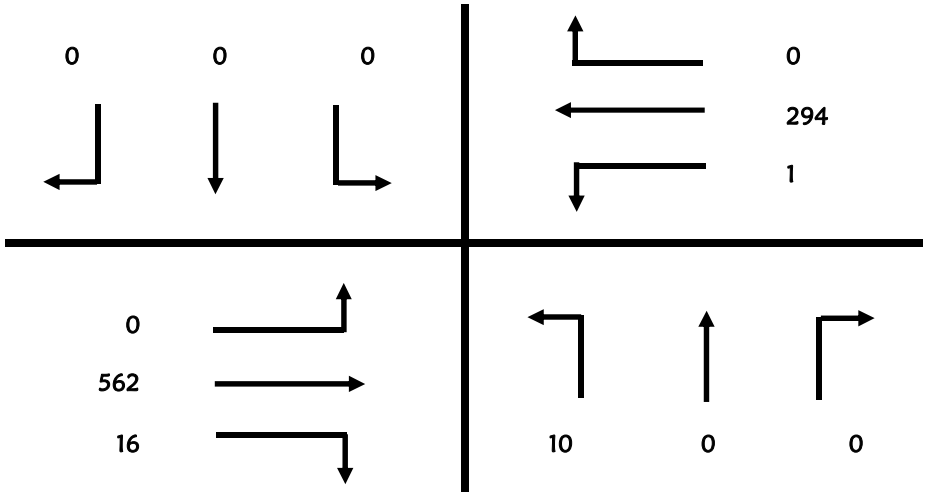
North / South
213th St E

East / West
SR 70

Peak Hour
17:00 - 18:00

Peak Hour Factor
0.92

Total Pk Hr Voume
883



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee		**City**	Bradenton	
Intersection	213th St E		&	SR 70	
Date	April 19, 2016				
Time Period	16:00	to	18:00	**Trucks**	

VHB Project #: 62558.1

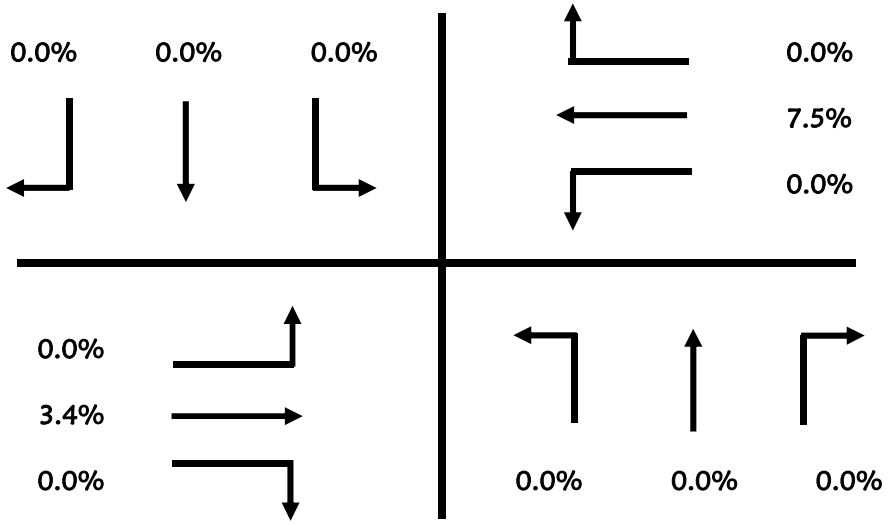
Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	8	0	0	5	0
16:15 - 16:30	0	9	0	0	7	0
16:30 - 16:45	0	3	0	0	4	0
16:45 - 17:00	0	1	0	0	7	0
17:00 - 17:15	0	6	0	0	7	0
17:15 - 17:30	0	5	0	0	6	0
17:30 - 17:45	0	6	0	0	5	0
17:45 - 18:00	0	2	0	0	4	0

North / South
213th St E

East / West
SR 70

Peak Hour
17:00 - 18:00



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee		**City**	Bradenton	
Intersection	213th St E		&	SR 70	
Date	April 19, 2016				
Time Period	16:00	to	18:00	**U-Turn & RTOR**	

VHB Project #: 62558.13

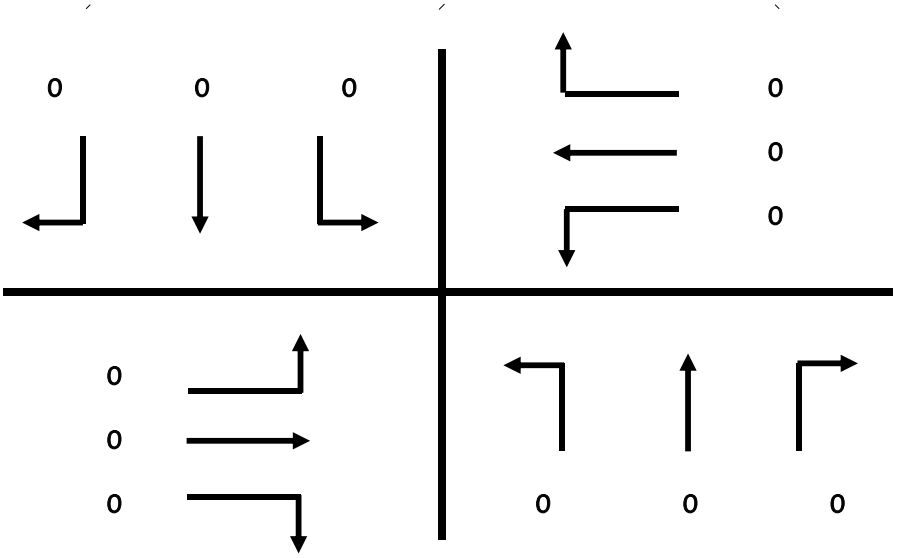
Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0

North / South
213th St E

East / West
SR 70

Peak Hour
17:00 - 18:00



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee	**City**	Bradenton
Intersection	Treeumph Adventure Park Entranc	&	SR 70
Date	April 19, 2016		**All Vehicles**
Time Period	7:00 to 9:00		

VHB Project #: 62558.13

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	1
7:15 - 7:30	0	0	0	0	0	1
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0
	0	0	0	0	0	2

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	43	0	0	173	0
7:15 - 7:30	2	67	0	1	155	0
7:30 - 7:45	1	59	0	0	142	0
7:45 - 8:00	4	71	0	0	144	1
8:00 - 8:15	2	46	0	0	132	2
8:15 - 8:30	11	75	0	0	109	2
8:30 - 8:45	2	70	0	0	104	0
8:45 - 9:00	5	74	0	0	112	0
	27	505	0	1	1,071	5

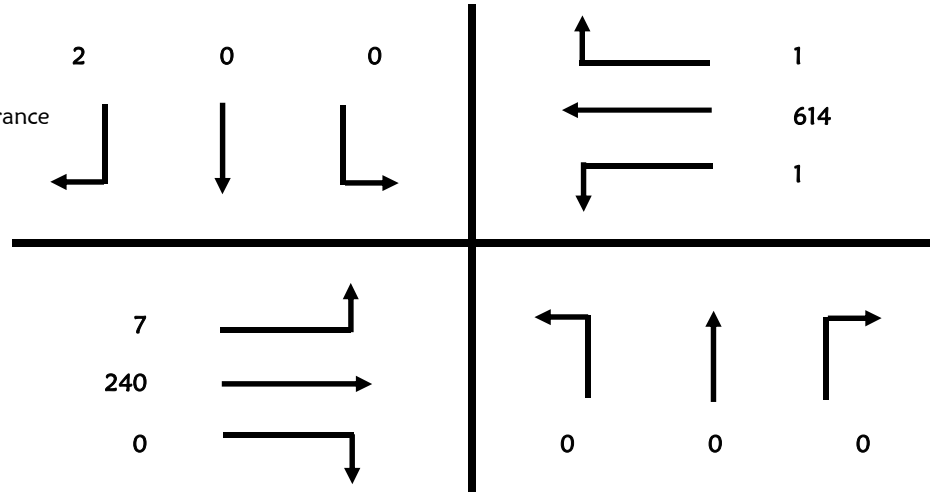
North / South
Treeumph Adventure Park Entrance

East / West
SR 70

Peak Hour
7:00 - 8:00

Peak Hour Factor
0.96

Total Pk Hr Voume
865



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee	**City**	Bradenton
Intersection	Treeumph Adventure Park Entra &		SR 70
Date	April 19, 2016		
Time Period	7:00 to 9:00		**Trucks**

VHB Project #: 62558.1

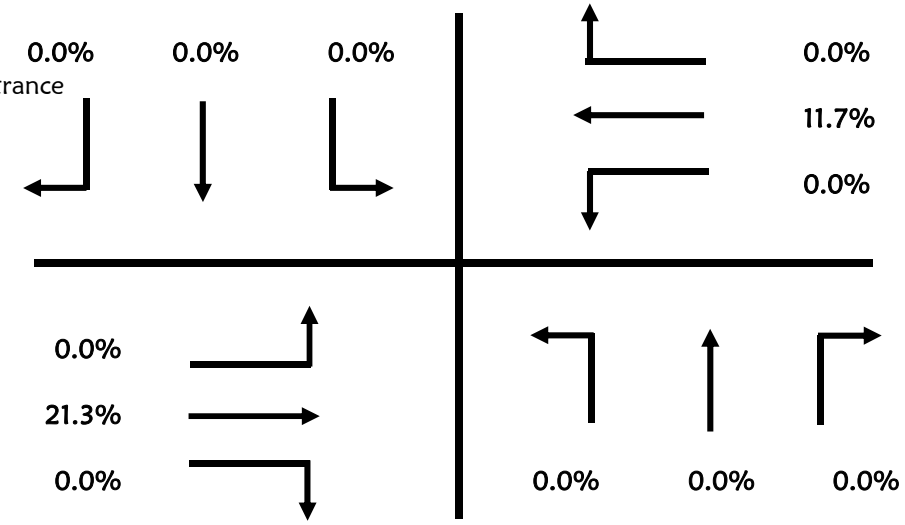
Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	7	0	0	17	0
7:15 - 7:30	0	13	0	0	21	0
7:30 - 7:45	0	12	0	0	18	0
7:45 - 8:00	0	19	0	0	16	0
8:00 - 8:15	0	13	0	0	11	0
8:15 - 8:30	0	15	0	0	16	0
8:30 - 8:45	0	6	0	0	9	0
8:45 - 9:00	1	14	0	0	15	0

North / South
Treeumph Adventure Park Entrance

East / West
SR 70

Peak Hour
7:00 - 8:00



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee	**City**	Bradenton
Intersection	Treeumph Adventure Park Entra	&	SR 70
Date	April 19, 2016		
Time Period	7:00 to 9:00		**U-Turn & RTOR**

VHB Project #: 62558.13

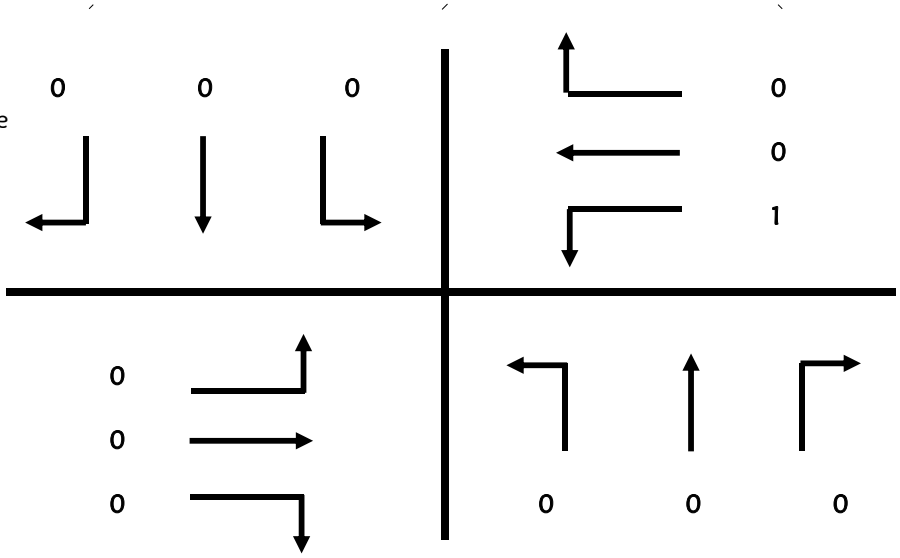
Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	1	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0

North / South
Treeumph Adventure Park Entrance

East / West
SR 70

Peak Hour
7:00 - 8:00



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee	**City**	Bradenton
Intersection	Treeumph Adventure Park Entranc	&	SR 70
Date	April 19, 2016		**All Vehicles**
Time Period	16:00 to 18:00		

VHB Project #: 62558.13

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	2
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	1	0	1
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0
	0	0	0	1	0	3

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	92	0	0	76	0
16:15 - 16:30	0	106	0	0	72	0
16:30 - 16:45	0	109	0	0	67	0
16:45 - 17:00	0	101	0	0	71	0
17:00 - 17:15	0	132	0	0	84	0
17:15 - 17:30	1	156	0	1	67	0
17:30 - 17:45	1	130	0	0	71	0
17:45 - 18:00	0	132	0	0	73	0
	2	958	0	1	581	0

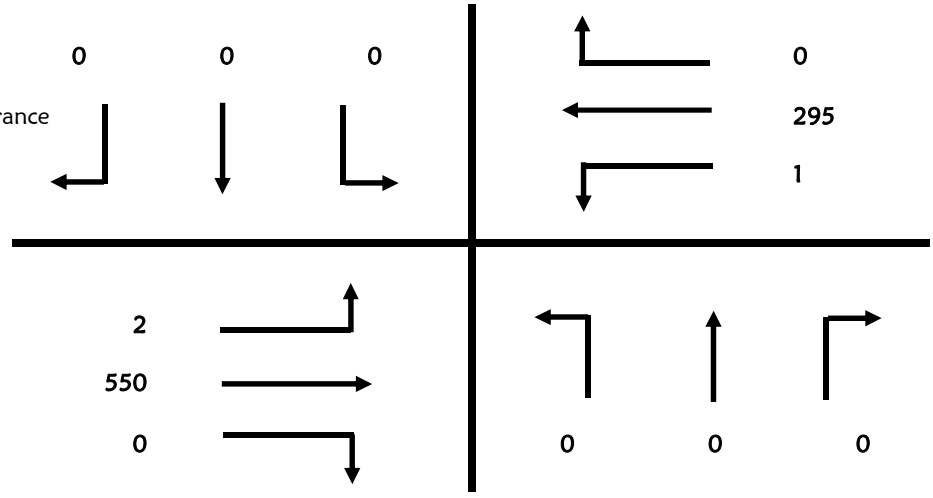
North / South
Treeumph Adventure Park Entrance

East / West
SR 70

Peak Hour
17:00 - 18:00

Peak Hour Factor
0.94

Total Pk Hr Voume
848



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee	**City**	Bradenton
Intersection	Treeumph Adventure Park Entra &		SR 70
Date	April 19, 2016		
Time Period	16:00 to 18:00		**Trucks**

VHB Project #: 62558.1

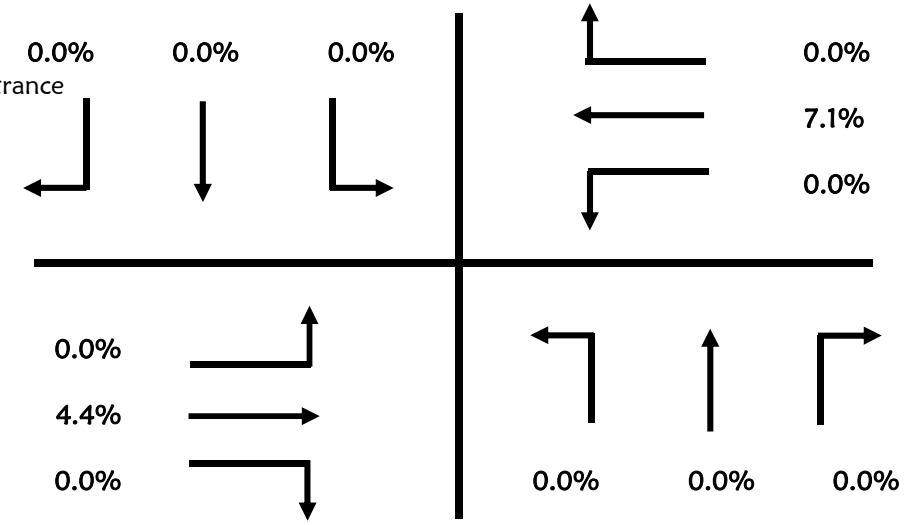
Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	8	0	0	4	0
16:15 - 16:30	0	9	0	0	7	0
16:30 - 16:45	0	5	0	0	4	0
16:45 - 17:00	0	2	0	0	7	0
17:00 - 17:15	0	7	0	0	6	0
17:15 - 17:30	0	7	0	0	6	0
17:30 - 17:45	0	7	0	0	5	0
17:45 - 18:00	0	3	0	0	4	0

North / South
Treeumph Adventure Park Entrance

East / West
SR 70

Peak Hour
17:00 - 18:00



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee	**City**	Bradenton
Intersection	Treeumph Adventure Park Entra	&	SR 70
Date	April 19, 2016		
Time Period	16:00 to 18:00		**U-Turn & RTOR**

VHB Project #: 62558.13

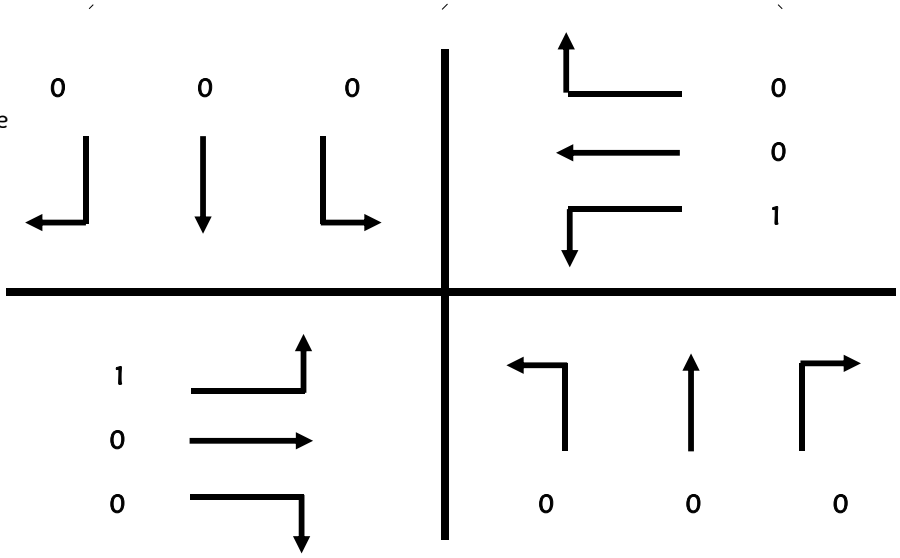
Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	1	0	0	1	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0

North / South
Treeumph Adventure Park Entrance

East / West
SR 70

Peak Hour
17:00 - 18:00



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee	**City**	Bradenton
Intersection	225th St E	&	SR 70
Date	April 19, 2016		**All Vehicles**
Time Period	7:00 to 9:00		

VHB Project #: 62558.13

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	10	0	1	1	1	4
7:15 - 7:30	16	0	1	4	0	6
7:30 - 7:45	11	0	0	0	0	5
7:45 - 8:00	16	0	0	0	0	1
8:00 - 8:15	15	0	1	0	0	6
8:15 - 8:30	12	0	1	0	0	0
8:30 - 8:45	11	0	0	0	0	2
8:45 - 9:00	13	0	0	2	0	0
	104	0	4	7	1	24

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	1	42	2	0	160	1
7:15 - 7:30	0	64	3	0	133	1
7:30 - 7:45	1	54	2	1	126	0
7:45 - 8:00	1	65	5	0	128	0
8:00 - 8:15	0	45	2	0	113	0
8:15 - 8:30	2	59	9	1	99	0
8:30 - 8:45	2	58	11	0	91	2
8:45 - 9:00	2	59	6	1	98	0
	9	446	40	3	948	4

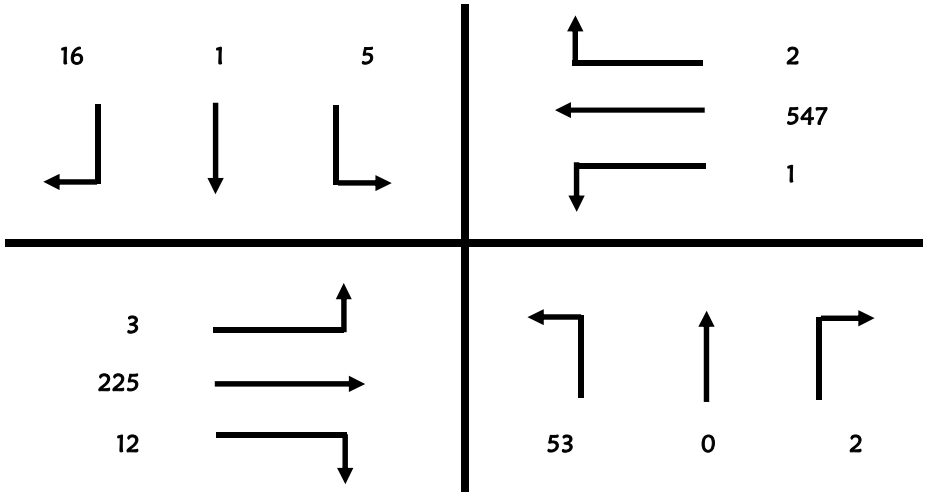
North / South
225th St E

East / West
SR 70

Peak Hour
7:00 - 8:00

Peak Hour Factor
0.95

Total Pk Hr Voume
867



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee		**City**	Bradenton	
Intersection	225th St E		&	SR 70	
Date	April 19, 2016				
Time Period	7:00	to	9:00	**Trucks**	

VHB Project #: 62558.1

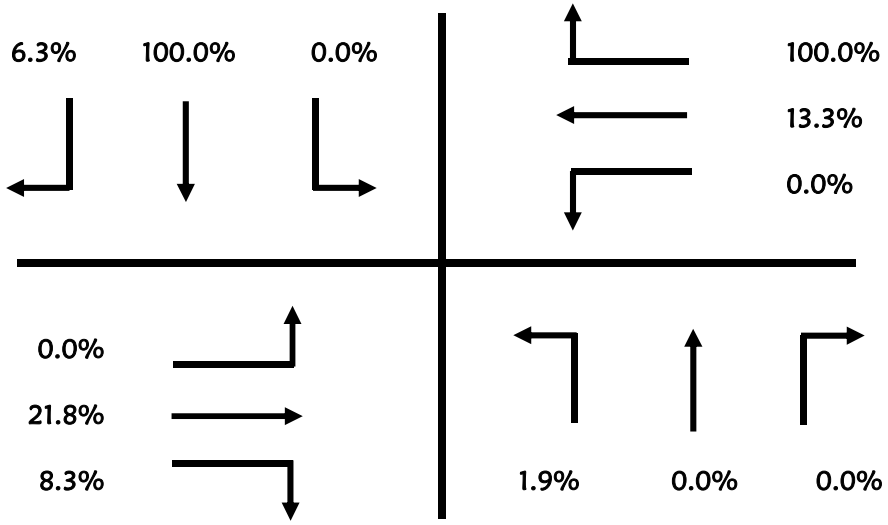
Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	1	0	0	0	1	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	1
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	1	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	1
8:45 - 9:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	6	0	0	15	1
7:15 - 7:30	0	13	0	0	24	1
7:30 - 7:45	0	11	0	0	18	0
7:45 - 8:00	0	19	1	0	16	0
8:00 - 8:15	0	9	0	0	9	0
8:15 - 8:30	0	14	1	0	17	0
8:30 - 8:45	0	8	0	0	7	1
8:45 - 9:00	0	9	0	0	13	0

North / South
225th St E

East / West
SR 70

Peak Hour
7:00 - 8:00



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee		**City**	Bradenton	
Intersection	225th St E		&	SR 70	
Date	April 19, 2016				
Time Period	7:00	to	9:00	**U-Turn & RTOR**	

VHB Project #: 62558.13

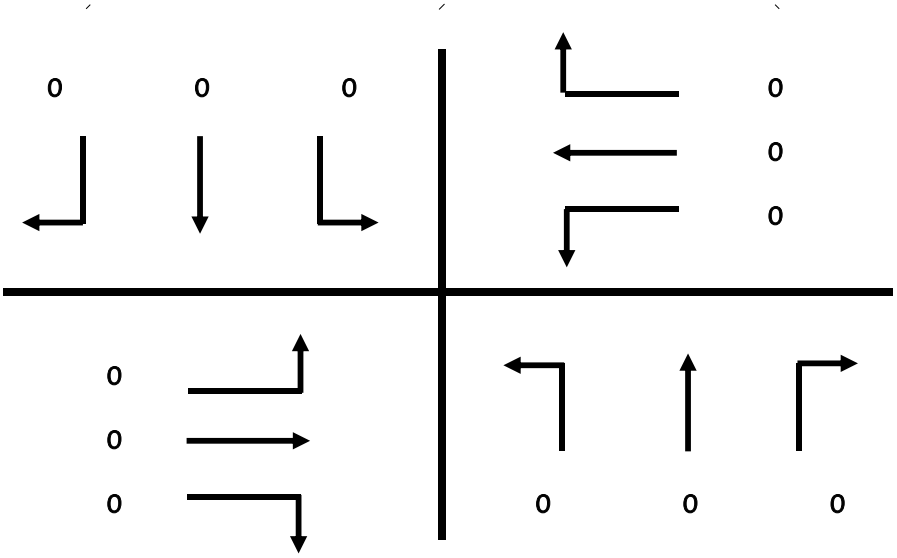
Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0

North / South
225th St E

East / West
SR 70

Peak Hour
7:00 - 8:00



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee	**City**	Bradenton
Intersection	225th St E	&	SR 70
Date	April 19, 2016		**All Vehicles**
Time Period	16:00 to 18:00		

VHB Project #: 62558.13

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	6	1	1	2	0	2
16:15 - 16:30	9	0	1	0	0	0
16:30 - 16:45	11	0	1	0	0	1
16:45 - 17:00	6	0	0	0	1	0
17:00 - 17:15	6	0	0	0	0	5
17:15 - 17:30	3	0	1	0	0	0
17:30 - 17:45	7	1	0	0	0	2
17:45 - 18:00	7	0	1	0	0	3
	55	2	5	2	1	13

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	2	79	5	1	71	0
16:15 - 16:30	1	100	5	2	64	1
16:30 - 16:45	3	100	8	0	55	0
16:45 - 17:00	4	86	5	1	65	1
17:00 - 17:15	2	120	15	0	73	0
17:15 - 17:30	2	141	15	1	63	0
17:30 - 17:45	1	123	8	0	59	0
17:45 - 18:00	3	112	14	0	61	1
	18	861	75	5	511	3

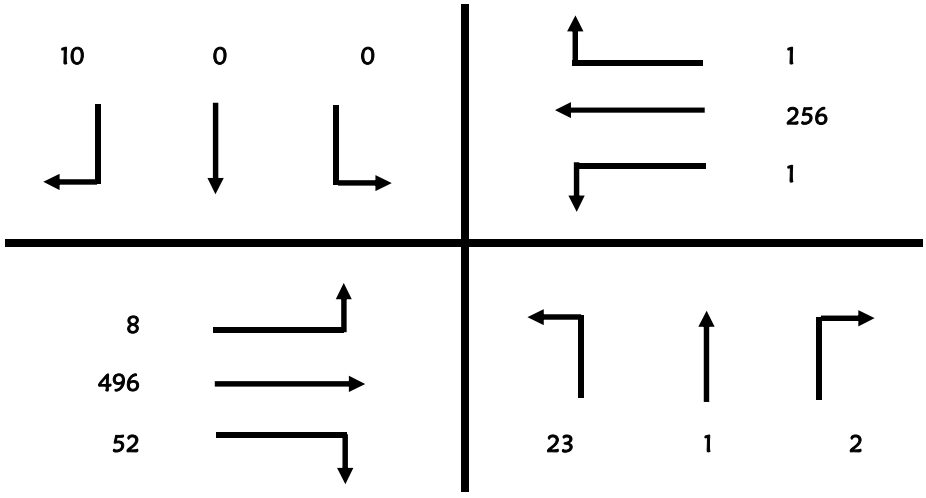
North / South
225th St E

East / West
SR 70

Peak Hour
17:00 - 18:00

Peak Hour Factor
0.94

Total Pk Hr Voume
850



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee		**City**	Bradenton	
Intersection	225th St E		&	SR 70	
Date	April 19, 2016				
Time Period	16:00	to	18:00	**Trucks**	

VHB Project #: 62558.1

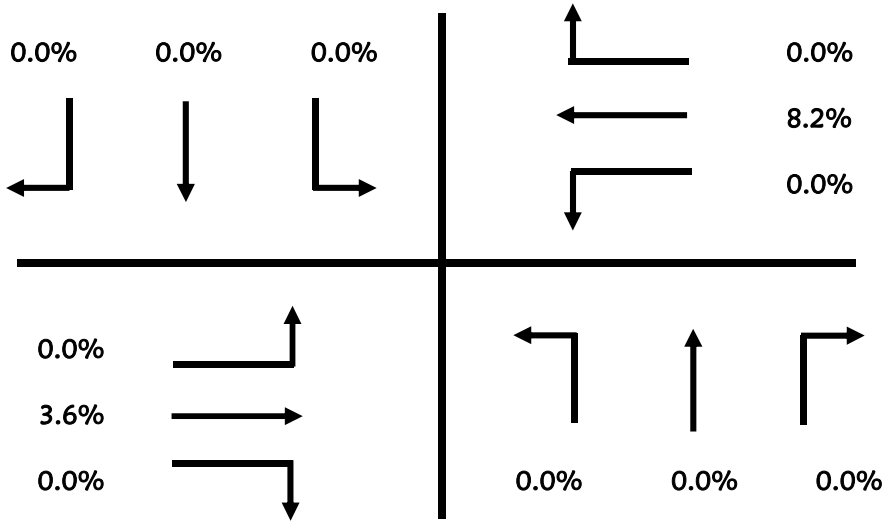
Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	1	2	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	1	6	0	0	4	0
16:15 - 16:30	0	10	0	0	7	0
16:30 - 16:45	0	3	0	0	4	0
16:45 - 17:00	0	1	0	0	7	0
17:00 - 17:15	0	4	0	0	6	0
17:15 - 17:30	0	6	0	0	6	0
17:30 - 17:45	0	5	0	0	5	0
17:45 - 18:00	0	3	0	0	4	0

North / South
225th St E

East / West
SR 70

Peak Hour
17:00 - 18:00



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee		**City**	Bradenton	
Intersection	225th St E		&	SR 70	
Date	April 19, 2016				
Time Period	16:00	to	18:00	**U-Turn & RTOR**	

VHB Project #: 62558.13

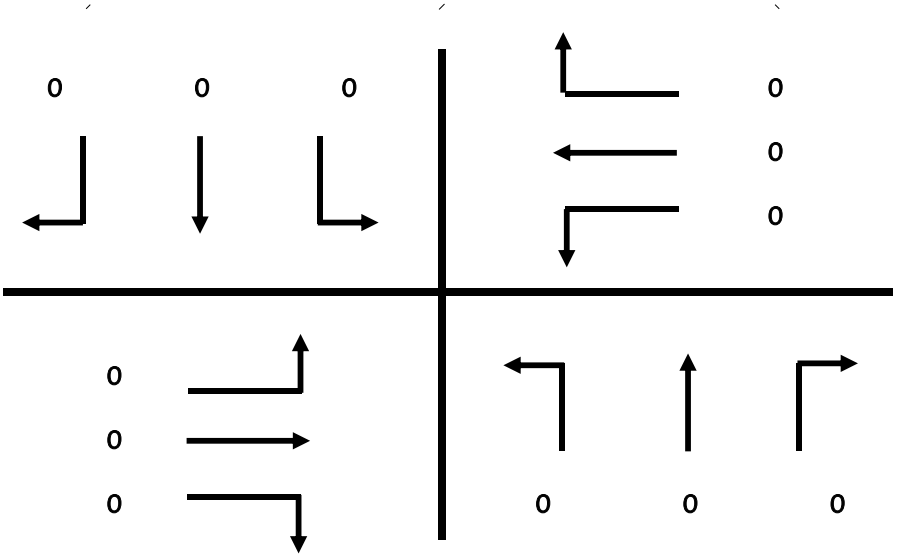
Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0

North / South
225th St E

East / West
SR 70

Peak Hour
17:00 - 18:00



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee	**City**	Bradenton
Intersection	Meadow Dove Ln-CR 675	&	SR 70
Date	April 19, 2016		**All Vehicles**
Time Period	7:00 to 9:00		

VHB Project #: 62558.13

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	6	0	2	10	0	30
7:15 - 7:30	4	2	2	12	0	29
7:30 - 7:45	5	1	5	20	0	25
7:45 - 8:00	9	1	0	24	0	22
8:00 - 8:15	4	1	0	18	0	23
8:15 - 8:30	3	0	1	17	1	23
8:30 - 8:45	5	0	1	13	2	21
8:45 - 9:00	5	0	0	18	1	12
	41	5	11	132	4	185

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	2	42	0	0	127	7
7:15 - 7:30	15	51	1	0	98	8
7:30 - 7:45	8	45	2	0	102	21
7:45 - 8:00	12	55	0	1	92	11
8:00 - 8:15	6	36	1	3	88	16
8:15 - 8:30	6	53	2	0	71	13
8:30 - 8:45	8	46	1	1	69	13
8:45 - 9:00	6	52	2	0	82	13
	63	380	9	5	729	102

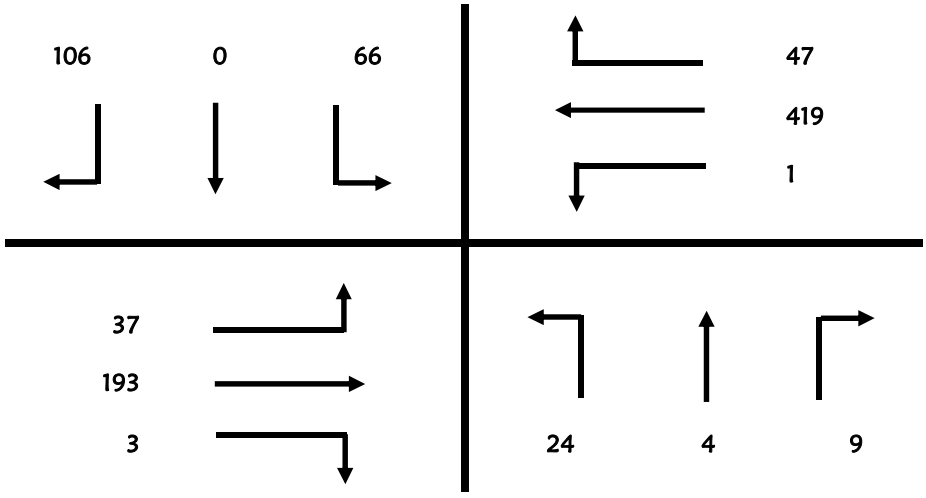
North / South
Meadow Dove Ln-CR 675

East / West
SR 70

Peak Hour
7:00 - 8:00

Peak Hour Factor
0.97

Total Pk Hr Voume
909



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee		**City**	Bradenton	
Intersection	Meadow Dove Ln-CR 675		&	SR 70	
Date	April 19, 2016				
Time Period	7:00	to	9:00	**Trucks**	

VHB Project #: 62558.1

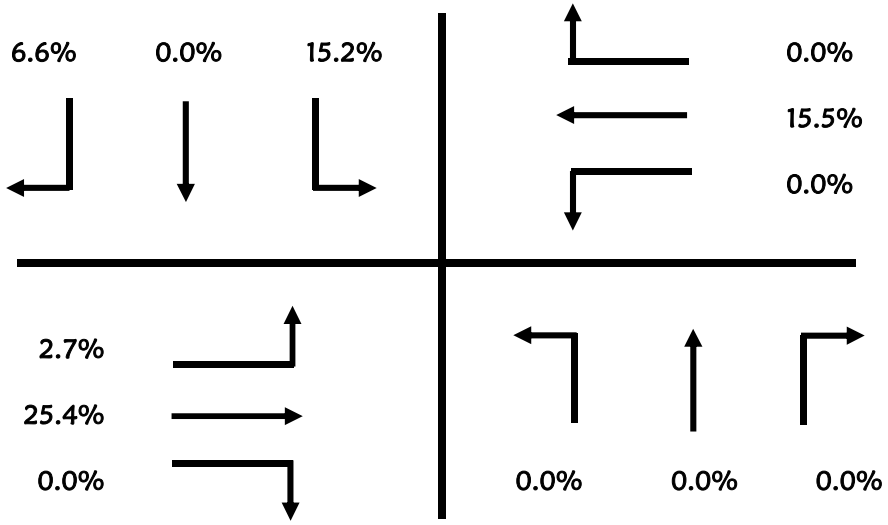
Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	2	0	0
7:15 - 7:30	0	0	0	0	0	3
7:30 - 7:45	0	0	0	2	0	1
7:45 - 8:00	0	0	0	6	0	3
8:00 - 8:15	0	0	0	7	0	1
8:15 - 8:30	0	0	0	7	0	2
8:30 - 8:45	0	0	1	6	0	0
8:45 - 9:00	0	0	0	9	1	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	7	0	0	18	0
7:15 - 7:30	0	11	0	0	17	0
7:30 - 7:45	1	11	0	0	16	0
7:45 - 8:00	0	20	0	0	14	0
8:00 - 8:15	0	11	0	1	8	0
8:15 - 8:30	0	15	0	0	15	0
8:30 - 8:45	1	6	0	0	8	0
8:45 - 9:00	0	15	0	0	14	0

North / South
Meadow Dove Ln-CR 675

East / West
SR 70

Peak Hour
7:00 - 8:00



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee		**City**	Bradenton	
Intersection	Meadow Dove Ln-CR 675	&	SR 70		
Date	April 19, 2016				
Time Period	7:00	to	9:00	**U-Turn & RTOR**	

VHB Project #: 62558.13

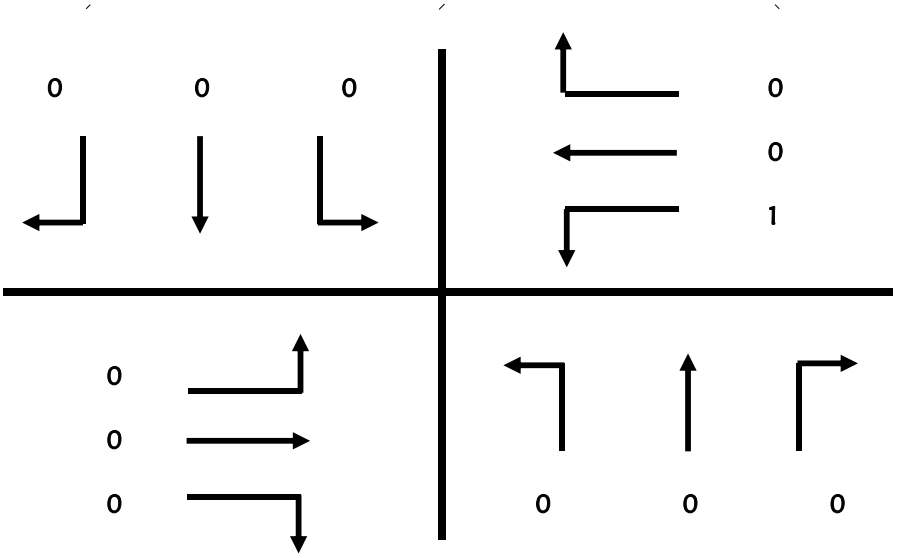
Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	1	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0

North / South
Meadow Dove Ln-CR 675

East / West
SR 70

Peak Hour
7:00 - 8:00



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee	**City**	Bradenton
Intersection	Meadow Dove Ln-CR 675	&	SR 70
Date	April 19, 2016		**All Vehicles**
Time Period	16:00 to 18:00		

VHB Project #: 62558.13

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	2	0	1	12	0	12
16:15 - 16:30	4	0	0	11	0	6
16:30 - 16:45	4	1	1	7	1	6
16:45 - 17:00	2	0	2	10	0	14
17:00 - 17:15	5	1	0	13	0	12
17:15 - 17:30	4	0	2	18	0	7
17:30 - 17:45	3	0	1	12	1	6
17:45 - 18:00	3	1	0	12	2	9
	27	3	7	95	4	72

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	22	60	1	0	58	13
16:15 - 16:30	19	82	1	1	53	19
16:30 - 16:45	20	75	2	0	45	16
16:45 - 17:00	16	73	0	2	46	15
17:00 - 17:15	24	87	3	0	59	14
17:15 - 17:30	28	116	2	5	50	12
17:30 - 17:45	25	98	2	0	54	14
17:45 - 18:00	22	90	1	1	48	14
	176	681	12	9	413	117

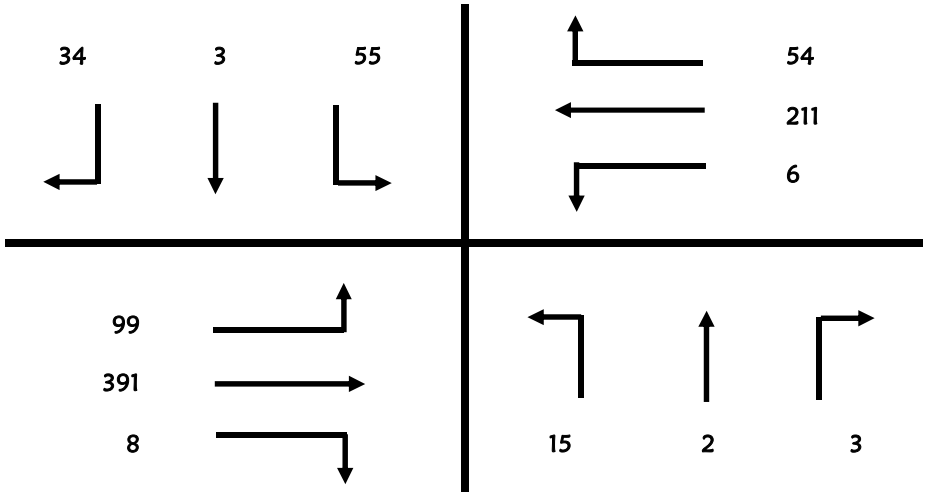
North / South
Meadow Dove Ln-CR 675

East / West
SR 70

Peak Hour
17:00 - 18:00

Peak Hour Factor
0.90

Total Pk Hr Voume
881



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee		**City**	Bradenton	
Intersection	Meadow Dove Ln-CR 675		&	SR 70	
Date	April 19, 2016				
Time Period	16:00	to	18:00	**Trucks**	

VHB Project #: 62558.1

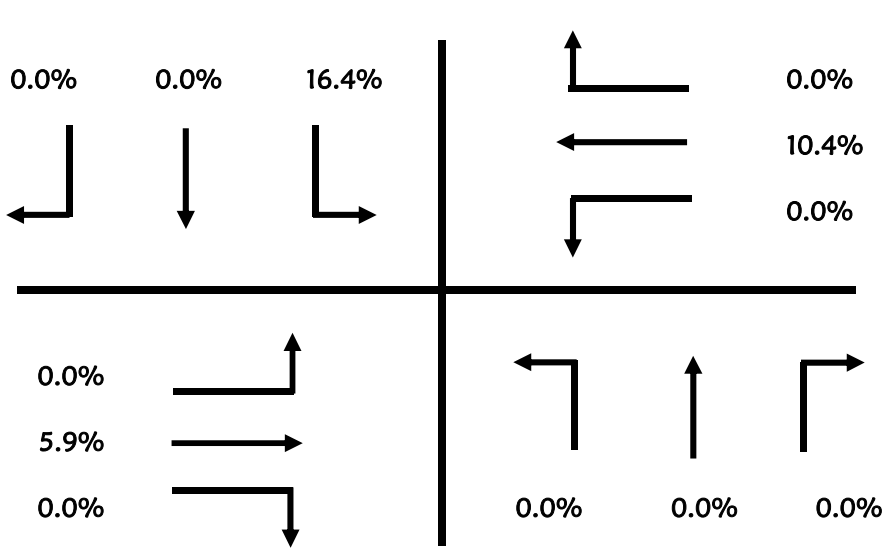
Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	1	2	0	0
16:15 - 16:30	0	0	0	3	0	0
16:30 - 16:45	0	1	0	1	0	1
16:45 - 17:00	0	0	0	1	0	0
17:00 - 17:15	0	0	0	1	0	0
17:15 - 17:30	0	0	0	6	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	2	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	8	0	0	5	0
16:15 - 16:30	0	11	0	0	7	0
16:30 - 16:45	0	4	0	0	5	0
16:45 - 17:00	0	1	0	0	6	0
17:00 - 17:15	0	7	0	0	6	0
17:15 - 17:30	0	5	0	0	6	0
17:30 - 17:45	0	8	0	0	6	0
17:45 - 18:00	0	3	0	0	4	0

North / South
Meadow Dove Ln-CR 675

East / West
SR 70

Peak Hour
17:00 - 18:00



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Manatee		**City**	Bradenton	
Intersection	Meadow Dove Ln-CR 675	&	SR 70		
Date	April 19, 2016				
Time Period	16:00	to	18:00	**U-Turn & RTOR**	

VHB Project #: 62558.13

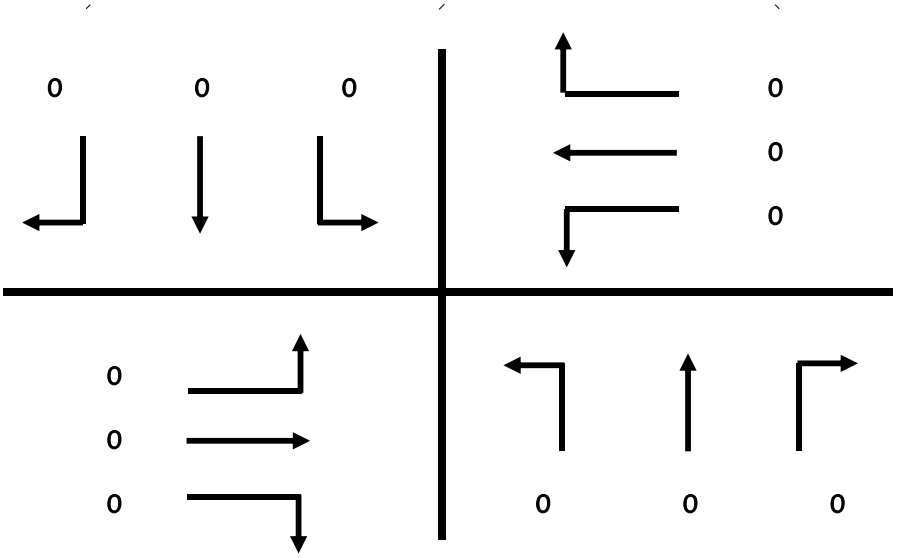
Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0

North / South
Meadow Dove Ln-CR 675

East / West
SR 70

Peak Hour
17:00 - 18:00



Appendix D

FDOT Counts and Seasonal & Axle Factors

2014 WEEKLY AXLE FACTOR CATEGORY REPORT - REPORT TYPE: ALL

COUNTY: 13 - MANATEE

WEEK	DATES	1330 I-275	1332 SR64&70, LORRAINE-CO LINE	1333 SR70,US41-301 BLVD	1334 SR70,301BLVD-I-75
1	01/01/2014 - 01/04/2014	0.95	0.96	0.96	0.96
2	01/05/2014 - 01/11/2014	0.95	0.97	0.97	0.97
3	01/12/2014 - 01/18/2014	0.95	0.97	0.97	0.97
4	01/19/2014 - 01/25/2014	0.95	0.95	0.97	0.97
5	01/26/2014 - 02/01/2014	0.95	0.93	0.97	0.97
6	02/02/2014 - 02/08/2014	0.95	0.91	0.97	0.97
7	02/09/2014 - 02/15/2014	0.95	0.89	0.97	0.97
8	02/16/2014 - 02/22/2014	0.95	0.91	0.97	0.97
9	02/23/2014 - 03/01/2014	0.95	0.93	0.97	0.97
10	03/02/2014 - 03/08/2014	0.95	0.95	0.97	0.97
11	03/09/2014 - 03/15/2014	0.95	0.97	0.97	0.97
12	03/16/2014 - 03/22/2014	0.95	0.97	0.97	0.97
13	03/23/2014 - 03/29/2014	0.95	0.97	0.97	0.97
14	03/30/2014 - 04/05/2014	0.95	0.96	0.96	0.96
15	04/06/2014 - 04/12/2014	0.95	0.96	0.96	0.96
16	04/13/2014 - 04/19/2014	0.95	0.96	0.96	0.96
17	04/20/2014 - 04/26/2014	0.95	0.96	0.96	0.96
18	04/27/2014 - 05/03/2014	0.95	0.96	0.96	0.96
19	05/04/2014 - 05/10/2014	0.95	0.96	0.96	0.96
20	05/11/2014 - 05/17/2014	0.95	0.96	0.96	0.96
21	05/18/2014 - 05/24/2014	0.95	0.96	0.96	0.96
22	05/25/2014 - 05/31/2014	0.95	0.96	0.96	0.96
23	06/01/2014 - 06/07/2014	0.95	0.96	0.96	0.96
24	06/08/2014 - 06/14/2014	0.95	0.96	0.96	0.96
25	06/15/2014 - 06/21/2014	0.95	0.96	0.96	0.96
26	06/22/2014 - 06/28/2014	0.95	0.96	0.96	0.96
27	06/29/2014 - 07/05/2014	0.95	0.96	0.96	0.96
28	07/06/2014 - 07/12/2014	0.95	0.96	0.96	0.96
29	07/13/2014 - 07/19/2014	0.95	0.96	0.96	0.96
30	07/20/2014 - 07/26/2014	0.95	0.96	0.96	0.96
31	07/27/2014 - 08/02/2014	0.95	0.96	0.96	0.96
32	08/03/2014 - 08/09/2014	0.95	0.96	0.96	0.96
33	08/10/2014 - 08/16/2014	0.95	0.96	0.96	0.96
34	08/17/2014 - 08/23/2014	0.95	0.96	0.96	0.96
35	08/24/2014 - 08/30/2014	0.95	0.96	0.96	0.96
36	08/31/2014 - 09/06/2014	0.95	0.96	0.96	0.96
37	09/07/2014 - 09/13/2014	0.95	0.96	0.96	0.96
38	09/14/2014 - 09/20/2014	0.95	0.96	0.96	0.96
39	09/21/2014 - 09/27/2014	0.95	0.96	0.96	0.96
40	09/28/2014 - 10/04/2014	0.95	0.96	0.96	0.96
41	10/05/2014 - 10/11/2014	0.95	0.96	0.96	0.96
42	10/12/2014 - 10/18/2014	0.95	0.96	0.96	0.96
43	10/19/2014 - 10/25/2014	0.95	0.96	0.96	0.96
44	10/26/2014 - 11/01/2014	0.95	0.97	0.97	0.97
45	11/02/2014 - 11/08/2014	0.95	0.97	0.97	0.97
46	11/09/2014 - 11/15/2014	0.95	0.97	0.97	0.97
47	11/16/2014 - 11/22/2014	0.95	0.97	0.97	0.97
48	11/23/2014 - 11/29/2014	0.95	0.97	0.97	0.97
49	11/30/2014 - 12/06/2014	0.95	0.96	0.96	0.96
50	12/07/2014 - 12/13/2014	0.95	0.96	0.96	0.96
51	12/14/2014 - 12/20/2014	0.95	0.96	0.96	0.96
52	12/21/2014 - 12/27/2014	0.95	0.97	0.97	0.97
53	12/28/2014 - 12/31/2014	0.95	0.97	0.97	0.97

2014 Weekly Axle Factor Category Report - Report Type: ALL

County: 13 - MANATEE

Week	Dates	1335 I75,I275-HILLS C/L	1336 US 41, SR 55-I 275	1337 SR70/15TH,SR70-SR64	1340 CR675 & VERNA BETHANY
1	01/01/2014 - 01/04/2014	0.87	0.97	0.96	0.94
2	01/05/2014 - 01/11/2014	0.87	0.97	0.97	0.94
3	01/12/2014 - 01/18/2014	0.87	0.97	0.97	0.94
4	01/19/2014 - 01/25/2014	0.87	0.97	0.97	0.94
5	01/26/2014 - 02/01/2014	0.87	0.97	0.97	0.94
6	02/02/2014 - 02/08/2014	0.87	0.97	0.97	0.94
7	02/09/2014 - 02/15/2014	0.87	0.97	0.97	0.94
8	02/16/2014 - 02/22/2014	0.87	0.97	0.97	0.94
9	02/23/2014 - 03/01/2014	0.87	0.97	0.97	0.94
10	03/02/2014 - 03/08/2014	0.87	0.97	0.97	0.94
11	03/09/2014 - 03/15/2014	0.87	0.97	0.97	0.94
12	03/16/2014 - 03/22/2014	0.87	0.97	0.97	0.94
13	03/23/2014 - 03/29/2014	0.87	0.97	0.97	0.94
14	03/30/2014 - 04/05/2014	0.87	0.97	0.96	0.94
15	04/06/2014 - 04/12/2014	0.87	0.97	0.96	0.94
16	04/13/2014 - 04/19/2014	0.87	0.97	0.96	0.94
17	04/20/2014 - 04/26/2014	0.87	0.97	0.96	0.94
18	04/27/2014 - 05/03/2014	0.87	0.97	0.96	0.94
19	05/04/2014 - 05/10/2014	0.87	0.97	0.96	0.94
20	05/11/2014 - 05/17/2014	0.87	0.97	0.96	0.94
21	05/18/2014 - 05/24/2014	0.87	0.97	0.96	0.94
22	05/25/2014 - 05/31/2014	0.87	0.97	0.96	0.94
23	06/01/2014 - 06/07/2014	0.87	0.97	0.96	0.94
24	06/08/2014 - 06/14/2014	0.87	0.97	0.96	0.94
25	06/15/2014 - 06/21/2014	0.87	0.97	0.96	0.94
26	06/22/2014 - 06/28/2014	0.87	0.97	0.96	0.94
27	06/29/2014 - 07/05/2014	0.87	0.97	0.96	0.94
28	07/06/2014 - 07/12/2014	0.87	0.97	0.96	0.94
29	07/13/2014 - 07/19/2014	0.87	0.97	0.96	0.94
30	07/20/2014 - 07/26/2014	0.87	0.97	0.96	0.94
31	07/27/2014 - 08/02/2014	0.87	0.97	0.96	0.94
32	08/03/2014 - 08/09/2014	0.87	0.97	0.96	0.94
33	08/10/2014 - 08/16/2014	0.87	0.97	0.96	0.94
34	08/17/2014 - 08/23/2014	0.87	0.97	0.96	0.94
35	08/24/2014 - 08/30/2014	0.87	0.97	0.96	0.94
36	08/31/2014 - 09/06/2014	0.87	0.97	0.96	0.94
37	09/07/2014 - 09/13/2014	0.87	0.97	0.96	0.94
38	09/14/2014 - 09/20/2014	0.87	0.97	0.96	0.94
39	09/21/2014 - 09/27/2014	0.87	0.97	0.96	0.94
40	09/28/2014 - 10/04/2014	0.87	0.97	0.96	0.94
41	10/05/2014 - 10/11/2014	0.87	0.97	0.96	0.94
42	10/12/2014 - 10/18/2014	0.87	0.97	0.96	0.94
43	10/19/2014 - 10/25/2014	0.87	0.97	0.96	0.94
44	10/26/2014 - 11/01/2014	0.87	0.97	0.97	0.94
45	11/02/2014 - 11/08/2014	0.87	0.97	0.97	0.94
46	11/09/2014 - 11/15/2014	0.87	0.97	0.97	0.94
47	11/16/2014 - 11/22/2014	0.87	0.97	0.97	0.94
48	11/23/2014 - 11/29/2014	0.87	0.97	0.97	0.94
49	11/30/2014 - 12/06/2014	0.87	0.97	0.96	0.94
50	12/07/2014 - 12/13/2014	0.87	0.97	0.96	0.94
51	12/14/2014 - 12/20/2014	0.87	0.97	0.96	0.94
52	12/21/2014 - 12/27/2014	0.87	0.97	0.97	0.94
53	12/28/2014 - 12/31/2014	0.87	0.97	0.97	0.94

2014 Weekly Axle Factor Category Report - Report Type: ALL

County: 13 - MANATEE

Week	Dates	1341 RESIDENTIAL RURAL	1342 CR683 ELLENTON GILLETTE	1343 HABEN & 9TH ST E	1344 RESIDENTIAL W OF US41
1	01/01/2014 - 01/04/2014	0.96	0.00	0.97	0.99
2	01/05/2014 - 01/11/2014	0.96	0.00	0.97	0.99
3	01/12/2014 - 01/18/2014	0.96	0.00	0.97	0.99
4	01/19/2014 - 01/25/2014	0.96	0.00	0.97	0.99
5	01/26/2014 - 02/01/2014	0.96	0.00	0.97	0.99
6	02/02/2014 - 02/08/2014	0.96	0.00	0.97	0.99
7	02/09/2014 - 02/15/2014	0.96	0.00	0.97	0.99
8	02/16/2014 - 02/22/2014	0.96	0.00	0.97	0.99
9	02/23/2014 - 03/01/2014	0.96	0.00	0.97	0.99
10	03/02/2014 - 03/08/2014	0.96	0.00	0.97	0.99
11	03/09/2014 - 03/15/2014	0.96	0.00	0.97	0.99
12	03/16/2014 - 03/22/2014	0.96	0.00	0.97	0.99
13	03/23/2014 - 03/29/2014	0.96	0.00	0.97	0.99
14	03/30/2014 - 04/05/2014	0.96	0.00	0.97	0.99
15	04/06/2014 - 04/12/2014	0.96	0.00	0.97	0.99
16	04/13/2014 - 04/19/2014	0.96	0.00	0.97	0.99
17	04/20/2014 - 04/26/2014	0.96	0.00	0.97	0.99
18	04/27/2014 - 05/03/2014	0.96	0.00	0.97	0.99
19	05/04/2014 - 05/10/2014	0.96	0.00	0.97	0.99
20	05/11/2014 - 05/17/2014	0.96	0.00	0.97	0.99
21	05/18/2014 - 05/24/2014	0.96	0.00	0.97	0.99
22	05/25/2014 - 05/31/2014	0.96	0.00	0.97	0.99
23	06/01/2014 - 06/07/2014	0.96	0.00	0.97	0.99
24	06/08/2014 - 06/14/2014	0.96	0.00	0.97	0.99
25	06/15/2014 - 06/21/2014	0.96	0.00	0.97	0.99
26	06/22/2014 - 06/28/2014	0.96	0.00	0.97	0.99
27	06/29/2014 - 07/05/2014	0.96	0.00	0.97	0.99
28	07/06/2014 - 07/12/2014	0.96	0.00	0.97	0.99
29	07/13/2014 - 07/19/2014	0.96	0.00	0.97	0.99
30	07/20/2014 - 07/26/2014	0.96	0.00	0.97	0.99
31	07/27/2014 - 08/02/2014	0.96	0.00	0.97	0.99
32	08/03/2014 - 08/09/2014	0.96	0.00	0.97	0.99
33	08/10/2014 - 08/16/2014	0.96	0.00	0.97	0.99
34	08/17/2014 - 08/23/2014	0.96	0.00	0.97	0.99
35	08/24/2014 - 08/30/2014	0.96	0.00	0.97	0.99
36	08/31/2014 - 09/06/2014	0.96	0.00	0.97	0.99
37	09/07/2014 - 09/13/2014	0.96	0.00	0.97	0.99
38	09/14/2014 - 09/20/2014	0.96	0.00	0.97	0.99
39	09/21/2014 - 09/27/2014	0.96	0.00	0.97	0.99
40	09/28/2014 - 10/04/2014	0.96	0.00	0.97	0.99
41	10/05/2014 - 10/11/2014	0.96	0.00	0.97	0.99
42	10/12/2014 - 10/18/2014	0.96	0.00	0.97	0.99
43	10/19/2014 - 10/25/2014	0.96	0.00	0.97	0.99
44	10/26/2014 - 11/01/2014	0.96	0.00	0.97	0.99
45	11/02/2014 - 11/08/2014	0.96	0.00	0.97	0.99
46	11/09/2014 - 11/15/2014	0.96	0.00	0.97	0.99
47	11/16/2014 - 11/22/2014	0.96	0.00	0.97	0.99
48	11/23/2014 - 11/29/2014	0.96	0.00	0.97	0.99
49	11/30/2014 - 12/06/2014	0.96	0.00	0.97	0.99
50	12/07/2014 - 12/13/2014	0.96	0.00	0.97	0.99
51	12/14/2014 - 12/20/2014	0.96	0.00	0.97	0.99
52	12/21/2014 - 12/27/2014	0.96	0.00	0.97	0.99
53	12/28/2014 - 12/31/2014	0.96	0.00	0.97	0.99

2014 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
CATEGORY: 1301 SR70,E OF US 41 & 301

MOCF: 0.93

WEEK	DATES	SF	PSCF
1	01/01/2014 - 01/04/2014	0.97	1.04
2	01/05/2014 - 01/11/2014	0.98	1.05
3	01/12/2014 - 01/18/2014	0.99	1.06
4	01/19/2014 - 01/25/2014	0.98	1.05
5	01/26/2014 - 02/01/2014	0.96	1.03
* 6	02/02/2014 - 02/08/2014	0.95	1.02
* 7	02/09/2014 - 02/15/2014	0.94	1.01
* 8	02/16/2014 - 02/22/2014	0.92	0.99
* 9	02/23/2014 - 03/01/2014	0.92	0.99
*10	03/02/2014 - 03/08/2014	0.92	0.99
*11	03/09/2014 - 03/15/2014	0.92	0.99
*12	03/16/2014 - 03/22/2014	0.91	0.98
*13	03/23/2014 - 03/29/2014	0.92	0.99
*14	03/30/2014 - 04/05/2014	0.93	1.00
*15	04/06/2014 - 04/12/2014	0.94	1.01
*16	04/13/2014 - 04/19/2014	0.94	1.01
*17	04/20/2014 - 04/26/2014	0.95	1.02
*18	04/27/2014 - 05/03/2014	0.96	1.03
19	05/04/2014 - 05/10/2014	0.97	1.04
20	05/11/2014 - 05/17/2014	0.98	1.05
21	05/18/2014 - 05/24/2014	0.98	1.05
22	05/25/2014 - 05/31/2014	1.01	1.09
23	06/01/2014 - 06/07/2014	1.04	1.12
24	06/08/2014 - 06/14/2014	1.07	1.15
25	06/15/2014 - 06/21/2014	1.10	1.18
26	06/22/2014 - 06/28/2014	1.12	1.20
27	06/29/2014 - 07/05/2014	1.14	1.23
28	07/06/2014 - 07/12/2014	1.17	1.26
29	07/13/2014 - 07/19/2014	1.19	1.28
30	07/20/2014 - 07/26/2014	1.17	1.26
31	07/27/2014 - 08/02/2014	1.15	1.24
32	08/03/2014 - 08/09/2014	1.13	1.22
33	08/10/2014 - 08/16/2014	1.11	1.19
34	08/17/2014 - 08/23/2014	1.10	1.18
35	08/24/2014 - 08/30/2014	1.09	1.17
36	08/31/2014 - 09/06/2014	1.09	1.17
37	09/07/2014 - 09/13/2014	1.09	1.17
38	09/14/2014 - 09/20/2014	1.08	1.16
39	09/21/2014 - 09/27/2014	1.05	1.13
40	09/28/2014 - 10/04/2014	1.03	1.11
41	10/05/2014 - 10/11/2014	1.00	1.08
42	10/12/2014 - 10/18/2014	0.97	1.04
43	10/19/2014 - 10/25/2014	0.97	1.04
44	10/26/2014 - 11/01/2014	0.97	1.04
45	11/02/2014 - 11/08/2014	0.98	1.05
46	11/09/2014 - 11/15/2014	0.98	1.05
47	11/16/2014 - 11/22/2014	0.99	1.06
48	11/23/2014 - 11/29/2014	0.98	1.05
49	11/30/2014 - 12/06/2014	0.98	1.05
50	12/07/2014 - 12/13/2014	0.98	1.05
51	12/14/2014 - 12/20/2014	0.97	1.04
52	12/21/2014 - 12/27/2014	0.98	1.05
53	12/28/2014 - 12/31/2014	0.99	1.06

* PEAK SEASON

2014 Peak Season Factor Category Report - Report Type: ALL
Category: 1300 MANATEE COUNTYWIDE

MOCF: 0.92

Week	Dates	SF	PSCF
1	01/01/2014 - 01/04/2014	0.99	1.08
2	01/05/2014 - 01/11/2014	0.99	1.08
3	01/12/2014 - 01/18/2014	1.00	1.09
4	01/19/2014 - 01/25/2014	0.98	1.07
5	01/26/2014 - 02/01/2014	0.96	1.04
* 6	02/02/2014 - 02/08/2014	0.94	1.02
* 7	02/09/2014 - 02/15/2014	0.92	1.00
* 8	02/16/2014 - 02/22/2014	0.91	0.99
* 9	02/23/2014 - 03/01/2014	0.90	0.98
*10	03/02/2014 - 03/08/2014	0.90	0.98
*11	03/09/2014 - 03/15/2014	0.90	0.98
*12	03/16/2014 - 03/22/2014	0.89	0.97
*13	03/23/2014 - 03/29/2014	0.90	0.98
*14	03/30/2014 - 04/05/2014	0.91	0.99
*15	04/06/2014 - 04/12/2014	0.92	1.00
*16	04/13/2014 - 04/19/2014	0.93	1.01
*17	04/20/2014 - 04/26/2014	0.94	1.02
*18	04/27/2014 - 05/03/2014	0.95	1.03
19	05/04/2014 - 05/10/2014	0.96	1.04
20	05/11/2014 - 05/17/2014	0.98	1.07
21	05/18/2014 - 05/24/2014	0.99	1.08
22	05/25/2014 - 05/31/2014	1.01	1.10
23	06/01/2014 - 06/07/2014	1.02	1.11
24	06/08/2014 - 06/14/2014	1.04	1.13
25	06/15/2014 - 06/21/2014	1.05	1.14
26	06/22/2014 - 06/28/2014	1.06	1.15
27	06/29/2014 - 07/05/2014	1.07	1.16
28	07/06/2014 - 07/12/2014	1.08	1.17
29	07/13/2014 - 07/19/2014	1.09	1.18
30	07/20/2014 - 07/26/2014	1.09	1.18
31	07/27/2014 - 08/02/2014	1.09	1.18
32	08/03/2014 - 08/09/2014	1.09	1.18
33	08/10/2014 - 08/16/2014	1.10	1.20
34	08/17/2014 - 08/23/2014	1.10	1.20
35	08/24/2014 - 08/30/2014	1.11	1.21
36	08/31/2014 - 09/06/2014	1.13	1.23
37	09/07/2014 - 09/13/2014	1.14	1.24
38	09/14/2014 - 09/20/2014	1.16	1.26
39	09/21/2014 - 09/27/2014	1.12	1.22
40	09/28/2014 - 10/04/2014	1.09	1.18
41	10/05/2014 - 10/11/2014	1.05	1.14
42	10/12/2014 - 10/18/2014	1.02	1.11
43	10/19/2014 - 10/25/2014	1.02	1.11
44	10/26/2014 - 11/01/2014	1.02	1.11
45	11/02/2014 - 11/08/2014	1.02	1.11
46	11/09/2014 - 11/15/2014	1.02	1.11
47	11/16/2014 - 11/22/2014	1.02	1.11
48	11/23/2014 - 11/29/2014	1.01	1.10
49	11/30/2014 - 12/06/2014	1.00	1.09
50	12/07/2014 - 12/13/2014	1.00	1.09
51	12/14/2014 - 12/20/2014	0.99	1.08
52	12/21/2014 - 12/27/2014	0.99	1.08
53	12/28/2014 - 12/31/2014	1.00	1.09

* Peak Season

Appendix E

Signal Timings & SYNCHRO Intersection Analysis Outputs

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	361	365	127	425	38	400	201	63	92	342	74
Future Volume (veh/h)	132	361	365	127	425	38	400	201	63	92	342	74
Number	1	6	16	5	2	12	7	4	14	3	8	18
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
Adj Sat Flow, veh/h/ln	1759	1667	1776	1759	1727	1570	1810	1827	1727	1570	1820	1900
Adj Flow Rate, veh/h	136	372	376	131	438	39	412	207	65	95	353	76
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	8	14	7	8	10	21	5	4	10	21	3	3
Cap, veh/h	157	868	414	152	900	366	363	879	707	300	395	85
Arrive On Green	0.09	0.27	0.27	0.09	0.27	0.27	0.16	0.48	0.48	0.27	0.27	0.27
Sat Flow, veh/h	1675	3167	1509	1675	3282	1335	1723	1827	1468	930	1452	313
Grp Volume(v), veh/h	136	372	376	131	438	39	412	207	65	95	0	429
Grp Sat Flow(s),veh/h/ln	1675	1583	1509	1675	1641	1335	1723	1827	1468	930	0	1764
Q Serve(g_s), s	12.3	14.8	36.9	11.8	17.1	3.3	25.0	10.2	3.7	12.7	0.0	35.9
Cycle Q Clear(g_c), s	12.3	14.8	36.9	11.8	17.1	3.3	25.0	10.2	3.7	12.7	0.0	35.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.18
Lane Grp Cap(c), veh/h	157	868	414	152	900	366	363	879	707	300	0	480
V/C Ratio(X)	0.87	0.43	0.91	0.86	0.49	0.11	1.13	0.24	0.09	0.32	0.00	0.89
Avail Cap(c_a), veh/h	219	929	443	219	963	392	363	978	786	350	0	575
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	68.5	45.8	53.8	68.8	46.6	41.6	41.9	23.3	21.6	45.3	0.0	53.7
Incr Delay (d2), s/veh	22.1	0.3	21.7	20.6	0.4	0.1	88.9	0.1	0.1	0.6	0.0	14.6
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	6.7	6.5	17.9	6.4	7.8	1.2	24.3	5.2	1.5	3.3	0.0	19.5
LnGrp Delay(d),s/veh	90.6	46.1	75.4	89.4	47.0	41.7	130.9	23.4	21.6	45.9	0.0	68.3
LnGrp LOS	F	D	E	F	D	D	F	C	C	D		E
Approach Vol, veh/h		884			608			684			524	
Approach Delay, s/veh		65.4			55.8			88.0			64.2	
Approach LOS		E			E			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.1	49.3		82.0	22.1	49.2	32.1	49.9
Change Period (Y+Rc), s	7.7	7.2		8.2	8.2	7.2	7.1	8.2
Max Green Setting (Gmax), s	20.0	45.0		82.1	20.0	45.0	25.0	50.0
Max Q Clear Time (g_c+I1), s	14.3	19.1		12.2	13.8	38.9	27.0	37.9
Green Ext Time (p_c), s	0.1	6.6		5.6	0.1	3.1	0.0	3.8

Intersection Summary	
HCM 2010 Ctrl Delay	68.7
HCM 2010 LOS	E

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	12	379	47	57	636	2	103	2	15	11	9	10
Future Vol, veh/h	12	379	47	57	636	2	103	2	15	11	9	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	530	-	480	500	-	460	300	-	0	325	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	8	20	2	0	12	0	0	0	0	55	11	0
Mvmt Flow	12	391	48	59	656	2	106	2	15	11	9	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	656	0	0	391	0	0	1193	1188	391	1189	1188	656
Stage 1	-	-	-	-	-	-	415	415	-	773	773	-
Stage 2	-	-	-	-	-	-	778	773	-	416	415	-
Critical Hdwy	4.18	-	-	4.1	-	-	7.1	6.5	6.2	7.65	6.61	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.65	5.61	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.65	5.61	-
Follow-up Hdwy	2.272	-	-	2.2	-	-	3.5	4	3.3	3.995	4.099	3.3
Pot Cap-1 Maneuver	903	-	-	1179	-	-	165	190	662	130	181	469
Stage 1	-	-	-	-	-	-	619	596	-	322	396	-
Stage 2	-	-	-	-	-	-	392	412	-	522	577	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	903	-	-	1179	-	-	150	178	662	120	170	469
Mov Cap-2 Maneuver	-	-	-	-	-	-	261	286	-	221	272	-
Stage 1	-	-	-	-	-	-	611	588	-	318	376	-
Stage 2	-	-	-	-	-	-	355	391	-	501	569	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.7	25.6	18
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	261	286	662	903	-	-	1179	-	-	221	272	469
HCM Lane V/C Ratio	0.407	0.007	0.023	0.014	-	-	0.05	-	-	0.051	0.034	0.022
HCM Control Delay (s)	27.9	17.7	10.6	9	-	-	8.2	-	-	22.2	18.7	12.8
HCM Lane LOS	D	C	B	A	-	-	A	-	-	C	C	B
HCM 95th %tile Q(veh)	1.9	0	0.1	0	-	-	0.2	-	-	0.2	0.1	0.1

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	20	243	62	7	635	0	27	0	4	2	2	68
Future Vol, veh/h	20	243	62	7	635	0	27	0	4	2	2	68
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	510	-	510	510	-	510	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	21	15	14	11	0	7	0	25	50	0	3
Mvmt Flow	21	251	64	7	655	0	28	0	4	2	2	70

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	655	0	0	251	0	0	997	961	251	963	961	655
Stage 1	-	-	-	-	-	-	292	292	-	669	669	-
Stage 2	-	-	-	-	-	-	705	669	-	294	292	-
Critical Hdwy	4.1	-	-	4.24	-	-	7.17	6.5	6.45	7.6	6.5	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.17	5.5	-	6.6	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.17	5.5	-	6.6	5.5	-
Follow-up Hdwy	2.2	-	-	2.326	-	-	3.563	4	3.525	3.95	4	3.327
Pot Cap-1 Maneuver	942	-	-	1248	-	-	218	258	735	193	258	464
Stage 1	-	-	-	-	-	-	705	675	-	377	459	-
Stage 2	-	-	-	-	-	-	419	459	-	622	675	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	942	-	-	1248	-	-	180	251	735	188	251	464
Mov Cap-2 Maneuver	-	-	-	-	-	-	271	345	-	286	353	-
Stage 1	-	-	-	-	-	-	689	660	-	369	456	-
Stage 2	-	-	-	-	-	-	352	456	-	605	660	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.1	18.5	14.5
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	271	735	942	-	-	1248	-	-	452
HCM Lane V/C Ratio	0.103	0.006	0.022	-	-	0.006	-	-	0.164
HCM Control Delay (s)	19.8	9.9	8.9	-	-	7.9	-	-	14.5
HCM Lane LOS	C	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.3	0	0.1	-	-	0	-	-	0.6

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	245	6	1	617	17	3
Future Vol, veh/h	245	6	1	617	17	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	510	570	-	180	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	18	17	0	11	0	0
Mvmt Flow	261	6	1	656	18	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	261	0	920	261
Stage 1	-	-	-	-	261	-
Stage 2	-	-	-	-	659	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1315	-	303	783
Stage 1	-	-	-	-	787	-
Stage 2	-	-	-	-	518	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1315	-	303	783
Mov Cap-2 Maneuver	-	-	-	-	303	-
Stage 1	-	-	-	-	787	-
Stage 2	-	-	-	-	518	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	16.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	303	783	-	-	1315	-
HCM Lane V/C Ratio	0.06	0.004	-	-	0.001	-
HCM Control Delay (s)	17.6	9.6	-	-	7.7	-
HCM Lane LOS	C	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	7	240	614	1	0	2
Future Vol, veh/h	7	240	614	1	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	410	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	21	12	0	0	0
Mvmt Flow	7	250	640	1	0	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	641	0	-	0	905	640
Stage 1	-	-	-	-	640	-
Stage 2	-	-	-	-	265	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	953	-	-	-	309	479
Stage 1	-	-	-	-	529	-
Stage 2	-	-	-	-	784	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	953	-	-	-	307	479
Mov Cap-2 Maneuver	-	-	-	-	307	-
Stage 1	-	-	-	-	529	-
Stage 2	-	-	-	-	778	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	12.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	953	-	-	-	479
HCM Lane V/C Ratio	0.008	-	-	-	0.004
HCM Control Delay (s)	8.8	-	-	-	12.5
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	3	225	12	1	547	2	53	0	2	5	1	16
Future Vol, veh/h	3	225	12	1	547	2	53	0	2	5	1	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	400	600	-	490	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	22	8	0	13	100	2	0	0	0	100	6
Mvmt Flow	3	237	13	1	576	2	56	0	2	5	1	17

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	576	0	0	237	0	0	830	821	237	821	821	576
Stage 1	-	-	-	-	-	-	243	243	-	578	578	-
Stage 2	-	-	-	-	-	-	587	578	-	243	243	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.12	6.5	6.2	7.1	7.5	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.5	-	6.1	6.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.5	-	6.1	6.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.518	4	3.3	3.5	4.9	3.354
Pot Cap-1 Maneuver	1007	-	-	1342	-	-	289	312	807	296	221	509
Stage 1	-	-	-	-	-	-	761	708	-	505	374	-
Stage 2	-	-	-	-	-	-	496	504	-	765	556	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1007	-	-	1342	-	-	278	311	807	294	220	509
Mov Cap-2 Maneuver	-	-	-	-	-	-	381	401	-	400	297	-
Stage 1	-	-	-	-	-	-	759	706	-	503	374	-
Stage 2	-	-	-	-	-	-	478	504	-	761	554	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	15.9	13.1
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	381	807	1007	-	-	1342	-	-	465
HCM Lane V/C Ratio	0.146	0.003	0.003	-	-	0.001	-	-	0.05
HCM Control Delay (s)	16.1	9.5	8.6	-	-	7.7	-	-	13.1
HCM Lane LOS	C	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.5	0	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	37	193	3	1	419	0	24	4	9	66	0	106
Future Vol, veh/h	37	193	3	1	419	0	24	4	9	66	0	106
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	520	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	3	25	0	0	16	0	0	0	0	15	0	7
Mvmt Flow	38	199	3	1	432	0	25	4	9	68	0	109

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	432	0	0	202	0	0	711	711	201	718	712	-
Stage 1	-	-	-	-	-	-	277	277	-	434	434	-
Stage 2	-	-	-	-	-	-	434	434	-	284	278	-
Critical Hdwy	4.13	-	-	4.1	-	-	7.1	6.5	6.2	7.25	6.5	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.25	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.25	5.5	-
Follow-up Hdwy	2.227	-	-	2.2	-	-	3.5	4	3.3	3.635	4	-
Pot Cap-1 Maneuver	1122	-	-	1382	-	-	351	361	845	328	360	0
Stage 1	-	-	-	-	-	-	734	685	-	576	585	0
Stage 2	-	-	-	-	-	-	604	585	-	696	684	0
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1122	-	-	1382	-	-	342	348	845	313	347	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	439	428	-	416	440	-
Stage 1	-	-	-	-	-	-	709	662	-	556	584	-
Stage 2	-	-	-	-	-	-	603	584	-	661	661	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0	12.9	
HCM LOS			B	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	496	1122	-	-	1382	-	-	-
HCM Lane V/C Ratio	0.077	0.034	-	-	0.001	-	-	-
HCM Control Delay (s)	12.9	8.3	-	-	7.6	0	-	-
HCM Lane LOS	B	A	-	-	A	A	-	-
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	202	573	205	43	423	55	332	218	109	80	91	103
Future Volume (veh/h)	202	573	205	43	423	55	332	218	109	80	91	103
Number	1	6	16	5	2	12	7	4	14	3	8	18
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
Adj Sat Flow, veh/h/ln	1845	1845	1900	1900	1776	1900	1881	1863	1845	1727	1861	1900
Adj Flow Rate, veh/h	208	591	211	44	436	57	342	225	112	82	94	106
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	0	0	7	0	1	2	3	10	0	0
Cap, veh/h	243	1097	505	64	726	347	456	774	652	234	134	151
Arrive On Green	0.14	0.31	0.31	0.04	0.22	0.22	0.18	0.42	0.42	0.17	0.17	0.17
Sat Flow, veh/h	1757	3505	1615	1810	3374	1615	1792	1863	1568	963	800	902
Grp Volume(v), veh/h	208	591	211	44	436	57	342	225	112	82	0	200
Grp Sat Flow(s),veh/h/ln	1757	1752	1615	1810	1687	1615	1792	1863	1568	963	0	1701
Q Serve(g_s), s	11.6	13.9	10.3	2.4	11.6	2.9	15.0	8.0	4.5	7.7	0.0	11.1
Cycle Q Clear(g_c), s	11.6	13.9	10.3	2.4	11.6	2.9	15.0	8.0	4.5	7.7	0.0	11.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.53
Lane Grp Cap(c), veh/h	243	1097	505	64	726	347	456	774	652	234	0	286
V/C Ratio(X)	0.86	0.54	0.42	0.69	0.60	0.16	0.75	0.29	0.17	0.35	0.00	0.70
Avail Cap(c_a), veh/h	352	1578	727	362	1519	727	588	1530	1288	554	0	851
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.1	28.4	27.1	47.7	35.4	31.9	26.1	19.4	18.4	37.8	0.0	39.2
Incr Delay (d2), s/veh	13.3	0.4	0.6	12.4	0.8	0.2	3.9	0.2	0.1	0.9	0.0	3.1
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	6.5	6.8	4.7	1.4	5.5	1.3	7.9	4.2	2.0	2.1	0.0	5.5
LnGrp Delay(d),s/veh	55.4	28.8	27.7	60.1	36.2	32.1	30.1	19.6	18.5	38.7	0.0	42.3
LnGrp LOS	E	C	C	E	D	C	C	B	B	D		D
Approach Vol, veh/h		1010			537			679			282	
Approach Delay, s/veh		34.0			37.7			24.7			41.3	
Approach LOS		C			D			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.5	28.7		49.7	11.7	38.5	24.8	25.0
Change Period (Y+Rc), s	7.7	7.2		8.2	8.2	7.2	7.1	8.2
Max Green Setting (Gmax), s	20.0	45.0		82.1	20.0	45.0	25.0	50.0
Max Q Clear Time (g_c+I1), s	13.6	13.6		10.0	4.4	15.9	17.0	13.1
Green Ext Time (p_c), s	0.3	7.9		3.8	0.1	7.7	0.7	3.7

Intersection Summary	
HCM 2010 Ctrl Delay	33.1
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	59	611	114	8	430	6	67	19	21	6	7	28
Future Vol, veh/h	59	611	114	8	430	6	67	19	21	6	7	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	530	-	480	500	-	460	300	-	0	325	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	8	20	2	0	12	0	0	0	0	55	11	0
Mvmt Flow	63	657	123	9	462	6	72	20	23	6	8	30

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	462	0	0	657	0	0	1267	1264	657	1274	1264	462
Stage 1	-	-	-	-	-	-	784	784	-	480	480	-
Stage 2	-	-	-	-	-	-	483	480	-	794	784	-
Critical Hdwy	4.18	-	-	4.1	-	-	7.1	6.5	6.2	7.65	6.61	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.65	5.61	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.65	5.61	-
Follow-up Hdwy	2.272	-	-	2.2	-	-	3.5	4	3.3	3.995	4.099	3.3
Pot Cap-1 Maneuver	1068	-	-	940	-	-	147	171	468	112	163	604
Stage 1	-	-	-	-	-	-	389	407	-	479	540	-
Stage 2	-	-	-	-	-	-	569	558	-	313	391	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1068	-	-	940	-	-	130	159	468	95	152	604
Mov Cap-2 Maneuver	-	-	-	-	-	-	245	267	-	188	261	-
Stage 1	-	-	-	-	-	-	366	383	-	451	535	-
Stage 2	-	-	-	-	-	-	528	553	-	265	368	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.2	22.1	14.6
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	245	267	468	1068	-	-	940	-	-	188	261	604
HCM Lane V/C Ratio	0.294	0.077	0.048	0.059	-	-	0.009	-	-	0.034	0.029	0.05
HCM Control Delay (s)	25.7	19.6	13.1	8.6	-	-	8.9	-	-	24.8	19.2	11.3
HCM Lane LOS	D	C	B	A	-	-	A	-	-	C	C	B
HCM 95th %tile Q(veh)	1.2	0.2	0.2	0.2	-	-	0	-	-	0.1	0.1	0.2

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	61	568	42	5	295	1	54	0	9	1	0	31
Future Vol, veh/h	61	568	42	5	295	1	54	0	9	1	0	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	510	-	510	510	-	510	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	4	2	0	7	100	6	0	0	0	0	0
Mvmt Flow	66	617	46	5	321	1	59	0	10	1	0	34

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	321	0	0	617	0	0	1098	1082	617	1087	1082	321
Stage 1	-	-	-	-	-	-	750	750	-	332	332	-
Stage 2	-	-	-	-	-	-	348	332	-	755	750	-
Critical Hdwy	4.12	-	-	4.1	-	-	7.16	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.16	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.16	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.218	-	-	2.2	-	-	3.554	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1239	-	-	973	-	-	187	219	494	195	219	724
Stage 1	-	-	-	-	-	-	397	422	-	686	648	-
Stage 2	-	-	-	-	-	-	660	648	-	404	422	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1239	-	-	973	-	-	170	206	494	183	206	724
Mov Cap-2 Maneuver	-	-	-	-	-	-	278	305	-	289	309	-
Stage 1	-	-	-	-	-	-	376	400	-	649	645	-
Stage 2	-	-	-	-	-	-	626	645	-	375	400	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.1	20.1	10.5
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	278	494	1239	-	-	973	-	-	691
HCM Lane V/C Ratio	0.211	0.02	0.054	-	-	0.006	-	-	0.05
HCM Control Delay (s)	21.4	12.4	8.1	-	-	8.7	-	-	10.5
HCM Lane LOS	C	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.8	0.1	0.2	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	562	16	1	294	10	0
Future Vol, veh/h	562	16	1	294	10	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	510	570	-	180	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	0	0	8	0	0
Mvmt Flow	611	17	1	320	11	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	611	0	933	611
Stage 1	-	-	-	-	611	-
Stage 2	-	-	-	-	322	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	978	-	298	497
Stage 1	-	-	-	-	546	-
Stage 2	-	-	-	-	739	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	978	-	298	497
Mov Cap-2 Maneuver	-	-	-	-	298	-
Stage 1	-	-	-	-	546	-
Stage 2	-	-	-	-	738	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	17.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	298	-	-	-	978	-
HCM Lane V/C Ratio	0.036	-	-	-	0.001	-
HCM Control Delay (s)	17.5	0	-	-	8.7	-
HCM Lane LOS	C	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	2	550	295	0	0	0
Future Vol, veh/h	2	550	295	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	410	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	4	7	0	0	0
Mvmt Flow	2	585	314	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	314	0	-	0	903	314
Stage 1	-	-	-	-	314	-
Stage 2	-	-	-	-	589	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1258	-	-	-	310	731
Stage 1	-	-	-	-	745	-
Stage 2	-	-	-	-	558	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1258	-	-	-	310	731
Mov Cap-2 Maneuver	-	-	-	-	310	-
Stage 1	-	-	-	-	745	-
Stage 2	-	-	-	-	557	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1258	-	-	-	-
HCM Lane V/C Ratio	0.002	-	-	-	-
HCM Control Delay (s)	7.9	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	8	496	52	1	256	1	23	1	2	0	0	10
Future Vol, veh/h	8	496	52	1	256	1	23	1	2	0	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	400	600	-	490	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	4	0	0	8	0	0	0	0	0	0	0
Mvmt Flow	9	528	55	1	272	1	24	1	2	0	0	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	272	0	0	528	0	0	825	819	528	819	819	272
Stage 1	-	-	-	-	-	-	545	545	-	274	274	-
Stage 2	-	-	-	-	-	-	280	274	-	545	545	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1303	-	-	1049	-	-	294	312	554	297	312	772
Stage 1	-	-	-	-	-	-	526	522	-	736	687	-
Stage 2	-	-	-	-	-	-	731	687	-	526	522	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1303	-	-	1049	-	-	288	310	554	293	310	772
Mov Cap-2 Maneuver	-	-	-	-	-	-	400	404	-	403	405	-
Stage 1	-	-	-	-	-	-	522	518	-	731	686	-
Stage 2	-	-	-	-	-	-	720	686	-	519	518	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	14.4	9.7
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	400	554	1303	-	-	1049	-	-	772
HCM Lane V/C Ratio	0.064	0.004	0.007	-	-	0.001	-	-	0.014
HCM Control Delay (s)	14.6	11.5	7.8	-	-	8.4	-	-	9.7
HCM Lane LOS	B	B	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.2	0	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	99	391	8	6	211	0	15	2	3	55	3	34
Future Vol, veh/h	99	391	8	6	211	0	15	2	3	55	3	34
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	520	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	6	0	0	10	0	0	0	0	16	0	0
Mvmt Flow	111	439	9	7	237	0	17	2	3	62	3	38

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	237	0	0	448	0	0	918	917	444	920	922	-
Stage 1	-	-	-	-	-	-	666	666	-	251	251	-
Stage 2	-	-	-	-	-	-	252	251	-	669	671	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.26	6.5	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.26	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.26	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.644	4	-
Pot Cap-1 Maneuver	1342	-	-	1123	-	-	254	274	618	237	272	0
Stage 1	-	-	-	-	-	-	452	460	-	723	703	0
Stage 2	-	-	-	-	-	-	757	703	-	425	458	0
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1342	-	-	1123	-	-	235	250	618	219	248	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	328	332	-	307	337	-
Stage 1	-	-	-	-	-	-	415	422	-	663	698	-
Stage 2	-	-	-	-	-	-	748	698	-	386	420	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.6	0.2	15.9	
HCM LOS			C	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	353	1342	-	-	1123	-	-	-
HCM Lane V/C Ratio	0.064	0.083	-	-	0.006	-	-	-
HCM Control Delay (s)	15.9	7.9	-	-	8.2	0	-	-
HCM Lane LOS	C	A	-	-	A	A	-	-
HCM 95th %tile Q(veh)	0.2	0.3	-	-	0	-	-	-

Sarasota-Manatee RTMC | Timing Sheet | 4/20/2016 1:43:29 PM

Station : 3266 - SR 70 @ Lorraine Rd (Upload File)

Phase [1.1.1]

	1 (EL)	2 (WT)	3	4 (NT)	5 (WL)	6 (ET)	7 (NL)	8 (ST)	9	10	11	12	13	14	15	16
Walk		7				7		7								
Ped Clearance		23				25		40								
Min Green	5	15		7	5	15	5	15								
Passage	3	5		3	3	5	3	6								
Max1	20	45		25	20	45	25	50								
Max2																
Yellow	5.2	5.2		5.2	5.2	5.2	4.1	5.2								
Red	2.5	2		3	3	2	3	3								
Red Revert																
Added Initial																
Max Initial																
Time Before Reduce																
Cars Before Reduce																
Time To Reduce																
Reduce By																
Min Gap																
Dynamic Max Limit		60		40		60	35									
Dynamic Max Step		10		10		10	5									
Auto Exit		ON				ON										
Rest In Walk																

Phase Option [1.1.2]

	1 (EL)	2 (WT)	3	4 (NT)	5 (WL)	6 (ET)	7 (NL)	8 (ST)	9	10	11	12	13	14	15	16
Enable	ON	ON		ON	ON	ON	ON	ON								
Auto Entry				ON				ON								
Non Act1																
Non Act2																
Lock Call		ON				ON										
Min Recall		ON				ON										
Max Recall																
Ped Recall																
Soft Recall																
Dual Entry		ON		ON		ON		ON								
Sim Gap Enable				ON				ON								
Guar Passage																
Cond Service																
Add Init Calc																

Alternate Phase Program 1, Calls and Redirection [1.1.6.3]

Entry	Call Phases				From	To	From	To	From	To	From	To	Assigned Ph
1													
2													
3													
4													
5													
6													
7													
8													

Alternate Phase Program 2, Calls and Redirection [1.1.6.3]

Entry	Call Phases				From	To	From	To	From	To	From	To	Assigned Ph
1													
2													
3													
4													
5													
6													
7													
8													

Alternate Phase Program 1, Interval Times [1.1.6.1]

Phase	Walk	Ped Clear	Min Green	Passage	Max1	Max2	Yellow	Red Clear	Assign Ph	Bike Clear
1										
2										
3										
4										
5										
6										
7										
8										

Alternate Phase Program 2, Interval Times [1.1.6.1]

Phase	Walk	Ped Clear	Min Green	Passage	Max1	Max2	Yellow	Red Clear	Assign Ph	Bike Clear
1										
2										
3										
4										
5										
6										
7										
8										

Prepared By	Date Implemented	Reviewed By	Traffic Engineer

Sarasota-Manatee RTMC | Timing Sheet | 4/20/2016 1:43:29 PM

Station : 3266 - SR 70 @ Lorraine Rd (Upload File)

Unit Parameters [1.2.1]

StartUp Flash	Auto Ped Clear	Backup Time	Red Revert	Console Timeout	Tone Disable	Feature Profile	Phase Mode	Diamond Mode	SDLC Retry Time	TS2 Det Faults	Cycle Fault Action	Max Cycle Time	Max Seek Track Time	Max Seek Dwell Time	Enable Run	Local Flash Start	Start Red Time	Disable Init Ped	Yellow 3 Second Disable	Omit Yellow Enable	Free Ring Sequence
	OFF		3	10	OFF		STD8	4PH		OFF	ALARM				ON	OFF		OFF	OFF	OFF	1

Comm, General Comm Parameters [6.1]

Station ID	Master Station ID	Fallback time	Allow Pencil	Port	System-Up	Sys-Down	PC/Print	Aux 232
3266			OFF					

Port Parameters [6.2]

Comm	Mode	Baud	MsgTime	Duplex	Enable	DialTime	Modem	ModemTime	Tel#1	Tel#2
System Up(P-A)										
System Down(P-B)										
PC/Print(P-2)										

Overlap General Parameters [1.5.1]

Conflict Lock	Lock Inhibit	Program Card	Use Parent	Canadian Fast Flash
OFF	OFF	OFF	ON	OFF

Overlap Program Parameters [1.5.2.1]

Overlap	Included Phases								Modifer Phases								Type	Green	Yellow	Red
Overlap 1																	NORMAL		3.5	1.5
Overlap 2																	NORMAL		3.5	1.5
Overlap 3																	NORMAL		3.5	1.5
Overlap 4																	NORMAL		3.5	1.5
Overlap 5																	NORMAL		3.5	1.5
Overlap 6																	NORMAL		3.5	1.5
Overlap 7																	NORMAL		3.5	1.5
Overlap 8																	NORMAL		3.5	1.5

Overlap Conflict Parameters+ [1.5.2.2]

Overlap	Conflicting Phases								Conflicting Overlaps								Conflicting Peds									
Overlap 1																									OFF	OFF
Overlap 2																									OFF	OFF
Overlap 3																									OFF	OFF
Overlap 4																									OFF	OFF
Overlap 5																									OFF	OFF
Overlap 6																									OFF	OFF
Overlap 7																									OFF	OFF
Overlap 8																									OFF	OFF

Detector, Vehicle Parameters 1-16 [5.1]

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Call Phase	1	2	2	5	4	4	7	8	8		6	6				
Switch Phase							4									
Delay Time					3	8			8							

Detector, Vehicle Parameters 17-32 [5.1]

	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Call Phase																
Switch Phase																
Delay Time																

Sarasota-Manatee RTMC Timing Sheet 4/20/2016 1:43:29 PM

Station : 3266 - SR 70 @ Lorraine Rd (Upload File)

Detector Alternate Program 1, Vehicle Parameters [5.5.1]

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Call Phase																
Switch Phase																
Delay Time																

Channels/SDLC, Assign to Phases [1.3.1]

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
PH/OLP #	1	2	3	4	5	6	7	8	1	2	3	4	2	4	6	8	1	3	5	7				
Type	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH	OLP	OLP	OLP	OLP	PED	PED	PED	PED	PED	PED	PED	PED	VEH	VEH	VEH	VEH
Flash	RED	YEL	RED	RED	RED	YEL	RED	RED	RED	RED	RED	RED	DRK	DRK	DRK	DRK	DRK	DRK	DRK	DRK	DRK	DRK	DRK	DRK
Flash 1-2 Hertz																								
Dimming Green																								
Dimming Yellow																								
Dimming Red																								
Alt Cyc	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

Channel/SDLC, Parameters [1.3.3]

TOD Dim Enable	Extra Maps Enable	D Connector Enable	Single BIU Map	IO Mode	Preempt or Ext Output
OFF	DEFAULT	TX2_V14	OFF	AUTO	EXT

Channel/SDLC, MMU Map [1.3.5]

MMU-to-Controller Channel Map

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Channel/SDLC, Permissive [1.3.4]

Channel	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2
1		1									1	1			
2		1		1							1	1			
3															
4	1								1	1					
5				1											
6		1		1											
7															
8	1														
9															
10															
11															
12															
13		1													
14															
15															

Channel/SDLC, Permissive [1.3.7]

SDLC Device	Term/Fac		Detector														MMU	Diag
BIU#	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8		
Present	ON	ON							ON								ON	
Peer to Peer																		

Ring Sequence [1.2.4]

Ring	P1	P2	P3	P4	P5	P6	P7	P8
Ring 1	1	2	3	4				
Ring 2	5	6	7	8				
Ring 3								
Ring 4								

Sarasota-Manatee RTMC Timing Sheet 4/20/2016 1:43:29 PM

Station : 3266 - SR 70 @ Lorraine Rd (Upload File)

Preemption Times+[3.4]/Overlaps+[3.5]/Options+[3.6]

Preempt	1	2	3	4	5	6
Enable						
Type	EMERG	EMERG	EMERG	EMERG	EMERG	EMERG
Skip Track						
Volt Mon Flash						
Coord in Preempt						
Max2						
Return Max/Min	MAX	MAX	MAX	MAX	MAX	MAX
Extend Dwell						
Pattern						
Output Mode	TS2	TS2	TS2	TS2	TS2	TS2
Track Over 1						
Track Over 2						
Track Over 3						
Track Over 4						
Track Over 5						
Track Over 6						
Track Over 7						
Track Over 8						
Track Over 9						
Track Over 10						
Track Over 11						
Track Over 12						
Dwell Over 1						
Dwell Over 2						
Dwell Over 3						
Dwell Over 4						
Dwell Over 5						
Dwell Over 6						
Dwell Over 7						
Dwell Over 8						
Dwell Over 9						
Dwell Over 10						
Dwell Over 11						
Dwell Over 12						
Ped Clear						
Yellow						
Red						
Return Min/Max						
Delay Inh						
Exit Time						
All Red B4						

Coordination, Modes,+ [2.1]

Modes

Operational	Correct	Maximum	Force-Off
	SHRT/LNG	MAX 2	FIXED

Modes+

Mode	Leave Before	Leave After	Recycle	Stop In Walk	External	Auto Reset	Latch Sec Foff	Coord Easy Float	Yield Value	Coord NTCIP Yield Sign	Closed Loop Active	
FRC	TIMED	TIMED	P3478_INH	OFF	OFF	ON	OFF	OFF	0	+	OFF	OFF

Coordination, Pattern 1-16 [2.1]

Pattern	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Cycle Time																
Offset Time																
Split Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Seq Number	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Offset	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn

Coordination, Pattern 17-32 [2.1]

Pattern	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Cycle Time																
Offset Time																
Split Number	17	18	19	20	21	22	23									
Seq Number	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Offset	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn

Sarasota-Manatee RTMC | Timing Sheet | 4/20/2016 1:43:29 PM

Station : 3266 - SR 70 @ Lorraine Rd (Upload File)

Coordination, Splits [2.7.1]

Split Table 1	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Time																
Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
Coord-Ph																

Split Table 2	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Time																
Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
Coord-Ph																

Split Table 3	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Time																
Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
Coord-Ph																

Split Table 4	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Time																
Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
Coord-Ph																

Split Table 5	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Time																
Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
Coord-Ph																

Split Table 6	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Time																
Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
Coord-Ph																

Split Table 7	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Time																
Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
Coord-Ph																

Split Table 8	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Time																
Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
Coord-Ph																

Split Table 9	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Time																
Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
Coord-Ph																

Split Table 10	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Time																
Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
Coord-Ph																

Split Table 11	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Time																
Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
Coord-Ph																

Split Table 12	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Time																
Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
Coord-Ph																

Sarasota-Manatee RTMC | Timing Sheet | 4/20/2016 1:43:29 PM

Station : 3266 - SR 70 @ Lorraine Rd (Upload File)

TB Coor, Advanced Scheduler [4.3]

	Month												Day of Week							Day of Month									1									2									3		
Plan	J	F	M	A	M	J	J	A	S	O	N	D	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	Day Plan
1	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	1	1	1	1	1	1	1	1	1	1	1	1							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
3	1	1	1	1	1	1	1	1	1	1	1	1	1							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3
4																																																	1
5																																																		1
6																																																		1
7																																																		1
8																																																		1
9																																																		1
10																																																		1
11																																																		1
12																																																		1
13																																																		1
14																																																		1
15																																																		1
16																																																		1
17																																																		1
18																																																		1
19																																																		1
20																																																		1
21																																																		1
22																																																		1
23																																																		1
24																																																		1
25																																																		1
26																																																		1
27																																																		1
28																																																		1
29																																																		1
30																																																		1
31																																																		1
32																																																		1

TB Coor, Day Plan [4.4]

Day Plan Table 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour																
Minute																
Action	99															

Day Plan Table 2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour																
Minute																
Action	99															

Day Plan Table 3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour																
Minute																
Action	99															

Day Plan Table 4	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour																
Minute																
Action	99															

Day Plan Table 5	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour																
Minute																
Action																

Day Plan Table 6	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour																
Minute																
Action																

Sarasota-Manatee RTMC Timing Sheet 4/20/2016 1:43:29 PM

Station : 3266 - SR 70 @ Lorraine Rd (Upload File)

TB Coor, Action Table [4.5]

Action	Pattern	Aux 1	Aux 2	Aux 3	Special 1	Special 2	Special 3	Special 4	Special 5	Special 6	Special 7	Special 8
1	1											
2	2											
3	3											
4	4											
5	5											
6	6											
7	7											
8	8											
9	9											
10	10											
11	11											
12	12											
13	13											
14	14											
15	15											
16	16											
17	17											
18	18											
19	19											
20	20											
21	21											
22	22											
23	23											
24	24											
25	25											
26												
27												
28												
29												
30												
31												
32												
33												
34												
35												
36												
37												
38												
39												
40												
41												
42												
43												
44												
45												
46												
47												
48												
49												
50												
51												
52												
53												
54												
55												
56												
57												
58												
59												
60												
61												
62												
63												
64												
99	254											
100	255											

Appendix F

Existing Conditions Roadway Analysis Outputs

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	JAP	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/9/2016 12:42:50 PM	**From**	Lorraine Rd (M.P. 9 .476)	**Analysis Type**	Two-Lane Segment
Agency	VHB	**To**	Greenbrook Blvd/Post Blvd (M.P. 10.137)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Westbound	**Version Date**	12/12/2012
File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\2016 Existing\2016 AM Existing Lorraine to Greenbrook.xhp				
User Notes	AM Existing				

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.661	**Median**	No	**AADT**	15000	**PHF**	0.950
# Thru Lanes	2	**Left Turn Impact**	No	**K**	0.081	**% Heavy Vehicles**	9.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.587	**Base Capacity**	1700
Posted Speed	50	**% NPZ**	100	**Peak Dir. Hrly. Vol.**	713	**Local Adj. Factor**	0.88
Free Flow Speed	55	**Class**	1	**Off Peak Dir. Hrly. Vol.**	502	**Adjusted Capacity**	1428

LOS Results

v/c Ratio	0.50	**Density**	N/A	**PTSF**	84.6	**ATS**	41.8	**% FFS**	75.9
FFS Delay	13.7	**LOS Thresh. Delay**	9.4	**Service Measure**	PTSF	**LOS**	E		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1500 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1	*	120	260	550	1420
2					
3					
4					
Lanes	**Hourly Volume In Both Directions**				
2	*	210	450	940	2420
4					
6					
8					
Lanes	**Annual Average Daily Traffic**				

2	*	2600	5600	11700	29900
4					
6					
8					

*** Cannot be achieved based on input data provided.**
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	JAP	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/9/2016 12:42:50 PM	**From**	Greenbrook Blvd/Post Blvd (M.P. 10.137)	**Analysis Type**	Two-Lane Segment
Agency	VHB	**To**	Lindrick Ln/197th St E (M.P. 13.218)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Westbound	**Version Date**	12/12/2012

File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\2016 Existing\2016 AM Existing Greenbrook to Lindrick.xhp
User Notes	Existing AM

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	3.081	**Median**	No	**AADT**	13000	**PHF**	0.950
# Thru Lanes	2	**Left Turn Impact**	No	**K**	0.084	**% Heavy Vehicles**	9.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.661	**Base Capacity**	1700
Posted Speed	60	**% NPZ**	34	**Peak Dir. Hrly. Vol.**	722	**Local Adj. Factor**	0.88
Free Flow Speed	60	**Class**	1	**Off Peak Dir. Hrly. Vol.**	370	**Adjusted Capacity**	1428

LOS Results

v/c Ratio	0.51	**Density**	N/A	**PTSF**	81.8	**ATS**	48.1	**% FFS**	80.2
FFS Delay	45.8	**LOS Thresh. Delay**	8.8	**Service Measure**	PTSF	**LOS**	E		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1500 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1	70	190	360	670	1420
2					
3					
4					
Lanes	**Hourly Volume In Both Directions**				
2	110	290	550	1020	2150
4					
6					

8					
Lanes	**Annual Average Daily Traffic**				
2	1400	3500	6600	12200	25600
4					
6					
8					

*

Cannot be achieved based on input data provided.
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	JAP	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/9/2016 12:42:50 PM	**From**	Lindrick Ln/197th St E (M.P. 13.218)	**Analysis Type**	Two-Lane Segment
Agency	VHB	**To**	CR 675/Meadow Dove Ln (M.P. 15.567)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Westbound	**Version Date**	12/12/2012

File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\2016 Existing\2016 AM Existing Lindrick to CR 675.xhp
User Notes	Existing AM

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	2.349	**Median**	No	**AADT**	11000	**PHF**	0.950
# Thru Lanes	2	**Left Turn Impact**	No	**K**	0.087	**% Heavy Vehicles**	9.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.698	**Base Capacity**	1700
Posted Speed	60	**% NPZ**	33	**Peak Dir. Hrly. Vol.**	668	**Local Adj. Factor**	0.88
Free Flow Speed	60	**Class**	1	**Off Peak Dir. Hrly. Vol.**	289	**Adjusted Capacity**	1496

LOS Results

v/c Ratio	0.47	**Density**	N/A	**PTSF**	79.2	**ATS**	49.0	**% FFS**	81.7
FFS Delay	31.6	**LOS Thresh. Delay**	3.4	**Service Measure**	PTSF	**LOS**	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1500 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1	70	190	380	690	1420
2					
3					
4					
Lanes	**Hourly Volume In Both Directions**				
2	110	280	550	990	2040
4					
6					

8					
Lanes	**Annual Average Daily Traffic**				
2	1300	3300	6400	11400	23500
4					
6					
8					

*** Cannot be achieved based on input data provided.**
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	JAP	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/9/2016 12:42:50 PM	**From**	Lorraine Rd. (M.P. 9.476)	**Analysis Type**	Two-Lane Segment
Agency	VHB	**To**	Greenbrook Blvd/Post Blvd (M.P. 10.137)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Eastbound	**Version Date**	12/12/2012
File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\2016 Existing\2016 PM Existing Lorraine to Greenbrook.xhp				
User Notes	PM Existing				

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.661	**Median**	No	**AADT**	15000	**PHF**	0.950
# Thru Lanes	2	**Left Turn Impact**	No	**K**	0.081	**% Heavy Vehicles**	9.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.587	**Base Capacity**	1700
Posted Speed	50	**% NPZ**	100	**Peak Dir. Hrly. Vol.**	713	**Local Adj. Factor**	0.88
Free Flow Speed	55	**Class**	1	**Off Peak Dir. Hrly. Vol.**	502	**Adjusted Capacity**	1496

LOS Results

v/c Ratio	0.50	**Density**	N/A	**PTSF**	84.6	**ATS**	41.8	**% FFS**	75.9
FFS Delay	13.7	**LOS Thresh. Delay**	9.4	**Service Measure**	PTSF	**LOS**	E		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 0 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1	*	120	260	550	1420
2					
3					
4					
Lanes	**Hourly Volume In Both Directions**				
2	*	210	450	940	2420
4					
6					
8					
Lanes	**Annual Average Daily Traffic**				

2	*	2600	5600	11700	29900
4					
6					
8					

*** Cannot be achieved based on input data provided.**
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	JAP	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/9/2016 12:42:50 PM	**From**	Greenbrook Blvd/Post Blvd (M.P. 10.137)	**Analysis Type**	Two-Lane Segment
Agency	VHB	**To**	Lindrick Ln/197th St E (M.P. 13.218)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Eastbound	**Version Date**	12/12/2012

File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\2016 Existing\2016 PM Existing Greenbrook to Lindrick.xhp
User Notes	PM Existing

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	3.081	**Median**	No	**AADT**	13000	**PHF**	0.950
# Thru Lanes	2	**Left Turn Impact**	No	**K**	0.084	**% Heavy Vehicles**	9.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.661	**Base Capacity**	1700
Posted Speed	60	**% NPZ**	35	**Peak Dir. Hrly. Vol.**	722	**Local Adj. Factor**	0.88
Free Flow Speed	60	**Class**	1	**Off Peak Dir. Hrly. Vol.**	370	**Adjusted Capacity**	1496

LOS Results

v/c Ratio	0.51	**Density**	N/A	**PTSF**	82.0	**ATS**	48.1	**% FFS**	80.1
FFS Delay	45.9	**LOS Thresh. Delay**	8.9	**Service Measure**	PTSF	**LOS**	E		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 0 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1	*	120	260	550	1420
2					
3					
4					
Lanes	**Hourly Volume In Both Directions**				
2	*	210	450	940	2420
4					
6					

8					
Lanes	**Annual Average Daily Traffic**				
2	*	2600	5600	11700	29900
4					
6					
8					

*

Cannot be achieved based on input data provided.
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	JAP	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/9/2016 12:42:50 PM	**From**	Lindrick Ln/197th St E (M.P. 13.218)	**Analysis Type**	Two-Lane Segment
Agency	VHB	**To**	CR 675/Meadow Dove Ln (M.P. 15.567)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Eastbound	**Version Date**	12/12/2012

File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\2016 Existing\2016 PM Existing Lindrick to CR 675.xhp
User Notes	PM Existing

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	2.349	**Median**	No	**AADT**	11000	**PHF**	0.950
# Thru Lanes	2	**Left Turn Impact**	No	**K**	0.087	**% Heavy Vehicles**	9.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.698	**Base Capacity**	1700
Posted Speed	60	**% NPZ**	37	**Peak Dir. Hrly. Vol.**	668	**Local Adj. Factor**	0.88
Free Flow Speed	60	**Class**	1	**Off Peak Dir. Hrly. Vol.**	289	**Adjusted Capacity**	1496

LOS Results

v/c Ratio	0.47	**Density**	N/A	**PTSF**	79.7	**ATS**	48.9	**% FFS**	81.5
FFS Delay	32.1	**LOS Thresh. Delay**	3.9	**Service Measure**	PTSF	**LOS**	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1500 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1	60	180	350	670	1420
2					
3					
4					
Lanes	**Hourly Volume In Both Directions**				
2	90	260	510	960	2040
4					
6					

8					
Lanes	**Annual Average Daily Traffic**				
2	1100	3000	5900	11100	23500
4					
6					
8					

*** Cannot be achieved based on input data provided.**
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

Appendix G

Crash Data and Crash Rate

URBAN INTERSECTIONS

Year	Total Number of Crashes	Number of Injury Crashes	Total Injuries	Number of Fatal Crashes	Total Fatalities	Number of Night Crashes	Number of Wet Crashes
Intersection 1: SR 70 @ Lorraine Rd							
2011	7	2	4	0	0	1	1
2012	7	3	4	0	0	1	2
2013	9	5	9	0	0	2	1
2014	11	6	8	0	0	2	2
2015	17	3	8	0	0	3	3
2011-2015	**51**	**19**	**33**	**0**	**0**	**9**	**9**
Average	***14.67***	***5.67***	***9.67***	***0.00***	***0.00***	***2.67***	***2.67***
Percent	***-***	***37.25%***	***-***	***0.00%***	***-***	***17.65%***	***17.65%***
Intersection 2: SR 70 @ Post Blvd/Greenbrook Blvd							
2011	2	2	3	0	0	0	1
2012	4	1	2	0	0	0	1
2013	7	2	4	0	0	1	0
2014	8	6	15	0	0	0	2
2015	8	6	12	0	0	0	0
2011-2015	**29**	**17**	**36**	**0**	**0**	**1**	**4**
Average	***9.00***	***5.00***	***11.00***	***0.00***	***0.00***	***0.33***	***1.00***
Percent	***-***	***58.62%***	***-***	***0.00%***	***-***	***3.45%***	***13.79%***

RURAL INTERSECTIONS

Year	Total Number of Crashes	Number of Injury Crashes	Total Injuries	Number of Fatal Crashes	Total Fatalities	Number of Night Crashes	Number of Wet Crashes
Intersection 3: SR 70 @ 197th Street E/Lindrick Lane							
2011	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0
2013	1	1	3	0	0	1	0
2014	5	1	3	0	0	4	1
2015	0	0	0	0	0	0	0
2011-2015	**6**	**2**	**6**	**0**	**0**	**5**	**1**
Average	***2.00***	***0.67***	***2.00***	***0.00***	***0.00***	***1.67***	***0.33***
Percent	***-***	***33.33%***	***-***	***0.00%***	***-***	***83.33%***	***16.67%***
Intersection 4: SR 70 @ 213th Street E							
2011	1	0	0	0	0	1	0
2012	0	0	0	0	0	0	0
2013	1	0	0	0	0	1	0
2014	1	0	0	0	0	1	0
2015	0	0	0	0	0	0	0
2011-2015	**3**	**0**	**0**	**0**	**0**	**3**	**0**
Average	***0.67***	***0.00***	***0.00***	***0.00***	***0.00***	***0.67***	***0.00***
Percent	***-***	***0.00%***	***-***	***0.00%***	***-***	***100.00%***	***0.00%***
Intersection 5: SR 70 @ Three UMPH Adventure Park							
2011	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0
2014	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	0
2011-2015	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Average	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***
Percent	***-***	***0.00%***	***-***	***0.00%***	***-***	***0.00%***	***0.00%***

Year	Total Number of Crashes	Number of Injury Crashes	Total Injuries	Number of Fatal Crashes	Total Fatalities	Number of Night Crashes	Number of Wet Crashes
Intersection 6: SR 70 @ 225th Street E/Panter Ridge Trail							
2011	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0
2014	0	0	0	0	0	0	0
2015	1	0	0	0	0	0	0
2011-2015	**1**	**0**	**0**	**0**	**0**	**0**	**0**
Average	***0.33***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***
Percent	***-***	***0.00%***	***-***	***0.00%***	***-***	***0.00%***	***0.00%***

Year	Total Number of Crashes	Number of Injury Crashes	Total Injuries	Number of Fatal Crashes	Total Fatalities	Number of Night Crashes	Number of Wet Crashes
Intersection 7: SR 70 @ CR 675/Waterbury Rd							
2011	4	1	2	0	0	1	3
2012	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0
2014	1	0	0	0	0	1	0
2015	2	1	1	0	0	1	0
2011-2015	**7**	**2**	**3**	**0**	**0**	**3**	**3**
Average	***1.00***	***0.33***	***0.33***	***0.00***	***0.00***	***0.67***	***0.00***
Percent	***-***	***28.57%***	***-***	***0.00%***	***-***	***42.86%***	***42.86%***

URBAN SEGMENT

Year	Total Number of Crashes	Number of Injury Crashes	Total Injuries	Number of Fatal Crashes	Total Fatalities	Number of Night Crashes	Number of Wet Crashes
Segment 1: From: Lorraine Rd to Post Blvd/Greenbrook Blvd							
2011	2	0	0	0	0	1	0
2012	5	1	1	0	0	3	2
2013	3	1	2	0	0	1	0
2014	3	0	0	0	0	2	0
2015	7	2	2	0	0	3	1
2011-2015	**20**	**4**	**5**	**0**	**0**	**10**	**3**
Average	***6.00***	***1.33***	***1.67***	***0.00***	***0.00***	***3.00***	***1.00***
Percent	***-***	***20.00%***	***-***	***0.00%***	***-***	***50.00%***	***15.00%***

RURAL SEGMENTS

Year	Total Number of Crashes	Number of Injury Crashes	Total Injuries	Number of Fatal Crashes	Total Fatalities	Number of Night Crashes	Number of Wet Crashes
Segment 2: From: Post Blvd/Greenbrook Blvd to 197th Street E							
2011	2	0	0	1	1	1	0
2012	2	0	0	1	1	2	0
2013	2	1	1	0	0	1	0
2014	1	0	0	0	0	0	1
2015	1	1	1	0	0	0	1
2011-2015	**8**	**2**	**2**	**2**	**2**	**4**	**2**
Average	***2.00***	***0.67***	***0.67***	***0.33***	***0.33***	***1.00***	***0.67***
Percent	***-***	***25.00%***	***-***	***25.00%***	***-***	***50.00%***	***25.00%***
Segment 3: From: 197th Street E/Lindrick Lane to 213th Street E							
2011	4	2	3	0	0	2	0
2012	0	0	0	0	0	0	0
2013	4	1	1	0	0	1	0
2014	4	1	4	1	1	0	1
2015	3	2	4	0	0	2	0
2011-2015	**15**	**6**	**12**	**1**	**1**	**5**	**1**
Average	***3.67***	***1.33***	***3.00***	***0.33***	***0.33***	***1.00***	***0.33***
Percent	***-***	***40.00%***	***-***	***6.67%***	***-***	***33.33%***	***6.67%***
Segment 4: From: 213th Street E to Three UMPH Adventure Park							
2011	0	0	0	0	0	0	0
2012	1	0	0	0	0	0	0
2013	1	1	2	0	0	1	0
2014	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	0
2011-2015	**2**	**1**	**2**	**0**	**0**	**1**	**0**
Average	***0.67***	***0.33***	***0.67***	***0.00***	***0.00***	***0.33***	***0.00***
Percent	***-***	***50.00%***	***-***	***0.00%***	***-***	***50.00%***	***0.00%***

Year	Total Number of Crashes	Number of Injury Crashes	Total Injuries	Number of Fatal Crashes	Total Fatalities	Number of Night Crashes	Number of Wet Crashes
Segment 5: From: Three UMPH Adventure Park to 225th Street E							
2011	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0
2013	1	0	0	0	0	1	0
2014	0	0	0	0	0	0	0
2015	2	0	0	0	0	2	1
2011-2015	**3**	**0**	**0**	**0**	**0**	**3**	**1**
Average	***1.00***	***0.00***	***0.00***	***0.00***	***0.00***	***1.00***	***0.33***
Percent	***-***	***0.00%***	***-***	***0.00%***	***-***	***100.00%***	***33.33%***
Segment 6: From: 225th Street E/Panter Ridge Trail to CR 675							
2011	0	0	0	0	0	0	0
2012	1	0	0	0	0	1	0
2013	0	0	0	0	0	0	0
2014	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	0
2011-2015	**1**	**0**	**0**	**0**	**0**	**1**	**0**
Average	***0.33***	***0.00***	***0.00***	***0.00***	***0.00***	***0.33***	***0.00***
Percent	***-***	***0.00%***	***-***	***0.00%***	***-***	***100.00%***	***0.00%***

URBAN INTERSECTIONS

Crash Type	2011	2012	2013	2014	2015	2011-2015	Average per Year	Percent
Intersection 1: SR 70 @ Lorraine Rd								
Angle	1	1	1	3	0	**6**	**2.00**	**11.76%**
Animal	0	0	0	0	0	**0**	**0.00**	**0.00%**
Rear End	4	5	4	6	11	**30**	**10.00**	**58.82%**
Head On	0	0	0	0	0	**0**	**0.00**	**0.00%**
Left Turn	1	0	1	2	2	**6**	**2.00**	**11.76%**
Sideswipe	1	0	1	0	3	**5**	**1.67**	**9.80%**
Pedestrian	0	0	0	0	0	**0**	**0.00**	**0.00%**
Right Turn	0	0	1	0	0	**1**	**0.33**	**1.96%**
Rollover	0	0	0	0	0	**0**	**0.00**	**0.00%**
Bicycle	0	0	0	0	0	**0**	**0.00**	**0.00%**
Off Road	0	1	1	0	1	**3**	**1.00**	**5.88%**
Other	0	0	0	0	0	**0**	**0.00**	**0.00%**
Total	***7***	***7***	***9***	***11***	***17***	***51***	**-**	***100.00%***
Intersection 2: SR 70 @ Post Blvd/Greenbrook Blvd								
Angle	2	3	1	2	1	**9**	**3.00**	**31.03%**
Animal	0	0	0	0	1	**1**	**0.33**	**3.45%**
Rear End	0	0	0	1	1	**2**	**0.67**	**6.90%**
Head On	0	0	0	0	0	**0**	**0.00**	**0.00%**
Left Turn	0	1	5	5	3	**14**	**4.67**	**48.28%**
Sideswipe	0	0	0	0	0	**0**	**0.00**	**0.00%**
Pedestrian	0	0	0	0	0	**0**	**0.00**	**0.00%**
Right Turn	0	0	1	0	0	**1**	**0.33**	**3.45%**
Rollover	0	0	0	0	1	**1**	**0.33**	**3.45%**
Bicycle	0	0	0	0	0	**0**	**0.00**	**0.00%**
Off Road	0	0	0	0	1	**1**	**0.33**	**3.45%**
Other	0	0	0	0	0	**0**	**0.00**	**0.00%**
Total	***2***	***4***	***7***	***8***	***8***	***29***	**-**	***100.00%***

RURAL INTERSECTIONS

Crash Type	2012	2013	2014	2015	2011-2015	Average per Year	Percent
Intersection 3: SR 70 @ 197th Street E/Lindrick Lane							
Angle	0	0	0	0	0	**0**	**0.00**	**0.00%**
Animal	0	0	0	1	0	**1**	**0.33**	**16.67%**
Rear End	0	0	0	1	0	**1**	**0.33**	**16.67%**
Head On	0	0	0	0	0	**0**	**0.00**	**0.00%**
Left Turn	0	0	1	1	0	**2**	**0.67**	**33.33%**
Sideswipe	0	0	0	0	0	**0**	**0.00**	**0.00%**
Pedestrian	0	0	0	0	0	**0**	**0.00**	**0.00%**
Right Turn	0	0	0	0	0	**0**	**0.00**	**0.00%**
Rollover	0	0	0	0	0	**0**	**0.00**	**0.00%**
Bicycle	0	0	0	0	0	**0**	**0.00**	**0.00%**
Off Road	0	0	0	2	0	**2**	**0.67**	**33.33%**
Other	0	0	0	0	0	**0**	**0.00**	**0.00%**
Total	***0***	***0***	***1***	***5***	***0***	***6***	**-**	***100.00%***
Intersection 4: SR 70 @ 213th Street E							
Angle	0	0	0	0	0	**0**	**0.00**	**0.00%**
Animal	1	0	1	0	0	**2**	**0.67**	**66.67%**
Rear End	0	0	0	0	0	**0**	**0.00**	**0.00%**
Head On	0	0	0	0	0	**0**	**0.00**	**0.00%**
Left Turn	0	0	0	0	0	**0**	**0.00**	**0.00%**
Sideswipe	0	0	0	0	0	**0**	**0.00**	**0.00%**
Pedestrian	0	0	0	0	0	**0**	**0.00**	**0.00%**
Right Turn	0	0	0	0	0	**0**	**0.00**	**0.00%**
Rollover	0	0	0	1	0	**1**	**0.33**	**33.33%**
Bicycle	0	0	0	0	0	**0**	**0.00**	**0.00%**
Off Road	0	0	0	0	0	**0**	**0.00**	**0.00%**
Other	0	0	0	0	0	**0**	**0.00**	**0.00%**
Total	***1***	***0***	***1***	***1***	***0***	***3***	**-**	***100.00%***
Intersection 5: SR 70 @ Three UMPH Adventure Park							
Angle	0	0	0	0	0	**0**	**0.00**	**0.00%**
Animal	0	0	0	0	0	**0**	**0.00**	**0.00%**
Rear End	0	0	0	0	0	**0**	**0.00**	**0.00%**
Head On	0	0	0	0	0	**0**	**0.00**	**0.00%**
Left Turn	0	0	0	0	0	**0**	**0.00**	**0.00%**
Sideswipe	0	0	0	0	0	**0**	**0.00**	**0.00%**
Pedestrian	0	0	0	0	0	**0**	**0.00**	**0.00%**
Right Turn	0	0	0	0	0	**0**	**0.00**	**0.00%**
Rollover	0	0	0	0	0	**0**	**0.00**	**0.00%**
Bicycle	0	0	0	0	0	**0**	**0.00**	**0.00%**
Off Road	0	0	0	0	0	**0**	**0.00**	**0.00%**
Other	0	0	0	0	0	**0**	**0.00**	**0.00%**
Total	***0***	***0***	***0***	***0***	***0***	***0***	**-**	***0.00%***

Crash Type	2012	2013	2014	2015	2011-2015	Average per Year	Percent
Intersection 6: SR 70 @ 225th Street E/Panter Ridge Trail							
Angle	0	0	0	0	0	**0**	**0.00**	**0.00%**
Animal	0	0	0	0	1	**1**	**0.33**	**100.00%**
Rear End	0	0	0	0	0	**0**	**0.00**	**0.00%**
Head On	0	0	0	0	0	**0**	**0.00**	**0.00%**
Left Turn	0	0	0	0	0	**0**	**0.00**	**0.00%**
Sideswipe	0	0	0	0	0	**0**	**0.00**	**0.00%**
Pedestrian	0	0	0	0	0	**0**	**0.00**	**0.00%**
Right Turn	0	0	0	0	0	**0**	**0.00**	**0.00%**
Rollover	0	0	0	0	0	**0**	**0.00**	**0.00%**
Bicycle	0	0	0	0	0	**0**	**0.00**	**0.00%**
Off Road	0	0	0	0	0	**0**	**0.00**	**0.00%**
Other	0	0	0	0	0	**0**	**0.00**	**0.00%**
Total	***0***	***0***	***0***	***0***	***1***	***1***	**-**	***100.00%***
Intersection 7: SR 70 @ CR 675/Waterbury Rd							
Angle	0	0	0	0	1	**1**	**0.33**	**14.29%**
Animal	1	0	0	0	1	**2**	**0.67**	**28.57%**
Rear End	1	0	0	0	0	**1**	**0.33**	**14.29%**
Head On	0	0	0	0	0	**0**	**0.00**	**0.00%**
Left Turn	0	0	0	0	0	**0**	**0.00**	**0.00%**
Sideswipe	0	0	0	1	0	**1**	**0.33**	**14.29%**
Pedestrian	0	0	0	0	0	**0**	**0.00**	**0.00%**
Right Turn	0	0	0	0	0	**0**	**0.00**	**0.00%**
Rollover	0	0	0	0	0	**0**	**0.00**	**0.00%**
Bicycle	0	0	0	0	0	**0**	**0.00**	**0.00%**
Off Road	2	0	0	0	0	**2**	**0.67**	**28.57%**
Other	0	0	0	0	0	**0**	**0.00**	**0.00%**
Total	***4***	***0***	***0***	***1***	***2***	***7***	**-**	***100.00%***

URBAN SEGMENT								
Crash Type		**2012**	**2013**	**2014**	**2015**	**2011-2015**	**Average per Year**	**Percent**
Segment 1: From: Lorraine Rd to Post Blvd/Greenbrook Blvd								
Angle	0	0	0	0	1	**1**	**0.33**	**5.00%**
Animal	1	1	1	1	1	**5**	**1.67**	**25.00%**
Rear End	1	0	1	0	3	**5**	**1.67**	**25.00%**
Head On	0	2	0	0	0	**2**	**0.67**	**10.00%**
Left Turn	0	0	0	1	0	**1**	**0.33**	**5.00%**
Sideswipe	0	1	1	0	0	**2**	**0.67**	**10.00%**
Pedestrian	0	0	0	0	0	**0**	**0.00**	**0.00%**
Right Turn	0	0	0	0	0	**0**	**0.00**	**0.00%**
Rollover	0	1	0	0	2	**3**	**1.00**	**15.00%**
Bicycle	0	0	0	0	0	**0**	**0.00**	**0.00%**
Off Road	0	0	0	0	0	**0**	**0.00**	**0.00%**
Other	0	0	0	1	0	**1**	**0.33**	**5.00%**
Total	***2***	***5***	***3***	***3***	***7***	***20***	***-***	***100.00%***

RURAL SEGMENTS

Crash Type	2012	2013	2014	2015	2011-2015	Average per Year	Percent
Segment 2: From: Post Blvd/Greenbrook Blvd to 197th Street E							
Angle	0	0	0	0	**0**	**0.00**	**0.00%**
Animal	1	0	0	0	**1**	**0.33**	**12.50%**
Rear End	0	0	1	0	**1**	**0.33**	**12.50%**
Head On	0	0	0	0	**0**	**0.00**	**0.00%**
Left Turn	0	0	0	0	**0**	**0.00**	**0.00%**
Sideswipe	1	0	0	0	**1**	**0.33**	**12.50%**
Pedestrian	0	0	0	0	**0**	**0.00**	**0.00%**
Right Turn	0	0	0	0	**0**	**0.00**	**0.00%**
Rollover	0	1	1	0	**2**	**0.67**	**25.00%**
Bicycle	0	0	0	0	**0**	**0.00**	**0.00%**
Off Road	0	0	0	1	**2**	**0.67**	**25.00%**
Other	0	1	0	0	**1**	**0.33**	**12.50%**
Total	***2***	***2***	***2***	***1***	***1***	***8***	***-***	***100.00%***
Segment 3: From: 197th Street E/Lindrick Lane to 213th Street E							
Angle	0	0	0	0	1	**1**	**0.33**	**6.67%**
Animal	1	0	1	0	1	**3**	**1.00**	**20.00%**
Rear End	1	0	2	2	1	**6**	**2.00**	**40.00%**
Head On	0	0	0	0	0	**0**	**0.00**	**0.00%**
Left Turn	0	0	0	0	0	**0**	**0.00**	**0.00%**
Sideswipe	1	0	0	1	0	**2**	**0.67**	**13.33%**
Pedestrian	0	0	0	0	0	**0**	**0.00**	**0.00%**
Right Turn	0	0	0	0	0	**0**	**0.00**	**0.00%**
Rollover	0	0	0	0	0	**0**	**0.00**	**0.00%**
Bicycle	0	0	0	0	0	**0**	**0.00**	**0.00%**
Off Road	1	0	0	1	0	**2**	**0.67**	**13.33%**
Other	0	0	1	0	0	**1**	**0.33**	**6.67%**
Total	***4***	***0***	***4***	***4***	***3***	***15***	***-***	***100.00%***
Segment 4: From: 213th Street E to Three UMPH Adventure Park							
Angle	0	0	0	0	0	**0**	**0.00**	**0.00%**
Animal	0	0	1	0	0	**1**	**0.33**	**50.00%**
Rear End	0	0	0	0	0	**0**	**0.00**	**0.00%**
Head On	0	0	0	0	0	**0**	**0.00**	**0.00%**
Left Turn	0	0	0	0	0	**0**	**0.00**	**0.00%**
Sideswipe	0	0	0	0	0	**0**	**0.00**	**0.00%**
Pedestrian	0	0	0	0	0	**0**	**0.00**	**0.00%**
Right Turn	0	0	0	0	0	**0**	**0.00**	**0.00%**
Rollover	0	0	0	0	0	**0**	**0.00**	**0.00%**
Rollover	0	0	0	0	0	**0**	**0.00**	**0.00%**
Off Road	0	1	0	0	0	**1**	**0.33**	**50.00%**
Other	0	0	0	0	0	**0**	**0.00**	**0.00%**
Total	***0***	***1***	***1***	***0***	***0***	***2***	***-***	***100.00%***

Crash Type	2012	2013	2014	2015	2011-2015	Average per Year	Percent
Segment 5: From: Three UMPH Adventure Park to 225th Street E							
Angle	0	0	0	0	**0**	**0.00**	**0.00%**
Animal	0	1	0	1	**2**	**0.67**	**66.67%**
Rear End	0	0	0	0	**0**	**0.00**	**0.00%**
Head On	0	0	0	0	**0**	**0.00**	**0.00%**
Left Turn	0	0	0	0	**0**	**0.00**	**0.00%**
Sideswipe	0	0	0	0	**0**	**0.00**	**0.00%**
Pedestrian	0	0	0	0	**0**	**0.00**	**0.00%**
Right Turn	0	0	0	0	**0**	**0.00**	**0.00%**
Rollover	0	0	0	0	**0**	**0.00**	**0.00%**
Bicycle	0	0	0	0	**0**	**0.00**	**0.00%**
Off Road	0	0	0	1	**1**	**0.33**	**33.33%**
Other	0	0	0	0	**0**	**0.00**	**0.00%**
Total	***0***	***1***	***0***	***2***	***3***	**-**	***100.00%***
Segment 6: From: 225th Street E/Panter Ridge Trail to CR 675							
Angle	0	0	0	0	**0**	**0.00**	**0.00%**
Animal	0	1	0	0	**1**	**0.33**	**100.00%**
Rear End	0	0	0	0	**0**	**0.00**	**0.00%**
Head On	0	0	0	0	**0**	**0.00**	**0.00%**
Left Turn	0	0	0	0	**0**	**0.00**	**0.00%**
Sideswipe	0	0	0	0	**0**	**0.00**	**0.00%**
Pedestrian	0	0	0	0	**0**	**0.00**	**0.00%**
Right Turn	0	0	0	0	**0**	**0.00**	**0.00%**
Rollover	0	0	0	0	**0**	**0.00**	**0.00%**
Bicycle	0	0	0	0	**0**	**0.00**	**0.00%**
Off Road	0	0	0	0	**0**	**0.00**	**0.00%**
Other	0	0	0	0	**0**	**0.00**	**0.00%**
Total	***0***	***1***	***0***	***0***	***1***	**-**	***100.00%***

SR 70 - Manatee County (Lorraine Rd to CR 675)
January 1, 2011 to December 31, 2015

#	HSMV Report Number	Crash Date	Crash Time	Crash Street	Intersecting Street	Offset Distance	Crash Type	Vehicles	Fatalities	Injuries	Alcohol Related	Distraction Related	Drug Related	Weather Condition	Light Condition	Crash Type Detailed	Crash Type Dir	Crash Severity	Manner of Collision	Road Surf Cond	Bicyclists	Pedestrians
1	82010306	1/18/2011	12:44 PM	SR 70 (53RD AVE E)	POST BLVD	0	Angle	2	0	2	N	N	N	Clear	Daylight	Right Angle	SE	Injury	Angle	Dry	0	0
2	82039307	1/24/2011	3:37 PM	SR 70	197TH ST E	811	Rear End	2	0	1	N	N	N	Cloudy	Daylight	Rear End	E	Injury	Front to Rear	Dry	0	0
3	82069097	2/19/2011	4:29 PM	LORRAINE RD	SR 70	0	Left Turn	2	0	0	N	N	N	Clear	Daylight	Left Entering	N	Property Damage Only	Angle	Dry	0	0
4	82045808	2/27/2011	2:01 AM	SR 70	197TH ST E	5280	Off Road	1	0	0	N	N	N	Clear	Daylight	Off Road	W	Property Damage Only	Other	Dry	0	0
5	82066736	3/3/2011	6:35 AM	SR 70	POST BLVD	5280	Animal	1	0	0	N	N	N	Clear	Dark - Not Lighted	Animal	W	Property Damage Only	Angle	Dry	0	0
6	82077264	4/8/2011	7:38 AM	SR 70 (53RD AVE E)	LORRAINE RD	0	Angle	2	0	0	N	N	N	Fog, Smog, Smoke	Daylight	Right Angle	SE	Property Damage Only	Angle	Dry	0	0
7	82081800	4/23/2011	2:20 PM	SR 70	LORRAINE RD	0	Sideswipe	2	0	0	N	N	N	Clear	Daylight	Same Dir Sideswipe	E	Property Damage Only	Sideswipe, Same Direction	Dry	0	0
8	82081807	4/25/2011	5:47 PM	SR 70	LORRAINE RD	0	Rear End	2	0	3	N	Y	N	Cloudy	Dark - Lighted	Rear End	W	Injury	Front to Rear	Dry	0	0
9	82087117	5/24/2011	12:41 PM	SR 70 (53RD AVE E)	LORRAINE RD	15	Rear End	2	0	0	N	N	N	Clear	Daylight	Rear End	E	Property Damage Only	Front to Rear	Dry	0	0
10	82079924	6/1/2011	7:05 AM	CR 675	SR 70 E	15	Rear End	2	0	0	N	N	N	Fog, Smog, Smoke	Daylight	Rear End	S	Property Damage Only	Front to Rear	Dry	0	0
11	82045873	6/1/2011	2:25 PM	SR 70	CR 675	50	Off Road	1	0	0	N	Y	N	Rain	Daylight	Off Road	E	Property Damage Only	Other	Wet	0	0
12	82241734	6/25/2011	12:50 AM	CR 675	SR 70 (53RD AVE E)	0	Off Road	1	0	2	N	N	N	Rain	Dark - Not Lighted	Off Road	S	Injury	Other	Wet	0	0
13	82270037	8/18/2011	12:20 PM	SR 70	GREENBROOK BLVD	4752	Sideswipe	2	1	0	N	N	N	Cloudy	Daylight	Opposing Sideswipe	EW	Fatality	Sideswipe, Opposite Direction	Dry	0	0
14	82273299	8/23/2011	4:05 PM	SR 70	GREENBROOK BLVD	0	Angle	2	0	1	N	N	N	Cloudy	Daylight	Right Angle	NE	Injury	Angle	Wet	0	0
15	82271752	8/26/2011	11:30 PM	SR 70	197TH ST E	5280	Sideswipe	3	0	2	N	N	N	Clear	Dark - Not Lighted	Opposing Sideswipe	EW	Injury	Sideswipe, Opposite Direction	Dry	0	0
16	82276439	9/12/2011	4:44 PM	SR 70 (53RD AVE E)	LORRAINE RD	56	Rear End	3	0	1	N	N	N	Clear	Daylight	Rear End	W	Injury	Front to Rear	Dry	0	0
17	82820603	10/16/2011	5:15 PM	SR 70	LORRAINE RD	15840	Animal	1	0	0	N	N	N	Clear	Daylight	Animal	W	Property Damage Only	Other	Dry	0	0
18	82833051	10/17/2011	10:40 PM	SR 70 (53RD AVE E)	197TH ST E	5280	Animal	1	0	0	N	N	N	Cloudy	Dark - Not Lighted	Animal	E	Property Damage Only	Other	Dry	0	0
19	82269964	10/19/2011	7:30 AM	SR 70	CR 675	120	Animal	1	0	0	N	N	N	Cloudy	Daylight	Animal	W	Property Damage Only	Other	Wet	0	0
20	82830498	10/26/2011	6:50 AM	SR 70	213TH ST E	5	Animal	1	0	0	N	N	N	Clear	Dark - Not Lighted	Animal	E	Property Damage Only	Other	Dry	0	0
21	82275364	11/15/2011	6:46 PM	SR 70	ARBOR GREEN TR	0	Rear End	2	0	0	N	N	N	Clear	Dark - Not Lighted	Rear End	E	Property Damage Only	Front to Rear	Dry	0	0
22	82851061	11/28/2011	1:53 PM	SR 70 (53RD AVE E)	LORRAINE RD	15	Unknown	2	0	0	N	N	N	Rain	Daylight	Unknown		Property Damage Only	Angle	Wet	0	0
23	82864648	1/6/2012	6:00 AM	SR 70 (53RD AVE E)	LORRAINE RD	5280	Head On	2	0	0	N	Y	N	Fog, Smog, Smoke	Dawn	Head On	EW	Property Damage Only	Front to Front	Dry	0	0
24	82033633	3/10/2012	10:45 PM	SR 70	POST BLVD	7920	Rollover	1	1	0	N	N	N	Clear	Dark - Not Lighted	Rollover	E	Fatality	Other	Dry	0	0
25	82471122	3/30/2012	9:40 AM	SR 70 E	LORRAINE RD	0	Rear End	2	0	1	N	Y	N	Clear	Dark - Not Lighted	Rear End	E	Injury	Front to Rear	Dry	0	0
26	82912009	4/13/2012	10:30 PM	SR 70	LORRAINE RD	2640	Sideswipe	2	0	0	N	N	N	Clear	Dark - Not Lighted	Same Dir Sideswipe	W	Property Damage Only	Sideswipe, Same Direction	Dry	0	0
27	82897295	5/4/2012	8:20 AM	SR 70	GREENBROOK BLVD	0	Left Turn	2	0	0	N	N	N	Clear	Daylight	Left Leaving	W	Property Damage Only	Angle	Dry	0	0
28	82861237	5/11/2012	3:46 PM	SR 70 (53RD AVE E)	LORRAINE RD	0	Angle	2	0	1	N	Y	N	Clear	Daylight	Right Angle	NW	Injury	Angle	Dry	0	0
29	83148536	5/30/2012	5:45 AM	SR 70	POST BLVD	500	Other	1	0	0	N	N	N	Clear	Dark - Not Lighted	Single Vehicle	W	Property Damage Only	Other	Dry	0	0
30	82897888	6/2/2012	6:26 PM	SR 70 (53RD AVE E)	POST BLVD	0	Angle	2	0	0	N	N	N	Cloudy	Daylight	Right Angle	SE	Property Damage Only	Angle	Wet	0	0
31	83155099	6/13/2012	3:10 PM	SR 70 E	POST BLVD	0	Unknown	2	0	2	N	Y	N	Clear	Daylight	Unknown		Injury	Angle	Dry	0	0
32	83170532	6/27/2012	5:36 PM	SR 70	LORRAINE RD	50	Off Road	2	0	0	N	N	N	Clear	Daylight	Off Road	E	Property Damage Only	Front to Rear	Dry	0	0
33	83174910	7/13/2012	4:52 PM	SR 70	LORRAINE RD	25	Rear End	2	0	2	N	N	N	Rain	Daylight	Rear End	E	Injury	Front to Rear	Wet	0	0
34	83168975	7/19/2012	6:45 AM	SR 70	LORRAINE RD	30	Rear End	2	0	0	N	N	N	Clear	Daylight	Rear End	E	Property Damage Only	Front to Rear	Dry	0	0
35	83160054	8/6/2012	3:55 PM	SR 70 (53RD AVE)	LORRAINE RD	500	Head On	2	0	1	N	Y	N	Rain	Daylight	Head On	EW	Injury	Front to Front	Wet	0	0
36	83177892	8/14/2012	3:30 PM	SR 70 E	LORRAINE RD	45	Rear End	2	0	0	N	Y	N	Clear	Daylight	Rear End	E	Property Damage Only	Front to Rear	Dry	0	0
37	83194628	8/20/2012	2:35 PM	SR 70	197TH ST E	1056	Off Road	1	0	0	Y	N	N	Clear	Daylight	Off Road	E	Property Damage Only	Other	Dry	0	0
38	83176636	8/29/2012	7:55 AM	SR 70	LORRAINE RD	30	Rear End	2	0	0	N	N	N	Clear	Daylight	Rear End	E	Property Damage Only	Front to Rear	Wet	0	0
39	83194662	9/18/2012	5:40 AM	SR 70	CR 675	2640	Animal	1	0	0	N	N	N	Clear	Dark - Not Lighted	Animal	W	Property Damage Only	Other	Dry	0	0
40	82471256	9/27/2012	7:45 PM	SR 70 E	LORRAINE RD	10560	Animal	1	0	0	N	N	N	Clear	Dusk	Animal	E	Property Damage Only	Other	Dry	0	0
41	83177180	10/31/2012	1:10 PM	SR 70	POST BLVD	0	Angle	2	0	0	N	N	N	Clear	Daylight	Right Angle	SE	Property Damage Only	Angle	Dry	0	0
42	83249447	12/13/2012	2:23 AM	SR 70 (53RD AVE E)	UIHLEIN RD	5280	Rollover	1	0	0	Y	N	N	Clear	Dark - Not Lighted	Rollover	E	Property Damage Only	Other	Dry	0	0
43	83245820	1/2/2013	1:23 PM	SR 70	197TH ST E	10560	Other	1	0	1	N	N	N	Clear	Daylight	Single Vehicle	E	Injury	Other	Dry	0	0
44	83266993	1/12/2013	7:30 PM	SR 70	GREENBROOK BLVD	0	Left Turn	2	0	0	N	N	N	Clear	Dark - Not Lighted	Left Leaving	N	Property Damage Only	Angle	Dry	0	0
45	83266225	1/25/2013	9:45 PM	SR 70	197TH ST E	0	Left Turn	2	0	3	N	N	N	Clear	Dark - Not Lighted	Left Rear	N	Injury	Angle	Dry	0	0
46	83267018	2/2/2013	12:15 PM	SR 70	LORRAINE RD	45	Rear End	2	0	1	N	N	N	Clear	Daylight	Rear End	W	Injury	Front to Rear	Dry	0	0
47	83290919	3/8/2013	11:50 PM	SR 70	POST BLVD	12672	Rollover	1	0	0	N	N	N	Clear	Dark - Not Lighted	Rollover	W	Property Damage Only	Other	Dry	0	0
48	83290289	3/27/2013	1:54 PM	SR 70 (53RD AVE E)	GREENBROOK BLVD	0	Left Turn	2	0	0	N	N	N	Clear	Daylight	Left Rear	N	Property Damage Only	Angle	Dry	0	0
49	83289715	4/2/2013	7:11 AM	SR 70	UIHLEIN RD	234	Rear End	3	0	1	Y	N	N	Clear	Daylight	Rear End	E	Injury	Front to Rear	Dry	0	0
50	83290937	4/11/2013	8:20 AM	SR 70	LORRAINE RD	300	Rear End	2	0	0	N	Y	N	Clear	Daylight	Rear End	W	Property Damage Only	Front to Rear	Dry	0	0
51	83312278	4/13/2013	8:30 PM	SR 70	LORRAINE RD	0	Left Turn	2	0	3	N	N	N	Clear	Dark - Lighted	Left Entering	S	Injury	Front to Front	Dry	0	0
52	83175547	4/13/2013	1:32 PM	SR 70	GREENBROOK BLVD	0	Left Turn	2	0	0	N	N	N	Clear	Daylight	Left Leaving	N	Property Damage Only	Angle	Dry	0	0
53	83308610	5/11/2013	6:40 PM	SR 70	LORRAINE RD	50	Rear End	2	0	1	N	N	N	Clear	Daylight	Rear End	E	Injury	Front to Rear	Dry	0	0
54	83324178	6/10/2013	8:40 AM	SR 70	LORRAINE RD	20	Rear End	3	0	3	N	N	N	Clear	Daylight	Rear End	E	Injury	Front to Rear	Dry	0	0
55	83325456	6/13/2013	3:02 PM	SR 70	LORRAINE RD	94	Sideswipe	2	0	0	N	N	N	Cloudy	Daylight	Same Dir Sideswipe	E	Property Damage Only	Sideswipe, Same Direction	Dry	0	0
56	83324180	6/14/2013	11:00 AM	SR 70 E	197TH ST E	5280	Other	2	0	0	N	Y	N	Clear	Daylight	Backed Into	W	Property Damage Only	Rear to Rear	Dry	0	0
57	83338770	6/22/2013	12:00 PM	SR 70	LORRAINE RD	0	Angle	2	0	0	N	N	N	Clear	Daylight	Right Angle	SW	Property Damage Only	Angle	Dry	0	0
58	83336163	7/15/2013	10:56 AM	LORRAINE RD	SR 70	0	Right Turn	2	0	0	N	N	N	Cloudy	Daylight	Right/Left	E	Property Damage Only	Angle	Dry	0	0
59	83660579	8/9/2013	5:59 PM	SR 70	UIHLEIN RD	2640	Sideswipe	2	0	1	Y	N	N	Rain	Daylight	Opposing Sideswipe	EW	Injury	Sideswipe, Opposite Direction	Wet	0	0
60	83340201	8/18/2013	12:30 AM	SR 70	LORRAINE RD	150	Off Road	1	0	1	N	N	N	Cloudy	Dark - Lighted	Off Road	W	Injury	Other	Wet	0	0
61	83655603	8/19/2013	6:15 PM	SR 70 (53RD AVE E)	GREENBROOK BLVD	50	Other	1	0	0	N	N	N	Clear	Daylight	Single Vehicle	E	Property Damage Only	Other	Dry	0	0
62	83669808	8/30/2013	5:53 PM	SR 70	197TH ST E	5280	Rear End	2	0	0	N	N	N	Clear	Daylight	Rear End	E	Property Damage Only	Front to Rear	Dry	0	0
63	83669614	9/8/2013	8:13 PM	SR 70	213TH ST E	100	Animal	1	0	0	N	N	N	Clear	Dark - Not Lighted	Animal	W	Property Damage Only	Other	Dry	0	0
64	83644471	9/21/2013	11:13 PM	SR 70	UIHLEIN RD	22	Animal	1	0	0	N	N	N	Clear	Dark - Not Lighted	Animal	E	Property Damage Only	Other	Dry	0	0
65	83652786	9/26/2013	8:22 AM	SR 70	GREENBROOK BLVD	0	Left Turn	2	0	3	N	N	N	Clear	Daylight	Left Leaving	N	Injury	Angle	Dry	0	0
66	83660627	10/2/2013	1:31 PM	SR 70	GREENBROOK BLVD	0	Left Turn	2	0	0	N	N	N	Cloudy	Daylight	Left Leaving	N	Property Damage Only	Angle	Dry	0	0
67	83684242	10/4/2013	7:45 PM	SR 70 E	213TH ST E	2640	Animal	1	0	2	N	N	N	Clear	Dark - Not Lighted	Animal	E	Injury	Other	Dry	0	0
68	83669641	10/13/2013	7:11 AM	SR 70 E	197TH ST E	1000	Animal	1	0	0	N	N	N	Clear	Dusk	Animal	W	Property Damage Only	Other	Dry	0	0
69	83956416	10/16/2013	3:10 PM	SR 70 E	POST BLVD	16000 BLK	Rear End	2	0	1	N	N	N	Clear	Daylight	Rear End	W	Injury	Front to Rear	Dry	0	0
70	83695003	10/23/2013	6:14 PM	SR 70	POST BLVD	0	Angle	2	0	1	N	N	N	Clear	Daylight	Right Angle	SW	Injury	Front to Rear	Dry	0	0
71	83956435	11/1/2013	2:15 AM	SR 70 E	213TH ST E	20000 BLK	Animal	1	0	0	N	N	N	Clear	Dark - Not Lighted	Animal	E	Property Damage Only	Other	Dry	0	0
72	83733014	1/14/2014	10:50 AM	SR 70 (53RD AVE E)	LORRAINE RD	26400	Left Turn	2	0	0	N	Y	N	Cloudy	Daylight	Left Leaving	N	Property Damage Only	Angle	Wet	0	0
73	83749843	1/30/2014	10:25 AM	SR 70	POST BLVD	0	Angle	2	0	2	N	N	N	Rain	Daylight	Right Angle	SW	Injury	Angle	Wet	0	0
74	83646689	2/8/2014	2:21 AM	SR 70	197TH ST E	0	Off Road	1	0	0	Y	N	N	Clear	Dark - Lighted	Off Road	E	Property Damage Only	Other	Dry	0	0
75	83749784	2/17/2014	11:07 AM	SR 70	197TH ST E	1056	Unknown	2	1	2	N	N	N	Clear	Daylight	Unknown		Fatality	Angle	Dry	0	0
76	83755939	2/25/2014	12:10 PM	SR 70	GREENBROOK BLVD	0	Rear End	2	0	2	N	N	N	Cloudy	Daylight	Rear End	N	Injury	Front to Rear	Dry	0	0

SR 70 - Manatee County (Lorraine Rd to CR 675)
January 1, 2011 to December 31, 2015

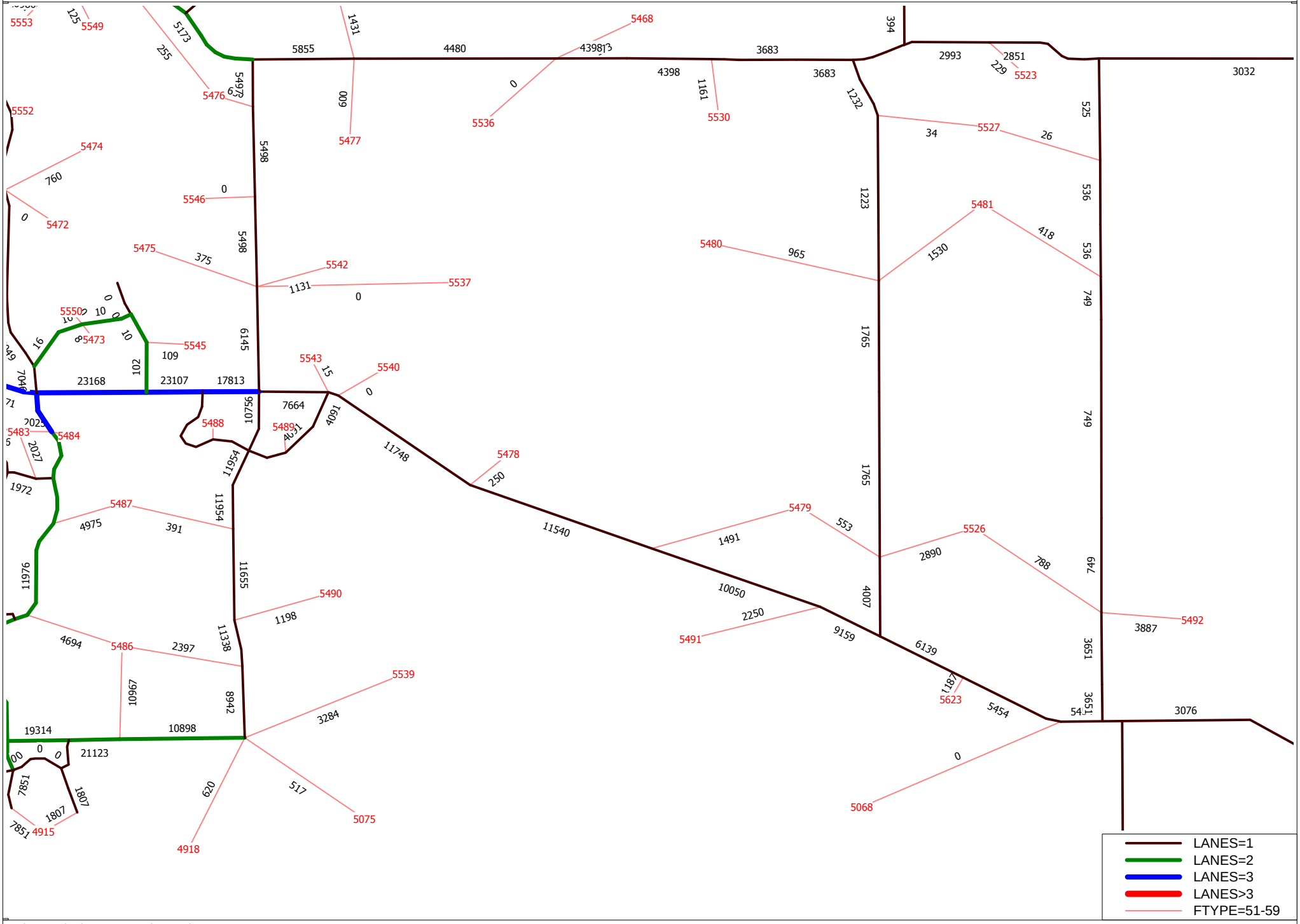
#	HSMV Report Number	Crash Date	Crash Time	Crash Street	Intersecting Street	Offset Distance	Crash Type	Vehicles	Fatalities	Injuries	Alcohol Related	Distraction Related	Drug Related	Weather Condition	Light Condition	Crash Type Detailed	Crash Type Dir	Crash Severity	Manner of Collision	Road Surf Cond	Bicyclists	Pedestrians
77	83762339	3/10/2014	12:10 AM	SR 70	197TH ST E	200	Rear End	2	0	3	N	N	N	Clear	Dark - Not Lighted	Rear End	W	Injury	Front to Rear	Dry	0	0
78	83755974	3/31/2014	11:25 AM	SR 70	GREENBROOK BLVD	0	Left Turn	2	0	2	N	N	N	Clear	Daylight	Left Leaving	N	Injury	Angle	Dry	0	0
79	83762384	4/17/2014	8:20 AM	LORRAINE RD	SR 70	40	Rear End	2	0	2	N	N	N	Clear	Daylight	Rear End	S	Injury	Front to Rear	Dry	0	0
80	83715571	4/18/2014	2:50 PM	SR 70	LORRAINE RD	10	Rear End	2	0	1	N	N	N	Rain	Daylight	Rear End	E	Injury	Front to Rear	Wet	0	0
81	83789058	4/20/2014	1:55 PM	SR 70	197TH ST E	445	Rear End	2	0	0	N	Y	N	Clear	Daylight	Rear End	E	Property Damage Only	Front to Rear	Dry	0	0
82	83311788	5/15/2014	8:40 AM	SR 70	197TH ST E	4224	Rear End	2	0	2	N	N	N	Cloudy	Daylight	Rear End	E	Injury	Front to Rear	Dry	0	0
83	83825277	6/7/2014	1:00 PM	SR 70	POST BLVD	0	Angle	2	0	0	N	N	N	Clear	Daylight	Right Angle	SE	Property Damage Only	Front to Rear	Dry	0	0
84	83799489	6/10/2014	5:45 AM	LORRAINE RD	SR 70	0	Left Turn	2	0	2	N	N	N	Clear	Dawn	Left Entering	N	Injury	Angle	Dry	0	0
85	83956918	6/10/2014	12:58 AM	SR 70 E	LORRAINE RD	0	Angle	2	0	1	N	N	N	Clear	Dark - Not Lighted	Right Angle	SW	Injury	Other	Dry	0	0
86	83834588	6/19/2014	8:10 AM	SR 70	LINDRICK LN	0	Left Turn	2	0	0	N	N	N	Clear	Daylight	Left Leaving	N	Property Damage Only	Angle	Dry	0	0
87	84473506	7/7/2014	1:11 PM	SR 70 (53RD AVE E)	LORRAINE RD	20	Rear End	2	0	0	N	N	N	Clear	Daylight	Rear End	E	Property Damage Only	Front to Rear	Dry	0	0
88	83839669	7/8/2014	10:45 AM	LORRAINE RD	SR 70 E	0	Left Turn	2	0	0	N	Y	N	Cloudy	Daylight	Left Entering	S	Property Damage Only	Angle	Dry	0	0
89	82050133	7/16/2014	2:34 PM	SR 70	197TH ST E	528	Other	1	0	0	N	N	N	Rain	Daylight	Single Vehicle	W	Property Damage Only	Other	Wet	0	0
90	83700960	7/24/2014	12:00 PM	SR 70	GREENBROOK BLVD	5280	Off Road	1	0	0	N	N	N	Rain	Daylight	Off Road	E	Property Damage Only	Unknown	Wet	0	0
91	83834642	9/4/2014	4:40 PM	SR 70	LORRAINE RD	100	Unknown	2	0	0	N	N	N	Rain	Daylight	Unknown		Property Damage Only	Angle	Wet	0	0
92	84492050	9/10/2014	8:30 AM	SR 70	LORRAINE RD	100	Rear End	2	0	0	N	N	N	Clear	Daylight	Rear End	W	Property Damage Only	Front to Rear	Dry	0	0
93	84497637	9/11/2014	7:25 AM	SR 70 E	GREENBROOK BLVD	0	Left Turn	2	0	0	N	Y	N	Clear	Daylight	Left Leaving	N	Property Damage Only	Angle	Dry	0	0
94	84497043	9/25/2014	8:06 PM	SR 70	CR 675	20	Sideswipe	2	0	0	N	N	N	Clear	Dark - Not Lighted	Same Dir Sideswipe	W	Property Damage Only	Sideswipe, Same Direction	Dry	0	0
95	84510130	9/30/2014	4:50 PM	SR 70	GREENBROOK BLVD	0	Left Turn	2	0	5	N	N	N	Cloudy	Daylight	Left Leaving	N	Injury	Angle	Wet	0	0
96	84523988	10/22/2014	7:55 PM	SR 70	UIHLEIN RD	500	Animal	1	0	0	N	N	N	Clear	Dark - Not Lighted	Animal	W	Property Damage Only	Other	Dry	0	0
97	84492650	10/23/2014	11:35 PM	SR 70 E	213TH ST E	150	Rollover	2	0	0	N	N	N	Clear	Dark - Not Lighted	Rollover	E	Property Damage Only	Sideswipe, Same Direction	Dry	0	0
98	83792688	10/31/2014	2:45 PM	SR 70	UIHLEIN RD	1584	Other	2	0	0	N	N	N	Clear	Daylight	Other	W	Property Damage Only	Other	Dry	0	0
99	84522337	11/3/2014	2:23 PM	SR 70	GREENBROOK BLVD	0	Left Turn	2	0	2	N	N	N	Clear	Daylight	Left Leaving	N	Injury	Angle	Dry	0	0
100	83957246	11/14/2014	8:30 PM	SR 70	197TH ST E	0	Animal	1	0	0	N	N	N	Clear	Dark - Lighted	Animal	W	Property Damage Only	Other	Dry	0	0
101	84540589	11/25/2014	5:45 AM	SR 70	197TH ST E	0	Off Road	1	0	0	N	N	N	Rain	Dark - Lighted	Off Road	W	Property Damage Only	Other	Wet	0	0
102	84543087	12/2/2014	11:50 AM	SR 70 E	GREENBROOK BLVD	0	Left Turn	2	0	2	N	N	N	Clear	Daylight	Left Leaving	N	Injury	Angle	Dry	0	0
103	84520616	12/8/2014	12:35 PM	SR 70	LORRAINE RD	0	Rear End	2	0	0	N	N	N	Cloudy	Daylight	Rear End	W	Property Damage Only	Front to Rear	Dry	0	0
104	84549586	12/23/2014	8:05 AM	SR 70	LORRAINE RD	0	Angle	2	0	1	N	N	N	Cloudy	Daylight	Right Angle	SE	Injury	Angle	Dry	0	0
105	84539548	12/26/2014	2:30 PM	SR 70 (53RD AVE E)	LORRAINE RD	0	Rear End	2	0	1	N	N	N	Clear	Daylight	Rear End	E	Injury	Front to Rear	Dry	0	0
106	84543134	1/14/2015	7:29 AM	SR 70	LORRAINE RD	12	Rear End	2	0	0	N	N	N	Clear	Daylight	Rear End	E	Property Damage Only	Front to Rear	Dry	0	0
107	84554544	1/22/2015	1:05 PM	POST BLVD	SR 70	0	Off Road	1	0	2	N	Y	N	Clear	Daylight	Off Road	W	Injury	Other	Dry	0	0
108	84568422	2/24/2015	8:24 AM	LORRAINE RD	SR 70	200	Rear End	3	0	0	N	N	N	Fog, Smog, Smoke	Daylight	Rear End	S	Property Damage Only	Front to Rear	Wet	0	0
109	84564541	2/25/2015	3:55 AM	SR 70 (53RD AVE E)	LORRAINE RD	7920	Rollover	1	0	0	N	Y	N	Cloudy	Dark - Not Lighted	Rollover	E	Property Damage Only	Other	Dry	0	0
110	84871143	3/6/2015	2:30 PM	SR 70	LORRAINE RD	5280	Rear End	2	0	0	N	N	N	Clear	Daylight	Rear End	E	Property Damage Only	Front to Rear	Dry	0	0
111	84570438	3/8/2015	12:10 AM	SR 70 (53RD AVE E)	CR 675	100	Animal	1	0	0	N	N	N	Clear	Dark - Not Lighted	Animal	E	Property Damage Only	Other	Dry	0	0
112	84560905	3/12/2015	12:25 PM	SR 70	LORRAINE RD	30	Rear End	2	0	2	N	N	N	Clear	Daylight	Rear End	E	Injury	Front to Rear	Dry	0	0
113	84873326	3/31/2015	11:29 AM	SR 70	GREENBROOK BLVD	0	Left Turn	2	0	0	N	N	N	Clear	Daylight	Left Rear	N	Property Damage Only	Other	Dry	0	0
114	84877005	4/3/2015	12:35 PM	SR 70	197TH ST E	4752	Rear End	2	0	3	N	N	N	Clear	Daylight	Rear End	W	Injury	Front to Rear	Dry	0	0
115	84897100	4/4/2015	8:30 PM	SR 70 E	197TH ST W	2640	Other	2	0	1	N	N	N	Clear	Dark - Not Lighted	Other	E	Injury	Angle	Dry	0	0
116	84873340	4/5/2015	9:04 PM	SR 70	225TH ST E	1056	Off Road	1	0	0	N	N	N	Rain	Dark - Not Lighted	Off Road	E	Property Damage Only	Other	Wet	0	0
117	84875311	4/5/2015	3:36 PM	SR 70	CR 675	50	Other	2	0	1	N	N	N	Clear	Daylight	Other	W	Injury	Angle	Dry	0	0
118	84877024	4/19/2015	4:45 PM	SR 70	LORRAINE RD	60	Rear End	2	0	0	N	N	N	Clear	Daylight	Rear End	W	Property Damage Only	Front to Rear	Dry	0	0
119	83957667	5/9/2015	6:00 PM	LORRAINE RD	SR 70	20	Off Road	1	0	0	N	N	N	Clear	Daylight	Off Road	S	Property Damage Only	Other	Dry	0	0
120	84890946	5/17/2015	12:16 PM	LORRAINE RD	SR 70	0	Other	2	0	0	N	N	N	Cloudy	Daylight	Other	N	Property Damage Only	Angle	Dry	0	0
121	84875033	5/29/2015	10:45 AM	SR 70	LORRAINE RD	15	Rear End	2	0	0	N	N	N	Cloudy	Daylight	Rear End	W	Property Damage Only	Front to Rear	Dry	0	0
122	84904560	5/30/2015	11:15 AM	SR 70	LORRAINE RD	1320	Rear End	2	0	0	N	Y	N	Cloudy	Daylight	Rear End	W	Property Damage Only	Front to Rear	Dry	0	0
123	85118912	6/2/2015	2:53 PM	SR 70	LORRAINE RD	20	Rear End	2	0	0	N	N	N	Cloudy	Daylight	Rear End	E	Property Damage Only	Front to Rear	Wet	0	0
124	84903165	6/10/2015	11:25 AM	SR 70	LORRAINE RD	10	Rear End	2	0	0	N	N	N	Clear	Daylight	Rear End	W	Property Damage Only	Front to Rear	Dry	0	0
125	85118926	6/22/2015	3:40 PM	LORRAINE RD	SR 70	20	Rear End	2	0	0	N	N	N	Clear	Daylight	Rear End	S	Property Damage Only	Front to Rear	Dry	0	0
126	81984979	7/5/2015	8:52 AM	SR 70	POST BLVD	0	Angle	2	0	5	N	N	N	Clear	Daylight	Right Angle	SE	Injury	Angle	Dry	0	0
127	84879660	7/12/2015	8:01 AM	SR 70	POST BLVD	2640	Other	1	0	1	N	N	N	Rain	Daylight	Single Vehicle	W	Injury	Other	Wet	0	0
128	85137755	7/14/2015	8:50 AM	SR 70	GREENBROOK BLVD	0	Left Turn	2	0	0	N	N	N	Cloudy	Daylight	Left Leaving	N	Property Damage Only	Angle	Dry	0	0
129	84900761	7/17/2015	1:50 PM	LORRAINE RD	SR 70	0	Left Turn	2	0	5	N	N	N	Cloudy	Daylight	Left Leaving	E	Injury	Angle	Wet	0	0
130	83957807	8/3/2015	12:42 AM	SR 70 E	LORRAINE RD	0	Sideswipe	2	0	0	N	N	N	Clear	Dark - Lighted	Same Dir Sideswipe	W	Property Damage Only	Sideswipe, Same Direction	Dry	0	0
131	85137797	8/27/2015	10:35 AM	SR 70	LORRAINE RD	100	Rear End	2	0	0	N	N	N	Clear	Daylight	Rear End	W	Property Damage Only	Front to Rear	Dry	0	0
132	85195098	9/9/2015	7:46 AM	SR 70 E	GREENBROOK BLVD	0	Left Turn	2	0	2	N	N	N	Clear	Daylight	Left Leaving	S	Injury	Angle	Dry	0	0
133	85195107	9/15/2015	7:50 PM	SR 70 E	213TH ST E	2640	Animal	1	0	0	N	N	N	Cloudy	Dark - Not Lighted	Animal	E	Property Damage Only	Other	Dry	0	0
134	85188596	9/16/2015	5:43 AM	SR 70	LORRAINE RD	250	Sideswipe	2	0	0	N	N	N	Clear	Dawn	Same Dir Sideswipe	W	Property Damage Only	Sideswipe, Same Direction	Dry	0	0
135	85177987	10/5/2015	4:30 PM	SR 70	LORRAINE RD	2640	Other	2	0	2	N	N	N	Clear	Daylight	Other	E	Injury	Angle	Dry	0	0
136	85184155	10/12/2015	8:44 AM	SR 70	GREENBROOK BLVD	0	Animal	2	0	1	N	N	N	Clear	Daylight	Animal	N	Injury	Angle	Dry	0	0
137	85186793	10/14/2015	1:38 PM	SR 70 (53RD AVE E)	225TH ST E	200	Animal	1	0	0	N	N	N	Clear	Daylight	Animal	E	Property Damage Only	Other	Dry	0	0
138	85198378	10/23/2015	5:53 AM	SR 70	197TH ST E	3695	Animal	1	0	0	N	N	N	Clear	Dark - Not Lighted	Animal	W	Property Damage Only	Other	Dry	0	0
139	85221445	11/1/2015	4:30 PM	SR 70 (53RD AVE E)	GREENBROOK BLVD	0	Rear End	2	0	1	N	N	N	Clear	Daylight	Rear End	N	Injury	Front to Rear	Dry	0	0
140	85191992	11/6/2015	3:20 PM	SR 70	LORRAINE RD	200	Rear End	2	0	0	N	N	N	Clear	Daylight	Rear End	E	Property Damage Only	Front to Rear	Dry	0	0
141	85198395	11/7/2015	2:56 PM	SR 70	LORRAINE RD	528	Rear End	2	0	0	N	N	N	Clear	Daylight	Rear End	E	Property Damage Only	Front to Rear	Dry	0	0
142	85225612	11/26/2015	8:40 AM	SR 70	POST BLVD	200	Rollover	1	0	1	N	N	N	Clear	Daylight	Rollover	W	Injury	Other	Dry	0	0
143	85120999	11/27/2015	10:15 PM	SR 70	POST BLVD	500	Rollover	1	0	0	Y	N	Y	Clear	Dark - Not Lighted	Rollover	W	Property Damage Only	Other	Dry	0	0
144	85234503	12/6/2015	7:45 PM	SR 70 (53RD AVE E)	UIHLEIN RD	5280	Other	1	0	0	N	N	N	Clear	Dark - Not Lighted	Single Vehicle	W	Property Damage Only	Other	Dry	0	0
145	83662000	12/9/2015	8:55 AM	SR 70 (53RD AVE E)	LORRAINE RD	0	Sideswipe	2	0	0	N	N	N	Clear	Daylight	Same Dir Sideswipe	E	Property Damage Only	Sideswipe, Same Direction	Dry	0	0
146	85203039	12/9/2015	6:20 PM	SR 70	LORRAINE RD	30	Rear End	5	0	1	Y	N	N	Clear	Dusk	Rear End	E	Injury	Front to Rear	Dry	0	0

District	Crash Rate Category	Average Crash Rate
Statewide	Interstate Urban	0.7908
Statewide	Interstate Rural	0.38857
Statewide	Toll Road Urban	0.65684
Statewide	Toll Road Rural	0.36673
Statewide	Urban Other Limited Access	1.66801
Statewide	Rural Other Limited Access	0.53203
Statewide	Ramp Urban	0
Statewide	Ramp Rural	0
Statewide	Urban 2-3Ln 2Wy Divd Rasd	5.18691
Statewide	Urban 2-3Ln 2Wy Divd Pavd	4.16541
Statewide	Urban 2-3Ln 2Wy Undivd	2.77556
Statewide	Suburban 2-3Ln 2Wy Divd Rasd	2.63475
Statewide	Suburban 2-3Ln 2Wy Divd Pavd	2.24948
Statewide	Suburban 2-3Ln 2Wy Undivd	0.93205
Statewide	Rural 2-3Ln 2Wy Divd Rasd	1.10697
Statewide	Rural 2-3Ln 2Wy Divd Pavd	1.79533
Statewide	Rural 2-3Ln 2Wy Undivd	0.64711
Statewide	Urban 4-5Ln 2Wy Divd Rasd	2.84759
Statewide	Urban 4-5Ln 2Wy Divd Pavd	4.72752
Statewide	Urban 4-5Ln 2Wy Undivd	5.2225
Statewide	Suburban 4-5Ln 2Wy Divd Rasd	1.45912
Statewide	Suburban 4-5Ln 2Wy Divd Pavd	1.9715
Statewide	Suburban 4-5Ln 2Wy Undivd	1.34569
Statewide	Rural 4-5Ln 2Wy Divd Rasd	0.59578
Statewide	Rural 4-5Ln 2Wy Divd Pavd	0.49792
Statewide	Rural 4-5Ln 2Wy Undivd	1.42227
Statewide	Urban 6+Ln 2Wy Divd Rasd	3.74574
Statewide	Urban 6+Ln 2Wy Divd Pavd	4.12556
Statewide	Urban 6+Ln 2Wy Undivd	53.42096
Statewide	Suburban 6+Ln 2Wy Divd Rasd	2.21871
Statewide	Suburban 6+Ln 2Wy Divd Pavd	1.23379
Statewide	Suburban 6+Ln 2Wy Undivd	0
Statewide	Rural 6+Ln 2Wy Divd Rasd	1.08617
Statewide	Rural 6+Ln 2Wy Divd Pavd	0.25316
Statewide	Rural 6+Ln 2Wy Undivd	0
Statewide	Urban One Way	8.56758
Statewide	Suburban One Way	2.44993
Statewide	Rural One Way	5.5757
Statewide	Undefined	0
Statewide	Not Coded	1.59728

Appendix H

D1RPM before and after validation plots for base year 2010

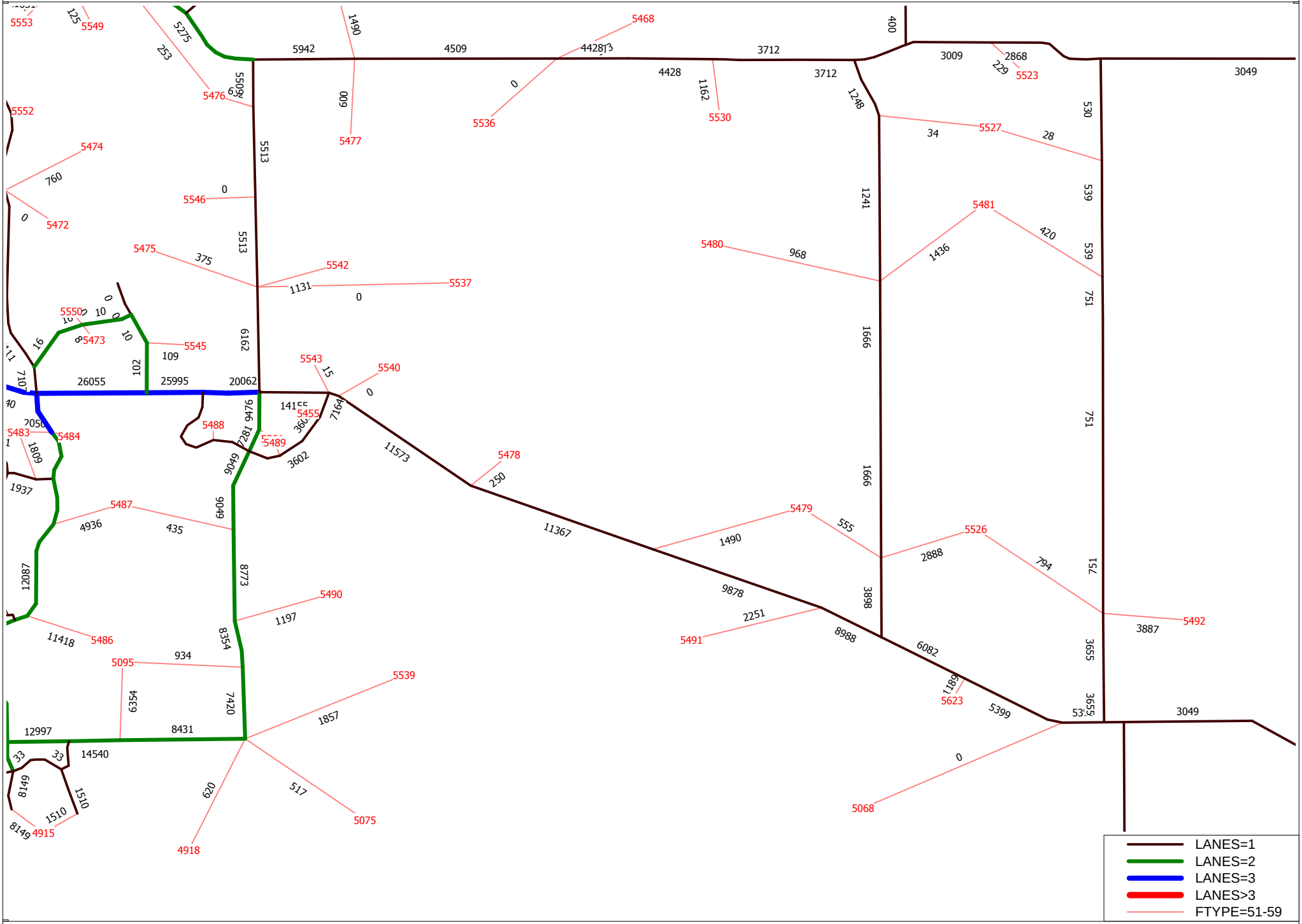
SR 70 Traffic Study (Before Validation)
Year 2010 D1RPM_TOD - Total Traffic Volumes (PSWADT)



C:\FSUTMS\D1\D1RPM_v1.0.0\YR2010\HWYLOAD_10A.NET

cube

SR 70 Traffic Study (After Validation)
Year 2010 D1RPM_TOD - Total Traffic Volumes (PSWADT)



C:\FSUTMS\D1\D1RPM_v1.0.0\YR2010\SR70Before\After\HWYLOAD_10A.NET

cube

SR 70 DTTM

Year 2010 Validation Link Report

Roadway Name	from	to	Count Source	Year 2010 FDOT AADT	Facility Type Before	2010 Model AADT Before Validation	2010 Model AADT Before Validation Total	Facility Type After	2010 Model PSWADT After Validation	2010 Model AADT After Validation Total
SR 70	Lorraine Rd	Greenbrook Blvd		12,600	31	7,664	7,204	31	14,155	13,306
	CR 675/ Verna Bethany Rd	Verna Bethany Rd		6,600	35	6,139	5,771	35	6,082	5,717
SR 64	Lorraine Rd	CR 675		5,121	35	5,855	5,504	35	5,942	5,585
Lorraine Rd	SR 70	Greenbrook Blvd		5,023	43	10,756	10,111	43	7,281	6,844
	SR 70	SR 64		4,400	46	5,498	5,168	46	5,513	5,182
CR 675	SR 64	SR 70		1,428	43	1,223	1,150	43	1,241	1,167
University Pkwy	Lakewood Ranch Blvd	Lorraine Rd		13,600	23	19,314	18,155	43	14,540	13,668

Facility Type	Year 2010 FDOT AADT	2010 Model AADT Before Validation	2010 Model AADT After Validation	Percent Error Before	Percent Error After
Divided Arterial (FT 2X) *	13,600	18,155	N/A	33.49%	N/A
Undivided Arterial (FT 3X)	12,600	7,204	13,306		
	6,600	5,771	5,717		
	5,121	5,504	5,585		
Total	24,321	18,479	24,608	-24.02%	1.18%
Collector (FT 4X)	5,023	10,111	6,844		
	1,428	1,150	13,668		
	4,400	5,168	1,167		
			5,182		
Total before FType Change	10,851	16,429		51.41%	
Total After FType Change	24,451		26,861		9.86%

** Note: FType 2X was changed to 4X for this link in the model after validation*

Appendix I

Future Land Use and DRI Information

Year 2040 D1RPM_TOD Land Use Changes for SR 70 Study

DRI Name	zone	Year 2040 Before							zone	Year 2040 After						
		sf	mf	hotel	ind	com	ser	school		sf	mf	hotel	ind	com	ser	school
Cypress Bank	5484	1,095	0	0	12	32	133		5484	1,095	127	0	12	176	133	
	5487	747	130	0	65	37	287		5487	747	257	0	65	181	287	
	5488	1,147	69	0	49	32	28		5488	1,147	196	0	49	176	28	
	5489	1,812	108	0	0	0	311	2326	5489	906	54	0	0	0		
									5455	906	54					
									5261						311	2326
	5490	1,823	127	0	10	0	55	942	5490	1,823	254	0	10	0	55	942
	Total	6,624	434	0	136	101	814	3,268	Total	6,624	942	0	136	533	814	3,268
	DOs	**4,912**	**1070**			**534**										
Lakewood Center	5473	277	0	0	110	275	713		5473	742	1589	0	110	2238	3275	
	5550	237	61	0	94	235	610		5550	702	1650	300	94	2198	3172	
	Total	514	61	0	204	510	1,323	0	Total	1,444	3,239	300	204	4,436	6,447	0
	DOs	**1,444**	**3239**	**300**		**4435**	**6447**									
Northwest Sector	5472	346	89	0	0	0	0		5472	1,254	166	0	0	167	133	
	5475	673	18	0	14	0	20		5475	1,581	95	0	14	167	154	
	5545	329	11	0	1	0	0		5545	1,237	88	0	1	167	133	
	Total	1,348	118	0	15	0	20	0	Total	4,072	349	0	15	501	420	0
	DOs	**4,072**	**350**			**500**	**420**									
University Lakes	5485	689	569	569	1464	594	4064		5485	689	859	569	1464	934	4064	
	5486	1315	220	0	48	268	822		5486	1315	730	0	48	608	822	
	5539	1154	81	0	563	0	538		5539	1154	150	0	563	340	538	
	Total	3158	870	569	2075	862	5424	0	Total	3158	1739	569	2075	1882	5424	0
	DOs	**2303**	**1740**		**28**	**1882**	**5473**									

Tampa Bay Regional Planning Council
ESTABLISHED 1962

ARS

Annual Report Summary

4000 Gateway Centre Boulevard, Suite 100, Pinellas Park, FL 33782
Phone (727) 570-5151 / FAX (727) 570-5118
www.tbrpc.org

DRI #130 - CYPRESS BANKS
MANATEE COUNTY
RY 2014-15

On November 16, 1989, Manatee County granted a Development Order to Schroeder-Manatee Ranch (SMR) Development Corporation for a four-phase, 1,790-acre residential, commercial and hotel resort development in southeastern Manatee County along S.R. 70, approximately two miles east of I-75. Only Phase 1 had initially been granted specific approval.

The Development Order has been previously amended a total of nine times, most recently on December 4, 2008 (Ordinance No. 08-69). The amendments have cumulatively: modified the development plan in terms of land use acreages and entitlement locations; extended the buildout and commencement dates for each phase; altered the transportation requirements; cumulatively added 2,167.3 acres to the east and southeast boundary of the project; ultimately granted specific approval of all project phases; added 10,174 sq. ft. of commercial uses and 274 residential units; added nine project access points; and corresponding Map H and Development Order modifications. The Phases 3 & 4 buildout date and the Development Order expiration date have all been extended by four years in association with the establishment of Subsection 380.06(19)(c)2., F.S., 326 days to account for the three Executive Orders executed by the Governor during 2011, plus one year and 121 days to account for four Executive Orders enacted during 2012. The Development Order now expires on October 28, 2023.

`

The currently-approved phasing schedule is as follows:

PHASE	BUILDOUT	COMMERCIAL (Sq. Ft.)	RESIDENTIAL (Units)
1	August 7, 2000	0	1,405
2	August 7, 2005	46,856	1,405
3	October 28, 2019*	166,818	1,406
4	October 28, 2023*	0	1,766
	TOTAL	**213,674**	**5,982 (4,912 SF/1,070 MF)**

* - The Phase 3-4 buildout dates are reflective of extension periods identified above.

PROJECT STATUS

Development this Reporting Year: 119 Residential units and 8,765 sq. ft. of Commercial were completed. In addition, 52 more Residential units and 10,000 sq. ft. of Commercial remain under construction.

Cumulative Development: the Developer is no longer obligated to provide a breakdown of Residential by housing type. A total of 5,018 Residential units and 104,945 sq. ft. of Commercial development have been completed to date.

Projected Development: No specific development activity has been identified for the next reporting year. However, it would be anticipated that the above-referenced Residential and Commercial development activity currently identified as "under construction" would be completed, at minimum.

SUMMARY OF DEVELOPMENT ORDER CONDITIONS

1. Condition D.(1) obligated the Developer to conduct quarterly surface water and groundwater quality monitoring for the 1,790-acres originally approved as the Cypress Banks DRI. The Condition further recognized that such monitoring must continue until two years after buildout with results submitted with all subsequent Annual Reports. Manatee County Natural Resources Department (MCNRD) staff subsequently concluded that the Developer had satisfied all **surface water** quality monitoring requirements associated with the original parcel as well as the various project expansions, including the 290.9-acre Greenbrook II addition (approved in 2003), the 991-acre SE Sector addition (approved in 2005), and an unnamed 178.4-acre addition approved in 2008. The Developer remains obligated to continue to conduct quarterly **groundwater** monitoring at four prescribed locations. The Developer recently proposed to plug and abandon monitoring Station GW-604, due to damage sustained by "mowing equipment," and establish an alternate monitoring location ("GW-808"). Based on a February 10, 2015 correspondence from Manatee County Environmental Protection Division staff (Mr. Scott Browning/Sr. Environmental Specialist), included as "Exhibit H-4" to the RY 2014-15 Annual Report, Manatee County subsequently agreed to allow the proposed exchange of groundwater monitoring locations (i.e. GW-604 ➜ GW-808) effective for the RY 2015-16 and all future groundwater monitoring events. The Developer remains obligated to conduct quarterly groundwater monitoring at four locations (GW-304R, GW-504, GW-704 & GW-808) with results provided in each Annual Report.

   The RY 2014-15 groundwater monitoring was conducted and submitted for March 18, 2014, May 28, 2014, August 25, 2014 and November 13, 2014 with the RY 2014-15 Annual Report. The following serves as a summary of the monitoring results:

   - Iron (*Fe*) levels were well in excess of State standards (i.e. 0.3 mg/L) at all four monitoring stations during each monitoring event in which samples were collected;
   - Color exceeded the maximum State criterion (i.e. 15 pcu) during all monitoring in which samples were collected at Stations GW-504 & GW-704;
   - Sulfate (SO_4) levels exceeded the maximum State criterion (i.e. 250 mg/L) during all monitoring in which samples were collected at Stations GW-604 & GW-704;
   - Total Dissolved Solids (*TDS*) exceeded the maximum State criterion (i.e. 500 mg/L) during all monitoring in which samples were collected at Stations GW-604 and GW-704. The TDS levels were also in excess of the State standards during the 4th Quarter monitoring event at Station GW-504; and
   - pH results were below the minimum criterion range (i.e. 6.5-8.5) at all monitoring stations during all monitoring events in which samples were collected.

   The Developer's representative had previously attributed the majority of unfavorable groundwater monitoring results, especially at the location of Station GW-704, to the potential influence of surface water runoff. More recently, the Developer's representative had additionally attributed unfavorable conditions reported at Station GW-604 to damage sustained in the site's well casing.

2. The Developer has previously submitted the *Final Drainage Plan* for Phase 1 and a *Non-Potable Water Use Plan for Landscape and Irrigation,* consistent with Conditions E.(7) and H.(3), respectively. The Developer continues to reflect that these Conditions are met within each Preliminary Development Plan submitted and/or prior to each sub-phase construction permit issued.

3. The Developer has previously executed agreements with the Manatee County School Board to dedicate 40 acres and option to purchase an additional 58 acres, consistent with Condition H.(9).

4. The Developer submitted the results of the annual traffic count monitoring, the majority of which appear to have been conducted on January 14 & 22, 2015. The project, which was approved to generate 4,924 overall p.m. peak hour external trips (2,973 Inbound/1,951 Outbound) based on the 2007 Development Order Amendment, is currently generating 3,984 p.m. peak hour external trips (2,285 Inbound/1,699 Outbound), approximately 80.90% of the approved trips. The total count summary was provided as *Attachment D* to the Annual Report and is exclusive of the 71 trips (31 Inbound/40 Outbound) reportedly attributed to the Nolan Middle School.

5. The Developer has created perpetual and financially responsible entities, Lakewood Ranch Community Development Districts (the "Districts"), which will be responsible for the operation and maintenance of the stormwater management systems, open space, and wetlands. It is the intention of the Developer to transfer these functions to the Districts as areas are platted.

DEVELOPER OF RECORD

SMR Communities Joint Venture, 14400 Covenant Way, Bradenton, FL 34202 is the firm responsible for adhering to the conditions of the Development Order.

DEVELOPMENT ORDER COMPLIANCE

The project appears to be proceeding in a manner consistent with the Development Order. Manatee County is responsible for ensuring compliance with the terms and conditions of the Development Order.

ORDINANCE 13-28 LAKEWOOD CENTRE DRI (DRI #27)

Request: An Ordinance of the Board of County Commissioners of Manatee County, Florida, regarding land development, rendering an amended and restated Development Order pursuant to Chapter 380.06, Florida Statutes, for the Lakewood Centre Development of Regional Impact (Ordinance 12-28) (DRI #27); A/K/A Tampa Bay Regional Planning Council (TBRPC) DRI #265;

Modifying Map H and the Development Order with the following changes:

1) Update Phasing and Build-out dates to reflect legislatively approved extensions;
2) Update Conditions to reflect compliance with conditions contained therein;
3) Clarify procedures for a Land Use Exchange; and,
4) Other amendments for internal consistency.

This DRI is approved in three phases. Specific Approval was approved for Phase 1 for 900 residential units, 460,000 square feet of retail space, 458,000 square feet of office space, a 300 room hotel, and 36.8 ± acres of parks. Conceptual approval was approved for Phase 2 and 3 and in the future. Specific Approval of Phases 2 and 3 will be contingent upon submittal of further transportation and air quality analyses in accordance with Section 380.06, F.S.

The ordinance amends, replaces, and supersedes Ordinance 12-28, DRI #27, as amended; providing for severability, and an effective date.

The Lakewood Centre DRI is generally east of Lakewood Ranch Boulevard, south of Malachite Drive, west of Pope Road; and north of S.R. 70. Present zoning is PDMU/WP-E/ST (Planned Development Mixed Use/Evers Reservoir Watershed Protection Overlay District/Special Treatment Overlay District) (697.4 ± acres).

P.C.: 09/12/2013 **B.O.C.C.: 10/03/2013**

RECOMMENDED MOTION:

Based upon the staff report, evidence presented, comments made at the public hearing, the action of the Planning Commission, and finding the request to be CONSISTENT with the Manatee County Comprehensive Plan, the Manatee County Land Development Code, and Section 380.06, Florida Statutes, subject to the conditions of approval established in the Development Order, I move to APPROVE DRI #27 and ADOPT Manatee County Ordinance No. 13-28, as recommended by the Planning Commission.

(COMMISSIONER BAUGH)

PLANNING COMMISSION ACTION:

On September 12, 2013, by a vote of 6 – 0, the Planning Commission recommended approval.

PUBLIC COMMENT AND CORRESPONDENCE:

There was no public comment and nothing was entered into the record at the September 12, 2013 Planning Commission public hearing.

CASE SUMMARY

CASE NO.: **DRI #27, Lakewood Centre**

APPLICANT: **SMR North 70, LLC**

REQUEST: **Modify Map H and the Development Order with the following changes:**

1) **Update Phasing and Build-out to reflect legislatively approved extensions;**
2) **Update Conditions to reflect compliance with conditions contained therein;**
3) **Clarify procedures for a Land Use Exchange; and**
4) **Other amendments for internal consistency.**

STAFF RECOMMENDS: **Approval**

REQUEST, LOCATIONAL INFORMATION, AND LAND USE CHARACTERISTICS

- **The Lakewood Centre DRI is generally east of Lakewood Ranch Boulevard, south of Malachite Drive, west of Pope Road, and north of State Road 70. Present zoning: PDMU/WP-E/ST (Planned Development Mixed Use/Evers Reservoir Watershed Protection Overlay District/Special Treatment Overlay District) (697.4 ± acres).**

- **To the NORTH, across Malachite Drive, is a residential portion of the Northwest Sector DRI also zoned PDMU/WP-E/ST.**

- **To the SOUTH, across State Road 70, is a residential portion of Cypress Banks DRI, zoned PDMU/WP-E/ST.**

- **To the EAST, is a residential portion of Northwest Sector DRI zoned PDMU/WP-E/ST and a church zoned A (General Agriculture).**

- **To the WEST, is a vacant parcel zoned A; a commercial parcel and a vacant parcel, both zoned PD-C/WP-E/ST; and a school, community uses (park and YMCA) zoned A/WP-E/ST and PD-PI/WP-E/ST.**

SUMMARY:

History

Lakewood Center is a mixed-use DRI (Development of Regional Impact). Both the GDP (General Development Plan) and ADA (Application for Development Approval) for the DRI were originally approved in August 2008, to allow for:

Three phases with the following uses:

- 436 single family detached residential units,
- 3,239 multi-family units
- 1,774,000 sq. ft. of commercial,
- 1,563,000 sq. ft. of office, and
- 300 hotel rooms.

The project is surrounded by existing or proposed major thoroughfare roadways or major collectors:

- SR 70, a principal arterial, on the south;
- Lakewood Ranch Blvd, a minor arterial, on the west;
- Pope Road, a collector, on the east; and
- Malachite Drive, a collector, on the north.

This request represents the second amendment to the DRI. Development has proceeded in accordance with the approved Development Order.

To date, 272 multi-family units have been completed. Other site plans for residential development are under review.

Request

The request today is for an amendment to the Lakewood Centre Development Order (DO) and Map H. The request is accompanied with a companion revision to the Zoning Ordinance and General Development Plan as well.

The process to amend the DO is different than past requests due to legislative changes approved by the state earlier this year. The amendment is not being processed as a Notice of Proposed Change (NOPC) in which the Tampa Bay Regional Planning Council reviews and approves the amendment and makes a recommendation to the County.

House Bill 979 was approved during the 2012 legislative session adding sub section k. to Florida Statue Section 380.06 (19)(e)2, dealing with DRIs. Language was added that states “changes that do not increase the number of external peak hour trips and do not reduce open space and conserved areas within the project…” which is followed by the language already in the F.S. stating that such modifications to Development Orders only require an application to the local government in accordance with the local government’s procedure for amendment of a development order and that following adoption, the local government shall render a copy to the state land planning agency (Department of Economic Opportunity). DEO no longer has the right to review, only appeal the amendment if they believe the change creates a reasonable likelihood of new or additional regional impacts. There is no requirement to provide a copy to the Regional Planning Council, since they have no rights to appeal.

Staff has reviewed the amendments and concurs that the proposed changes to the DRI Development Order and Map H do not increase the number of external peak hour trips and do not reduce open space and conserved areas with the DRI project. Nor are the changes those listed requiring an NOPC or Substantial Deviation to the DRI. If the amendment is approved, a copy of the amended ordinance will be sent to DEO and a courtesy copy to the Tampa Bay Regional Planning Council.

Each request is detailed below and shown in strike-thru/underline format in the attached Development Order:

1. Update Phasing, and Buildout dates to reflect legislatively approved extensions.

TABLE 1: DEVELOPMENT TOTALS

LAND USE	PHASE 1 (2008 – 2022~~20~~)*&	PHASE 2 (2009-2021~~2019~~)*&	PHASE 3 (2012-2026~~24~~)*&	TOTAL
RESIDENTIAL				
Single-Family	0	200	236	436
Multi-Family	900	1,800	539	3,239
RETAIL (square feet)	460,000	542,000	772,000	1,774,000
OFFICE (square feet)	458,000	458,000	647,000	1,563,000
Hotel (rooms)	300	~~0~~	0	300

***** The phasing buildout dates shall be ~~November 21st~~st March 22nd of the years indicated, which includes legislatively approved extensions (SB 360, SB 1752, HB 7207 and F.S. 252.363).

& The approved amount of any one land use may be increased, but only with decreases in one or more of the other land uses, per the Land Use Equivalency Matrix.

On January 7, 2013, pursuant to F.S. 252.363 (Executive Orders for Tropical Storms Debby and Isaac), an extension was granted for two years and 121 days to all phase, buildout and expiration dates. The Phase 1 buildout date was extended from November 21, 2020 to March 22, 2022. The Phase 2 buildout date was extended from November 21, 2019 to March 22, 2021, and the Phase 3 buildout date was extended from November 21, 2024 to March 22, 2026.

Staff has no objection to the revisions as the extensions have already been granted. The Development Order is simply being updated with this revision.

2. Update conditions to reflect compliance with requirements contained therein.

The other changes to the ordinance relate to updated effective dates and ownership. Staff supports this clean up of the ordinance.

3. Clarify procedures for a Land Use Exchange.

The applicant proposes language to be added to Section 4.G.2 relating to a Land Use Exchange. This language applies to the review of timing of the various components of currency and is consistent with current County practice relating to the issuance of a CLOS for each phase, or sub-phase, of development. It also adds language that identifies that at the time of Final Site Plan approval, potable water, wastewater treatment and schools shall be analyzed and a CLOS will be issued at that time for those concurrency components.

Staff supports this request to add language in order to clarify the timing for the issuance of a CLOS for certain concurrency components, consistent with the County's current procedures.

4. Other amendments for internal consistency.

Staff supports this request to maintain internal consistency.

Conclusion

Staff recommends approval of the amendments as shown in strike-thru/underline format in the attached ordinance.

ATTACHMENTS:

1. Ordinance 13-28
2. Copy of Newspaper Advertising

DRI #	DCA ADA #	PROJECT NAME	LOCAL GOV'T/ A.R. LAST SUBMITTED	DATES			DEVELOPMENT PARAMETERS[1]					DEVELOPMENT ORDER AMENDMENT(S) (DATE, RESOL. #)[3]	NOTES[2]	INCONSISTENT WITH D.O. CONDITION #[4]
				D.O. ADOPT. (D.O. #)/ EFFECTIVE	A.R./B.R. DUE DATE	BUILDOUT/ EXPIRATION	LAND USE/ MEASURE	TOTAL APPROVED AMOUNT	SPECIFIC APPROVED AMOUNT	DURING RPT. YR.	CUMUL. DEV'T[43]			
261	N/A	Ashley Glen	Pasco	9/25/07 Res. 07-364	N/A	**RESCINDED** (1/24/2012) R. 12-91	Total Acres Res.l/Condos (#) Res./Apts. (#) Office (GSF) Commercial (GSF) Day Care (GSF)	260 180[81] 600[81] 1,800,000 444,000 6,000	ALL	0 0 0 0 0	0 0 0 0 0	None	None	**DEVELOPMENT ORDER WAS RESCINDED**
262	N/A	Two Rivers	Pasco	**WITHDRAWN**			Not Applicable					Not Applicable	Not Applicable	**APPLICATION WAS WITHDRAWN**
263	N/A	Hillsborough County Mine Consolidation S/D	Hills. 8/03/15	3/11/08 Res. 08-047	7/31	12/31/2018[79] 12/31/2026[79] 12/31/2027[79]	Total Acres Mining	48,595 40,552	30,926	985	27,056	Many[96]	None	RY 2014-15 - Not Yet Reviewed RY 2013-14 - None
264	N/A	Starkey Ranch	Pasco	9/23/08 (Res. 08-393)	11/24B (Even)	**RESCINDED** (9/11/2012) R. 12-309	Total Acres Residential/SF (#) Residential/TH (#) Residential/Apts.(#) Office (GSF) Commercial (GSF) Lt. Industrial (GSF) ACLF (Beds) Day Care (GSF) Theatre (Scr./Seats) Hotel (Rooms) Schools (#)	2,530 2,870 1,015 400 344,520 277,150 170,000 120 30,000 16/4,000 100 1	ALL	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	None	None	**DEVELOPMENT ORDER WAS RESCINDED**
265	N/A	Lakewood Centre	Manatee 3/06/14	8/05/2008 (Ord. 08-13)	3/01B (Even)	3/22/22[87/90/93 95/97] 3/22/27[93/95/97]	Total Acres Res./MF (#) Res./SF (#) Retail (GSF) Office (GSF) Hotel (Rooms)	1,493 3,239[119] 1,444 1,674,000[119] 1,463,000[119] 300	ALL	152 0 25,400 0 0	272 0 25,400 0 0	12/06/12, O. 12-28 10/03/13 - O. 13-28 12/04/14, O. 14-30	None	RYs 2012-14 - Biennial. None.
266	N/A	Waterset (fka Wolf Creek Branch S/D)	Hills. 5/15/13	12/12/2006 (Res. 06-276)	3/31	3/23/27[93/97/98] 6/21/37[93/97/98]	Overall Acres Res./SFD (#) Res./SFA (#) Res./Sr. SFD (#) Res./Sr. SFA (#) Res./MF (#) Commercial (GSF) Office (GSF)	2,350 3,619 959 400 100 1,350 498,480 198,900	ALL	32 0 0 0 0 8,444[110] 0	187 0 0 0 0 14,639[110] 0	2/08/11, R. 011-016 12/09/14, R. 14-166	None	RY 2013-14 - None

ORDINANCE 13-24 NORTHWEST SECTOR DRI (DRI #26)

Request: An Ordinance of the Board of County Commissioners of Manatee County, Florida, regarding land development, rendering an amended and restated Development Order pursuant to Chapter 380.06, Florida Statutes, for the Northwest Sector Development of Regional Impact (Ordinance 07-68) (DRI #26); A/K/A Tampa Bay Regional Planning Council (TBRPC) DRI #226;

Modifying Map H and the Development Order with the following changes:

1.) Update Phasing, Buildout and Expiration dates to reflect legislatively approved extensions;
2.) Update Conditions to reflect compliance with conditions contained therein;
3.) Remove established minimums and maximums within the Land Use Equivalency Matrix and clarify procedures for a land use exchange;
4.) Modify certain conditions consistent with current departmental practices; and,
5.) Other amendments for internal consistency.

This DRI is approved in two phases. Specific Approval was approved for Phase 1 for 3,000 residential units, 200,000 square feet of retail space, 105,000 square feet of office space, and 19.2 acres of Parks. Conceptual approval was approved for Phase 2. Specific Approval of Phase 2 will be contingent upon submittal of further transportation and air quality analyses in accordance with Section 380.06, F.S.

The ordinance amends, replaces, and supersedes Ordinance 07-68, DRI #26, as amended; providing for severability, and an effective date.

The Northwest Sector DRI is generally east of Lakewood Ranch Boulevard, south of 44th Avenue East extension, west of Lorraine Road and north of State Road 70. A 39.3 acre parcel is west of Lakewood Ranch Boulevard. Present zoning is PDMU/WP-E/ST (Planned Development Mixed Use/Evers Reservoir Watershed Protection Overlay District/Special Treatment Overlay District) (±1,518.9 acres).

P.C.: 07/11/13 **B.O.C.C.: 08/06/13**

RECOMMENDED MOTION:

Based upon the staff report, evidence presented, comments made at the public hearing, the action of the Planning Commission, and finding the request to be CONSISTENT with the Manatee County Comprehensive Plan, the Manatee County Land Development Code, and Section 380.06, Florida Statutes, subject to the conditions of approval established in the Development Order, I move to APPROVE DRI #26 and ADOPT Manatee County Ordinance No. 13-24, as recommended by the Planning Commission.

(COMMISSIONER BAUGH)

PLANNING COMMISSION ACTION:

On July 11, 2013, by a vote of 7 – 0, the Planning Commission recommended approval.

PUBLIC COMMENT AND CORRESPONDENCE:

There was no public comment at the July 11, 2013 Planning Commission public hearing.

Revisions to Section 2 of the Ordinance was entered into the record at the July 11, 2013 Planning Commission public hearing.

CASE SUMMARY

CASE NO.: **DRI #26, Northwest Sector**

APPLICANT: **SMR North 70, LLC**

REQUEST: **Modify Map H and the Development Order with the following changes:**

1.) **Update Phasing, Buildout, Expiration, and CLOS dates to reflect legislatively approved extensions;**
2.) **Update Conditions to reflect compliance with conditions contained therein;**
3.) **Remove established minimums and maximums within the Land Use Equivalency Matrix;**
4.) **Modify certain conditions consistent with current departmental practices; and,**
5.) **Other amendments for internal consistency.**

STAFF RECOMMENDS: **Approval**

REQUEST, LOCATIONAL INFORMATION, AND LAND USE CHARACTERISTICS

- **The Northwest Sector DRI is generally east of Lakewood Ranch Boulevard, south of 44th Avenue East extension, west of Lorraine Road and north of State Road 70. A 39.3 acre parcel is west of Lakewood Ranch Boulevard. Present zoning: PDMU/WP-E/ST (Planned Development Mixed Use/Evers Reservoir Watershed Protection Overlay District/Special Treatment Overlay District) (±1518.9 acres).**

- **To the NORTH, across the future 44th Avenue East, is Agricultural land and the Gullet Elementary School zoned A (General Agriculture).**

- **To the SOUTH, across State Road 70, is Cypress Banks DRI, zoned PDMU/WP-E/ST.**

- **To the EAST, are Vacant Agricultural tracts and large tract residential zoned A (General Agriculture).**

- **To the WEST, across Pope Road is the Lakewood Centre DRI, a mixed use development, zoned PDMU/WP-E/ST.**

SUMMARY: (SH)

History

Northwest Sector is a mixed-use DRI (Development of Regional Impact) that is generally located north of S.R. 70, between Lorraine Road and Lakewood Ranch Blvd with Pope Road as the western boundary for a portion of the project, and south of 44th Avenue East on ± 1518.9 acres. Both the GDP (General Development Plan) and ADA (Application for Development Approval) for the DRI were originally approved in November 2007 to allow for:

Two phases with the following uses:

- 4,422 residential units,
- 200,000 sq. ft. of commercial,
- 105,000 sq. ft. of office, and
- 19.2 acres of Park

The project is surrounded by existing or proposed major thoroughfare roadways or major collectors:

- SR 70, a principal arterial, on the south;
- Lakewood Ranch Blvd, a minor arterial, on a portion of the west;
- Pope Road, a future collector, on a portion of the west; and
- 44th Avenue East an arterial, on the north.

This request represents the first amendment to the DRI. Development has proceeded in accordance with the approved Development Order.

To date, 430 detached residential units have been completed. 100,000 square feet of office space/LECOM School of Dental Medicine has been constructed. A community park has also been built. The golf course and residential units have recently been approved and are under construction. Other site plans for residential development are under review.

Request

The request today is for an amendment to the Northwest Sector Development Order (DO) and Map H. The request is accompanied with a companion revision to the Zoning Ordinance and General Development Plan as well.

The process to amend the DO is different than past requests due to legislative changes approved by the state earlier this year. The amendment is not being processed as a Notice of Proposed Change (NOPC) in which the Tampa Bay Regional Planning Council reviews and approves the amendment and makes a recommendation to the County.

House Bill 979 was approved during the 2012 legislative session adding sub section k. to Florida Statue Section 380.06 (19)(e)2, dealing with DRIs. Language was added that states “changes that do not increase the number of external peak hour trips and do not reduce open space and conserved areas within the project…” which is followed by the language already in the F.S. stating that such modifications to Development Orders only require an application to the local government in accordance with the local government’s procedure for amendment of a development order and that following adoption, the local government shall render a copy to the state land planning agency

(Department of Economic Opportunity). DEO no longer has the right to review, only appeal the amendment if they believe the change creates a reasonable likelihood of new or additional regional impacts. There is no requirement to provide a copy to the Regional Planning Council, since they have no rights to appeal.

Staff has reviewed the amendments and concurs that the proposed changes to the DRI Development Order and Map H do not increase the number of external peak hour trips and do not reduce open space and conserved areas with the DRI project. Nor are the changes those listed requiring an NOPC or Substantial Deviation to the DRI. If the amendment is approved, a copy of the amended ordinance will be sent to DEO and a courtesy copy to the Tampa Bay Regional Planning Council.

Each request is detailed below and shown in strike-thru/underline format in the attached Development Order:

1. Update Phasing, and Buildout dates to reflect legislatively approved extensions.

TABLE 1: DEVELOPMENT TOTALS

LAND USE	PHASE I (2007 – 2022~~11~~)*#& Base Entitlements	~~Phase I Minimum Entitlements~~&	~~Phase I Maximum Entitlements~~&	PHASE II (2009-2026~~19~~)*&	TOTAL
RESIDENTIAL					4,422
Single-Family	2,650	~~1,590~~	~~2,979~~&	1,422	4,072
(s.f.) Multi-Family (m.f.)	350	~~210~~	~~490~~	0	350
RETAIL (square feet)	200,000	~~120,000~~	~~280,000~~	0	200,000
OFFICE (square feet)	105,000	~~63,000~~	~~147,000~~	0	105,000
PARK (square feet)	9.2			10	19.2

***** The phasing buildout dates shall be ~~December 31st~~ March 22nd of the years indicated and include legislatively approved extensions (SB 360 and SB 1752) for Phase I and (HB 7207 and F.S. 252.363) for Phases I and II.

\# Includes the option for a group care facility ~~for up to 120 beds~~ as part of a land use exchange. The Land Use Equivalency Matrix allows the exchange of other approved land uses (single-family detached, multi-family, commercial, and office space) for Group Care Facility (AKA: Assisted Living Facility) beds.

& The approved amount of any one land use may be increased, but only with decreases in one or more of the other land uses, per the Land Use Equivalency Matrix. ~~The maximum number of single family units can only be reached if all other land uses are minimized.~~

On January 8, 2010, pursuant to SB 360, a two-year extension to the buildout date for Phase 1 was granted extending that date from December 31, 2011 to December 31, 2013.

On February 22, 2011, pursuant to SB 1752, an additional two-year extension to the Phase 1 buildout date was granted extending that date from December 31, 2013 to December 31, 2015.

On October 20, 2011, pursuant to HB 7207 a 4 year extension of phase, buildout, and expiration dates were granted for the entire DRI extending the expiration dates from December 31, 2015 to December 31, 2019 for Phase 1, and from December 31, 2019 to December 31 2023 for Phase 2. On February 10, 2012 another extension to each of 326 days was granted pursuant to F.S. 252.363. The Phase 1 buildout date was extended from December 31, 2019 to November 21, 2020. The Phase 2 buildout date was extended from December 31, 2023 to November 21, 2024.

On January 7, 2013, pursuant to F.S. 252.363 (Executive Orders for Tropical Storms Debby and Isaac), an extension was granted for one year and 121 days to all phase, buildout and expiration dates. The Phase 1 buildout date was extended from November 21, 2020 to March 22, 2022. The Phase 2 buildout date was extended from November 21, 2024 to March 22, 2026.

Staff has no objection to the revisions as the extensions have already been granted. The Development Order is simply being updated with this revision.

2. Update Transportation Conditions to reflect compliance with conditions contained therein.

a. Note Stipulation A.(12) as "complete".

A.(12) Center Ice Parkway is planned as a Collector Roadway to be extended to Lorraine Road and beyond to the east. The exact alignment has not yet been determined. Therefore, no Preliminary Site Plan may be approved for any development in those portions of Parcels G-5, G-6, G-7, G-9, H, or I set forth on Exhibit B identified as "Potential Center Ice Parkway Right of Way" until Manatee County has completed a Corridor Route Study for the extension of Center Ice Parkway. . Manatee County has estimated that it will complete the corridor study no later than May 31, 2008. In the event Manatee County does not complete the corridor study by May 31, 2008 Manatee County shall retain full authority to review and take action on the above-described PSP. The Lakewood Ranch Stewardship District, at its option, may conduct the Corridor Route Study. If this option is exercised, the Lakewood Ranch Stewardship District shall submit the completed study for the County to review at least 30 days prior to the May 31, 2008 deadline. (Completed)

The Developer shall be responsible for the construction of Center Ice Parkway to the eastern property line and the County shall be responsible beyond the property line, which may be constructed by the Developer pursuant to a reimbursement agreement.

The applicant proposes to note that Stipulation A.(12) has been completed. This stipulation limits approval of preliminary site plans in certain parcels, pending the completion of a corridor study for Center Ice Parkway, which is a planned collector roadway that will extend to Lorraine Road and beyond to the east. The corridor study was reviewed and approved by

Public Works staff in December, 2008.

b. Note that LDA 10-01 implements the applicant's proportionate fair share contributions for Phase 1 mitigation.

A.(13) Improvements made pursuant to a proportionate fair share mitigation ordinance adopted by Manatee County on November 7, 2006 shall satisfy the requirements for mitigation of the project Phase I transportation impacts. (LDA-10-01 implements the applicant's proportionate fair share contributions for Phase 1 mitigation.)

The applicant proposes to add language to Transportation Condition A.(13), noting that LDA 10-01 implements the applicant's proportionate fair share contributions for Phase 1 mitigation. The original Northwest Sector Development Order was approved on November 1, 2007. A Local Development Agreement (LDA-10-01) was entered into and approved on September 14, 2010.

Transportation Planning has no objection to the additional language.

3. Remove established minimums and maximums within the Land Use Equivalency Matrix and clarify procedures for a Land Use exchange.

A Land Use Equivalency Matrix has historically included a table showing the development totals along with minimum and maximum development potential for each category of development (i.e. residential, office, retail, hotel, etc.). These minima and maxima provide assurances that, at buildout, the development will retain a mix of uses. In this instance, the DRI was approved primarily as a residential development.

The applicant now requests to delete "Table 3: Minimum and Maximum Development" from the Development Order to allow more flexibility through the development process.

While this DRI is primarily residential, a limited number (350) of residential units are currently approved for multi-family development. By deleting the minimum and maximum thresholds from this DRI, the balance of unit types could trend toward a more balanced mix between single family detached and multi-family, with a potential reduction in total commercial and office floor area. A land use exchange request requires a revision to the General Development Plan, showing a revised Land Use and Phasing Schedule, reallocation of square footage, and concurrency analysis, in accordance with Stipulation E.(3). Staff will have the opportunity to review the appropriateness of the land use exchange. The revision to the GDP to utilize the land use exchange will require approval by the Board of County Commissioners at an advertised public hearing.

The applicant also proposes to revise language contained in Section 4.E.(2) regarding the procedures for requesting a Land Use Exchange, updating the language to be consistent with the LDC and Comprehensive Plan, as well as current departmental practices. They propose to delete the requirement for analysis of potable water and wastewater with the land use exchange, as a CLOS for each of those components is granted at time of Final Site Plan approval.

The applicant proposes the following language be amended in the Development Order under Section 4. Development Components, E (Development Totals):

Section 4.E.2

2. In seeking approval of a specific Land Use Exchange, the Developer* shall prepare a request which demonstrates that the impacts generated by the revised land use mix will not exceed the impacts for transportation, ~~potable water, wastewater treatment,~~ solid waste disposal, mass transit, drainage, and parks and recreation, which have been approved and authorized in the Certificate of Level of Service (CLOS) issued for that phase or subphase. The Developer* must apply for a modification to the CLOS and if the proposed Land Use Exchange results in impacts in excess of those previously approved, the Developer* may be granted approval for that excess only if, and when, capacity is available. However, reapplication shall not cause the Developer* to lose capacity already approved for the Project*. If the request for a Land Use Exchange is approved, a modified CLOS shall be issued to replace the previously approved CLOS. Any modification to the CLOS shall not extend the time for which such capacity is reserved, pursuant to the CLOS. At time of Final Site Plan approval, potable water, wastewater treatment, and schools shall be analyzed, and a CLOS will be issued for those concurrency components.

Section 4.E.4

4. Upon approval of a Land Use Exchange, County staff shall provide to the Florida Department of Economic Opportunity (DEO) and the Tampa Bay Regional Planning Council (TBRPC) a copy of said approval. ~~Each conversion request shall be submitted to the Tampa Bay Regional Planning Council and the Florida Department of Community Affairs for reviw and approval prior to consideration of approval by Manatee County. A maximum of two (2) conversion requests may be submitted within any calendar year.~~

5. The DRI biennial report shall include information indicating implementation of the matrix as well as cumulative amounts of development which have been approved by the County as of the biennial report date.

Section 4.G.

~~The following table documents the "minimums" and "maximums" associated with each of the project uses:~~

~~TABLE 3: MINIMUMS AND MAXIMUM DEVELOPMENT~~

~~LAND USE~~	~~SPECIFICALLY APPROVED AMT, (PHASE 1)~~	~~MINIMUM~~	~~MAXIMUM~~
~~Residential/Single Family~~	~~2,650 Units~~	~~1,590 Units~~	~~2,979 Units~~
~~Residential/Multi-Family~~	~~350 Units~~	~~210 Units~~	~~490 Units~~
~~Retail~~	~~200,000 Sq. Ft.~~	~~120,000 Sq. Ft.~~	~~280,000 Sq. Ft.~~
~~Office~~	~~105,000 Sq. Ft.~~	~~63,000 Sq. Ft.~~	~~147,000 Sq. Ft.~~
~~Assisted Living Facility~~	~~0 Beds~~	~~0 Beds~~	~~120 Beds~~

Staff does not object to the request to remove established minimums and maximums from the Land Use Equivalency Matrix.

4. Modify certain conditions consistent with current departmental practices.

The applicant proposes to modify certain stormwater conditions to be consistent with current practices regarding the operation and maintenance of the stormwater management system. Staff does not object to the request to delete Stipulation E(11)., because stormwater management systems are required to be inspected through the Southwest Florida Water Management District (SWFWMD)/Florida Department of Environmental Protection (FDEP) pursuant to applicable maintenance schedules or cycles. Since inspection of the stormwater management systems are conducted by a state agency, there is no need for redundancy by the local government.

E.(10) Prior to construction of individual parcels, or portions thereof, as shown on the General Development Plan, the applicant must provide a plan in conjunction with Preliminary or Final Site Plan submittal and approval detailing the operation and maintenance of the stormwater management system. The plan shall, at a minimum, identify the responsible entity, establish a long-term funding mechanism and provide assurance through written commitments that the entity in charge of the program has the technical expertise necessary to carry out the operation and maintenance functions of the stormwater management system. ~~The plan must be approved by Manatee County prior to the first PSP or FSP approval and implemented at construction. Failure to implement the approved plan requires the applicant to file a Notice of Proposed Change.~~

~~E.(11) The applicant or other responsible entities shall hire a licensed engineer to conduct annual inspections of the stormwater management systems on the project site to ensure that the system is being property maintained in keeping with its design, and is capable of accomplishing the level of stormwater storage and treatment for which it was designed and intended. Inspection results shall be included in each Biennial DRI Report.~~

Staff has no objection to the request.

5. Other amendments for internal consistency.

a. Other amendments to the Development Order are proposed reflecting department name changes and other minor changes.

Staff has no objection to the request.

Conclusion

Staff recommends approval of the amendments as shown in strike-thru/underline format in the attached ordinance.

ATTACHMENTS:

1. Ordinance 13-24
2. Copy of Newspaper Advertising

Tampa Bay Regional Planning Council

DOAR

Development Order Amendment Report
4000 Gateway Centre Boulevard, Suite 100, Pinellas Park, FL 33782
Phone (727) 570-5151 / FAX (727) 570-5118
www.tbrpc.org

DRI #216 - UNIVERSITY LAKES
MANATEE COUNTY

On January 7, 2013, Manatee County rendered Ordinance No. 12-34 to the Tampa Bay Regional Planning Council. The Ordinance reflects an amendment adopted by the Board of County Commissioners on December 6, 2012.

BACKGROUND

On June 1, 1992, the Manatee County Board of County Commissioners granted a Development Order (Ordinance No. 92-32) to Schroeder-Manatee, Inc. for a four-phase, 2,353-acre, multi-use development located east of I-75 and north of University Parkway in southern Manatee County. The Development Order initially granted specific approval for only Phase 1 and conceptual approval of all the other phases.

The Development Order has been previously amended a total of seven times, the latest occurred on October 16, 2007 (Ordinance No. 07-72). The modifications have cumulatively: extended the phase buildout dates and Development Order expiration date (to May 26, 2027); granted specific approval for all remaining phases; modified and moved entitlements and acreages between phases; authorized relocation of the Town Center to the east side of Lakewood Ranch Boulevard; amended select Development Order conditions regarding transportation and affordable housing; established February 22nd as the annual reporting date; amended the Land Use Equivalency Matrix language to recognize latest ITE generation rates; added a net 1,785.5 acres located directly east of the existing University Lakes DRI (east of Lorraine Rd.) with additional corresponding access points; reconfigured a portion of the internal roadway network; and associated Master Development Plan modifications. The Phase 2-4 buildout dates and Development Order expiration date were each extended by a period of four years & 326 days in association with the establishment of Subsection 380.06(19)(c)2., F.S. by the 2011 legislature and three Executive Orders enacted by the Governor during 2011. The Development Order now expires on August 5, 2032.

The following constitutes the approved phasing schedule:

LAND USE	PHASE 1 (9/13/2011)	PHASE 2 (8/05/2019)	PHASE 3 (8/05/2019)	PHASE 4 (8/05/2027)	TOTAL
RESIDENTIAL (Units)	**1,507**	**773**	**751**	**1,012**	**4,043**
(Single-Family Detached)	(970)	(361)	(450)	(434)	(2,215)
(Single-Family Attached)	(88)	(0)	(0)	(0)	(88)
(Multi-Family)	(449)	(412)	(301)	(578)	(1,740)
RETAIL (SQ. FT.)	**328,321**	**114,543**	**181,478**	**128,337**	**752,679**
(Neighborhood/Community)	(52,764)	(0)	(0)	(128,337)	(181,101)
(General)	(275,557)	(114,543)	(181,478)	(0)	(571,578)
(Highway)	(0)	(0)	(0)	(0)	(0)
INDUSTRIAL (SQ. FT.)	**0**	**0**	**18,603**	**0**	**18,603**

LAND USE	PHASE 1 (9/13/2011)	PHASE 2 (8/05/2019)	PHASE 3 (8/05/2019)	PHASE 4 (8/05/2027)	TOTAL
OFFICE (SQ. FT.)	**323,318**	**608,608**	**191,677**	**125,274**	**1,248,877**
HOTEL (ROOMS)	**215**	**0**	**0**	**405**	**620**
HOSPITAL (BEDS)	**0**	**150**	**0**	**0**	**150**

DEVELOPMENT ORDER AMENDMENT

The Ordinance authorized the following modifications to the Development Order:

- Recognized the prior revocation of a 1991 Development Agreement which had initially required the combining the University Lakes DRI (in Manatee County) and Lakewood Ranch Corporate Park DRI (in Sarasota County) in terms of a unified transportation analysis. The Amendment recognized the resultant revised transportation analysis and corresponding mitigation associated with only the University Lakes DRI;
- Modified Affordable Housing conditions to reflect current Manatee County procedures;
- Updated project's Development Components (Table 1) & Phasing Schedule (Table 2) to reflect previously approved and executed land use entitlement conversions;
- Updated Development Order verbiage to reflect previously completed requirements;
- Updated buildout and Development Order expiration dates to reflect previously granted extensions;
- Revised the "Maximum" amount of various Land Uses reflected in the Land Use Equivalency Matrix; and
- extended the frequency of reporting from "Annual" to "Biennial."

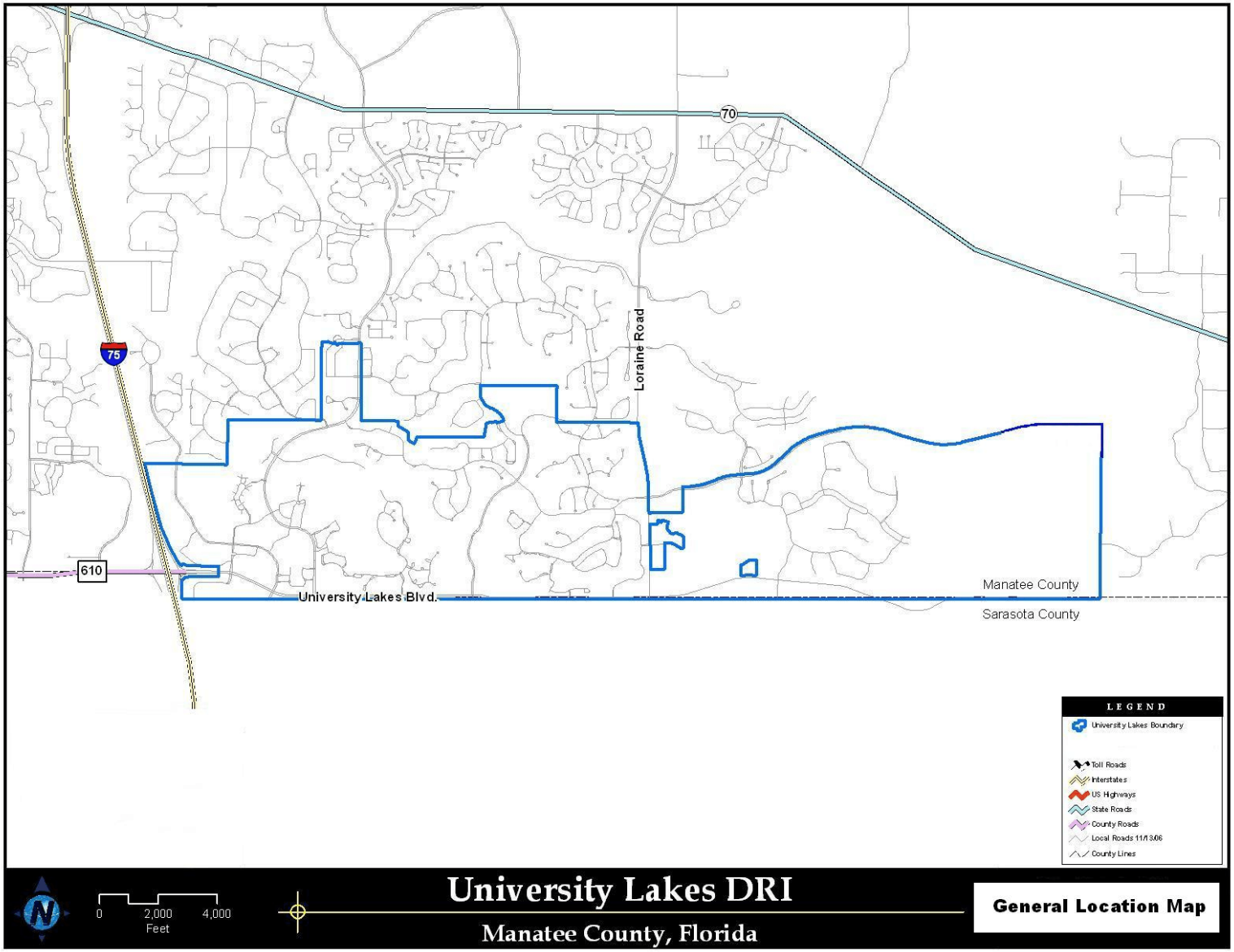
DISCUSSION

The aforementioned modifications to the Development Order were not processed through the typical Notice of Proposed Change process. Alternatively, by adopting the above-reference Amendment, Manatee County had determined that "*the proposed changes are* (were) *similar in nature, impact, or character to the changes enumerated in Subparagraphs 380.06(19)(e)2.a-j, F.S., and does not create the likelihood of any additional regional impact.*" Subsequently, Manatee County administratively incorporated the modifications into the Development Order.

FINDING

This Development Order Amendment Report has been prepared in accordance with provisions outlined in Section 380.07, F.S. By issuance of this Report, the Tampa Bay Regional Planning Council hereby finds that the referenced modifications do qualify as Section 380.06(19)(e)2., F.S. changes and, therefore, exempt from the Notice of Proposed Change process.

GENERAL LOCATION MAP



Florida Department of Transportation

RICK SCOTT
GOVERNOR

801 North Broadway Avenue
Bartow, FL 33830

OFFICE OF THE
SECRETARY

February 1, 2013

Mr. Ray Eubanks
Plan Processing Administrator
Department of Economic Opportunity
Caldwell Building
107 East Madison Street, MSC 160
Tallahassee, FL 32399

RE: Request for NOPC - University Lakes DRI

Mr. Eubanks,

The Department has received the proposed Development Order (DO) for the University Lakes DRI #22/ORD 12-34. In reviewing the proposed DO, the Department has identified a reduction in the transportation mitigation requirements from 34 projects to 1 project. This reduction in the mitigation is significant and may result in additional regional impacts. The Department has not received a traffic study to better understand how these changes impact the State Highway System and more particularly facilities on the Strategic Intermodal System. Considering the investments that the State is making with transportation improvements in this area, we have concerns the proposed DO will create additional regional transportation impacts.

It is the Department's position that amendments to the conditions of a DO which propose changes to the underlying assumptions, mitigation conditions, traffic methodology, recalculation of proportionate share and related monitoring do not qualify as an (e)2.k change and would need to be processed as an Notice of Proposed Change (NOPC). Alternatively, the local government could seek a determination from DEO that the change will not result in additional regional impacts pursuant to s. 380.06(19)(e)2.l. This position is consistent with DEO's interpretation (see attached).

Based on the above, the Department recommends that the proposed amendment to the DO be evaluated under the NOPC process. We look forward to working with the County, the developer and the Regional Planning Council to resolve this matter in a timely and mutually satisfactory manner.

Sincerely,

Rax Jung
Sr. Technical Analysis Coordinator
FDOT District One
Intermodal Systems Development

Cc: Lisa Barrett, Manatee County
Mr. John Meyer, Tampa Bay Regional Planning Council

Rick Scott
GOVERNOR

FLORIDA DEPARTMENT of ECONOMIC OPPORTUNITY

Hunting F. Deutsch
EXECUTIVE DIRECTOR

RECEIVED

AUG 24 2012

DEPARTMENT OF TRANSPORTATION
OFFICE OF POLICY PLANNING

August 22, 2012

Ms. Kathleen P. Toolan, Assistant General Counsel
Florida Department of Transportation
605 Suwannee Street
Tallahassee, Florida 32399-0450

Dear Kathleen:

I am responding to your letter of August 13, 2012, which was sent as a follow-up to our meeting in July. Your letter asks for clarification regarding the types of changes to an existing DRI development order that qualify as non-substantial changes pursuant to 380.06(19)(e)2.k, F.S. You note that with a couple of minor tweaks, we endorsed the position articulated in the letter to Tom Beck from Darrin Taylor dated April 24, 2012. In our response, we agreed that changes to a DRI that involve changes to numerical standards listed in 380.06(19)(b) and (c), F.S., that do not result in an increase in external peak hour trips or reduction in open space and conserved areas qualify as a non-substantial change and need not be processed through the NOPC process. However, changes related to non-numerical aspects of the development, such as additions of new land and extensions of build out dates, do not qualify under that provision, but could qualify under 380.06(19)(e)2.l., F.S. Darrin's letter specifically identifies those changes in the statute which would and would not qualify as an (e)2.k change.

I agree with your position that amendments to the conditions of a DO which propose changes to the underlying assumptions, mitigation conditions, traffic methodology, recalculation of proportionate share and related monitoring do not qualify as an (e)2.k change and would therefore either need to be processed as an NOPC or seek a determination from DEO that the change will not result in additional regional impacts pursuant to s. 380.06(19)(e)2.l.

I hope this letter adequately clarifies our position in this matter. I look forward to our continued cooperative and coordinated relationship in the implementation of the HB 979. Please do not hesitate to call me at 850-717-8499 or David Jordan at 850-717-8527 if we can be of further assistance.

Sincerely,

Mike McDaniel

Mike McDaniel, Chief
Office of Comprehensive Planning

cc: David Jordan, Department of Economic Opportunity
Maria Cahill, Florida Department of Transportation
Rob Magee, Florida Department of Transportation

Florida Department of Economic Opportunity | The Caldwell Building | 107 E. Madison Street | Tallahassee, FL | 32399-4120
866.FLA.2345 | 850.245.7105 | 850.921.3223 Fax | www.FloridaJobs.org | www.twitter.com/FLDEO | www.facebook.com/FLDEO

FUTURE LAND USE

Manatee County, FL

Future Land Use Districts

AG-R	MU	RES- 1	
ER	MU-C	RES- 3	
CITY	OL	RES- 6	
CON	OM	RES- 9	
IH	P/SP-1	RES- 16	
IL	P/SP-2	ROR	
IU	R-OS	UF- 3	
		ICR	

Overlay Districts

- Historical/Archaeological
- Peace River Watershed
- Manatee Watershed
- Evers Watershed
- Whitfield Residential
- Airport Impact
- Coastal Evacuation Area **(Hurricane Evac Zone A)**
- CHHA **(Coastal High Hazard Area)**

MAP UPDATED: MARCH 2016

N W E S

FUTURE DEVELOPMENT AREA BOUNDARY

Whitfield area

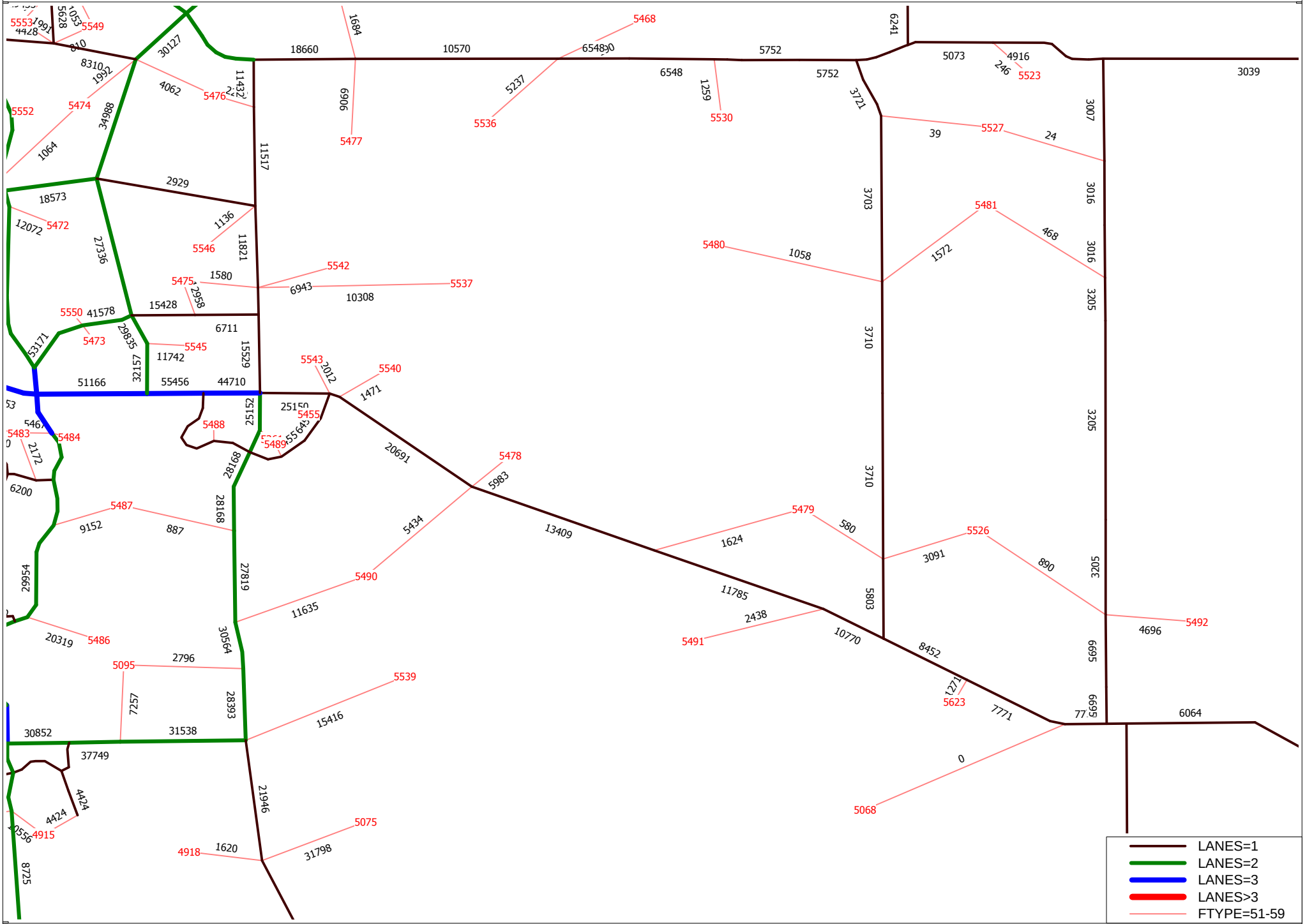
0 0.25 0.5 0.75 1 Miles

0 1 2 3 4 5 Miles

Appendix J

2040 Model Plots

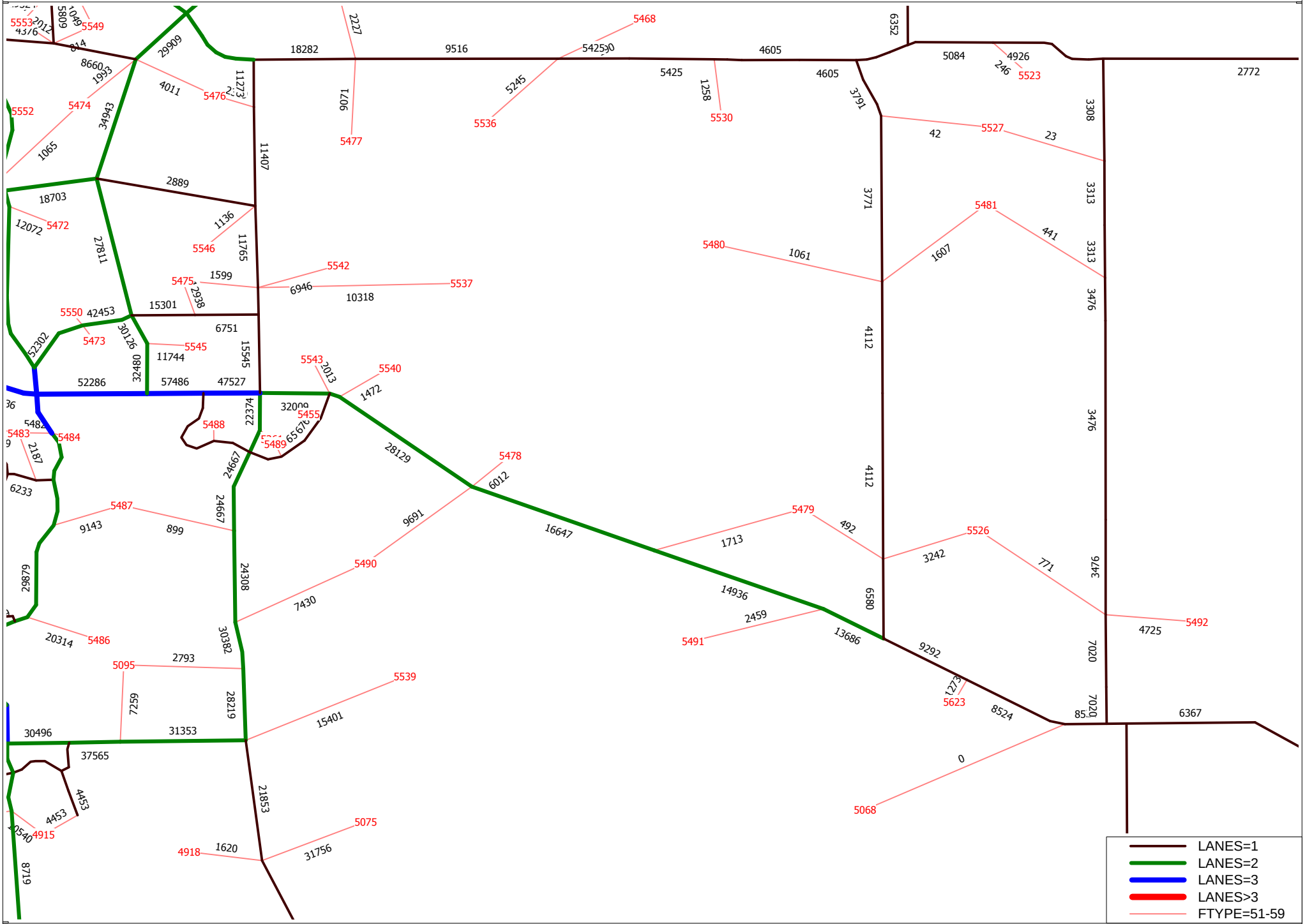
Year 2040 CF D1RPM_TOD - SR 70 Traffic Study (No-Build Scenario)
Total Traffic Volumes (PSWADT)



C:\FSUTMS\D1\D1RPM_v1.0.0\YR2010\CF_40A\SR70Y40\HWYLOAD_40A.NET

cube

Year 2040 CF D1RPM_TOD - SR 70 Traffic Study (Build Scenario)
Total Traffic Volumes (PSWADT)



C:\FSUTMS\D1\D1RPM_v1.0.0\YR2010\CF_40A\SR70Y40\HWYLOAD_40A.NET

cube

2010 Peak Season Factor Category Report - Report Type: ALL
Category: 1300 MANATEE COUNTYWIDE

MOCF: 0.92

Week	Dates	SF	PSCF
1	01/01/2010 - 01/02/2010	1.03	1.12
2	01/03/2010 - 01/09/2010	1.01	1.10
3	01/10/2010 - 01/16/2010	0.99	1.08
4	01/17/2010 - 01/23/2010	0.97	1.06
5	01/24/2010 - 01/30/2010	0.96	1.05
* 6	01/31/2010 - 02/06/2010	0.95	1.04
* 7	02/07/2010 - 02/13/2010	0.93	1.01
* 8	02/14/2010 - 02/20/2010	0.92	1.00
* 9	02/21/2010 - 02/27/2010	0.91	0.99
*10	02/28/2010 - 03/06/2010	0.91	0.99
*11	03/07/2010 - 03/13/2010	0.90	0.98
*12	03/14/2010 - 03/20/2010	0.89	0.97
*13	03/21/2010 - 03/27/2010	0.90	0.98
*14	03/28/2010 - 04/03/2010	0.91	0.99
*15	04/04/2010 - 04/10/2010	0.91	0.99
*16	04/11/2010 - 04/17/2010	0.92	1.00
*17	04/18/2010 - 04/24/2010	0.93	1.01
*18	04/25/2010 - 05/01/2010	0.94	1.03
19	05/02/2010 - 05/08/2010	0.96	1.05
20	05/09/2010 - 05/15/2010	0.97	1.06
21	05/16/2010 - 05/22/2010	0.98	1.07
22	05/23/2010 - 05/29/2010	1.00	1.09
23	05/30/2010 - 06/05/2010	1.01	1.10
24	06/06/2010 - 06/12/2010	1.02	1.11
25	06/13/2010 - 06/19/2010	1.03	1.12
26	06/20/2010 - 06/26/2010	1.05	1.15
27	06/27/2010 - 07/03/2010	1.07	1.17
28	07/04/2010 - 07/10/2010	1.08	1.18
29	07/11/2010 - 07/17/2010	1.10	1.20
30	07/18/2010 - 07/24/2010	1.11	1.21
31	07/25/2010 - 07/31/2010	1.11	1.21
32	08/01/2010 - 08/07/2010	1.12	1.22
33	08/08/2010 - 08/14/2010	1.13	1.23
34	08/15/2010 - 08/21/2010	1.13	1.23
35	08/22/2010 - 08/28/2010	1.13	1.23
36	08/29/2010 - 09/04/2010	1.13	1.23
37	09/05/2010 - 09/11/2010	1.14	1.24
38	09/12/2010 - 09/18/2010	1.14	1.24
39	09/19/2010 - 09/25/2010	1.11	1.21
40	09/26/2010 - 10/02/2010	1.09	1.19
41	10/03/2010 - 10/09/2010	1.06	1.16
42	10/10/2010 - 10/16/2010	1.03	1.12
43	10/17/2010 - 10/23/2010	1.03	1.12
44	10/24/2010 - 10/30/2010	1.03	1.12
45	10/31/2010 - 11/06/2010	1.02	1.11
46	11/07/2010 - 11/13/2010	1.02	1.11
47	11/14/2010 - 11/20/2010	1.01	1.10
48	11/21/2010 - 11/27/2010	1.02	1.11
49	11/28/2010 - 12/04/2010	1.02	1.11
50	12/05/2010 - 12/11/2010	1.03	1.12
51	12/12/2010 - 12/18/2010	1.03	1.12
52	12/19/2010 - 12/25/2010	1.01	1.10
53	12/26/2010 - 12/31/2010	0.99	1.08

* Peak Season

2010 Peak Season Factor Category Report - Report Type: ALL

Category: 1301 SR70,E OF US 41 & 301

MOCF: 0.94

Week	Dates	SF	PSCF
1	01/01/2010 - 01/02/2010	1.02	1.09
2	01/03/2010 - 01/09/2010	1.01	1.08
3	01/10/2010 - 01/16/2010	1.00	1.07
4	01/17/2010 - 01/23/2010	0.99	1.06
5	01/24/2010 - 01/30/2010	0.97	1.04
6	01/31/2010 - 02/06/2010	0.96	1.02
7	02/07/2010 - 02/13/2010	0.95	1.01
* 8	02/14/2010 - 02/20/2010	0.94	1.00
* 9	02/21/2010 - 02/27/2010	0.94	1.00
*10	02/28/2010 - 03/06/2010	0.94	1.00
*11	03/07/2010 - 03/13/2010	0.93	0.99
*12	03/14/2010 - 03/20/2010	0.93	0.99
*13	03/21/2010 - 03/27/2010	0.93	0.99
*14	03/28/2010 - 04/03/2010	0.93	0.99
*15	04/04/2010 - 04/10/2010	0.93	0.99
*16	04/11/2010 - 04/17/2010	0.93	0.99
*17	04/18/2010 - 04/24/2010	0.94	1.00
*18	04/25/2010 - 05/01/2010	0.94	1.00
*19	05/02/2010 - 05/08/2010	0.95	1.01
*20	05/09/2010 - 05/15/2010	0.95	1.01
21	05/16/2010 - 05/22/2010	0.97	1.04
22	05/23/2010 - 05/29/2010	0.99	1.06
23	05/30/2010 - 06/05/2010	1.01	1.08
24	06/06/2010 - 06/12/2010	1.03	1.10
25	06/13/2010 - 06/19/2010	1.04	1.11
26	06/20/2010 - 06/26/2010	1.07	1.14
27	06/27/2010 - 07/03/2010	1.10	1.17
28	07/04/2010 - 07/10/2010	1.13	1.21
29	07/11/2010 - 07/17/2010	1.16	1.24
30	07/18/2010 - 07/24/2010	1.15	1.23
31	07/25/2010 - 07/31/2010	1.14	1.22
32	08/01/2010 - 08/07/2010	1.13	1.21
33	08/08/2010 - 08/14/2010	1.12	1.20
34	08/15/2010 - 08/21/2010	1.11	1.18
35	08/22/2010 - 08/28/2010	1.10	1.17
36	08/29/2010 - 09/04/2010	1.08	1.15
37	09/05/2010 - 09/11/2010	1.07	1.14
38	09/12/2010 - 09/18/2010	1.05	1.12
39	09/19/2010 - 09/25/2010	1.03	1.10
40	09/26/2010 - 10/02/2010	1.01	1.08
41	10/03/2010 - 10/09/2010	0.98	1.05
42	10/10/2010 - 10/16/2010	0.96	1.02
43	10/17/2010 - 10/23/2010	0.97	1.04
44	10/24/2010 - 10/30/2010	0.97	1.04
45	10/31/2010 - 11/06/2010	0.97	1.04
46	11/07/2010 - 11/13/2010	0.97	1.04
47	11/14/2010 - 11/20/2010	0.98	1.05
48	11/21/2010 - 11/27/2010	0.99	1.06
49	11/28/2010 - 12/04/2010	1.00	1.07
50	12/05/2010 - 12/11/2010	1.01	1.08
51	12/12/2010 - 12/18/2010	1.02	1.09
52	12/19/2010 - 12/25/2010	1.01	1.08
53	12/26/2010 - 12/31/2010	1.00	1.07

* Peak Season

Appendix K

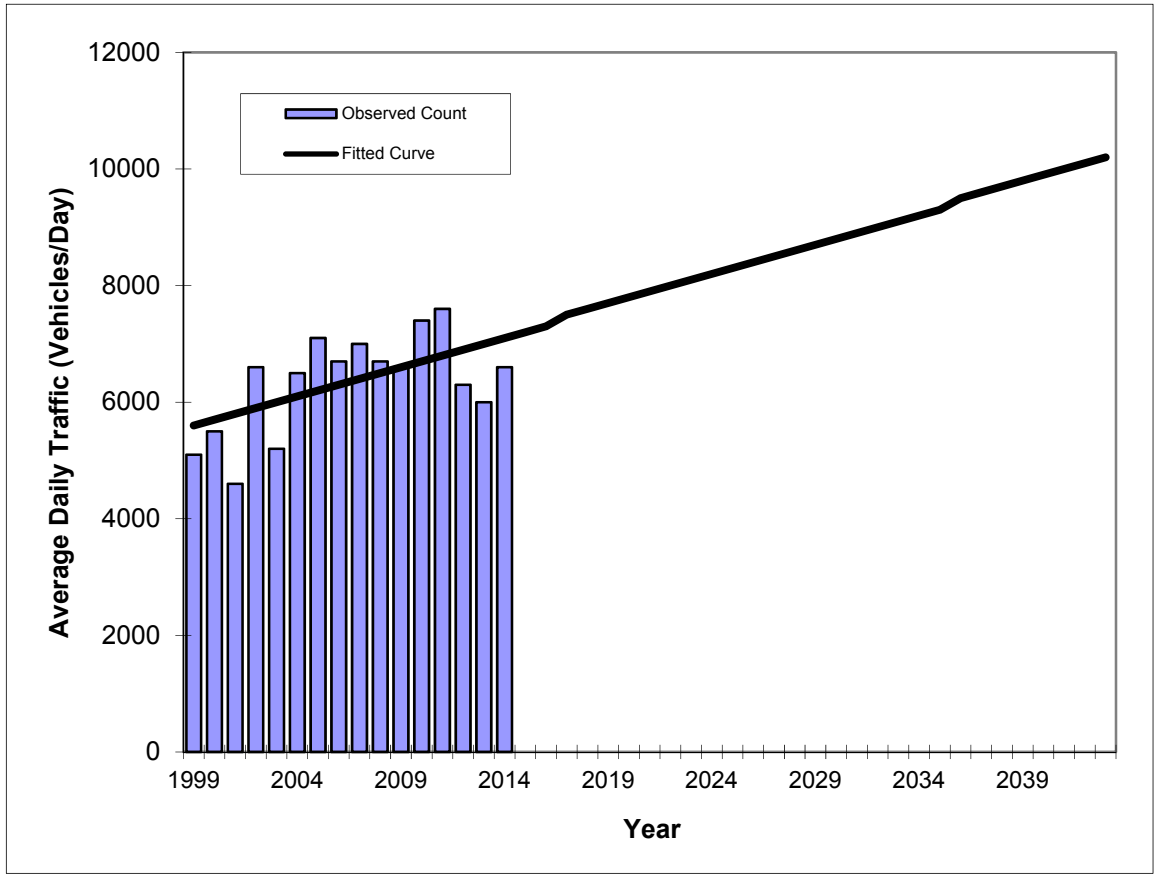
Trends Output Sheets

Traffic Trends - V3.0

SR 70, SOUTHEAST OF CR 675

FIN#	202080-1
Location	1

County:	Manatee (13)
Station #:	0030
Highway:	0



Year	Traffic (ADT/AADT) Count*	Trend**
1999	5100	5600
2000	5500	5700
2001	4600	5800
2002	6600	5900
2003	5200	6000
2004	6500	6100
2005	7100	6200
2006	6700	6300
2007	7000	6400
2008	6700	6500
2009	6600	6600
2010	7400	6700
2011	7600	6800
2012	6300	6900
2013	6000	7000
2014	6600	7100
2023 Opening Year Trend		
2023	N/A	8100
2033 Mid-Year Trend		
2033	N/A	9100
2043 Design Year Trend		
2043	N/A	10200
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	105
Trend R-squared:	34.68%
Trend Annual Historic Growth Rate:	1.79%
Trend Growth Rate (2014 to Design Year):	1.51%
Printed:	28-May-16

Straight Line Growth Option

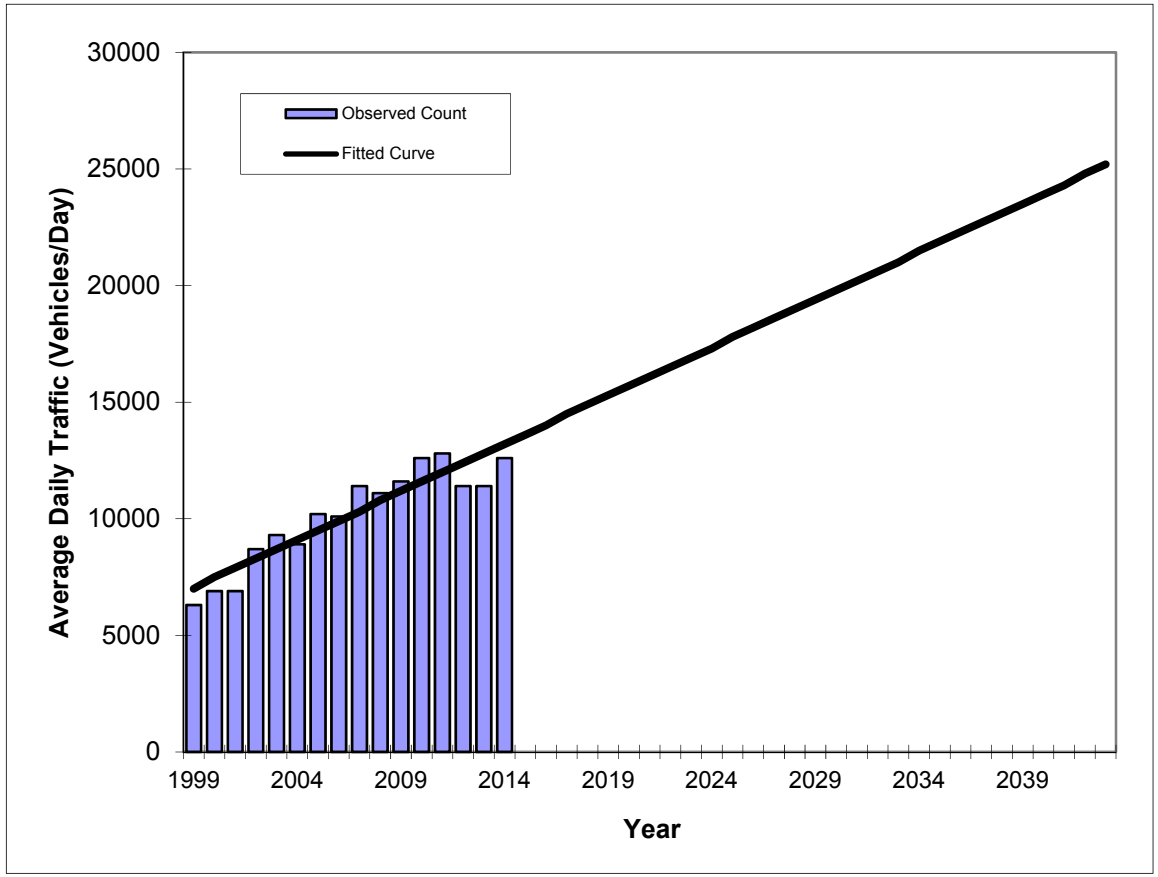
*Axle-Adjusted

Traffic Trends - V3.0

SR 70, EAST OF LORRAINE ROAD

FIN#	202080-1
Location	1

County:	Manatee (13)
Station #:	5082
Highway:	0



Year	Traffic (ADT/AADT) Count*	Trend**
1999	6300	7000
2000	6900	7500
2001	6900	7900
2002	8700	8300
2003	9300	8700
2004	8900	9100
2005	10200	9500
2006	10100	9900
2007	11400	10300
2008	11100	10800
2009	11600	11200
2010	12600	11600
2011	12800	12000
2012	11400	12400
2013	11400	12800
2014	12600	13200
2023 Opening Year Trend		
2023	N/A	16900
2033 Mid-Year Trend		
2033	N/A	21000
2043 Design Year Trend		
2043	N/A	25200
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	412
Trend R-squared:	85.97%
Trend Annual Historic Growth Rate:	5.90%
Trend Growth Rate (2014 to Design Year):	3.13%
Printed:	28-May-16

Straight Line Growth Option

*Axle-Adjusted

Appendix L

Population Projection Data (BEBR)

Projections of Florida Population by County, 2020–2045, with Estimates for 2015 (continued)

County and State	Estimates April 1, 2015	Projections, April 1					
		2020	2025	2030	2035	2040	2045
HOLMES	19,902						
Low		19,100	18,600	18,100	17,600	17,000	16,400
Medium		20,300	20,500	20,700	20,800	20,900	20,900
High		21,400	22,400	23,300	24,200	25,000	25,800
INDIAN RIVER	143,326						
Low		145,700	149,300	152,700	155,100	156,700	157,200
Medium		155,300	166,400	176,300	185,600	194,200	202,200
High		163,400	180,000	196,900	214,000	231,500	249,100
JACKSON	50,458						
Low		48,800	47,700	46,700	45,600	44,500	43,500
Medium		51,100	51,700	52,100	52,300	52,700	53,000
High		53,600	55,800	57,700	59,600	61,600	63,700
JEFFERSON	14,519						
Low		14,000	13,700	13,400	13,000	12,600	12,200
Medium		14,800	15,100	15,200	15,400	15,500	15,500
High		15,700	16,500	17,200	17,900	18,600	19,200
LAFAYETTE	8,664						
Low		8,500	8,500	8,400	8,400	8,300	8,100
Medium		9,100	9,600	9,900	10,300	10,600	11,000
High		9,700	10,500	11,300	12,100	13,000	13,900
LAKE	316,569						
Low		333,000	351,500	368,900	383,700	395,700	402,300
Medium		356,300	394,000	428,800	462,000	493,300	520,100
High		373,500	423,600	475,500	529,300	584,700	637,500
LEE	665,845						
Low		705,000	748,300	789,300	823,000	846,400	862,300
Medium		754,800	839,500	918,300	991,200	1,055,000	1,114,500
High		790,800	901,900	1,017,400	1,135,300	1,250,600	1,366,300
LEON	284,443						
Low		286,400	289,600	292,200	293,000	293,100	292,300
Medium		301,500	316,500	328,900	339,700	350,200	360,000
High		314,800	338,700	361,800	384,200	407,100	430,400
LEVY	40,448						
Low		40,400	40,700	41,000	41,000	41,000	40,700
Medium		42,500	44,300	45,900	47,200	48,500	49,600
High		44,400	47,600	50,600	53,700	56,700	59,600
LIBERTY	8,698						
Low		8,600	8,600	8,600	8,600	8,500	8,400
Medium		9,200	9,700	10,200	10,600	11,000	11,400
High		9,800	10,700	11,600	12,500	13,400	14,400
MADISON	19,200						
Low		18,200	17,600	17,100	16,500	16,000	15,400
Medium		19,300	19,400	19,500	19,500	19,600	19,700
High		20,500	21,200	22,000	22,700	23,500	24,300
MANATEE	349,334						
Low		361,100	374,500	385,800	393,400	398,800	402,800
Medium		385,700	418,700	447,200	472,700	496,900	520,900
High		405,000	451,400	497,300	542,700	589,300	638,100
MARION	341,205						
Low		352,600	365,600	378,000	388,300	396,800	403,000
Medium		372,300	401,100	427,100	451,400	474,400	495,600
High		387,700	427,600	468,000	509,100	551,200	593,300
MARTIN	150,062						
Low		150,800	152,000	153,100	153,400	153,100	151,900
Medium		158,700	165,600	171,400	176,600	181,100	184,900
High		165,800	177,700	189,200	200,600	211,700	222,200

Appendix M

TURNS5 Output Sheets

TURNS5 ANALYSIS SHEET - INPUT

Analyst:
Date: 27-Jul-16
Highway: SR 70
Intersection: Lorraine Road
Project: SR 70 DTTM
County: Manatee

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

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

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

K Factors	Mainline
	9.50%
	Side street
	9.50%

D Factors	*Mainline*
Westbound (WB)	60.5%
Eastbound (EB)	39.5%
	Side street
Northbound (NB)	44.1%
Southbound (SB)	55.9%

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

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

Enter Year and Growth Rates from Base Year:

	Year	*Rate* (1.0% = 0.01) Mainline	Side Street
Base	2016		
Opening	2023	4.00%	4.00%
Mid	2033		
Design	2043		

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

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

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

From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
22000	15000	6600	10000	53600

Enter Project and Model Years

	Year
Base	2016
Opening	2023
Mid	2033
Design	2043
Model	2043

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

	From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
2016	22000	15000	6600	10000	53600
2043	46000	25000	16000	25000	112000

		1st Guess Turning %'s for AADT Balancing	**Actual/Counted Traffic for 2016**
(EB LT)	*West-to-North*	15.4%	132
(EB THRU)	*West-to-East*	42.1%	361
(EB RT)	*West-to-South*	42.5%	365
(WB LT)	*East-to-South*	21.5%	127
(WB THRU)	*East-to-West*	72.1%	425
(WB RT)	*East-to-North*	6.4%	38
(SB LT)	*North-to-East*	18.1%	92
(SB THRU)	*North-to-South*	67.3%	342
(SB RT)	*North-to-West*	14.6%	74
(NB LT)	*South-to-West*	60.2%	400
(NB THRU)	*South-to-North*	30.3%	201
(NB RT)	*South-to-East*	9.5%	63

Desired Closure: 2.00

First Guess Turning % Option Used
Existing Turning Movement Counts

Existing Year AADTs

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

Existing Turning Movement Counts

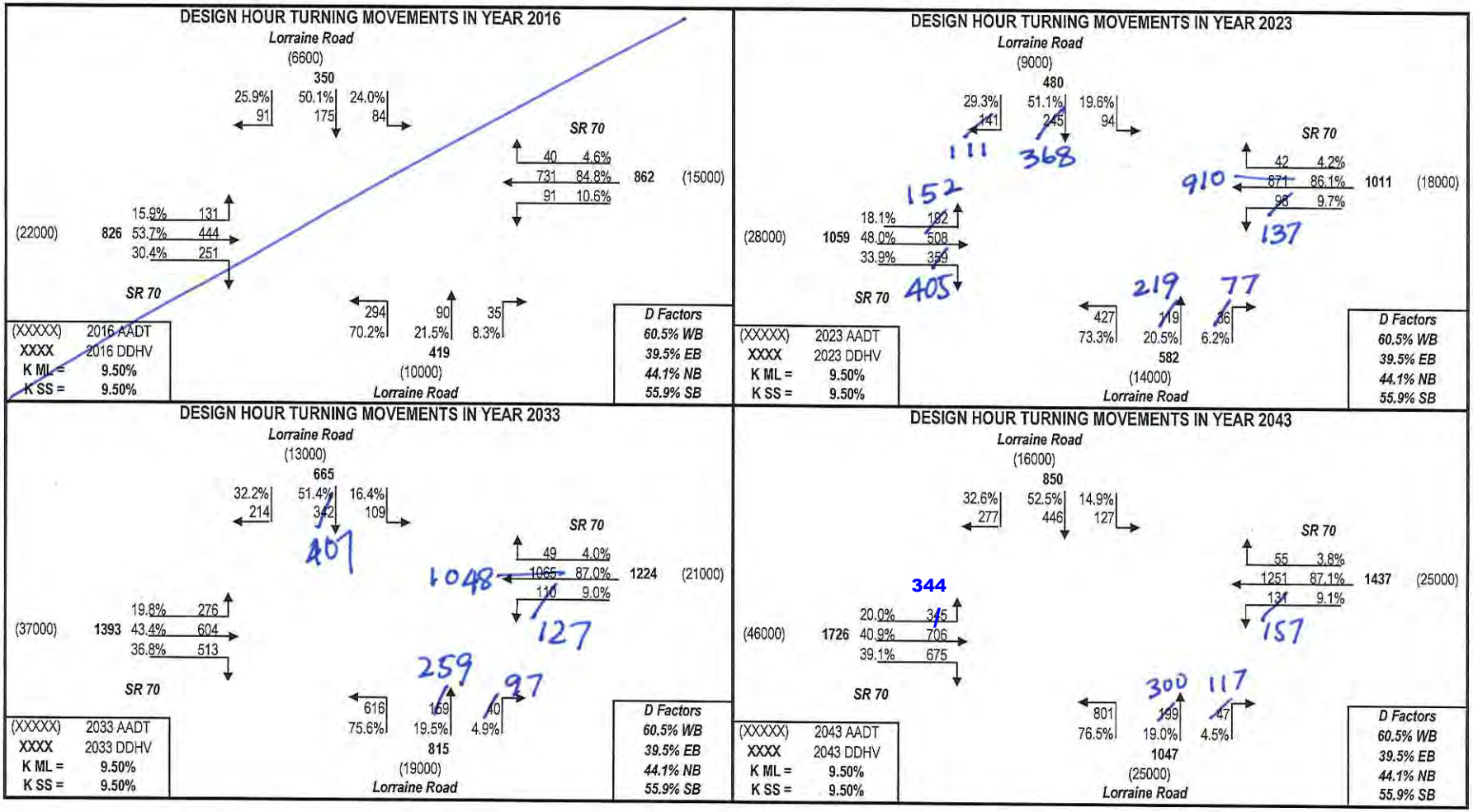
The turning percentages first guess is the same as the ***actual distribution of turning volumes entered***. No balancing technique is used.

FSUTMS Model Year AADTs

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

AM NB

PROJECT TRAFFIC FOR SR 70 AT Lorraine Road



AM NB

TURNS5 ANALYSIS SHEET - INPUT

Analyst:
Date: 27-Jul-16
Highway: SR 70
Intersection: Greenbrook Blvd-Post Blvd
Project: SR 70 DTTM
County: Manatee

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

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

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

K Factors	Mainline
	9.50%
	Side street
	9.50%

D Factors	*Mainline*
Westbound (WB)	60.5%
Eastbound (EB)	39.5%
	Side street
Northbound (NB)	57.5%
Southbound (SB)	42.5%

Do you have FTSUTMS Model Year traffic from which you would like to interpolate/extrapolate for project years? (Y/N)

Enter Yes or No
- (●) Yes
- ( ) No

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

Enter Year and Growth Rates from Base Year:

	Year	*Rate* (1.0% = 0.01) Mainline	Side Street
Base	2016		
Opening	2023		
Mid	2033	2.54%	0.60%
Design	2043		

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

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

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

From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
15000	13000	1500	2600	32100

Enter Project and Model Years

	Year
Base	2016
Opening	2023
Mid	2033
Design	2043
Model	2043

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

	From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
2016	15000	13000	1500	2600	32100
2043	25000	22000	1700	3000	51700

First Guess Turning % Option Used
Existing Turning Movement Counts

		1st Guess Turning %'s for AADT Balancing	**Actual/Counted Traffic for 2016**
(EB LT)	*West-to-North*	2.7%	12
(EB THRU)	*West-to-East*	86.6%	379
(EB RT)	*West-to-South*	10.7%	47
(WB LT)	*East-to-South*	8.2%	57
(WB THRU)	*East-to-West*	91.5%	636
(WB RT)	*East-to-North*	0.3%	2
(SB LT)	*North-to-East*	36.7%	11
(SB THRU)	*North-to-South*	30.0%	9
(SB RT)	*North-to-West*	33.3%	10
(NB LT)	*South-to-West*	85.8%	103
(NB THRU)	*South-to-North*	1.7%	2
(NB RT)	*South-to-East*	12.5%	15

Desired Closure: 0.05

Existing Year AADTs

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

Existing Turning Movement Counts

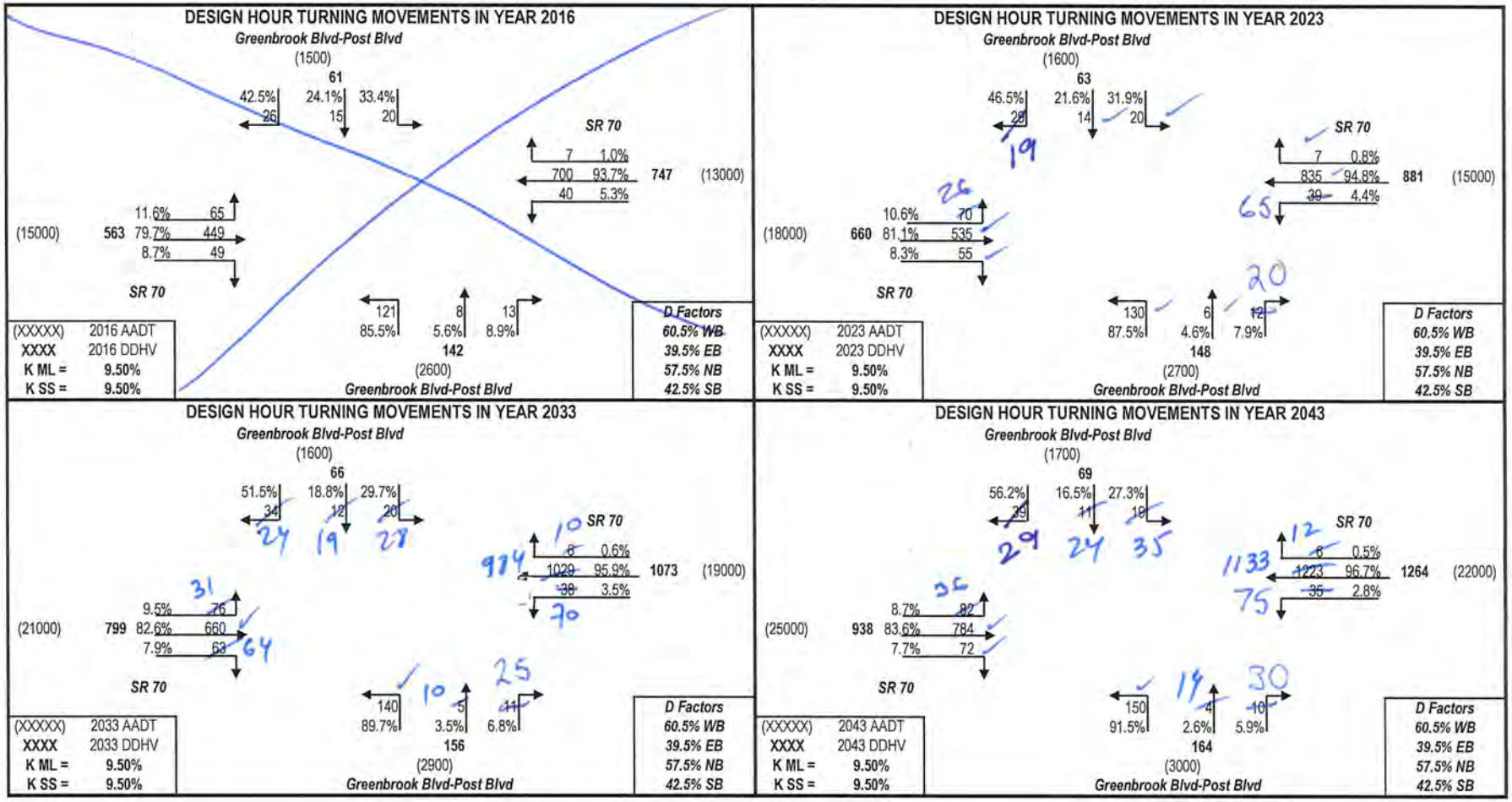
The turning percentages first guess is the same as the ***actual distribution of turning volumes entered***. No balancing technique is used.

FSUTMS Model Year AADTs

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

AM NB

PROJECT TRAFFIC FOR SR 70 AT Greenbrook Blvd-Post Blvd



TURNS5 ANALYSIS SHEET - INPUT

Analyst:
Date: 10-Aug-16
Highway: SR 70
Intersection: Del Webb Blvd
Project: SR 70 DTTM
County: Manatee

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

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

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

K Factors	Mainline
	9.50%
	Side street
	9.50%

D Factors	*Mainline*
Westbound (WB)	60.5%
Eastbound (EB)	39.5%
	Side street
Northbound (NB)	60.0%
Southbound (SB)	0.0%

Do you have FTSUTMS Model Year traffic from which you would like to interpolate/extrapolate for project years? (Y/N)

Enter Yes or No ◉ Yes ○ No

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

Enter Year and Growth Rates from Base Year:

	Year	*Rate* (1.0% = 0.01) Mainline	Side Street
Base	2016		
Opening	2023	0.60%	0.60%
Mid	2033		
Design	2043		

Mainline Growth Function: ◉ Linear ○ Exponential ○ Decaying

Side Street Growth Function: ◉ Linear ○ Exponential ○ Decaying

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

From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
10000	9600	60	0	19660

Enter Project and Model Years

	Year
Base	2016
Opening	2023
Mid	2033
Design	2043
Model	2043

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

	From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
2016	13000	11000	0	1500	25500
2043	22000	18000	0	5000	45000

		1st Guess Turning %'s for AADT Balancing	**Actual/Counted Traffic for 2016**
(EB LT)	*West-to-North*	0.0%	0
(EB THRU)	*West-to-East*	78.0%	550
(EB RT)	*West-to-South*	22.0%	0
(WB LT)	*East-to-South*	13.1%	0
(WB THRU)	*East-to-West*	86.9%	295
(WB RT)	*East-to-North*	0.0%	0
(SB LT)	*North-to-East*	0.0%	0
(SB THRU)	*North-to-South*	0.0%	0
(SB RT)	*North-to-West*	0.0%	0
(NB LT)	*South-to-West*	65.2%	0
(NB THRU)	*South-to-North*	0.0%	0
(NB RT)	*South-to-East*	34.8%	0

Desired Closure: 5.00

Existing Year AADTs

Existing Turning Movement Counts

FSUTMS Model Year AADTs

First Guess Turning % Option Used
FSUTMS Model Year AADTs

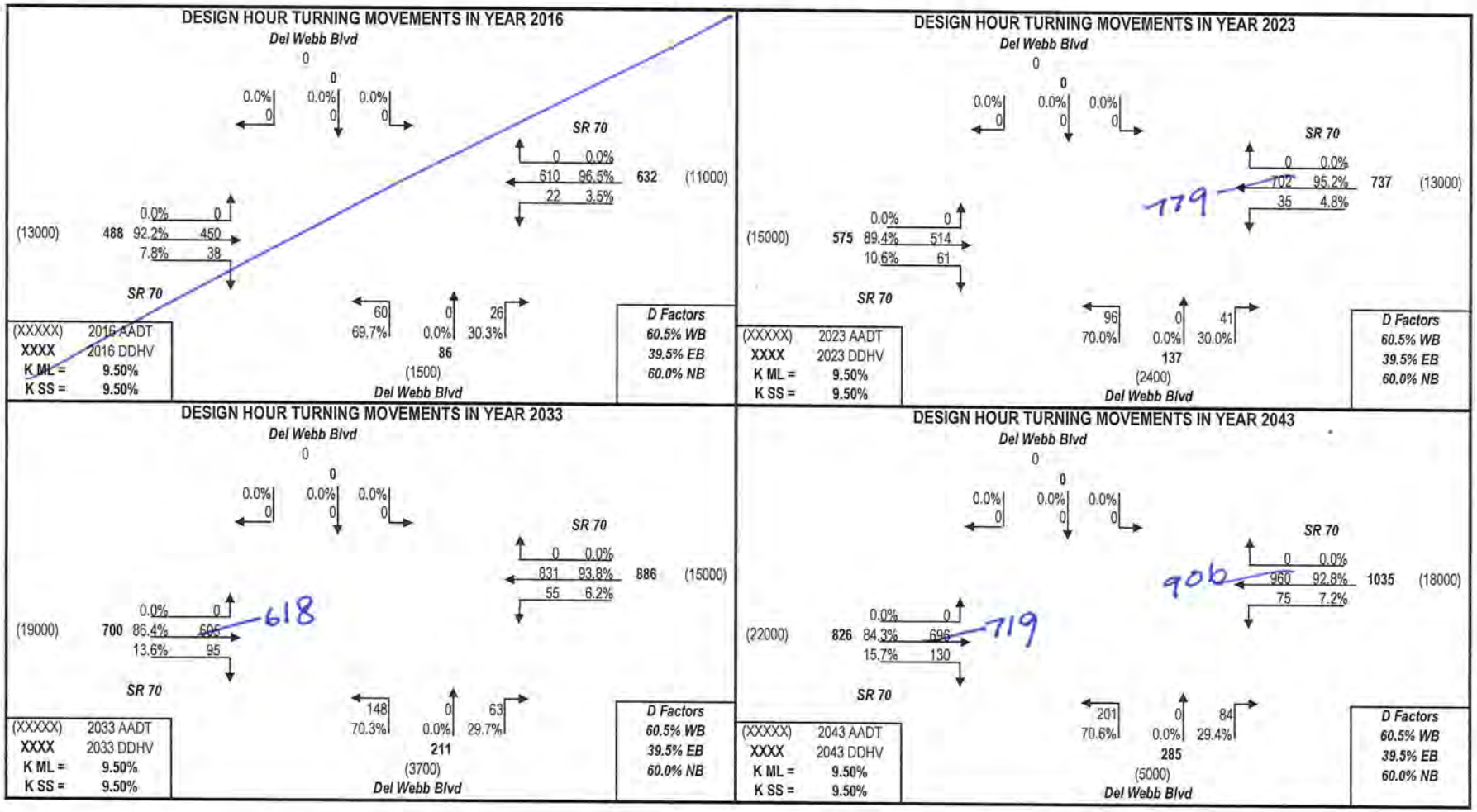
Only the existing year total departure volumes [AADT*K*(1-D)] will be used to calculate the turning percentages first guess.

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

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

PROJECT TRAFFIC FOR SR 70 AT Del Webb Blvd

AM NB



AM NB

TURNS5 ANALYSIS SHEET - INPUT

Analyst:
Date: 27-Jul-16
Highway: SR 70
Intersection: Lindrick Ln-197th St E
Project: SR 70 DTTM
County: Manatee

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

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

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

K Factors	Mainline
	9.50%
	Side street
	9.50%

D Factors	*Mainline*
Westbound (WB)	60.5%
Eastbound (EB)	39.5%
	Side street
Northbound (NB)	23.4%
Southbound (SB)	76.6%

Do you have FTSUTMS Model Year traffic from which you would like to interpolate/extrapolate for project years? (Y/N)

Enter Yes or No
- (●) Yes
- ( ) No

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

Enter Year and Growth Rates from Base Year:

	Year	*Rate* (1.0% = 0.01) Mainline	Side Street
Base	2016		
Opening	2023	0.60%	0.60%
Mid	2033		
Design	2043		

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

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

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

From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
13000	11000	1100	1500	26600

Enter Project and Model Years

	Year
Base	2016
Opening	2023
Mid	2033
Design	2043
Model	2043

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

	From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
2016	13000	11000	1100	1500	26600
2043	15000	13000	1300	1700	31000

		1st Guess Turning %'s for AADT Balancing	**Actual/Counted Traffic for 2016**
(EB LT)	*West-to-North*	6.2%	20
(EB THRU)	*West-to-East*	74.7%	243
(EB RT)	*West-to-South*	19.1%	62
(WB LT)	*East-to-South*	1.1%	7
(WB THRU)	*East-to-West*	98.9%	635
(WB RT)	*East-to-North*	0.0%	0
(SB LT)	*North-to-East*	2.8%	2
(SB THRU)	*North-to-South*	2.8%	2
(SB RT)	*North-to-West*	94.4%	68
(NB LT)	*South-to-West*	87.1%	27
(NB THRU)	*South-to-North*	0.0%	0
(NB RT)	*South-to-East*	12.9%	4

Desired Closure: 1.00

Existing Year AADTs

Existing Turning Movement Counts

FSUTMS Model Year AADTs

First Guess Turning % Option Used
Existing Turning Movement Counts

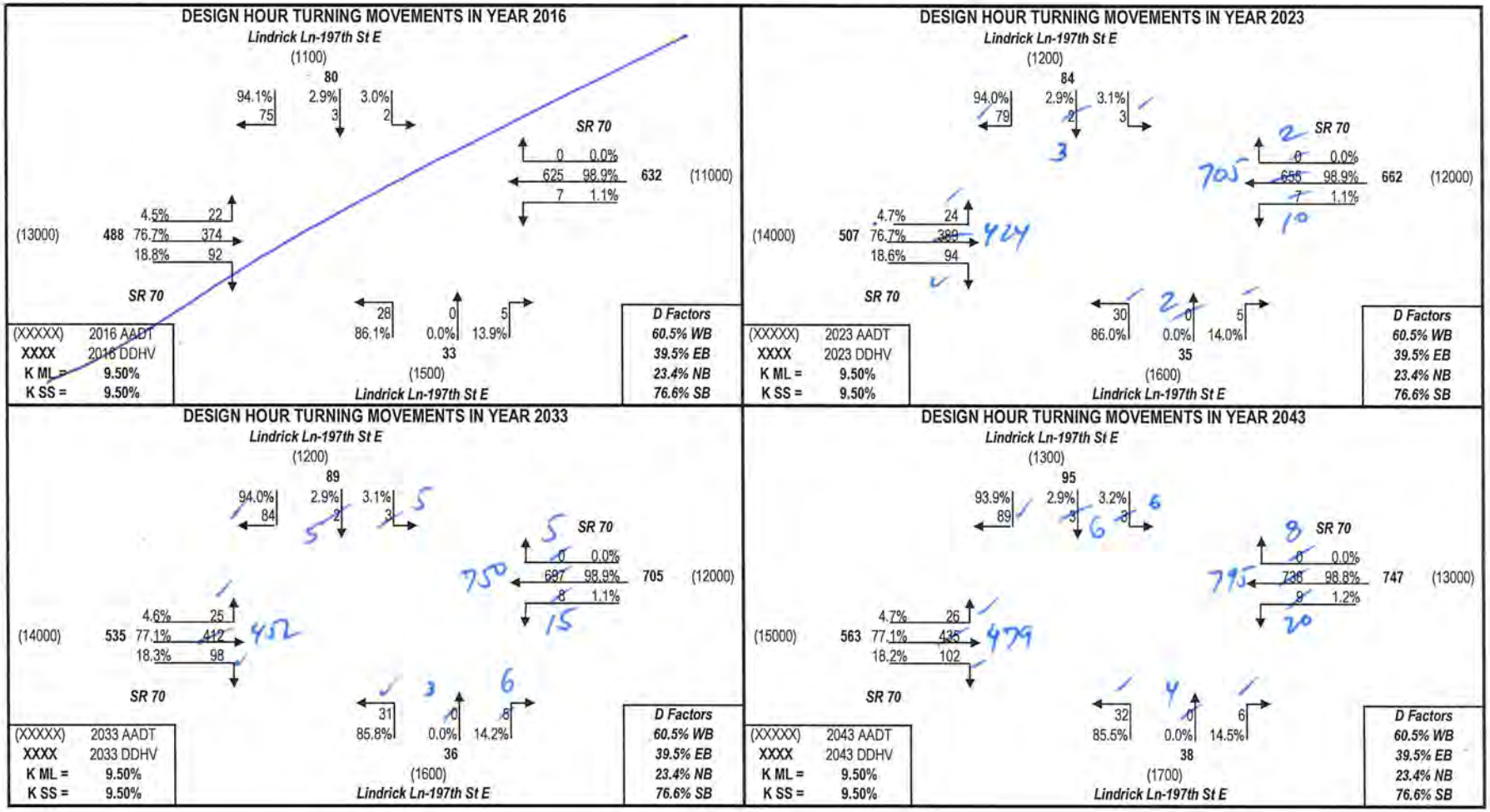
Only the existing year total departure volumes [AADT*K*(1-D)] will be used to calculate the turning percentages first guess.

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

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

AM NB

PROJECT TRAFFIC FOR SR 70 AT Lindrick Ln-197th St E



AM NB

TURNS5 ANALYSIS SHEET - INPUT

Analyst:
Date: 28-Jul-16
Highway: SR 70
Intersection: 213th St E
Project: SR 70 DTTM
County: Manatee

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

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

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

K Factors	Mainline
	9.50%
	Side street
	9.50%

D Factors	*Mainline*
Westbound (WB)	60.5%
Eastbound (EB)	39.5%
	Side street
Northbound (NB)	73.5%
Southbound (SB)	0.0%

Do you have FTSUTMS Model Year traffic from which you would like to interpolate/extrapolate for project years? (Y/N)

Enter Yes or No
- ◉ Yes
- ○ No

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

Enter Year and Growth Rates from Base Year:

	Year	*Rate* (1.0% = 0.01) Mainline	Side Street
Base	2016		
Opening	2023	0.60%	0.60%
Mid	2033		
Design	2043		

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

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

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

From West: *EB Approach*	*From East:* *WB Approach*	*From North:* *SB Approach*	*From South:* *NB Approach*	***TOTAL***
11000	10000	0	310	21310

Enter Project and Model Years

	Year
Base	2016
Opening	2023
Mid	2033
Design	2043
Model	2043

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

	From West: *EB Approach*	*From East:* *WB Approach*	*From North:* *SB Approach*	*From South:* *NB Approach*	***TOTAL***
2016	11000	10000	0	310	21310
2043	13000	12000	0	360	25360

		1st Guess Turning %'s for AADT Balancing	**Actual/Counted Traffic for 2016**
(EB LT)	*West-to-North*	0.0%	0
(EB THRU)	*West-to-East*	97.6%	245
(EB RT)	*West-to-South*	2.4%	6
(WB LT)	*East-to-South*	0.2%	1
(WB THRU)	*East-to-West*	99.8%	617
(WB RT)	*East-to-North*	0.0%	0
(SB LT)	*North-to-East*	0.0%	0
(SB THRU)	*North-to-South*	0.0%	0
(SB RT)	*North-to-West*	0.0%	0
(NB LT)	*South-to-West*	85.0%	17
(NB THRU)	*South-to-North*	0.0%	0
(NB RT)	*South-to-East*	15.0%	3

Desired Closure: 2.00

Existing Year AADTs

Existing Turning Movement Counts

FSUTMS Model Year AADTs

First Guess Turning % Option Used
Existing Turning Movement Counts

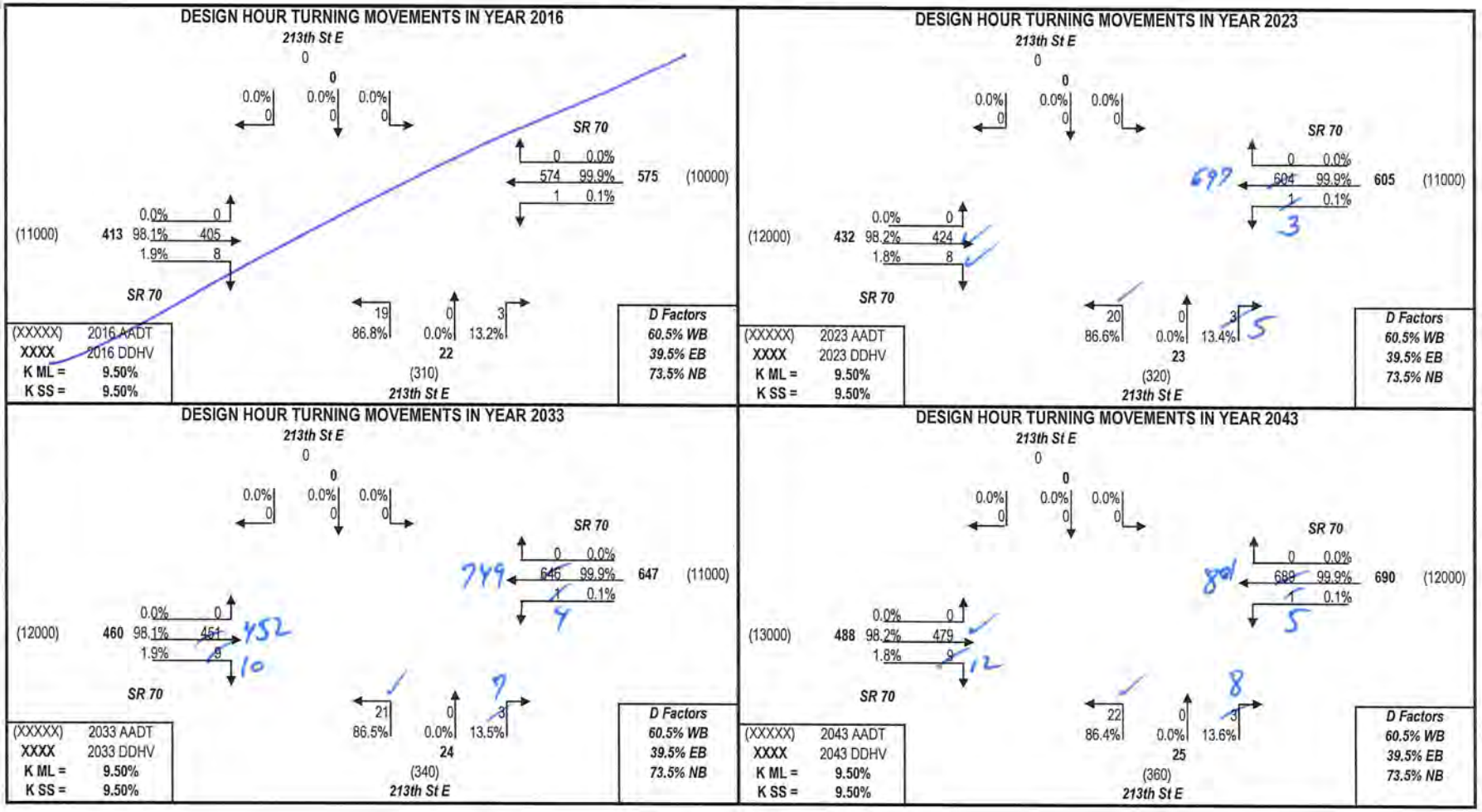
Only the existing year total departure volumes [AADT*K*(1-D)] will be used to calculate the turning percentages first guess.

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

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

AM NB

PROJECT TRAFFIC FOR SR 70 AT 213th St E



AM NB

TURNS5 ANALYSIS SHEET - INPUT

Analyst:
Date: 28-Jul-16
Highway: SR 70
Intersection: Treeumph Adventure Park Entrance
Project: SR 70 DTTM
County: Manatee

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

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

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

K Factors	Mainline
	9.50%
	Side street
	9.50%

D Factors	*Mainline*
Westbound (WB)	60.5%
Eastbound (EB)	39.5%
	Side street
Northbound (NB)	0.0%
Southbound (SB)	10.0%

Do you have FTSUTMS Model Year traffic from which you would like to interpolate/extrapolate for project years? (Y/N)

Enter Yes or No
- ◉ Yes
- ○ No

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

Enter Year and Growth Rates from Base Year:

	Year	*Rate* (1.0% = 0.01) Mainline	Side Street
Base	2016		
Opening	2023	0.60%	0.60%
Mid	2033		
Design	2043		

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

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

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

From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
10000	9600	60	0	19660

Enter Project and Model Years

	Year
Base	2016
Opening	2023
Mid	2033
Design	2043
Model	2043

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

	From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
2016	10000	9600	60	0	19660
2043	12000	12000	70	0	24070

First Guess Turning % Option Used
Existing Turning Movement Counts

		1st Guess Turning %'s for AADT Balancing	**Actual/Counted Traffic for 2016**
(EB LT)	*West-to-North*	2.8%	7
(EB THRU)	*West-to-East*	97.2%	240
(EB RT)	*West-to-South*	0.0%	0
(WB LT)	*East-to-South*	0.0%	0
(WB THRU)	*East-to-West*	99.8%	614
(WB RT)	*East-to-North*	0.2%	1
(SB LT)	*North-to-East*	0.0%	0
(SB THRU)	*North-to-South*	0.0%	0
(SB RT)	*North-to-West*	100.0%	2
(NB LT)	*South-to-West*	0.0%	0
(NB THRU)	*South-to-North*	0.0%	0
(NB RT)	*South-to-East*	0.0%	0

Desired Closure: 1.00

Existing Year AADTs

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

Existing Turning Movement Counts

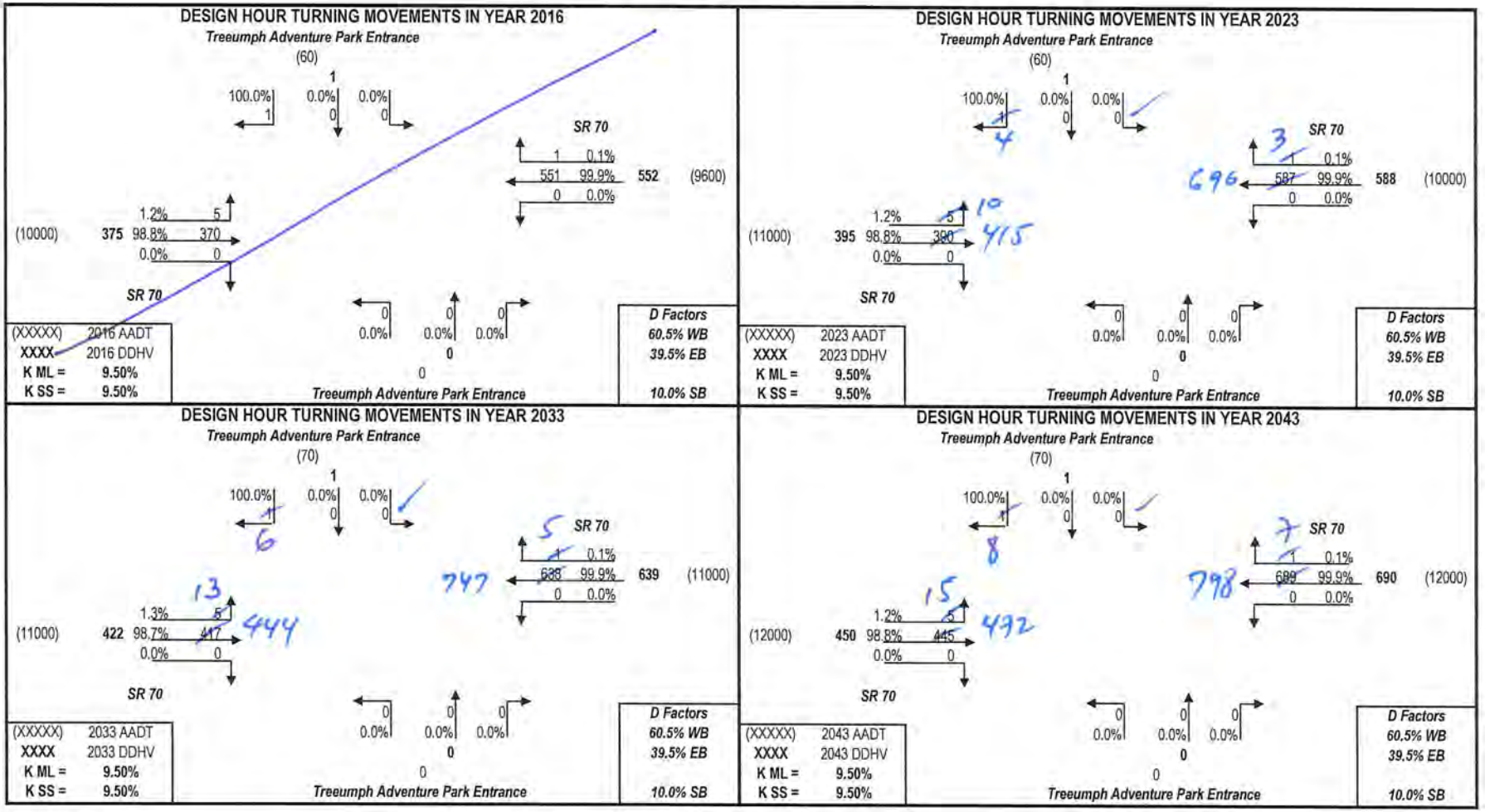
The turning percentages first guess is the same as the ***actual distribution of turning volumes entered***. No balancing technique is used.

FSUTMS Model Year AADTs

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

AM NB

PROJECT TRAFFIC FOR SR 70 AT Treeumph Adventure Park Entrance



TURNS5 ANALYSIS SHEET - INPUT

Analyst:
Date: 27-Jul-16
Highway: SR 70
Intersection: 225th St E
Project: SR 70 DTTM
County: Manatee

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

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

K Factors	Mainline
	9.50%
	Side street
	9.50%

D Factors	*Mainline*
Westbound (WB)	60.5%
Eastbound (EB)	39.5%
	Side street
Northbound (NB)	63.4%
Southbound (SB)	36.6%

Do you have FTSUTMS Model Year traffic from which you would like to interpolate/extrapolate for project years? (Y/N)

Enter Yes or No ◉ Yes ○ No

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

Enter Year and Growth Rates from Base Year:

Rate (1.0% = 0.01)

	Year	**Mainline**	**Side Street**
Base	2016		
Opening	2023		
Mid	2033	0.60%	0.60%
Design	2043		

Mainline Growth Function: ◉ Linear ○ Exponential ○ Decaying

Side Street Growth Function: ◉ Linear ○ Exponential ○ Decaying

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

From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
10000	9600	200	810	20610

Enter Project and Model Years

	Year
Base	2016
Opening	2023
Mid	2033
Design	2043
Model	2043

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

	From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
2016	10000	9600	200	810	20610
2043	12000	11000	230	940	24170

First Guess Turning % Option Used
Existing Turning Movement Counts

		1st Guess Turning %'s for AADT Balancing	**Actual/Counted Traffic for 2016**	
(EB LT)	*West-to-North*	1.3%	3	Existing Year AADTs
(EB THRU)	*West-to-East*	93.7%	225	
(EB RT)	*West-to-South*	5.0%	12	
(WB LT)	*East-to-South*	0.2%	1	
(WB THRU)	*East-to-West*	99.4%	547	
(WB RT)	*East-to-North*	0.4%	2	
(SB LT)	*North-to-East*	22.7%	5	Existing Turning Movement Counts
(SB THRU)	*North-to-South*	4.6%	1	
(SB RT)	*North-to-West*	72.7%	16	
(NB LT)	*South-to-West*	96.4%	53	
(NB THRU)	*South-to-North*	0.0%	0	FSUTMS Model Year AADTs
(NB RT)	*South-to-East*	3.6%	2	

Desired Closure: 0.01

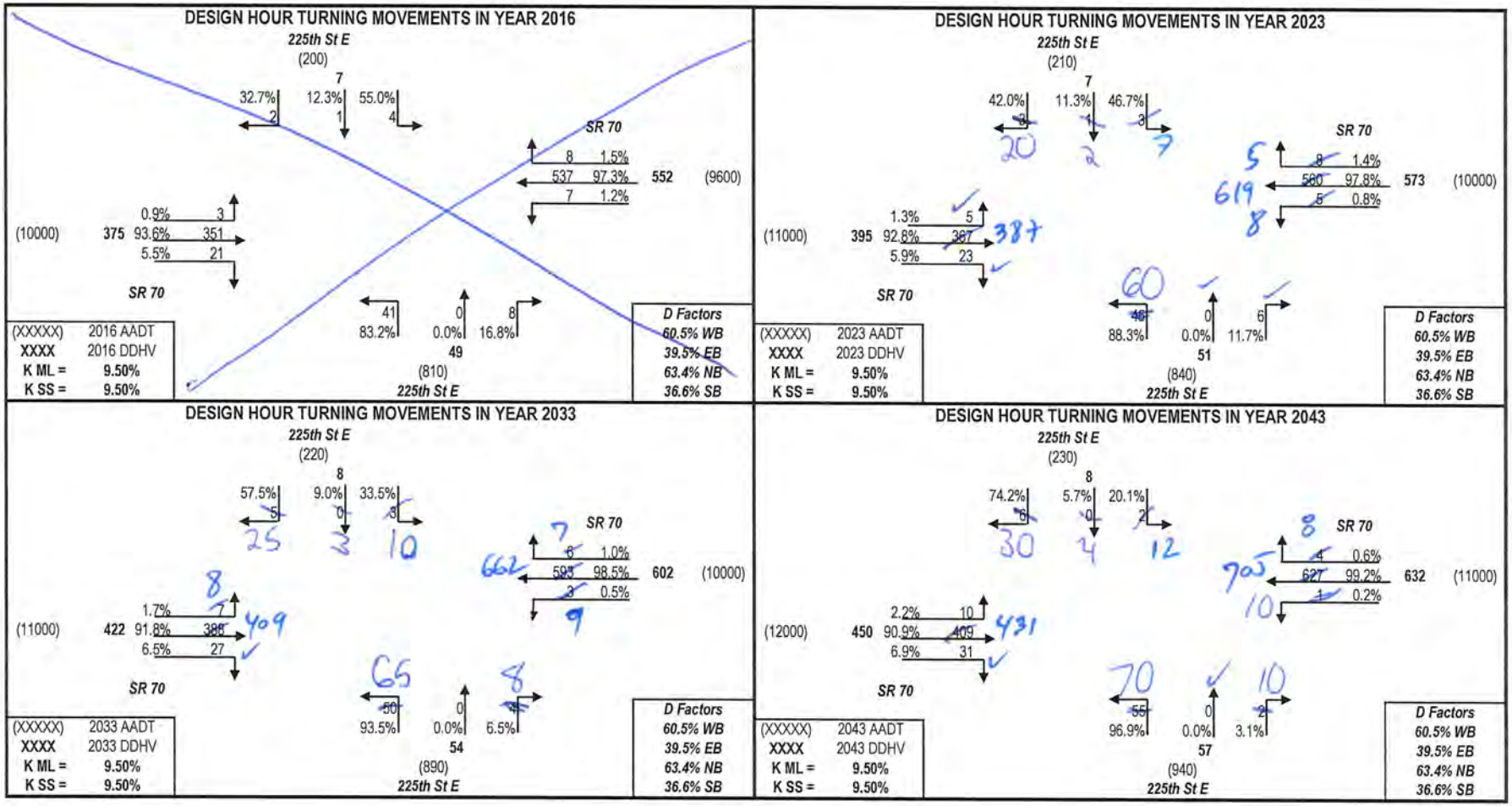
Only the existing year total departure volumes [AADT*K*(1-D)] will be used to calculate the turning percentages first guess.

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

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

AM NB

PROJECT TRAFFIC FOR SR 70 AT 225th St E



AM NB

TURNS5 ANALYSIS SHEET - INPUT

Analyst:
Date: 27-Jul-16
Highway: SR 70
Intersection: Meadow Dove Ln-CR 675
Project: SR 70 DTTM
County: Manatee

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

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

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

K Factors	Mainline
	9.50%
	Side street
	9.50%

D Factors	*Mainline*
Westbound (WB)	60.5%
Eastbound (EB)	39.5%
	Side street
Northbound (NB)	38.8%
Southbound (SB)	61.2%

Do you have FTSUTMS Model Year traffic from which you would like to interpolate/extrapolate for project years? (Y/N)

Enter Yes or No
- (●) Yes
- ( ) No

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

Enter Year and Growth Rates from Base Year:

	Year	*Rate* (1.0% = 0.01) Mainline	Side Street
Base	2016		
Opening	2023	0.60%	0.60%
Mid	2033		
Design	2043		

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

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

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

From West: *EB Approach*	*From East:* *WB Approach*	*From North:* *SB Approach*	*From South:* *NB Approach*	***TOTAL***
10000	9600	200	810	20610

Enter Project and Model Years

	Year
Base	2016
Opening	2023
Mid	2033
Design	2043
Model	2043

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

	From West: *EB Approach*	*From East:* *WB Approach*	*From North:* *SB Approach*	*From South:* *NB Approach*	***TOTAL***
2016	9600	9500	2600	360	22060
2043	11000	13000	3700	580	28280

		1st Guess Turning %'s for AADT Balancing	**Actual/Counted Traffic for 2016**
(EB LT)	*West-to-North*	15.9%	37
(EB THRU)	*West-to-East*	82.8%	193
(EB RT)	*West-to-South*	1.3%	3
(WB LT)	*East-to-South*	0.2%	1
(WB THRU)	*East-to-West*	89.7%	419
(WB RT)	*East-to-North*	10.1%	47
(SB LT)	*North-to-East*	38.4%	66
(SB THRU)	*North-to-South*	0.0%	0
(SB RT)	*North-to-West*	61.6%	106
(NB LT)	*South-to-West*	64.9%	24
(NB THRU)	*South-to-North*	10.8%	4
(NB RT)	*South-to-East*	24.3%	9

Desired Closure: 0.01

First Guess Turning % Option Used
Existing Turning Movement Counts

Existing Year AADTs

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

Existing Turning Movement Counts

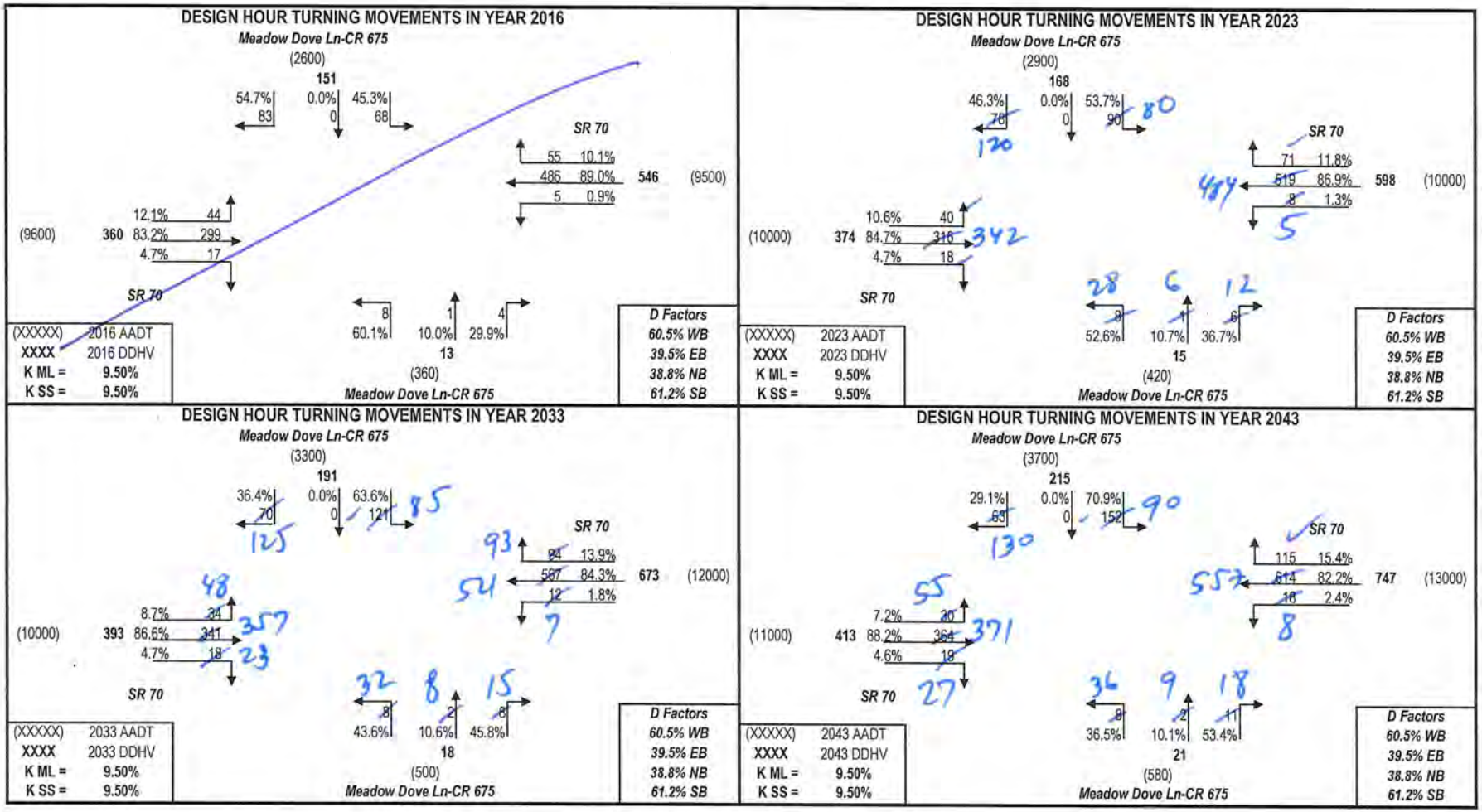
The turning percentages first guess is the same as the ***actual distribution of turning volumes entered***. No balancing technique is used.

FSUTMS Model Year AADTs

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

AM NB

PROJECT TRAFFIC FOR SR 70 AT Meadow Dove Ln-CR 675



PM NB

TURNS5 ANALYSIS SHEET - INPUT

Analyst:
Date: 28-Jul-16
Highway: SR 70
Intersection: Lorraine Road
Project: SR 70 DTTM
County: Manatee

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

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

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

K Factors	Mainline
	9.50%
	Side street
	9.50%

D Factors	*Mainline*
Westbound (WB)	39.5%
Eastbound (EB)	60.5%
	Side street
Northbound (NB)	55.9%
Southbound (SB)	44.1%

Do you have FTSUTMS Model Year traffic from which you would like to interpolate/extrapolate for project years? (Y/N)

Enter Yes or No
- (●) Yes
- ( ) No

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

Enter Year and Growth Rates from Base Year:

	Year	*Rate* (1.0% = 0.01) Mainline	Side Street
Base	2016		
Opening	2023	4.00%	4.00%
Mid	2033		
Design	2043		

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

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

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

From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
22000	15000	6600	10000	53600

Enter Project and Model Years

	Year
Base	2016
Opening	2023
Mid	2033
Design	2043
Model	2043

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

	From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
2016	22000	15000	6600	10000	53600
2043	46000	25000	16000	25000	112000

		1st Guess Turning %'s for AADT Balancing	**Actual/Counted Traffic for 2016**
(EB LT)	*West-to-North*	20.6%	202
(EB THRU)	*West-to-East*	58.5%	573
(EB RT)	*West-to-South*	20.9%	205
(WB LT)	*East-to-South*	8.3%	43
(WB THRU)	*East-to-West*	81.1%	423
(WB RT)	*East-to-North*	10.6%	55
(SB LT)	*North-to-East*	29.2%	80
(SB THRU)	*North-to-South*	33.2%	91
(SB RT)	*North-to-West*	37.6%	103
(NB LT)	*South-to-West*	50.4%	332
(NB THRU)	*South-to-North*	33.1%	218
(NB RT)	*South-to-East*	16.5%	109

Desired Closure: 0.01

First Guess Turning % Option Used
Existing Turning Movement Counts

Existing Year AADTs

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

Existing Turning Movement Counts

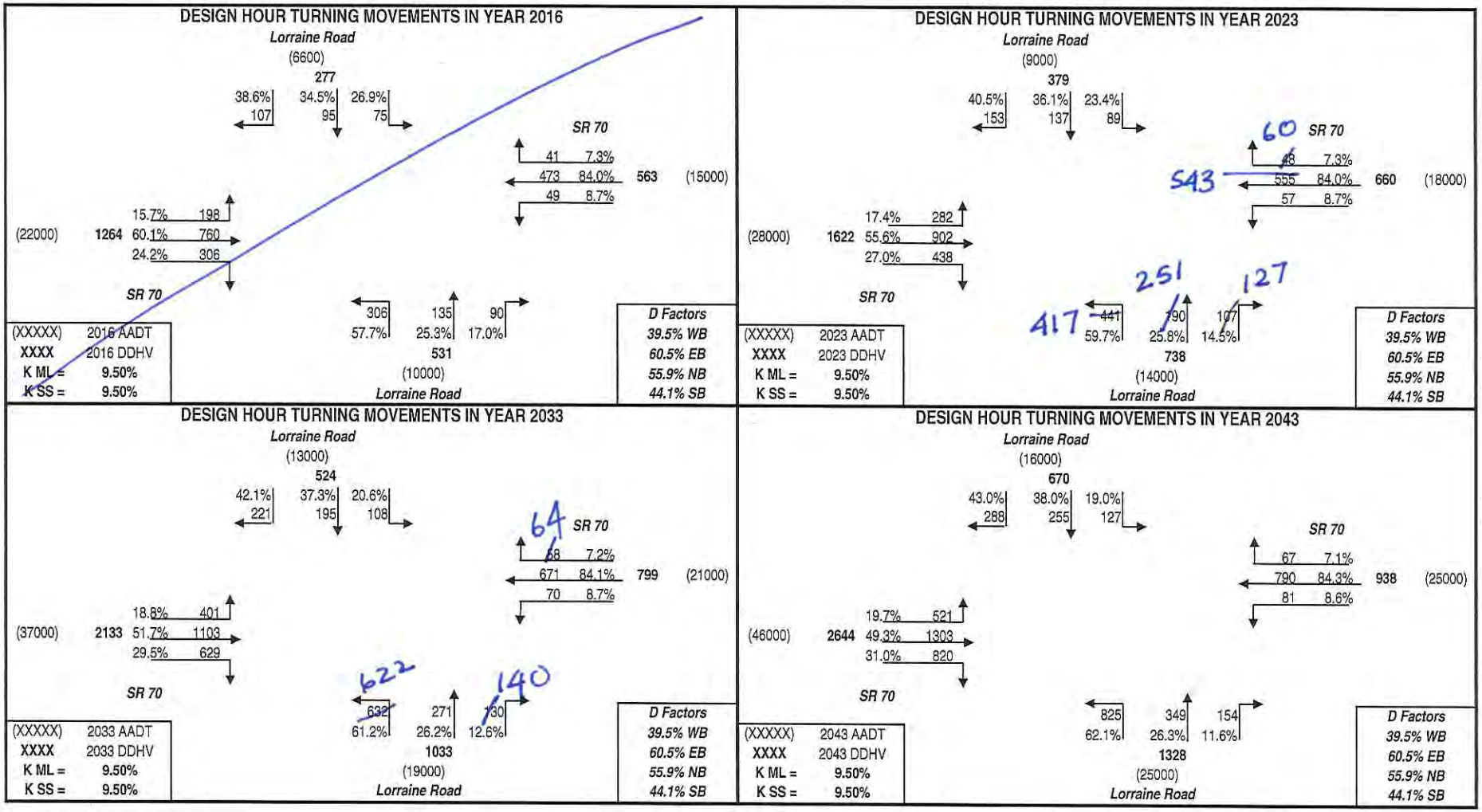
The turning percentages first guess is the same as the ***actual distribution of turning volumes entered***. No balancing technique is used.

FSUTMS Model Year AADTs

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

PM NB

PROJECT TRAFFIC FOR SR 70 AT Lorraine Road



PM NB

TURNS5 ANALYSIS SHEET - INPUT

Analyst:
Date: 28-Jul-16
Highway: SR 70
Intersection: Greenbrook Blvd-Post Blvd
Project: SR 70 DTTM
County: Manatee

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

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

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

K Factors	Mainline
	9.50%
	Side street
	9.50%

D Factors	*Mainline*
Westbound (WB)	39.5%
Eastbound (EB)	60.5%
	Side street
Northbound (NB)	57.5%
Southbound (SB)	42.5%

Do you have FTSUTMS Model Year traffic from which you would like to interpolate/extrapolate for project years? (Y/N)

Enter Yes or No
- (●) Yes
- ( ) No

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

Enter Year and Growth Rates from Base Year:

	Year	*Rate* (1.0% = 0.01) Mainline	Side Street
Base	2016		
Opening	2023	2.54%	0.60%
Mid	2033		
Design	2043		

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

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

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

From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
15000	13000	1500	2600	32100

Enter Project and Model Years

	Year
Base	2016
Opening	2023
Mid	2033
Design	2043
Model	2043

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

	From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
2016	15000	13000	1500	2600	32100
2043	25000	22000	1700	3000	51700

		1st Guess Turning %'s for AADT Balancing	**Actual/Counted Traffic for 2016**
(EB LT)	*West-to-North*	7.5%	59
(EB THRU)	*West-to-East*	78.0%	611
(EB RT)	*West-to-South*	14.5%	114
(WB LT)	*East-to-South*	1.8%	8
(WB THRU)	*East-to-West*	96.8%	430
(WB RT)	*East-to-North*	1.4%	6
(SB LT)	*North-to-East*	14.6%	6
(SB THRU)	*North-to-South*	17.1%	7
(SB RT)	*North-to-West*	68.3%	28
(NB LT)	*South-to-West*	62.6%	67
(NB THRU)	*South-to-North*	17.8%	19
(NB RT)	*South-to-East*	19.6%	21

Desired Closure: 0.01

First Guess Turning % Option Used
Existing Turning Movement Counts

Existing Year AADTs

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

Existing Turning Movement Counts

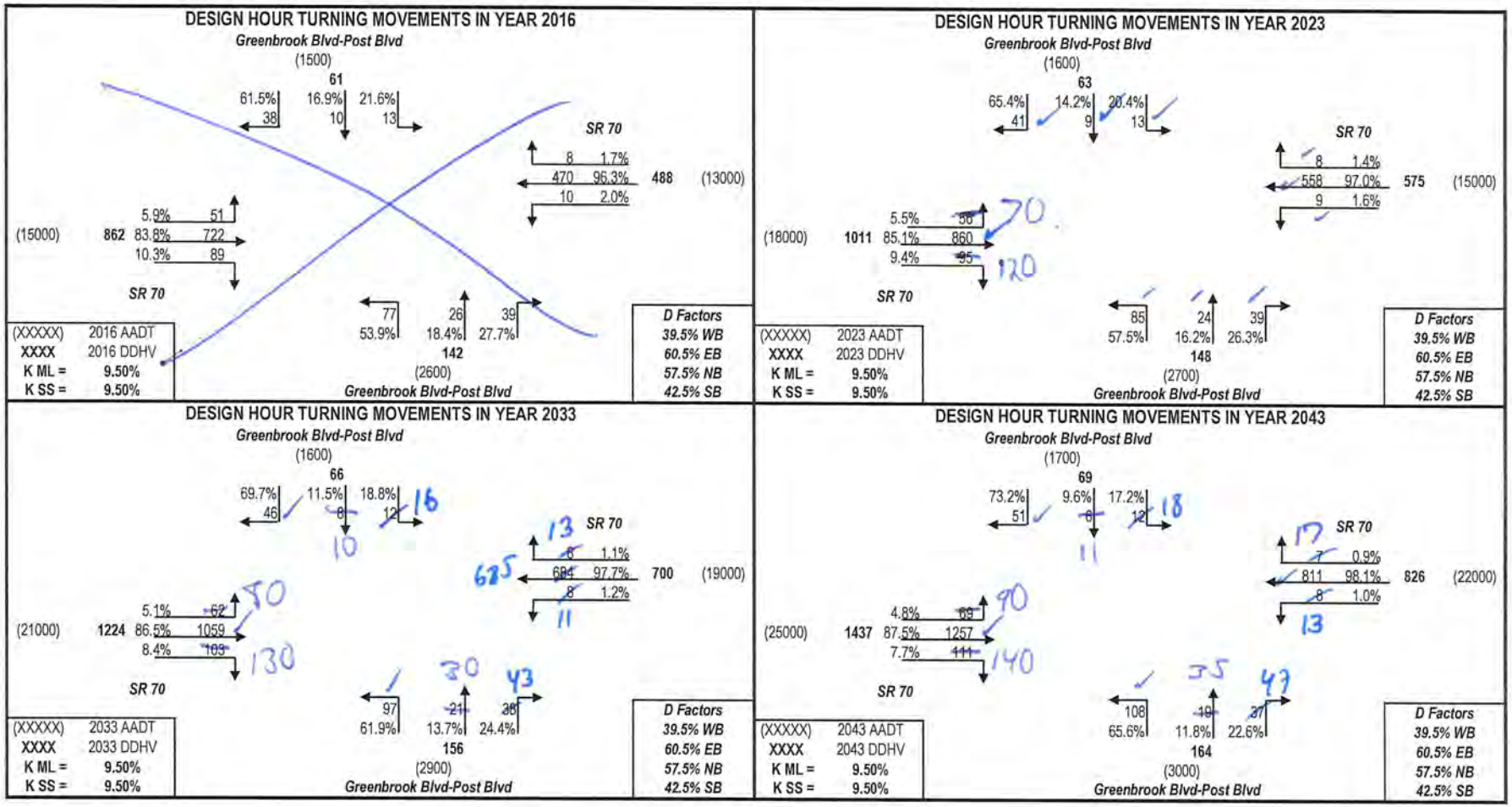
The turning percentages first guess is the same as the ***actual distribution of turning volumes entered***. No balancing technique is used.

FSUTMS Model Year AADTs

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

PM NB

PROJECT TRAFFIC FOR SR 70 AT Greenbrook Blvd-Post Blvd



PM NB

TURNS5 ANALYSIS SHEET - INPUT

Analyst:
Date: 10-Aug-16
Highway: SR 70
Intersection: Del Webb Blvd
Project: SR 70 DTTM
County: Manatee

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

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

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

K Factors	Mainline
	9.50%
	Side street
	9.50%

D Factors	*Mainline*
Westbound (WB)	39.5%
Eastbound (EB)	60.5%
	Side street
Northbound (NB)	40.0%
Southbound (SB)	0.0%

Do you have FTSUTMS Model Year traffic from which you would like to interpolate/extrapolate for project years? (Y/N)

Enter Yes or No: ◉ Yes ○ No

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

Enter Year and Growth Rates from Base Year:

	Year	*Rate* (1.0% = 0.01) Mainline	Side Street
Base	2016		
Opening	2023	0.60%	0.60%
Mid	2033		
Design	2043		

Mainline Growth Function: ◉ Linear ○ Exponential ○ Decaying

Side Street Growth Function: ◉ Linear ○ Exponential ○ Decaying

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

From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
10000	9600	60	0	19660

Enter Project and Model Years

	Year
Base	2016
Opening	2023
Mid	2033
Design	2043
Model	2043

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

	From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
2016	13000	11000	0	1500	25500
2043	22000	18000	0	5000	45000

		1st Guess Turning %'s for AADT Balancing	**Actual/Counted Traffic for 2016**
(EB LT)	*West-to-North*	0.0%	0
(EB THRU)	*West-to-East*	78.4%	550
(EB RT)	*West-to-South*	21.6%	0
(WB LT)	*East-to-South*	25.7%	0
(WB THRU)	*East-to-West*	74.3%	295
(WB RT)	*East-to-North*	0.0%	0
(SB LT)	*North-to-East*	0.0%	0
(SB THRU)	*North-to-South*	0.0%	0
(SB RT)	*North-to-West*	0.0%	0
(NB LT)	*South-to-West*	44.4%	0
(NB THRU)	*South-to-North*	0.0%	0
(NB RT)	*South-to-East*	55.6%	0

Desired Closure: 5.00

Existing Year AADTs

Existing Turning Movement Counts

FSUTMS Model Year AADTs

First Guess Turning % Option Used
FSUTMS Model Year AADTs

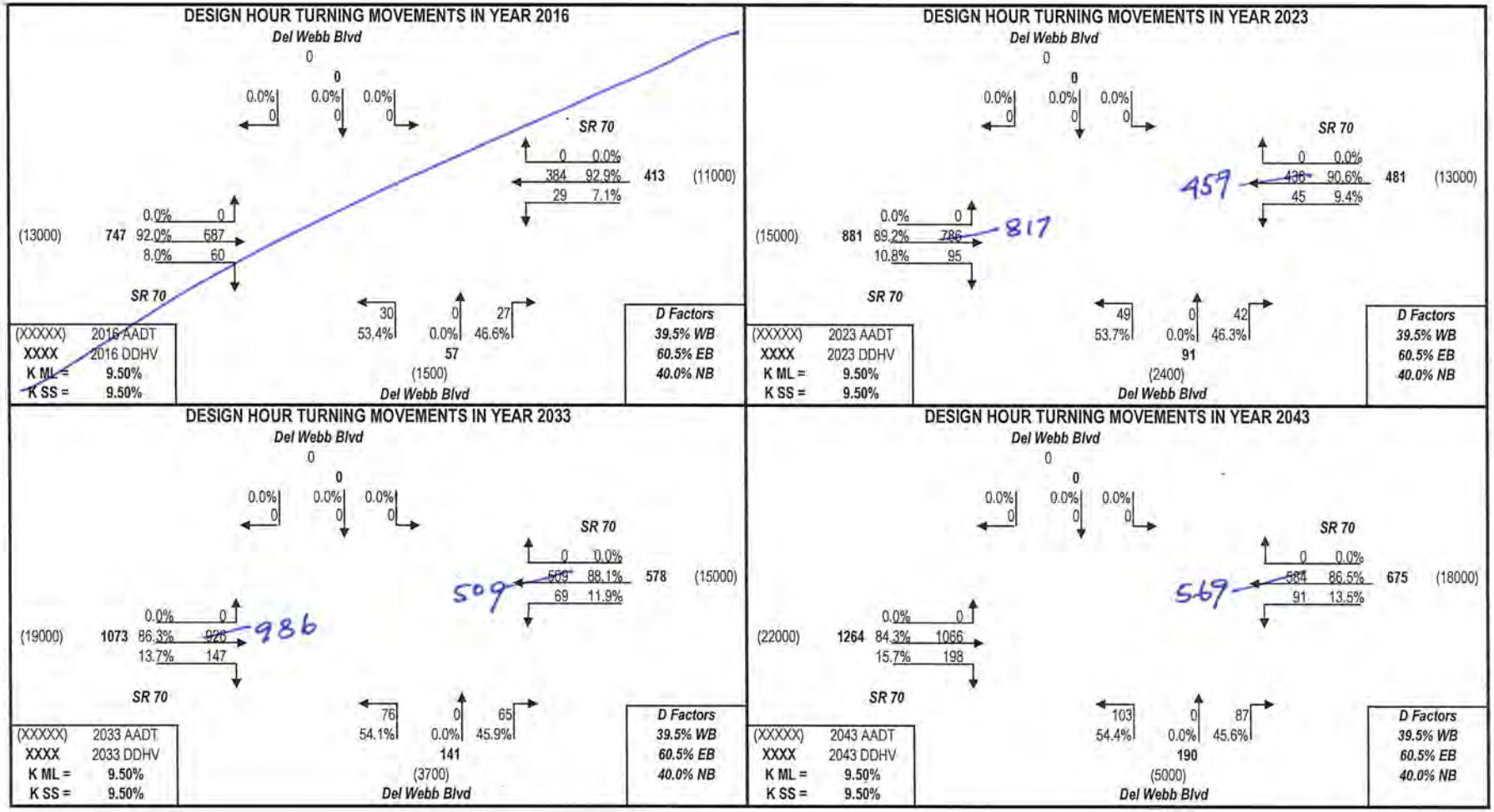
Only the existing year total departure volumes [AADT*K*(1-D)] will be used to calculate the turning percentages first guess.

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

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

PM NB

PROJECT TRAFFIC FOR SR 70 AT Del Webb Blvd



PM NB

TURNS5 ANALYSIS SHEET - INPUT

Analyst:
Date: 28-Jul-16
Highway: SR 70
Intersection: Lindrick Ln-197th St E
Project: SR 70 DTTM
County: Manatee

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

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

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

K Factors	
Mainline	9.50%
Side street	9.50%

D Factors	
Mainline	
Westbound (WB)	39.5%
Eastbound (EB)	60.5%
Side street	
Northbound (NB)	76.6%
Southbound (SB)	23.4%

Do you have FTSUTMS Model Year traffic from which you would like to interpolate/extrapolate for project years? (Y/N)

Enter Yes or No: ◉ Yes ○ No

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

Enter Year and Growth Rates from Base Year:

	Year	*Rate* (1.0% = 0.01) Mainline	Side Street
Base	2016		
Opening	2023	0.60%	0.60%
Mid	2033		
Design	2043		

Mainline Growth Function: ◉ Linear ○ Exponential ○ Decaying

Side Street Growth Function: ◉ Linear ○ Exponential ○ Decaying

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

From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
13000	11000	1100	1500	26600

Enter Project and Model Years

	Year
Base	2016
Opening	2023
Mid	2033
Design	2043
Model	2043

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

	From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
2016	13000	11000	1100	1500	26600
2043	15000	13000	1300	1700	31000

First Guess Turning % Option Used
Existing Turning Movement Counts

		1st Guess Turning %'s for AADT Balancing	**Actual/Counted Traffic for 2016**
(EB LT)	*West-to-North*	9.1%	61
(EB THRU)	*West-to-East*	84.6%	568
(EB RT)	*West-to-South*	6.3%	42
(WB LT)	*East-to-South*	1.7%	5
(WB THRU)	*East-to-West*	98.0%	295
(WB RT)	*East-to-North*	0.3%	1
(SB LT)	*North-to-East*	3.1%	1
(SB THRU)	*North-to-South*	0.0%	0
(SB RT)	*North-to-West*	96.9%	31
(NB LT)	*South-to-West*	85.7%	54
(NB THRU)	*South-to-North*	0.0%	0
(NB RT)	*South-to-East*	14.3%	9

Desired Closure: 0.01

Existing Year AADTs

Existing Turning Movement Counts

FSUTMS Model Year AADTs

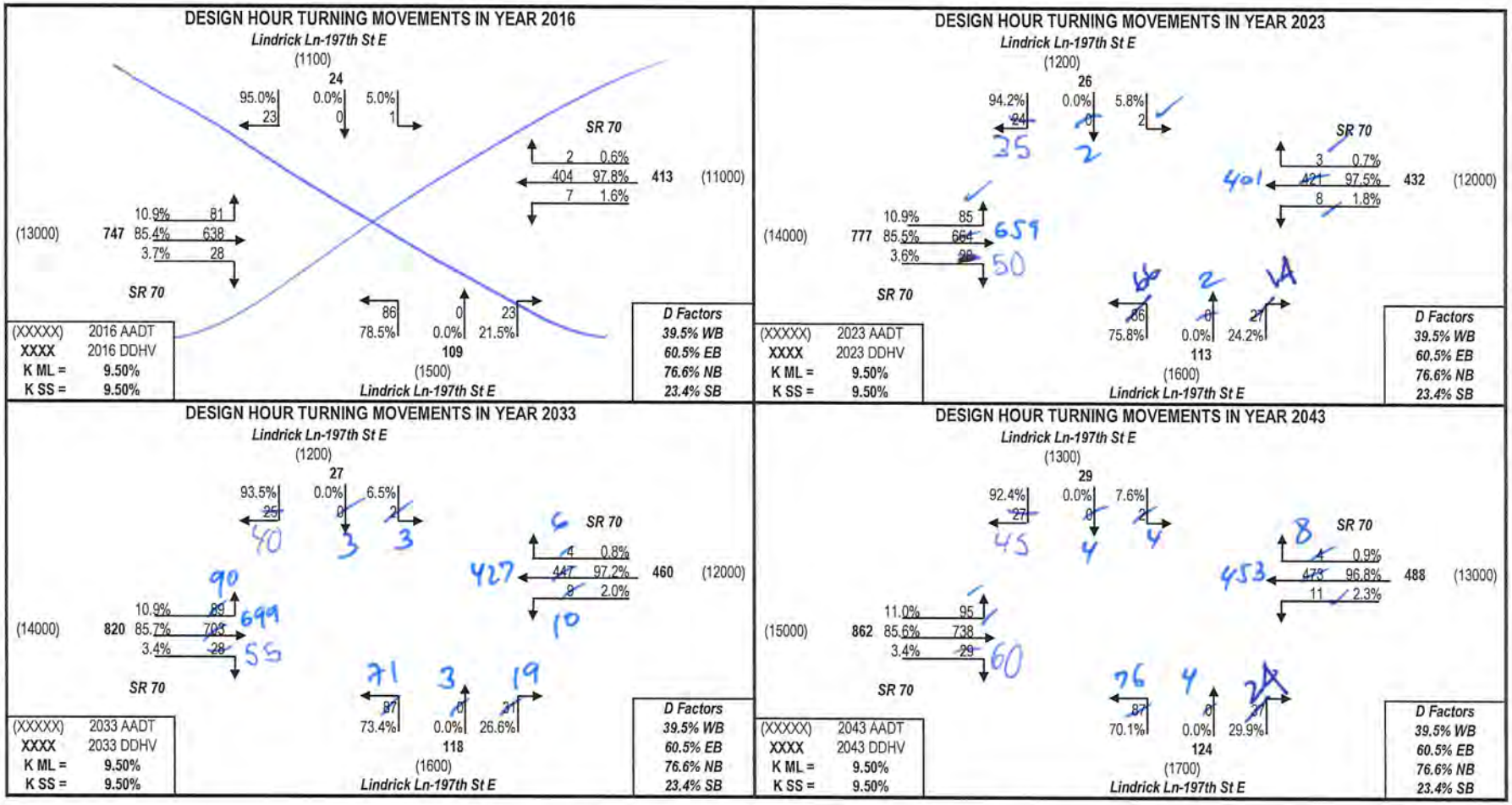
Only the existing year total departure volumes [AADT*K*(1-D)] will be used to calculate the turning percentages first guess.

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

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

PM NB

PROJECT TRAFFIC FOR SR 70 AT Lindrick Ln-197th St E



PM NB

TURNS5 ANALYSIS SHEET - INPUT

Analyst:
Date: 28-Jul-16
Highway: SR 70
Intersection: 213th St E
Project: SR 70 DTTM
County: Manatee

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

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

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

K Factors	Mainline
	9.50%
	Side street
	9.50%

D Factors	*Mainline*
Westbound (WB)	39.5%
Eastbound (EB)	60.5%
	Side street
Northbound (NB)	26.5%
Southbound (SB)	0.0%

Do you have FTSUTMS Model Year traffic from which you would like to interpolate/extrapolate for project years? (Y/N)

Enter Yes or No
- ◉ Yes
- ○ No

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

Enter Year and Growth Rates from Base Year:

	Year	*Rate* (1.0% = 0.01) Mainline	Side Street
Base	2016		
Opening	2023	0.60%	0.60%
Mid	2033		
Design	2043		

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

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

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

From West: *EB Approach*	*From East:* *WB Approach*	*From North:* *SB Approach*	*From South:* *NB Approach*	***TOTAL***
11000	10000	0	310	21310

Enter Project and Model Years

	Year
Base	2016
Opening	2023
Mid	2033
Design	2043
Model	2043

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

	From West: *EB Approach*	*From East:* *WB Approach*	*From North:* *SB Approach*	*From South:* *NB Approach*	***TOTAL***
2016	11000	10000	0	310	21310
2043	13000	12000	0	360	25360

		1st Guess Turning %'s for AADT Balancing	**Actual/Counted Traffic for 2016**
(EB LT)	*West-to-North*	0.0%	0
(EB THRU)	*West-to-East*	97.2%	562
(EB RT)	*West-to-South*	2.8%	16
(WB LT)	*East-to-South*	0.3%	1
(WB THRU)	*East-to-West*	99.7%	294
(WB RT)	*East-to-North*	0.0%	0
(SB LT)	*North-to-East*	0.0%	0
(SB THRU)	*North-to-South*	0.0%	0
(SB RT)	*North-to-West*	0.0%	0
(NB LT)	*South-to-West*	100.0%	10
(NB THRU)	*South-to-North*	0.0%	0
(NB RT)	*South-to-East*	0.0%	0

Desired Closure: 2.00

Existing Year AADTs

Existing Turning Movement Counts

FSUTMS Model Year AADTs

First Guess Turning % Option Used
Existing Turning Movement Counts

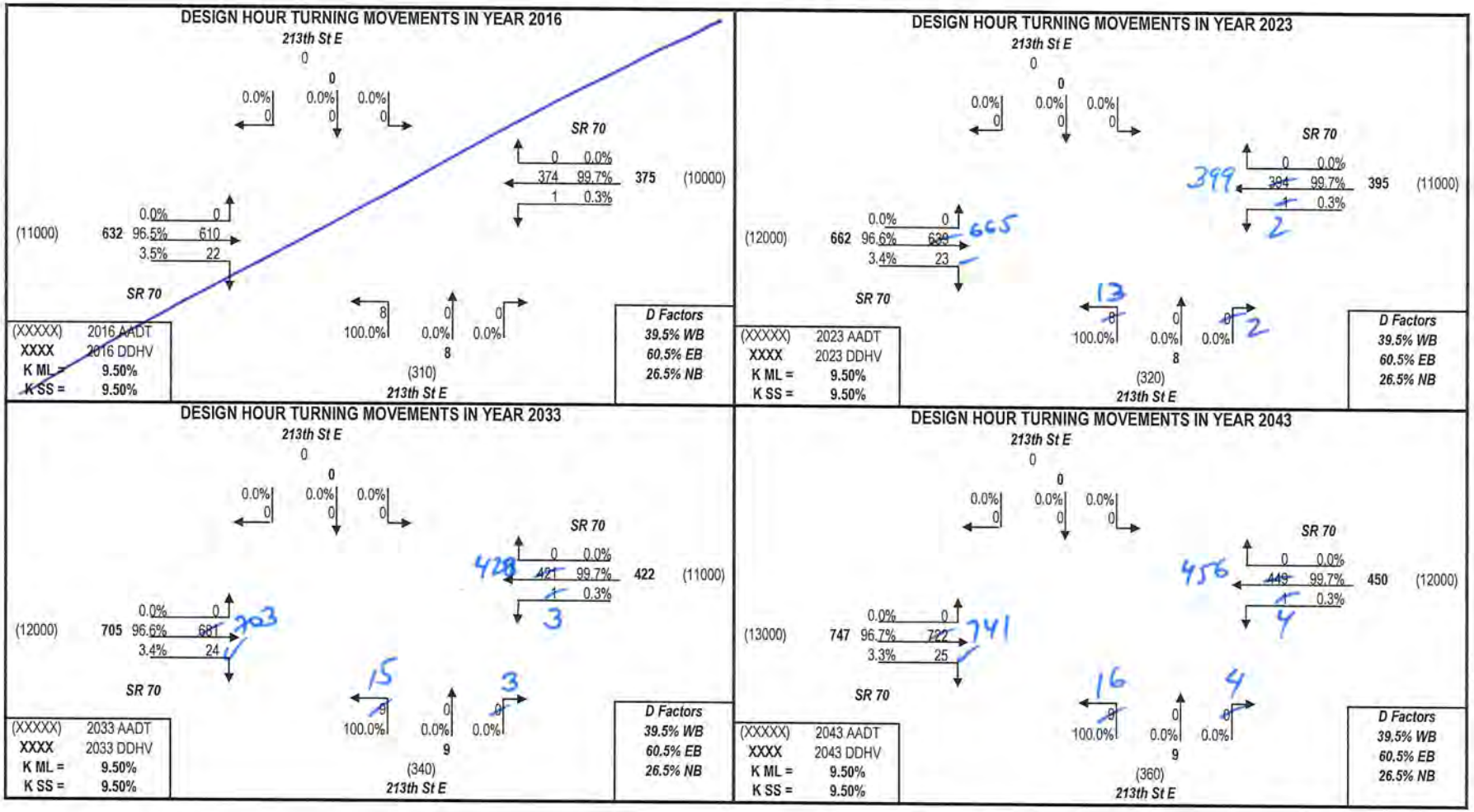
Only the existing year total departure volumes [AADT*K*(1-D)] will be used to calculate the turning percentages first guess.

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

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

PM NB

PROJECT TRAFFIC FOR SR 70 AT 213th St E



PM NB

TURNS5 ANALYSIS SHEET - INPUT

Analyst:
Date: 28-Jul-16
Highway: SR 70
Intersection: Treeumph Adventure Park Entrance
Project: SR 70 DTTM
County: Manatee

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

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

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

K Factors	Mainline
	9.50%
	Side street
	9.50%

D Factors	*Mainline*
Westbound (WB)	39.5%
Eastbound (EB)	60.5%
	Side street
Northbound (NB)	0.0%
Southbound (SB)	99.0%

Do you have FTSUTMS Model Year traffic from which you would like to interpolate/extrapolate for project years? (Y/N)

Enter Yes or No
- ◉ Yes
- ○ No

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

Enter Year and Growth Rates from Base Year:

	Year	*Rate* (1.0% = 0.01) Mainline	Side Street
Base	2016		
Opening	2023	0.60%	0.60%
Mid	2033		
Design	2043		

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

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

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

From West: *EB Approach*	*From East:* *WB Approach*	*From North:* *SB Approach*	*From South:* *NB Approach*	***TOTAL***
10000	9600	60	0	19660

Enter Project and Model Years

	Year
Base	2016
Opening	2023
Mid	2033
Design	2043
Model	2043

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

	From West: *EB Approach*	*From East:* *WB Approach*	*From North:* *SB Approach*	*From South:* *NB Approach*	***TOTAL***
2016	10000	10000	60	0	20060
2043	12000	12000	70	0	24070

First Guess Turning % Option Used
Existing Turning Movement Counts

		1st Guess Turning %'s for AADT Balancing	**Actual/Counted Traffic for 2016**
(EB LT)	*West-to-North*	0.4%	2
(EB THRU)	*West-to-East*	99.6%	550
(EB RT)	*West-to-South*	0.0%	0
(WB LT)	*East-to-South*	0.0%	0
(WB THRU)	*East-to-West*	100.0%	295
(WB RT)	*East-to-North*	0.0%	0
(SB LT)	*North-to-East*	0.0%	0
(SB THRU)	*North-to-South*	0.0%	0
(SB RT)	*North-to-West*	100.0%	0
(NB LT)	*South-to-West*	0.0%	0
(NB THRU)	*South-to-North*	0.0%	0
(NB RT)	*South-to-East*	0.0%	0

Desired Closure: 0.20

Existing Year AADTs

Existing Turning Movement Counts

FSUTMS Model Year AADTs

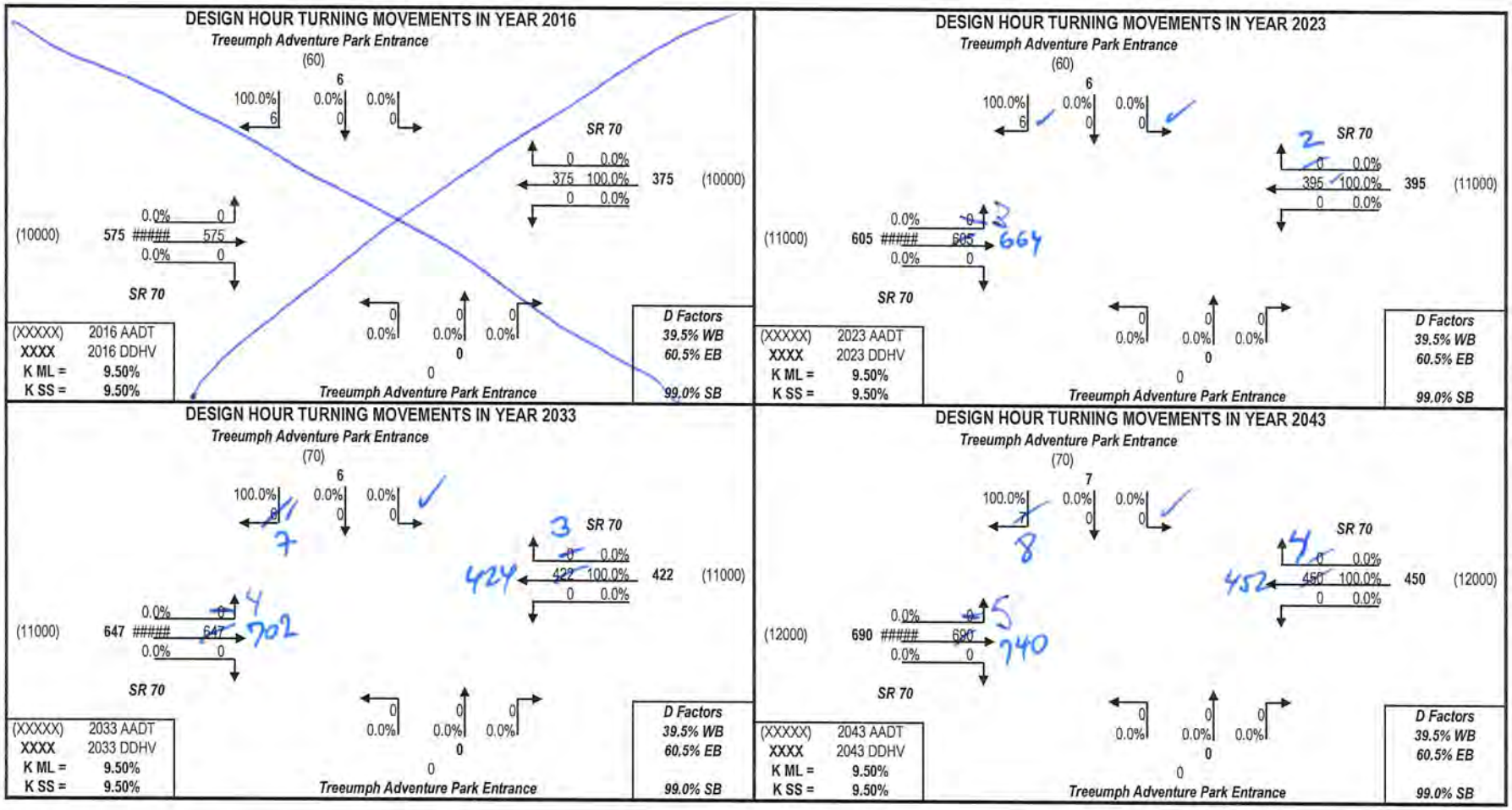
Only the existing year total departure volumes [AADT*K*(1-D)] will be used to calculate the turning percentages first guess.

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

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

PM NB

PROJECT TRAFFIC FOR SR 70 AT Treeumph Adventure Park Entrance



PM NB

TURNS5 ANALYSIS SHEET - INPUT

Analyst:
Date: 28-Jul-16
Highway: SR 70
Intersection: 225th St E
Project: SR 70 DTTM
County: Manatee

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

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

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

K Factors	Mainline
	9.50%
	Side street
	9.50%

D Factors	*Mainline*
Westbound (WB)	39.5%
Eastbound (EB)	60.5%
	Side street
Northbound (NB)	63.4%
Southbound (SB)	36.6%

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

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

Enter Year and Growth Rates from Base Year:

Rate (1.0% = 0.01)

	Year	**Mainline**	**Side Street**
Base	2016		
Opening	2023	0.60%	0.60%
Mid	2033		
Design	2043		

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

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

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

From West: *EB Approach*	*From East:* *WB Approach*	*From North:* *SB Approach*	*From South:* *NB Approach*	***TOTAL***
10000	9600	200	810	20610

Enter Project and Model Years

	Year
Base	2016
Opening	2023
Mid	2033
Design	2043
Model	2043

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

	From West: *EB Approach*	*From East:* *WB Approach*	*From North:* *SB Approach*	*From South:* *NB Approach*	***TOTAL***
2016	10000	9600	200	810	20610
2043	12000	11000	230	940	24170

First Guess Turning % Option Used
Existing Turning Movement Counts

		1st Guess Turning %'s for AADT Balancing	**Actual/Counted Traffic for 2016**	
(EB LT)	*West-to-North*	1.4%	8	Existing Year AADTs
(EB THRU)	*West-to-East*	89.2%	496	
(EB RT)	*West-to-South*	9.4%	52	
(WB LT)	*East-to-South*	0.4%	1	
(WB THRU)	*East-to-West*	99.2%	256	
(WB RT)	*East-to-North*	0.4%	1	Existing Turning Movement Counts
(SB LT)	*North-to-East*	0.0%	0	
(SB THRU)	*North-to-South*	0.0%	0	
(SB RT)	*North-to-West*	100.0%	10	
(NB LT)	*South-to-West*	88.5%	23	FSUTMS Model Year AADTs
(NB THRU)	*South-to-North*	3.8%	1	
(NB RT)	*South-to-East*	7.7%	2	

Desired Closure: 0.01

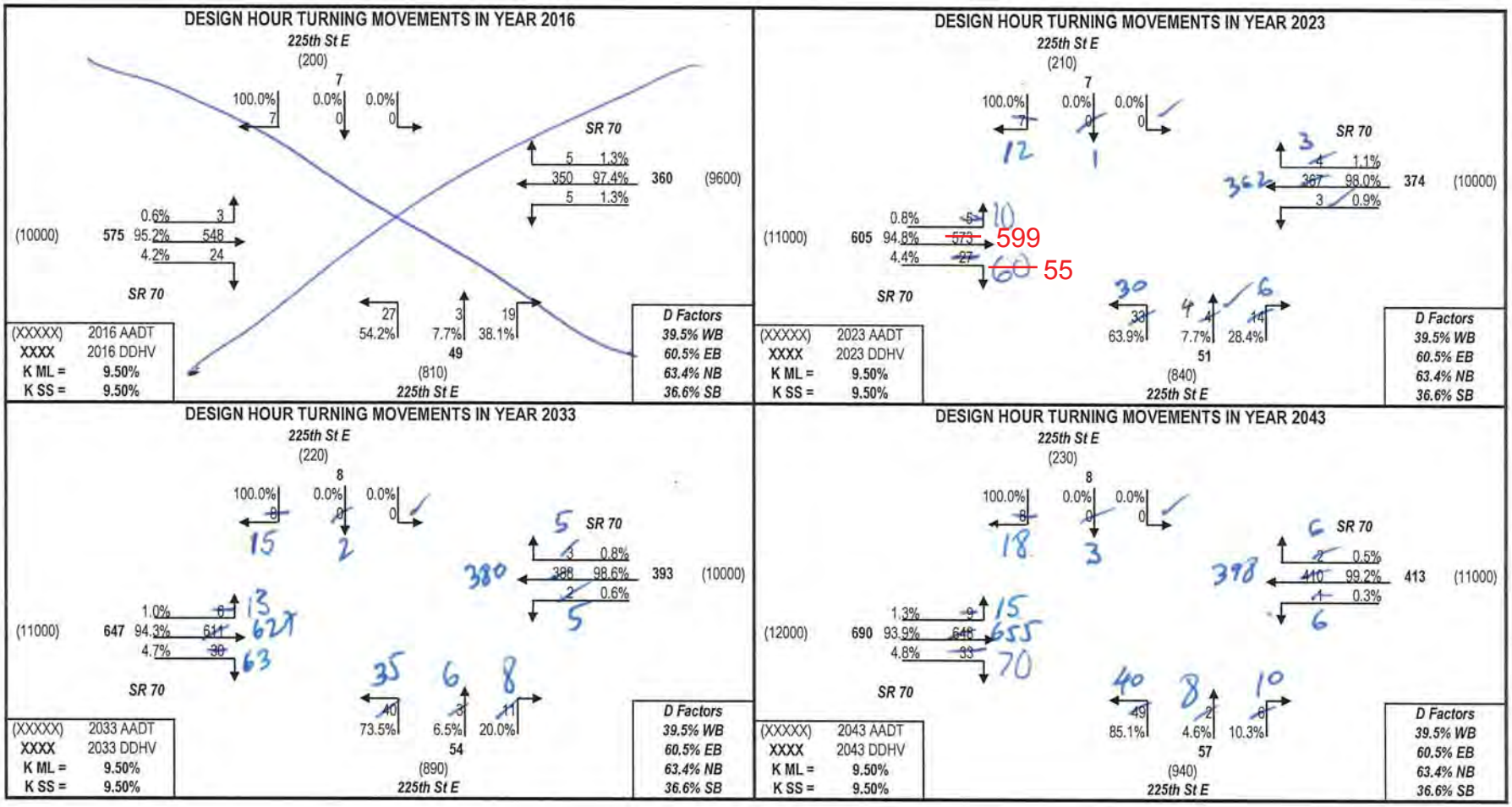
Only the existing year total departure volumes [AADT*K*(1-D)] will be used to calculate the turning percentages first guess.

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

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

PM NB

PROJECT TRAFFIC FOR SR 70 AT 225th St E



PM NB

TURNS5 ANALYSIS SHEET - INPUT

Analyst:
Date: 28-Jul-16
Highway: SR 70
Intersection: Meadow Dove Ln-CR 675
Project: SR 70 DTTM
County: Manatee

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

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

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

K Factors	Mainline
	9.50%
	Side street
	9.50%

D Factors	*Mainline*
Westbound (WB)	39.5%
Eastbound (EB)	60.5%
	Side street
Northbound (NB)	61.2%
Southbound (SB)	38.8%

Do you have FTSUTMS Model Year traffic from which you would like to interpolate/extrapolate for project years? (Y/N)

Enter Yes or No
- (●) Yes
- ( ) No

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

Enter Year and Growth Rates from Base Year:

	Year	*Rate* (1.0% = 0.01) Mainline	Side Street
Base	2016		
Opening	2023	0.60%	0.60%
Mid	2033		
Design	2043		

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

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

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

From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
10000	9600	200	810	20610

Enter Project and Model Years

	Year
Base	2016
Opening	2023
Mid	2033
Design	2043
Model	2043

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

	From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
2016	9600	9500	2600	360	22060
2043	11000	13000	3700	580	28280

First Guess Turning % Option Used
Existing Turning Movement Counts

		1st Guess Turning %'s for AADT Balancing	**Actual/Counted Traffic for 2016**
(EB LT)	*West-to-North*	19.9%	99
(EB THRU)	*West-to-East*	78.5%	391
(EB RT)	*West-to-South*	1.6%	8
(WB LT)	*East-to-South*	2.2%	6
(WB THRU)	*East-to-West*	77.9%	211
(WB RT)	*East-to-North*	19.9%	54
(SB LT)	*North-to-East*	59.8%	55
(SB THRU)	*North-to-South*	3.2%	3
(SB RT)	*North-to-West*	37.0%	34
(NB LT)	*South-to-West*	75.0%	15
(NB THRU)	*South-to-North*	10.0%	2
(NB RT)	*South-to-East*	15.0%	3

Desired Closure: 2.00

Existing Year AADTs

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

Existing Turning Movement Counts

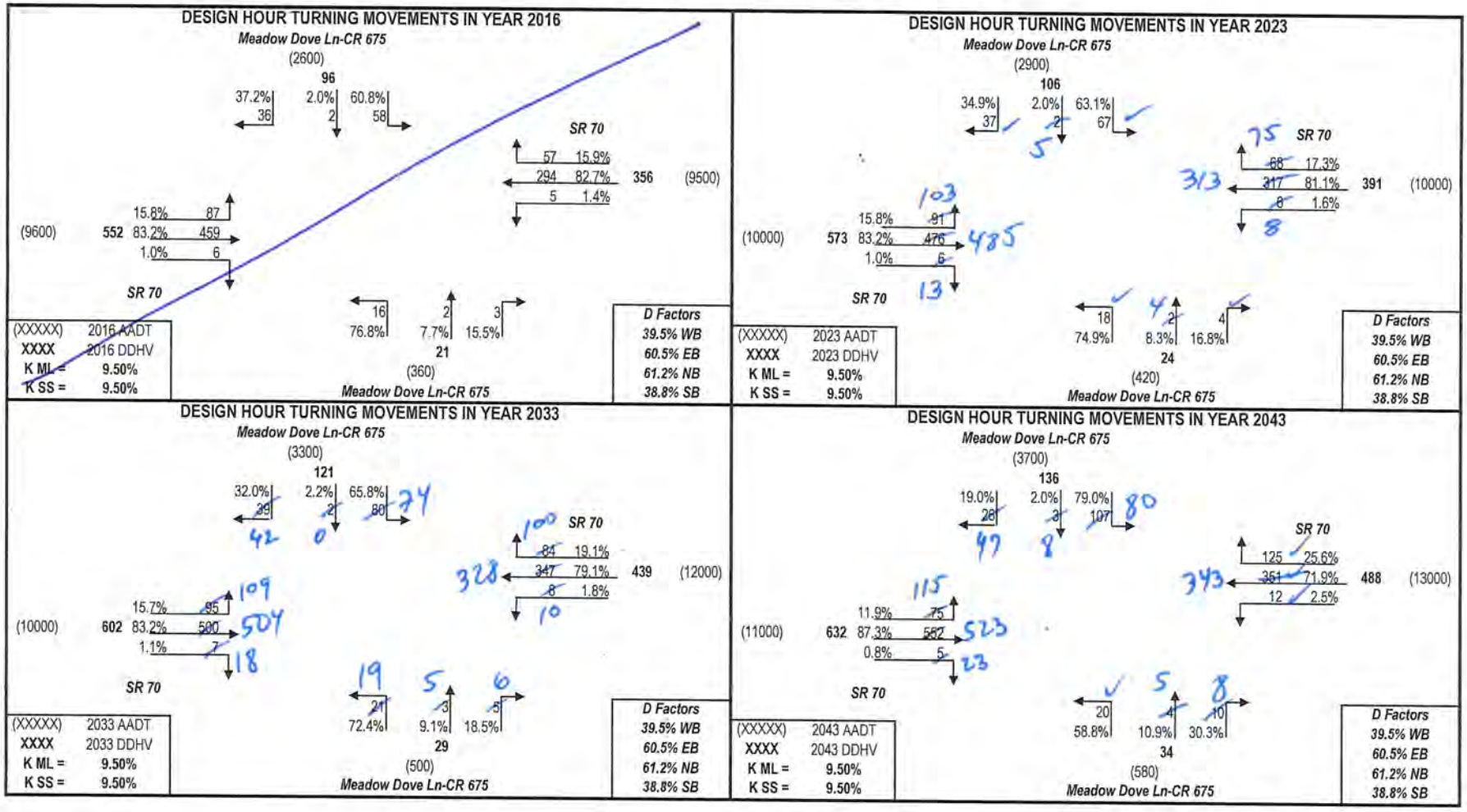
The turning percentages first guess is the same as the ***actual distribution of turning volumes entered***. No balancing technique is used.

FSUTMS Model Year AADTs

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

PM NB

PROJECT TRAFFIC FOR SR 70 AT Meadow Dove Ln-CR 675



AM B

TURNS5 ANALYSIS SHEET - INPUT

Analyst:
Date: 28-Jul-16
Highway: SR 70
Intersection: Lorraine Road
Project: SR 70 DTTM
County: Manatee

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

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

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

K Factors	Mainline
	9.50%
	Side street
	9.50%

D Factors	*Mainline*
Westbound (WB)	60.5%
Eastbound (EB)	39.5%
	Side street
Northbound (NB)	44.1%
Southbound (SB)	55.9%

Do you have FTSUTMS Model Year traffic from which you would like to interpolate/extrapolate for project years? (Y/N)

Enter Yes or No
- (●) Yes
- ( ) No

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

Enter Year and Growth Rates from Base Year:

	Year	*Rate* (1.0% = 0.01) Mainline	Side Street
Base	2016		
Opening	2023	4.00%	4.00%
Mid	2033		
Design	2043		

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

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

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

From West: *EB Approach*	*From East:* *WB Approach*	*From North:* *SB Approach*	*From South:* *NB Approach*	***TOTAL***
22000	15000	6600	10000	53600

Enter Project and Model Years

	Year
Base	2016
Opening	2023
Mid	2033
Design	2043
Model	2043

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

	From West: *EB Approach*	*From East:* *WB Approach*	*From North:* *SB Approach*	*From South:* *NB Approach*	***TOTAL***
2016	22000	15000	6600	10000	53600
2043	48000	32000	16000	22000	118000

First Guess Turning % Option Used
Existing Turning Movement Counts

		1st Guess Turning %'s for AADT Balancing	**Actual/Counted Traffic for 2016**	
(EB LT)	*West-to-North*	15.4%	132	Existing Year AADTs
(EB THRU)	*West-to-East*	42.1%	361	
(EB RT)	*West-to-South*	42.5%	365	
(WB LT)	*East-to-South*	21.5%	127	
(WB THRU)	*East-to-West*	72.1%	425	
(WB RT)	*East-to-North*	6.4%	38	Existing Turning Movement Counts
(SB LT)	*North-to-East*	18.1%	92	
(SB THRU)	*North-to-South*	67.3%	342	
(SB RT)	*North-to-West*	14.6%	74	
(NB LT)	*South-to-West*	60.2%	400	FSUTMS Model Year AADTs
(NB THRU)	*South-to-North*	30.3%	201	
(NB RT)	*South-to-East*	9.5%	63	

Desired Closure: 1.00

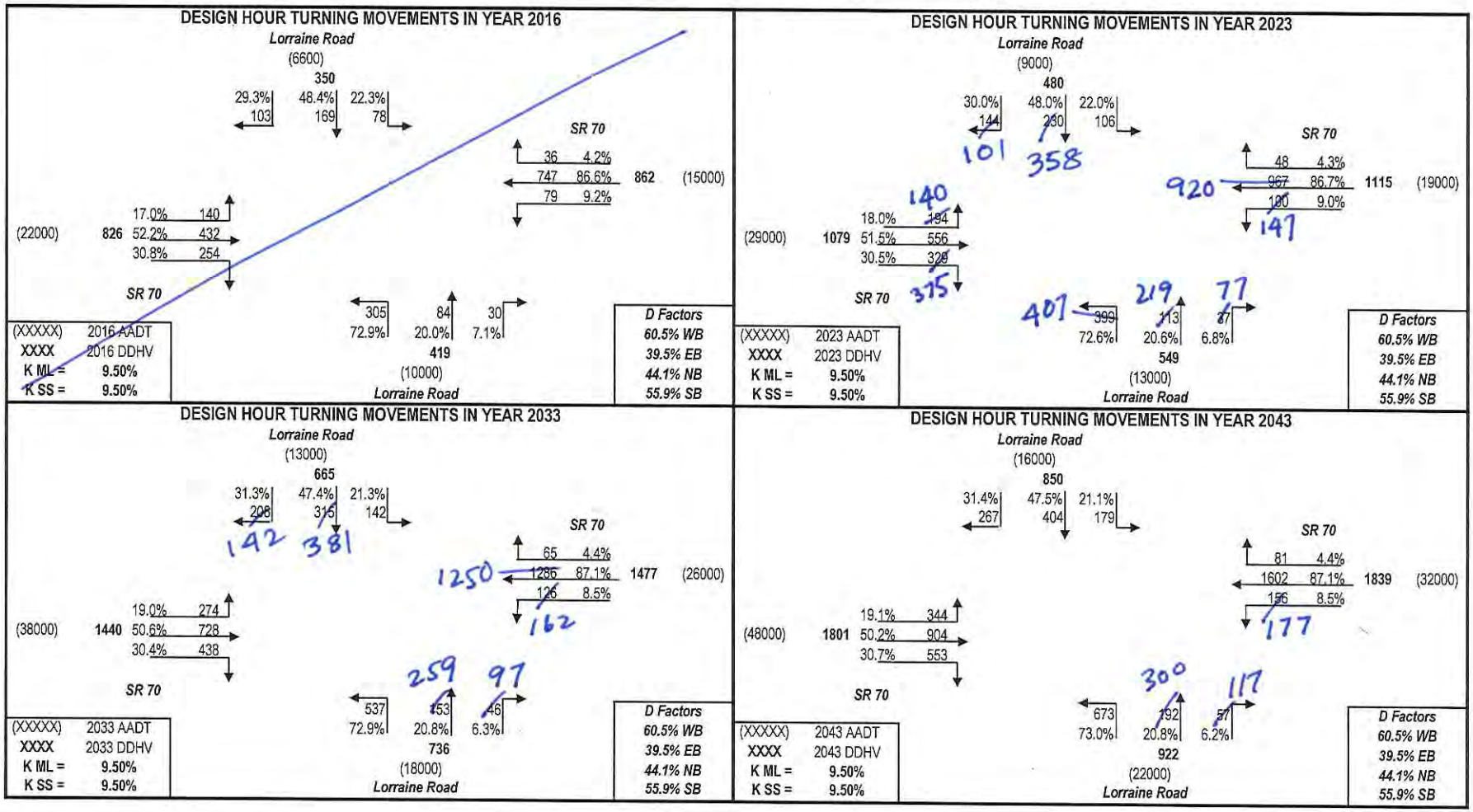
Only the existing year total departure volumes [AADT*K*(1-D)] will be used to calculate the turning percentages first guess.

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

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

AM B

PROJECT TRAFFIC FOR SR 70 AT Lorraine Road



TURNS5 ANALYSIS SHEET - INPUT

AM B

Analyst:
Date: 28-Jul-16
Highway: SR 70
Intersection: Greenbrook Blvd-Post Blvd
Project: SR 70 DTTM
County: Manatee

Is the Mainline Oriented North/South? Enter Yes or No — (○) Yes (◉) No

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

K Factors	
Mainline	9.50%
Side street	9.50%

D Factors	
Mainline	
Westbound (WB)	60.5%
Eastbound (EB)	39.5%
Side street	
Northbound (NB)	57.5%
Southbound (SB)	42.5%

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

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

Enter Year and Growth Rates from Base Year:

	Year	Rate (1.0% = 0.01) Mainline	Side Street
Base	2016		
Opening	2023		
Mid	2033	2.54%	0.60%
Design	2043		

Mainline Growth Function: (◉) Linear (○) Exponential (○) Decaying

Side Street Growth Function: (◉) Linear (○) Exponential (○) Decaying

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

From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
15000	13000	1500	2600	32100

Enter Project and Model Years

	Year
Base	2016
Opening	2023
Mid	2033
Design	2043
Model	2043

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

	From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
2016	15000	13000	1500	2600	32100
2043	32000	29000	1700	3000	65700

First Guess Turning % Option Used
Existing Turning Movement Counts

		1st Guess Turning %'s for AADT Balancing	**Actual/Counted Traffic for 2016**	
(EB LT)	*West-to-North*	2.7%	12	Existing Year AADTs
(EB THRU)	*West-to-East*	86.6%	379	
(EB RT)	*West-to-South*	10.7%	47	
(WB LT)	*East-to-South*	8.2%	57	
(WB THRU)	*East-to-West*	91.5%	636	
(WB RT)	*East-to-North*	0.3%	2	Existing Turning Movement Counts
(SB LT)	*North-to-East*	36.7%	11	
(SB THRU)	*North-to-South*	30.0%	9	
(SB RT)	*North-to-West*	33.3%	10	
(NB LT)	*South-to-West*	85.8%	103	FSUTMS Model Year AADTs
(NB THRU)	*South-to-North*	1.7%	2	
(NB RT)	*South-to-East*	12.5%	15	

Desired Closure: 0.05

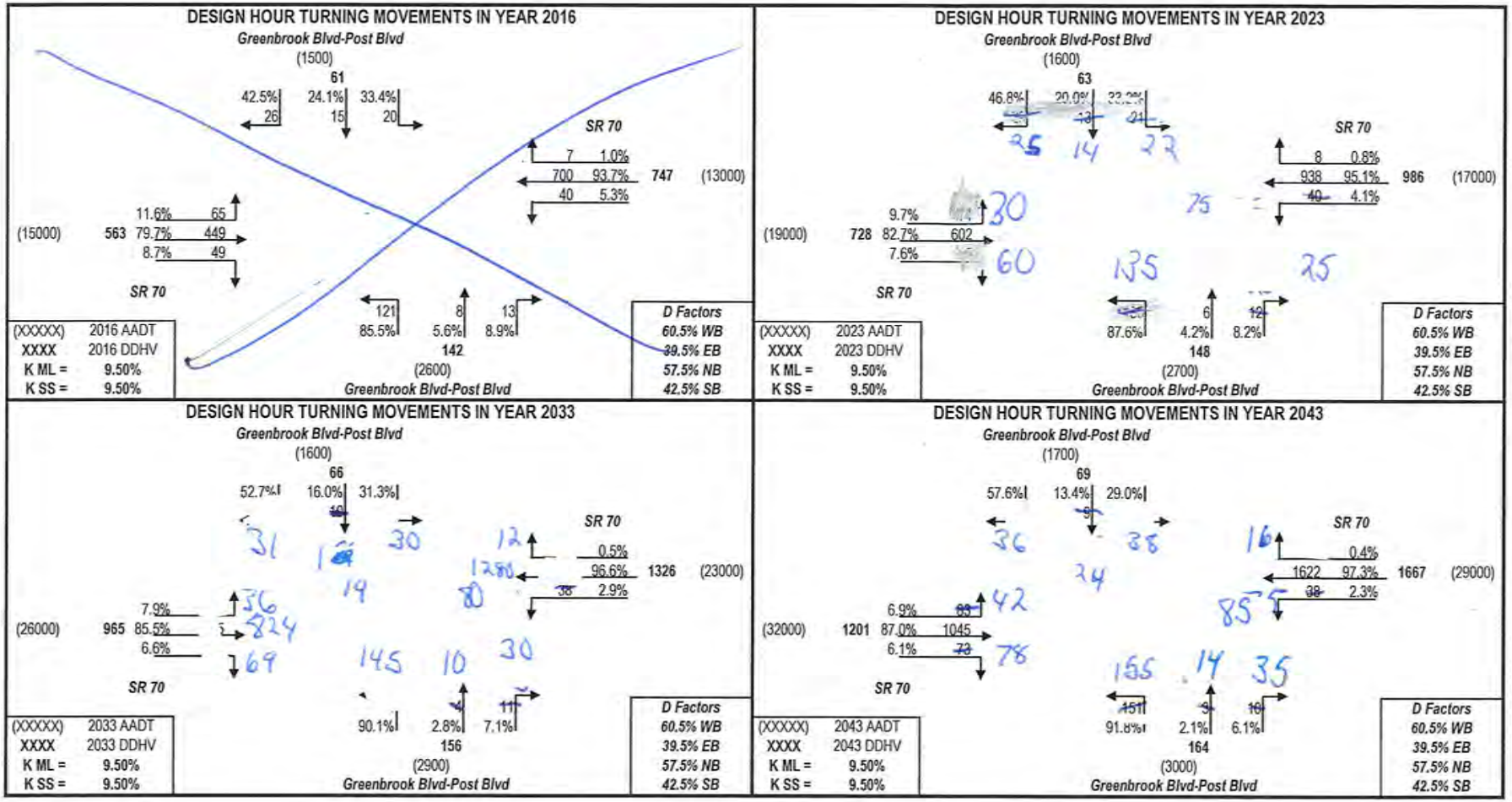
Only the existing year total departure volumes [AADT*K*(1-D)] will be used to calculate the turning percentages first guess.

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

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

AM B

PROJECT TRAFFIC FOR SR 70 AT Greenbrook Blvd-Post Blvd



TURNS5 ANALYSIS SHEET - INPUT

AM B

Analyst:
Date: 10-Aug-16
Highway: SR 70
Intersection: Del Webb Blvd
Project: SR 70 DTTM
County: Manatee

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

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

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

K Factors	Mainline
	9.50%
	Side street
	9.50%

D Factors	*Mainline*
Westbound (WB)	60.5%
Eastbound (EB)	39.5%
	Side street
Northbound (NB)	60.0%
Southbound (SB)	0.0%

Do you have FTSUTMS Model Year traffic from which you would like to interpolate/extrapolate for project years? (Y/N)

Enter Yes or No
- ◉ Yes
- ○ No

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

Enter Year and Growth Rates from Base Year:

	Year	*Rate* (1.0% = 0.01) Mainline	Side Street
Base	2016		
Opening	2023		
Mid	2033	0.60%	0.60%
Design	2043		

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

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

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

From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
10000	9600	60	0	19660

Enter Project and Model Years

	Year
Base	2016
Opening	2023
Mid	2033
Design	2043
Model	2043

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

	From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
2016	13000	11000	0	1500	25500
2043	29000	19000	0	9000	57000

		1st Guess Turning %'s for AADT Balancing	**Actual/Counted Traffic for 2016**
(EB LT)	*West-to-North*	0.0%	0
(EB THRU)	*West-to-East*	67.6%	550
(EB RT)	*West-to-South*	32.4%	0
(WB LT)	*East-to-South*	17.0%	0
(WB THRU)	*East-to-West*	83.0%	295
(WB RT)	*East-to-North*	0.0%	0
(SB LT)	*North-to-East*	0.0%	0
(SB THRU)	*North-to-South*	0.0%	0
(SB RT)	*North-to-West*	0.0%	0
(NB LT)	*South-to-West*	70.0%	0
(NB THRU)	*South-to-North*	0.0%	0
(NB RT)	*South-to-East*	30.0%	0

Desired Closure: 7.00

Existing Year AADTs

Existing Turning Movement Counts

FSUTMS Model Year AADTs

First Guess Turning % Option Used
FSUTMS Model Year AADTs

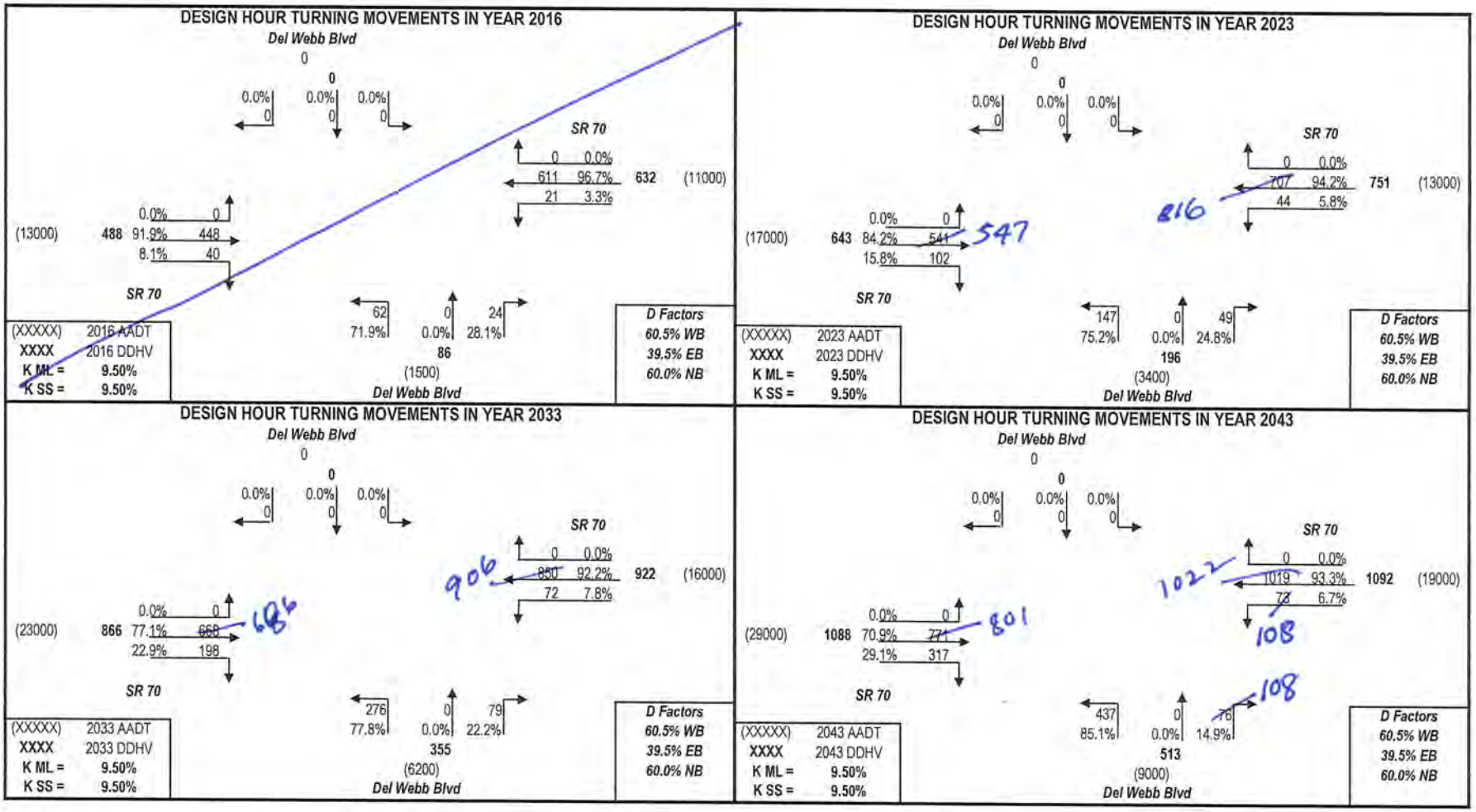
Only the existing year total departure volumes [AADT*K*(1-D)] will be used to calculate the turning percentages first guess.

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

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

AM B

PROJECT TRAFFIC FOR SR 70 AT Del Webb Blvd



TURNS5 ANALYSIS SHEET - INPUT

AM B

Analyst:
Date: 28-Jul-16
Highway: SR 70
Intersection: Lindrick Ln-197th St E
Project: SR 70 DTTM
County: Manatee

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

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

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

K Factors	Mainline
	9.50%
	Side street
	9.50%

D Factors	*Mainline*
Westbound (WB)	60.5%
Eastbound (EB)	39.5%
	Side street
Northbound (NB)	23.4%
Southbound (SB)	76.6%

Do you have FTSUTMS Model Year traffic from which you would like to interpolate/extrapolate for project years? (Y/N)

Enter Yes or No: (●) Yes ( ) No

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

Enter Year and Growth Rates from Base Year:

	Year	*Rate* (1.0% = 0.01) Mainline	Side Street
Base	2016		
Opening	2023	0.60%	0.60%
Mid	2033		
Design	2043		

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

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

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

From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
13000	11000	1100	1500	26600

Enter Project and Model Years

	Year
Base	2016
Opening	2023
Mid	2033
Design	2043
Model	2043

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

	From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
2016	13000	11000	1100	1500	26600
2043	18000	16000	1300	1700	37000

		1st Guess Turning %'s for AADT Balancing	**Actual/Counted Traffic for 2016**
(EB LT)	*West-to-North*	6.2%	20
(EB THRU)	*West-to-East*	74.7%	243
(EB RT)	*West-to-South*	19.1%	62
(WB LT)	*East-to-South*	1.1%	7
(WB THRU)	*East-to-West*	98.9%	635
(WB RT)	*East-to-North*	0.0%	0
(SB LT)	*North-to-East*	2.8%	2
(SB THRU)	*North-to-South*	2.8%	2
(SB RT)	*North-to-West*	94.4%	68
(NB LT)	*South-to-West*	87.1%	27
(NB THRU)	*South-to-North*	0.0%	0
(NB RT)	*South-to-East*	12.9%	4

Desired Closure: 1.00

Existing Year AADTs

Existing Turning Movement Counts

FSUTMS Model Year AADTs

First Guess Turning % Option Used
Existing Turning Movement Counts

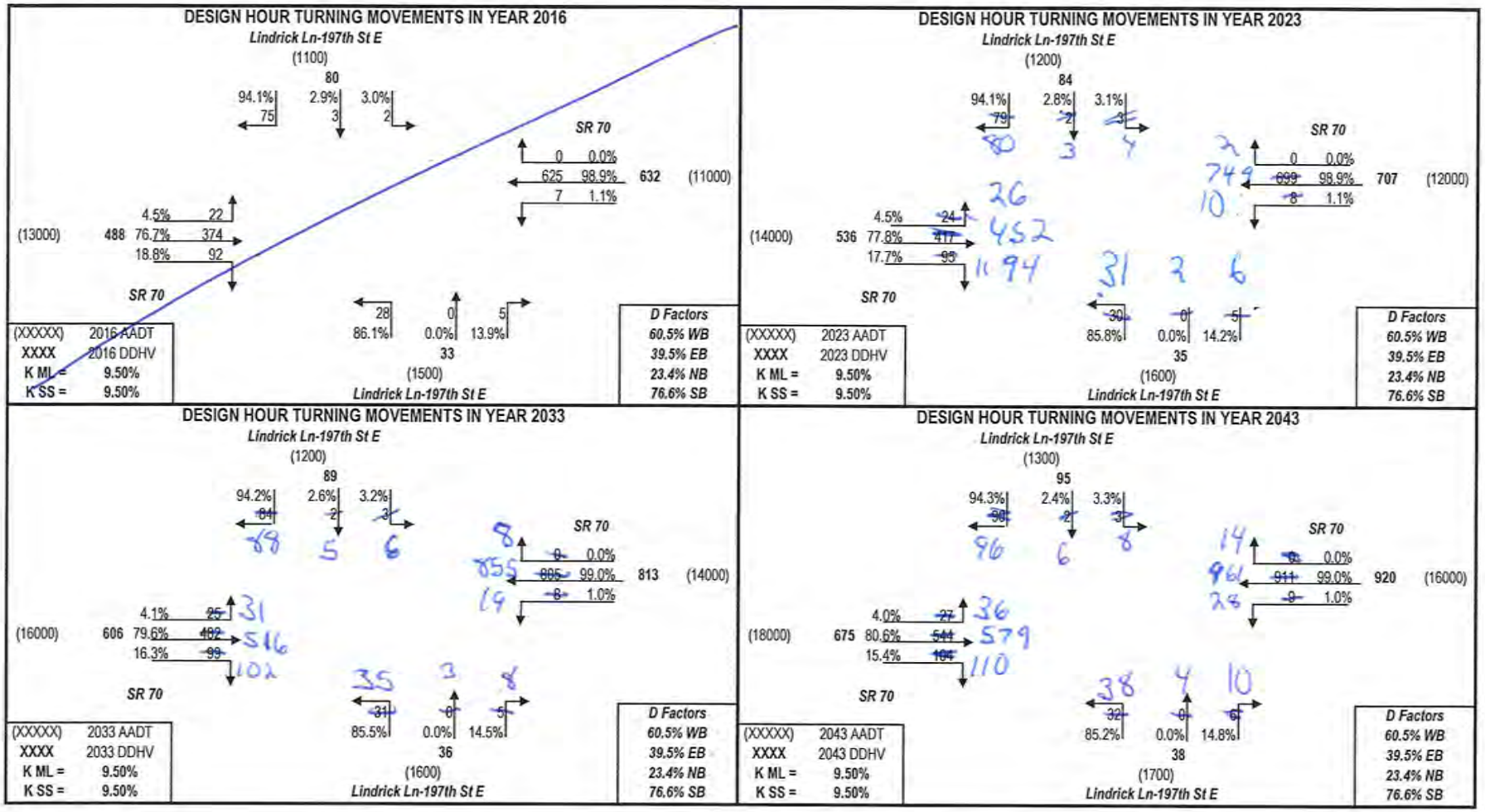
Only the existing year total departure volumes [AADT*K*(1-D)] will be used to calculate the turning percentages first guess.

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

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

AM B

PROJECT TRAFFIC FOR SR 70 AT Lindrick Ln-197th St E



TURNS5 ANALYSIS SHEET - INPUT

AM B

Analyst:
Date: 28-Jul-16
Highway: SR 70
Intersection: 213th St E
Project: SR 70 DTTM
County: Manatee

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

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

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

K Factors	Mainline
	9.50%
	Side street
	9.50%

D Factors	*Mainline*
Westbound (WB)	60.5%
Eastbound (EB)	39.5%
	Side street
Northbound (NB)	73.5%
Southbound (SB)	0.0%

Do you have FTSUTMS Model Year traffic from which you would like to interpolate/extrapolate for project years? (Y/N)

Enter Yes or No
- ◉ Yes
- ○ No

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

Enter Year and Growth Rates from Base Year:

	Year	*Rate* (1.0% = 0.01) Mainline	Side Street
Base	2016		
Opening	2023	0.60%	0.60%
Mid	2033		
Design	2043		

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

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

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

From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
11000	10000	0	310	21310

Enter Project and Model Years

	Year
Base	2016
Opening	2023
Mid	2033
Design	2043
Model	2043

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

	From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
2016	10000	10000	0	310	20310
2043	16000	14000	0	360	30360

		1st Guess Turning %'s for AADT Balancing	**Actual/Counted Traffic for 2016**
(EB LT)	*West-to-North*	0.0%	0
(EB THRU)	*West-to-East*	97.6%	245
(EB RT)	*West-to-South*	2.4%	6
(WB LT)	*East-to-South*	0.2%	1
(WB THRU)	*East-to-West*	99.8%	617
(WB RT)	*East-to-North*	0.0%	0
(SB LT)	*North-to-East*	0.0%	0
(SB THRU)	*North-to-South*	0.0%	0
(SB RT)	*North-to-West*	0.0%	0
(NB LT)	*South-to-West*	85.0%	17
(NB THRU)	*South-to-North*	0.0%	0
(NB RT)	*South-to-East*	15.0%	3

Desired Closure: 3.00

Existing Year AADTs

Existing Turning Movement Counts

FSUTMS Model Year AADTs

First Guess Turning % Option Used
Existing Turning Movement Counts

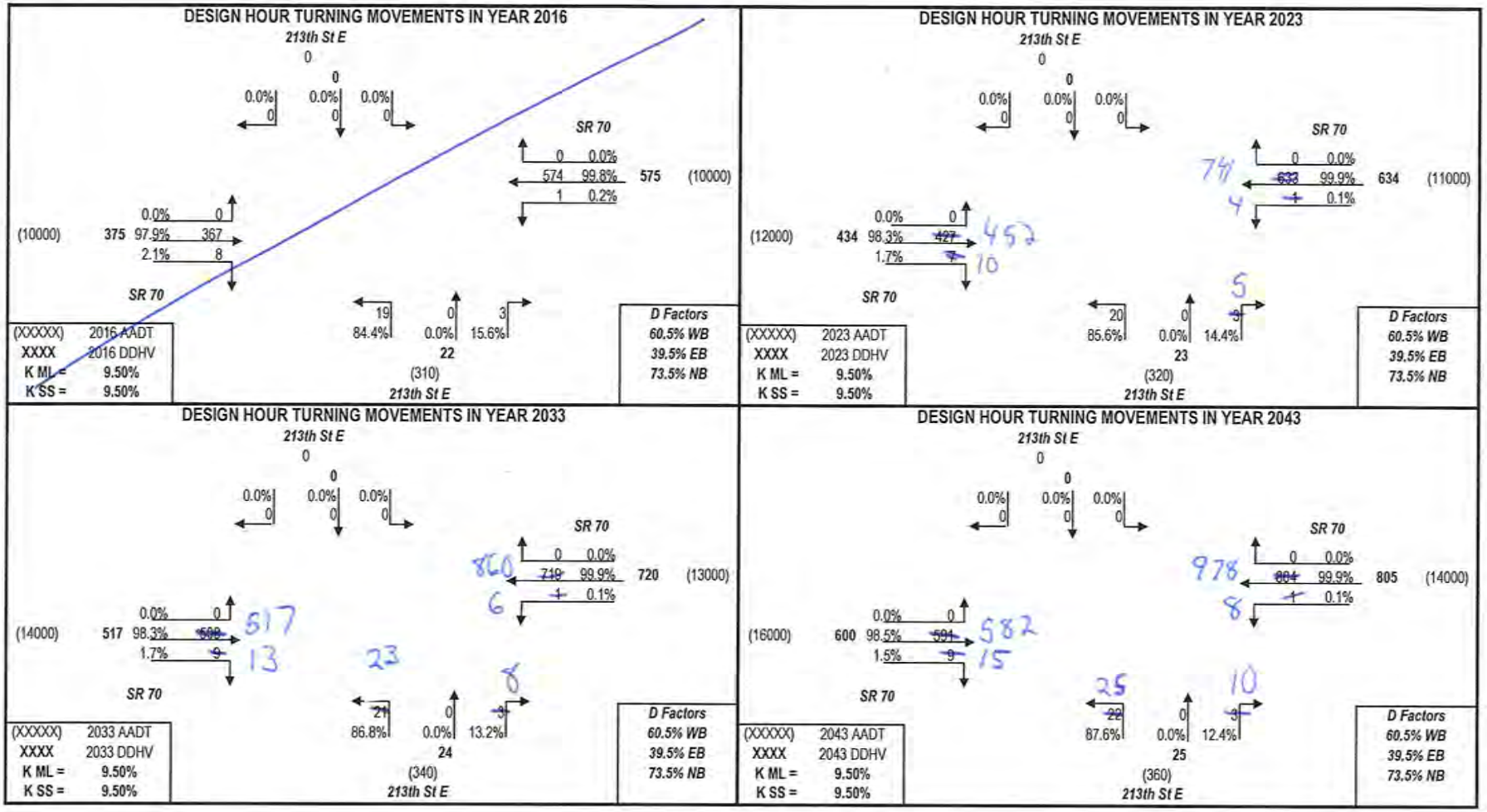
Only the existing year total departure volumes [AADT*K*(1-D)] will be used to calculate the turning percentages first guess.

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

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

AM B

PROJECT TRAFFIC FOR SR 70 AT 213th St E



TURNS5 ANALYSIS SHEET - INPUT

AM B

Analyst:
Date: 28-Jul-16
Highway: SR 70
Intersection: Treeumph Adventure Park Entrance
Project: SR 70 DTTM
County: Manatee

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

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

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

K Factors	Mainline
	9.50%
	Side street
	9.50%

D Factors	*Mainline*
Westbound (WB)	60.5%
Eastbound (EB)	39.5%
	Side street
Northbound (NB)	0.0%
Southbound (SB)	10.0%

Do you have FTSUTMS Model Year traffic from which you would like to interpolate/extrapolate for project years? (Y/N)

Enter Yes or No
- ◉ Yes
- ○ No

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

Enter Year and Growth Rates from Base Year:

	Year	*Rate* (1.0% = 0.01) Mainline	Side Street
Base	2016		
Opening	2023	0.60%	0.60%
Mid	2033		
Design	2043		

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

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

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

From West: *EB Approach*	*From East:* *WB Approach*	*From North:* *SB Approach*	*From South:* *NB Approach*	***TOTAL***
10000	9600	60	0	19660

Enter Project and Model Years

	Year
Base	2016
Opening	2023
Mid	2033
Design	2043
Model	2043

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

	From West: *EB Approach*	*From East:* *WB Approach*	*From North:* *SB Approach*	*From South:* *NB Approach*	***TOTAL***
2016	10000	9600	60	0	19660
2043	14000	14000	70	0	28070

First Guess Turning % Option Used
Existing Turning Movement Counts

		1st Guess Turning %'s for AADT Balancing	**Actual/Counted Traffic for 2016**
(EB LT)	*West-to-North*	2.8%	7
(EB THRU)	*West-to-East*	97.2%	240
(EB RT)	*West-to-South*	0.0%	0
(WB LT)	*East-to-South*	0.0%	0
(WB THRU)	*East-to-West*	99.8%	614
(WB RT)	*East-to-North*	0.2%	1
(SB LT)	*North-to-East*	0.0%	0
(SB THRU)	*North-to-South*	0.0%	0
(SB RT)	*North-to-West*	100.0%	2
(NB LT)	*South-to-West*	0.0%	0
(NB THRU)	*South-to-North*	0.0%	0
(NB RT)	*South-to-East*	0.0%	0

Desired Closure: 1.00

Existing Year AADTs

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

Existing Turning Movement Counts

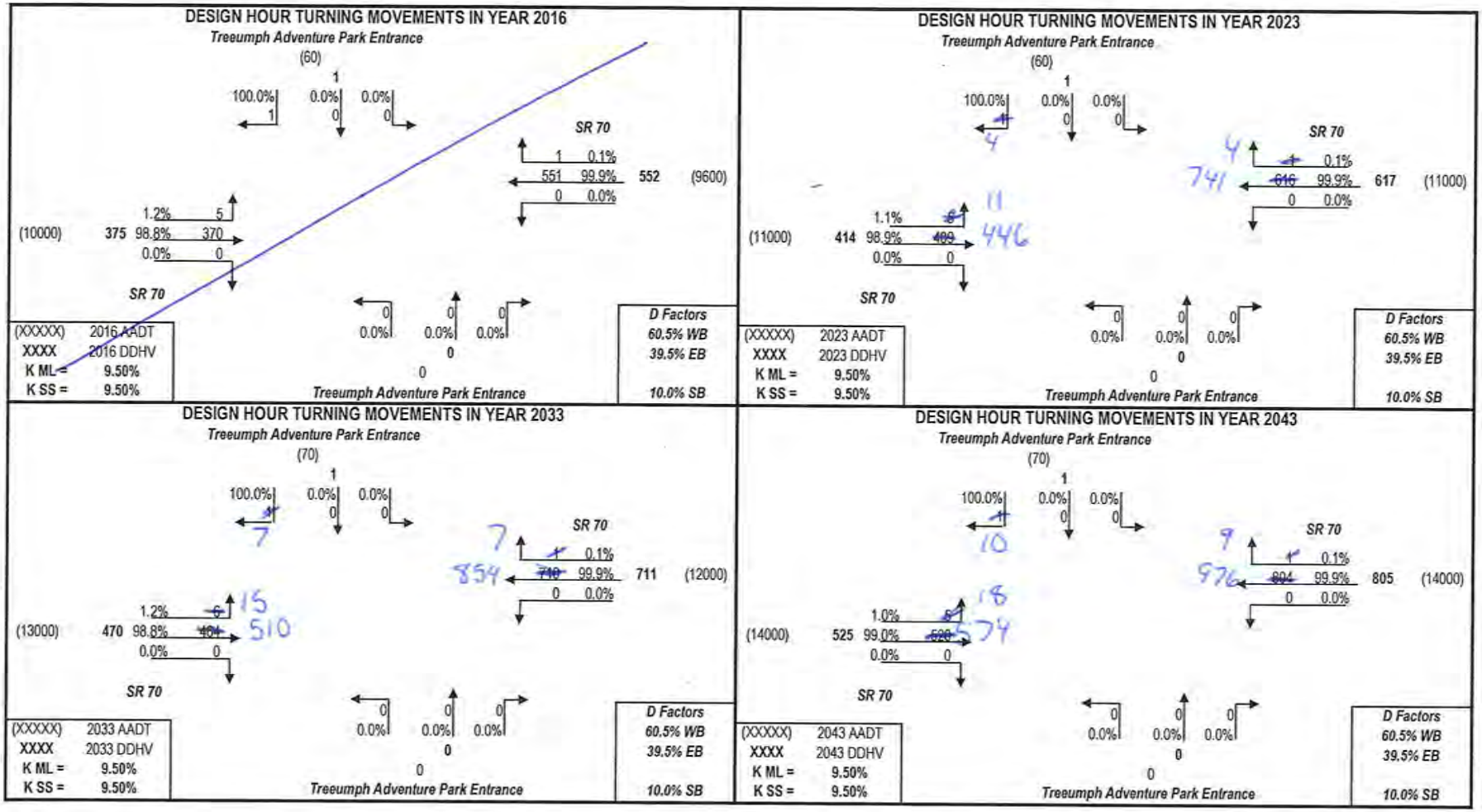
The turning percentages first guess is the same as the ***actual distribution of turning volumes entered***. No balancing technique is used.

FSUTMS Model Year AADTs

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

AM B

PROJECT TRAFFIC FOR SR 70 AT Treeumph Adventure Park Entrance



TURNS5 ANALYSIS SHEET - INPUT

AM B

Analyst:
Date: 28-Jul-16
Highway: SR 70
Intersection: 225th St E
Project: SR 70 DTTM
County: Manatee

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

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

K Factors	
Mainline	9.50%
Side street	9.50%

D Factors	
Mainline	
Westbound (WB)	60.5%
Eastbound (EB)	39.5%
Side street	
Northbound (NB)	63.4%
Southbound (SB)	36.6%

Do you have FTSUTMS Model Year traffic from which you would like to interpolate/extrapolate for project years? (Y/N)

Enter Yes or No — ◉ Yes ○ No

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

Enter Year and Growth Rates from Base Year:

	Year	Rate (1.0% = 0.01) Mainline	Side Street
Base	2016		
Opening	2023	0.60%	0.60%
Mid	2033		
Design	2043		

Mainline Growth Function: ◉ Linear ○ Exponential ○ Decaying

Side Street Growth Function: ◉ Linear ○ Exponential ○ Decaying

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

From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
10000	9600	200	810	20610

Enter Project and Model Years

	Year
Base	2016
Opening	2023
Mid	2033
Design	2043
Model	2043

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

	From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
2016	10000	9600	200	810	20610
2043	14000	14000	230	940	29170

First Guess Turning % Option Used
Existing Turning Movement Counts

		1st Guess Turning %'s for AADT Balancing	Actual/Counted Traffic for 2016	
(EB LT)	*West-to-North*	1.3%	3	Existing Year AADTs
(EB THRU)	*West-to-East*	93.7%	225	
(EB RT)	*West-to-South*	5.0%	12	
(WB LT)	*East-to-South*	0.2%	1	
(WB THRU)	*East-to-West*	99.4%	547	
(WB RT)	*East-to-North*	0.4%	2	
(SB LT)	*North-to-East*	22.7%	5	Existing Turning Movement Counts
(SB THRU)	*North-to-South*	4.6%	1	
(SB RT)	*North-to-West*	72.7%	16	
(NB LT)	*South-to-West*	96.4%	53	FSUTMS Model Year AADTs
(NB THRU)	*South-to-North*	0.0%	0	
(NB RT)	*South-to-East*	3.6%	2	

Desired Closure: 1.00

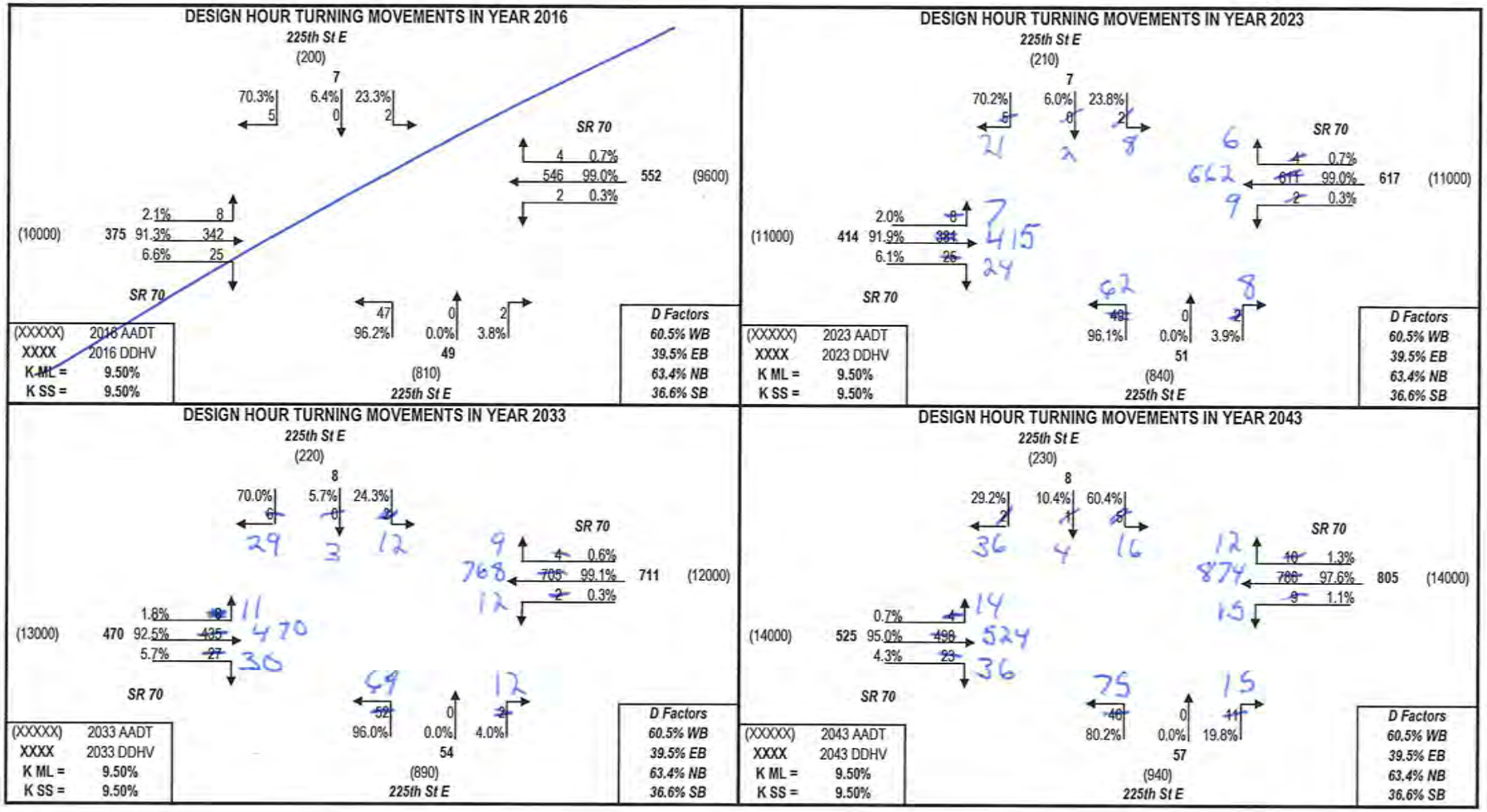
Only the existing year total departure volumes [AADT*K*(1-D)] will be used to calculate the turning percentages first guess.

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

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

AM B

PROJECT TRAFFIC FOR SR 70 AT 225th St E



TURNS5 ANALYSIS SHEET - INPUT

Analyst:
Date: 28-Jul-16
Highway: SR 70
Intersection: Meadow Dove Ln-CR 675
Project: SR 70 DTTM
County: Manatee

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

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

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

K Factors	Mainline
	9.50%
	Side street
	9.50%

D Factors	*Mainline*
Westbound (WB)	60.5%
Eastbound (EB)	39.5%
	Side street
Northbound (NB)	38.8%
Southbound (SB)	61.2%

Do you have FTSUTMS Model Year traffic from which you would like to interpolate/extrapolate for project years? (Y/N)

Enter Yes or No
- (●) Yes
- ( ) No

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

Enter Year and Growth Rates from Base Year:

	Year	*Rate* (1.0% = 0.01) Mainline	Side Street
Base	2016		
Opening	2023		
Mid	2033	0.60%	0.60%
Design	2043		

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

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

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

From West: *EB Approach*	*From East:* *WB Approach*	*From North:* *SB Approach*	*From South:* *NB Approach*	***TOTAL***
10000	9600	200	810	20610

Enter Project and Model Years

	Year
Base	2016
Opening	2023
Mid	2033
Design	2043
Model	2043

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

	From West: *EB Approach*	*From East:* *WB Approach*	*From North:* *SB Approach*	*From South:* *NB Approach*	***TOTAL***
2016	9600	9500	2600	360	22060
2043	14000	14000	4200	580	32780

		1st Guess Turning %'s for AADT Balancing	**Actual/Counted Traffic for 2016**
(EB LT)	*West-to-North*	15.9%	37
(EB THRU)	*West-to-East*	82.8%	193
(EB RT)	*West-to-South*	1.3%	3
(WB LT)	*East-to-South*	0.2%	1
(WB THRU)	*East-to-West*	89.7%	419
(WB RT)	*East-to-North*	10.1%	47
(SB LT)	*North-to-East*	38.4%	66
(SB THRU)	*North-to-South*	0.0%	0
(SB RT)	*North-to-West*	61.6%	106
(NB LT)	*South-to-West*	64.9%	24
(NB THRU)	*South-to-North*	10.8%	4
(NB RT)	*South-to-East*	24.3%	9

Desired Closure: 1.00

Existing Year AADTs

Existing Turning Movement Counts

FSUTMS Model Year AADTs

First Guess Turning % Option Used
Existing Turning Movement Counts

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

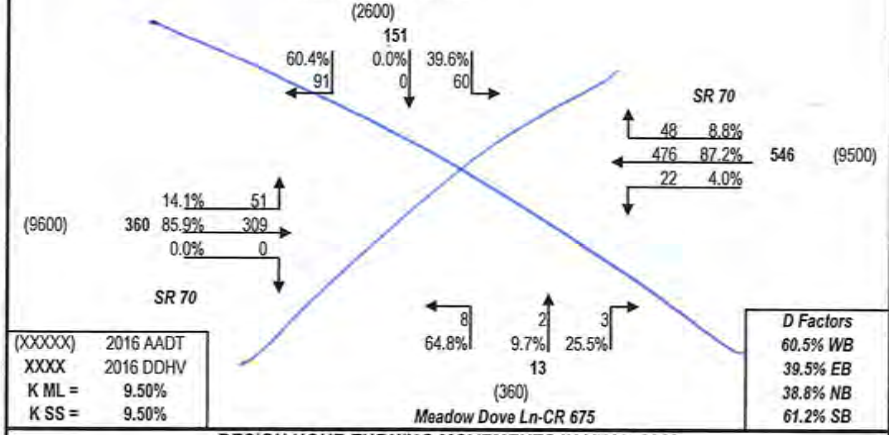
The turning percentages first guess is the same as the ***actual distribution of turning volumes entered***. No balancing technique is used.

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

AM B

PROJECT TRAFFIC FOR SR 70 AT Meadow Dove Ln-CR 675

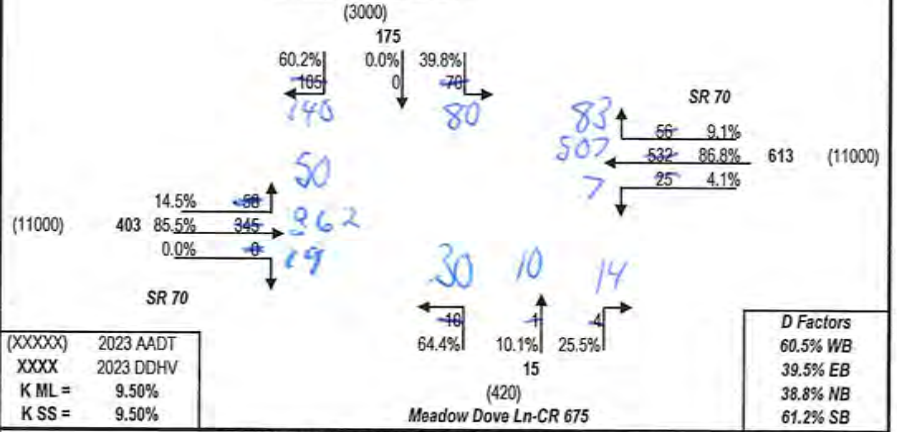
DESIGN HOUR TURNING MOVEMENTS IN YEAR 2016



(XXXXX)	2016 AADT
XXXX	2016 DDHV
K ML =	9.50%
K SS =	9.50%

D Factors
60.5% WB
39.5% EB
38.8% NB
61.2% SB

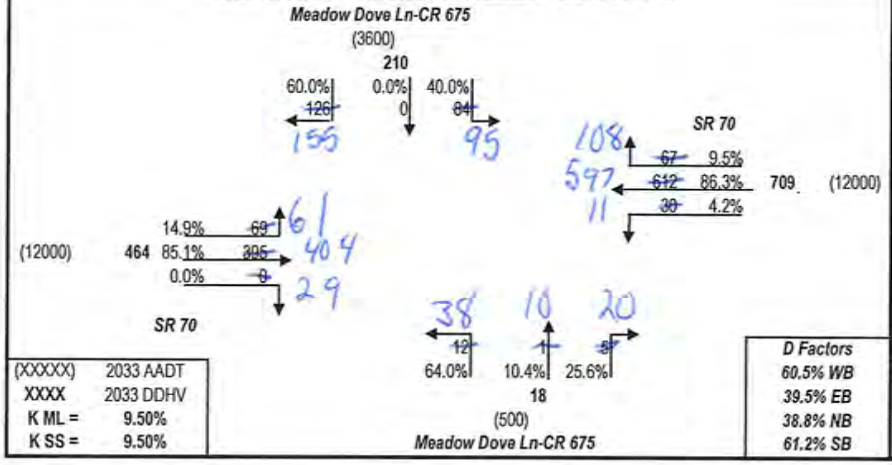
DESIGN HOUR TURNING MOVEMENTS IN YEAR 2023



(XXXXX)	2023 AADT
XXXX	2023 DDHV
K ML =	9.50%
K SS =	9.50%

D Factors
60.5% WB
39.5% EB
38.8% NB
61.2% SB

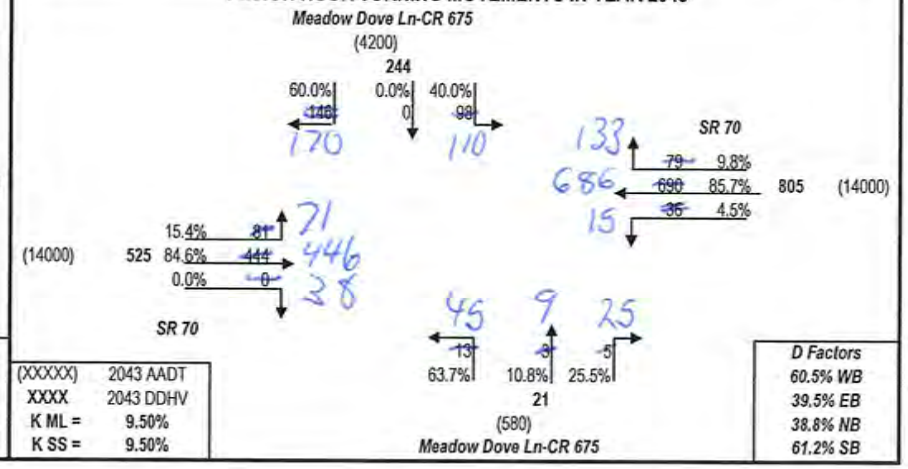
DESIGN HOUR TURNING MOVEMENTS IN YEAR 2033



(XXXXX)	2033 AADT
XXXX	2033 DDHV
K ML =	9.50%
K SS =	9.50%

D Factors
60.5% WB
39.5% EB
38.8% NB
61.2% SB

DESIGN HOUR TURNING MOVEMENTS IN YEAR 2043



(XXXXX)	2043 AADT
XXXX	2043 DDHV
K ML =	9.50%
K SS =	9.50%

D Factors
60.5% WB
39.5% EB
38.8% NB
61.2% SB

PM B

TURNS5 ANALYSIS SHEET - INPUT

Analyst:
Date: 28-Jul-16
Highway: SR 70
Intersection: Lorraine Road
Project: SR 70 DTTM
County: Manatee

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

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

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

K Factors	Mainline
	9.50%
	Side street
	9.50%

D Factors	*Mainline*
Westbound (WB)	39.5%
Eastbound (EB)	60.5%
	Side street
Northbound (NB)	55.9%
Southbound (SB)	44.1%

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

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

Enter Year and Growth Rates from Base Year:

Rate (1.0% = 0.01)

	Year	**Mainline**	**Side Street**
Base	2016		
Opening	2023	4.00%	4.00%
Mid	2033		
Design	2043		

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

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

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

From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
22000	15000	6600	10000	53600

Enter Project and Model Years

	Year
Base	2016
Opening	2023
Mid	2033
Design	2043
Model	2043

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

	From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
2016	22000	15000	6600	10000	53600
2043	48000	32000	16000	22000	118000

First Guess Turning % Option Used
Existing Turning Movement Counts

		1st Guess Turning %'s for AADT Balancing	**Actual/Counted Traffic for 2016**	
(EB LT)	*West-to-North*	20.6%	202	Existing Year AADTs
(EB THRU)	*West-to-East*	58.5%	573	
(EB RT)	*West-to-South*	20.9%	205	
(WB LT)	*East-to-South*	8.3%	43	
(WB THRU)	*East-to-West*	81.1%	423	
(WB RT)	*East-to-North*	10.6%	55	Existing Turning Movement Counts
(SB LT)	*North-to-East*	29.2%	80	
(SB THRU)	*North-to-South*	33.2%	91	
(SB RT)	*North-to-West*	37.6%	103	
(NB LT)	*South-to-West*	50.4%	332	FSUTMS Model Year AADTs
(NB THRU)	*South-to-North*	33.1%	218	
(NB RT)	*South-to-East*	16.5%	109	

Desired Closure: 0.01

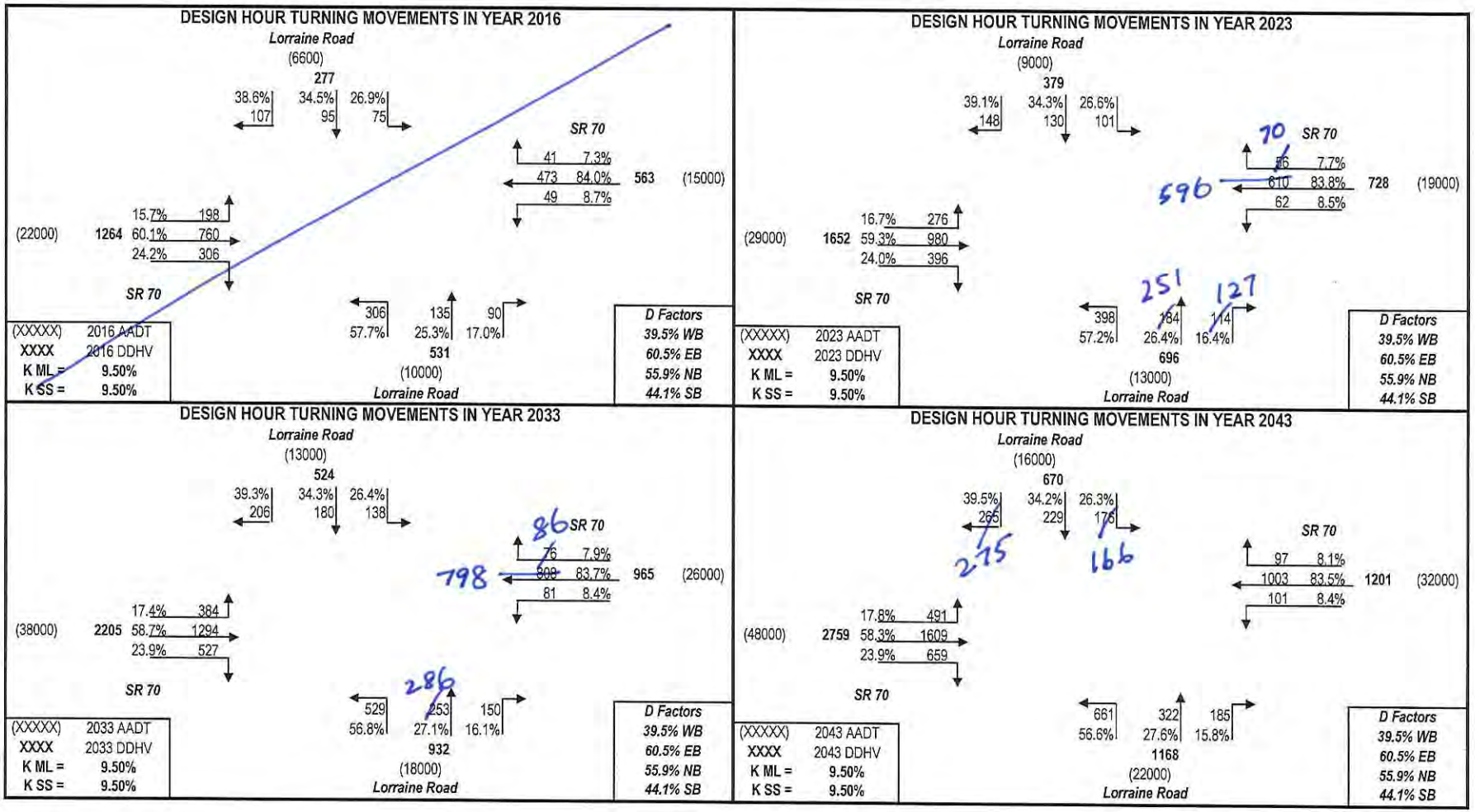
Only the existing year total departure volumes [AADT*K*(1-D)] will be used to calculate the turning percentages first guess.

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

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

PM B

PROJECT TRAFFIC FOR SR 70 AT Lorraine Road



TURNS5 ANALYSIS SHEET - INPUT

PM B

Analyst:
Date: 28-Jul-16
Highway: SR 70
Intersection: Greenbrook Blvd-Post Blvd
Project: SR 70 DTTM
County: Manatee

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

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

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

K Factors	Mainline
	9.50%
	Side street
	9.50%

D Factors	*Mainline*
Westbound (WB)	39.5%
Eastbound (EB)	60.5%
	Side street
Northbound (NB)	57.5%
Southbound (SB)	42.5%

Do you have FTSUTMS Model Year traffic from which you would like to interpolate/extrapolate for project years? (Y/N)

Enter Yes or No
- (●) Yes
- ( ) No

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

Enter Year and Growth Rates from Base Year:

	Year	*Rate* (1.0% = 0.01) Mainline	Side Street
Base	2016		
Opening	2023		
Mid	2033	2.54%	0.60%
Design	2043		

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

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

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

From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
15000	13000	1500	2600	32100

Enter Project and Model Years

	Year
Base	2016
Opening	2023
Mid	2033
Design	2043
Model	2043

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

	From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
2016	15000	13000	1500	2600	32100
2043	32000	29000	1700	3000	65700

		1st Guess Turning %'s for AADT Balancing	**Actual/Counted Traffic for 2016**
(EB LT)	*West-to-North*	7.5%	59
(EB THRU)	*West-to-East*	78.0%	611
(EB RT)	*West-to-South*	14.5%	114
(WB LT)	*East-to-South*	1.8%	8
(WB THRU)	*East-to-West*	96.8%	430
(WB RT)	*East-to-North*	1.4%	6
(SB LT)	*North-to-East*	14.6%	6
(SB THRU)	*North-to-South*	17.1%	7
(SB RT)	*North-to-West*	68.3%	28
(NB LT)	*South-to-West*	62.6%	67
(NB THRU)	*South-to-North*	17.8%	19
(NB RT)	*South-to-East*	19.6%	21

Desired Closure: 0.01

First Guess Turning % Option Used
Existing Turning Movement Counts

Existing Year AADTs

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

Existing Turning Movement Counts

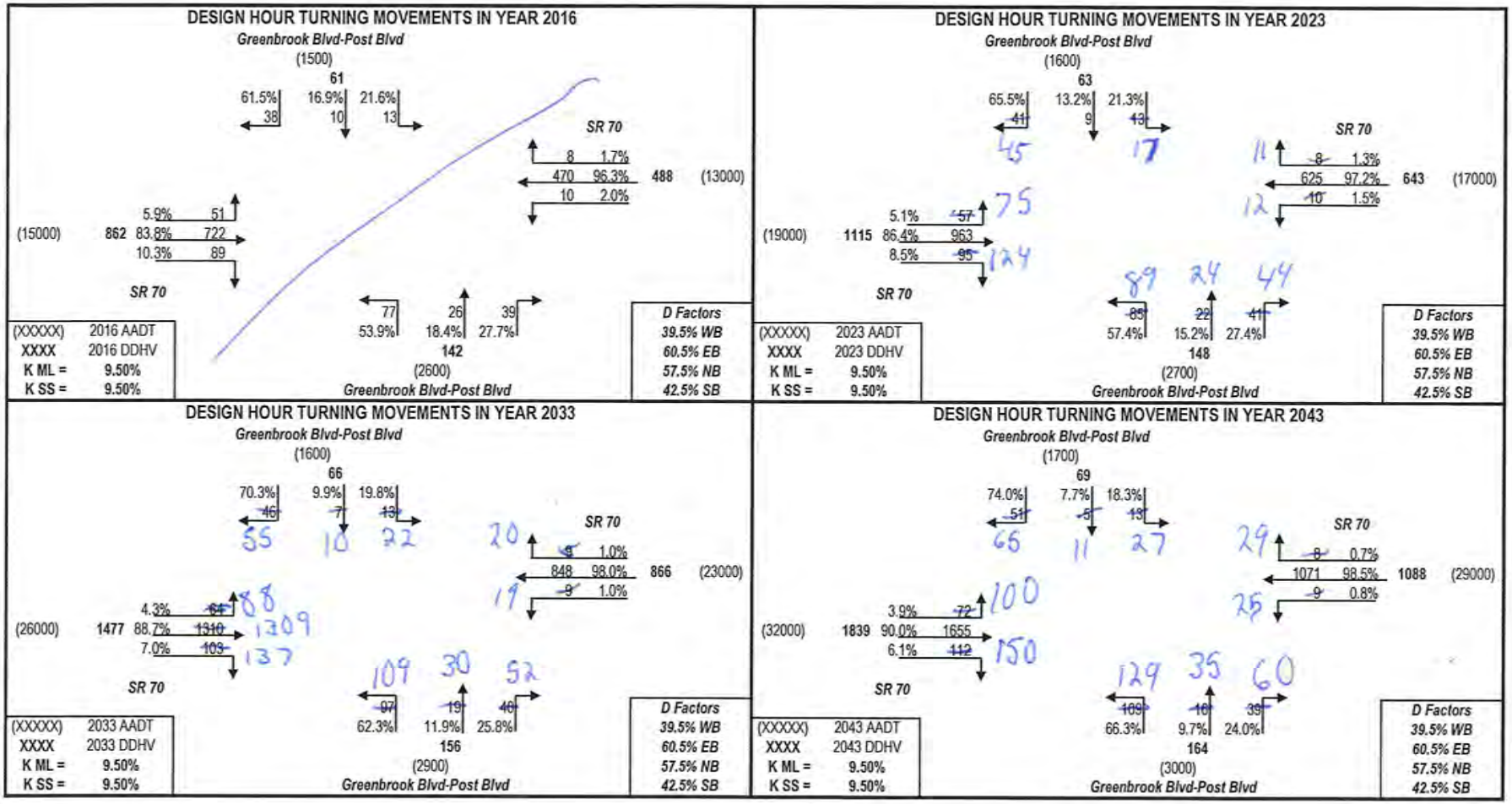
The turning percentages first guess is the same as the ***actual distribution of turning volumes entered***. No balancing technique is used.

FSUTMS Model Year AADTs

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

PM B

PROJECT TRAFFIC FOR SR 70 AT Greenbrook Blvd-Post Blvd



TURNS5 ANALYSIS SHEET - INPUT

PM B

Analyst:
Date: 10-Aug-16
Highway: SR 70
Intersection: Del Webb Blvd
Project: SR 70 DTTM
County: Manatee

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

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

K Factors	Mainline
	9.50%
	Side street
	9.50%

D Factors	*Mainline*
Westbound (WB)	39.5%
Eastbound (EB)	60.5%
	Side street
Northbound (NB)	40.0%
Southbound (SB)	0.0%

Do you have FTSUTMS Model Year traffic from which you would like to interpolate/extrapolate for project years? (Y/N)

Enter Yes or No ◉ Yes ○ No

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

Enter Year and Growth Rates from Base Year:

	Year	*Rate* (1.0% = 0.01) Mainline	Side Street
Base	2016		
Opening	2023		
Mid	2033	0.60%	0.60%
Design	2043		

Mainline Growth Function: ◉ Linear ○ Exponential ○ Decaying

Side Street Growth Function: ◉ Linear ○ Exponential ○ Decaying

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

From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
10000	9600	60	0	19660

Enter Project and Model Years

	Year
Base	2016
Opening	2023
Mid	2033
Design	2043
Model	2043

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

	From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
2016	13000	11000	0	1500	25500
2043	29000	19000	0	9000	57000

		1st Guess Turning %'s for AADT Balancing	**Actual/Counted Traffic for 2016**
(EB LT)	*West-to-North*	0.0%	0
(EB THRU)	*West-to-East*	68.0%	550
(EB RT)	*West-to-South*	32.0%	0
(WB LT)	*East-to-South*	32.0%	0
(WB THRU)	*East-to-West*	68.0%	295
(WB RT)	*East-to-North*	0.0%	0
(SB LT)	*North-to-East*	0.0%	0
(SB THRU)	*North-to-South*	0.0%	0
(SB RT)	*North-to-West*	0.0%	0
(NB LT)	*South-to-West*	49.9%	0
(NB THRU)	*South-to-North*	0.0%	0
(NB RT)	*South-to-East*	50.1%	0

Desired Closure: 7.00

Existing Year AADTs

Existing Turning Movement Counts

FSUTMS Model Year AADTs

First Guess Turning % Option Used
FSUTMS Model Year AADTs

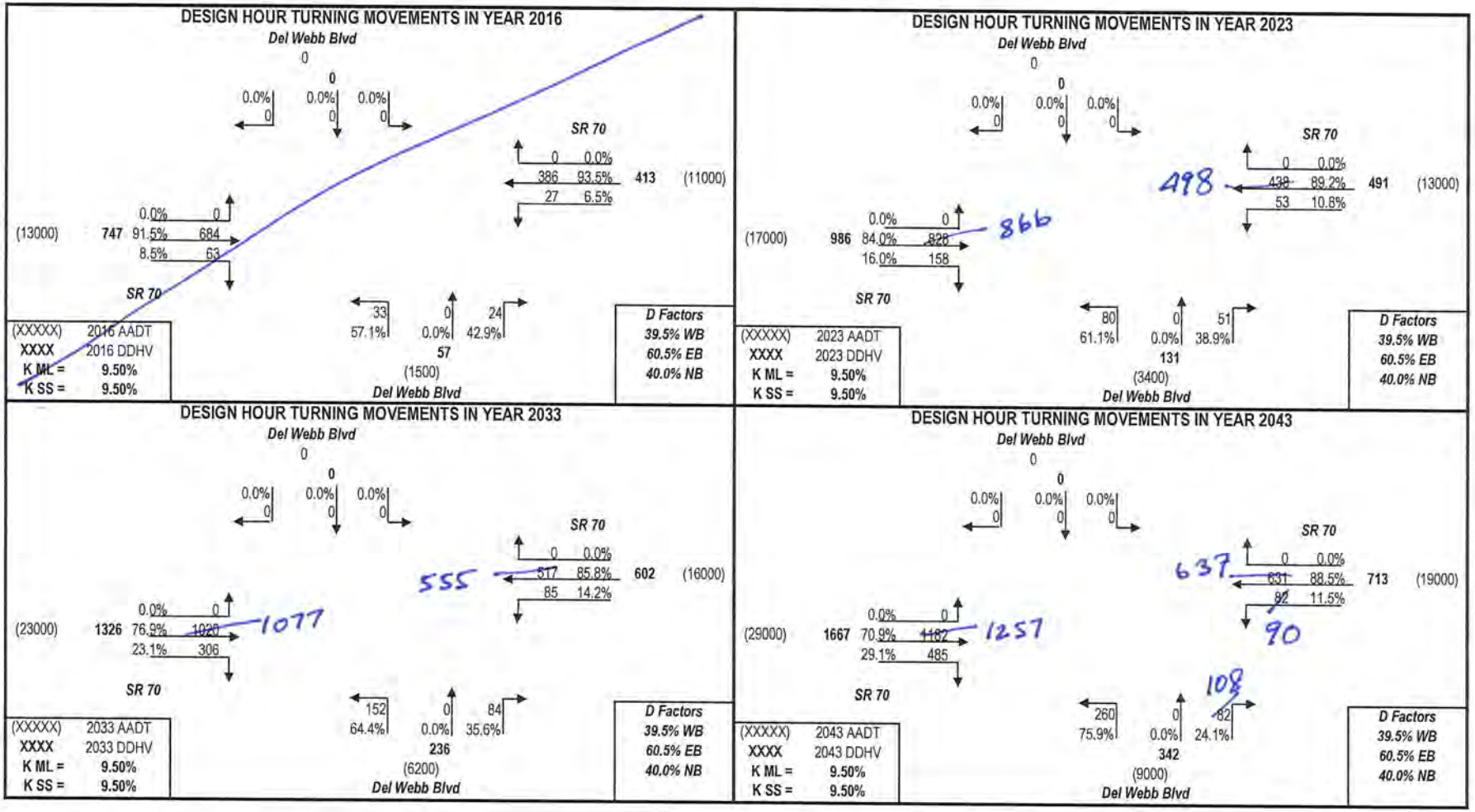
Only the existing year total departure volumes [AADT*K*(1-D)] will be used to calculate the turning percentages first guess.

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

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

PM B

PROJECT TRAFFIC FOR SR 70 AT Del Webb Blvd



TURNS5 ANALYSIS SHEET - INPUT

PM B

Analyst:
Date: 28-Jul-16
Highway: SR 70
Intersection: Lindrick Ln-197th St E
Project: SR 70 DTTM
County: Manatee

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

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

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

K Factors	Mainline
	9.50%
	Side street
	9.50%

D Factors	*Mainline*
Westbound (WB)	39.5%
Eastbound (EB)	60.5%
	Side street
Northbound (NB)	76.6%
Southbound (SB)	23.4%

Do you have FTSUTMS Model Year traffic from which you would like to interpolate/extrapolate for project years? (Y/N)

Enter Yes or No
- (●) Yes
- ( ) No

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

Enter Year and Growth Rates from Base Year:

	Year	*Rate* (1.0% = 0.01) Mainline	Side Street
Base	2016		
Opening	2023	0.60%	0.60%
Mid	2033		
Design	2043		

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

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

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

From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
13000	11000	1100	1500	26600

Enter Project and Model Years

	Year
Base	2016
Opening	2023
Mid	2033
Design	2043
Model	2043

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

	From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
2016	13000	11000	1100	1500	26600
2043	18000	16000	1300	1700	37000

		1st Guess Turning %'s for AADT Balancing	**Actual/Counted Traffic for 2016**
(EB LT)	*West-to-North*	9.1%	61
(EB THRU)	*West-to-East*	84.6%	568
(EB RT)	*West-to-South*	6.3%	42
(WB LT)	*East-to-South*	1.7%	5
(WB THRU)	*East-to-West*	98.0%	295
(WB RT)	*East-to-North*	0.3%	1
(SB LT)	*North-to-East*	3.1%	1
(SB THRU)	*North-to-South*	0.0%	0
(SB RT)	*North-to-West*	96.9%	31
(NB LT)	*South-to-West*	85.7%	54
(NB THRU)	*South-to-North*	0.0%	0
(NB RT)	*South-to-East*	14.3%	9

Desired Closure: 0.01

Existing Year AADTs

Existing Turning Movement Counts

FSUTMS Model Year AADTs

First Guess Turning % Option Used
Existing Turning Movement Counts

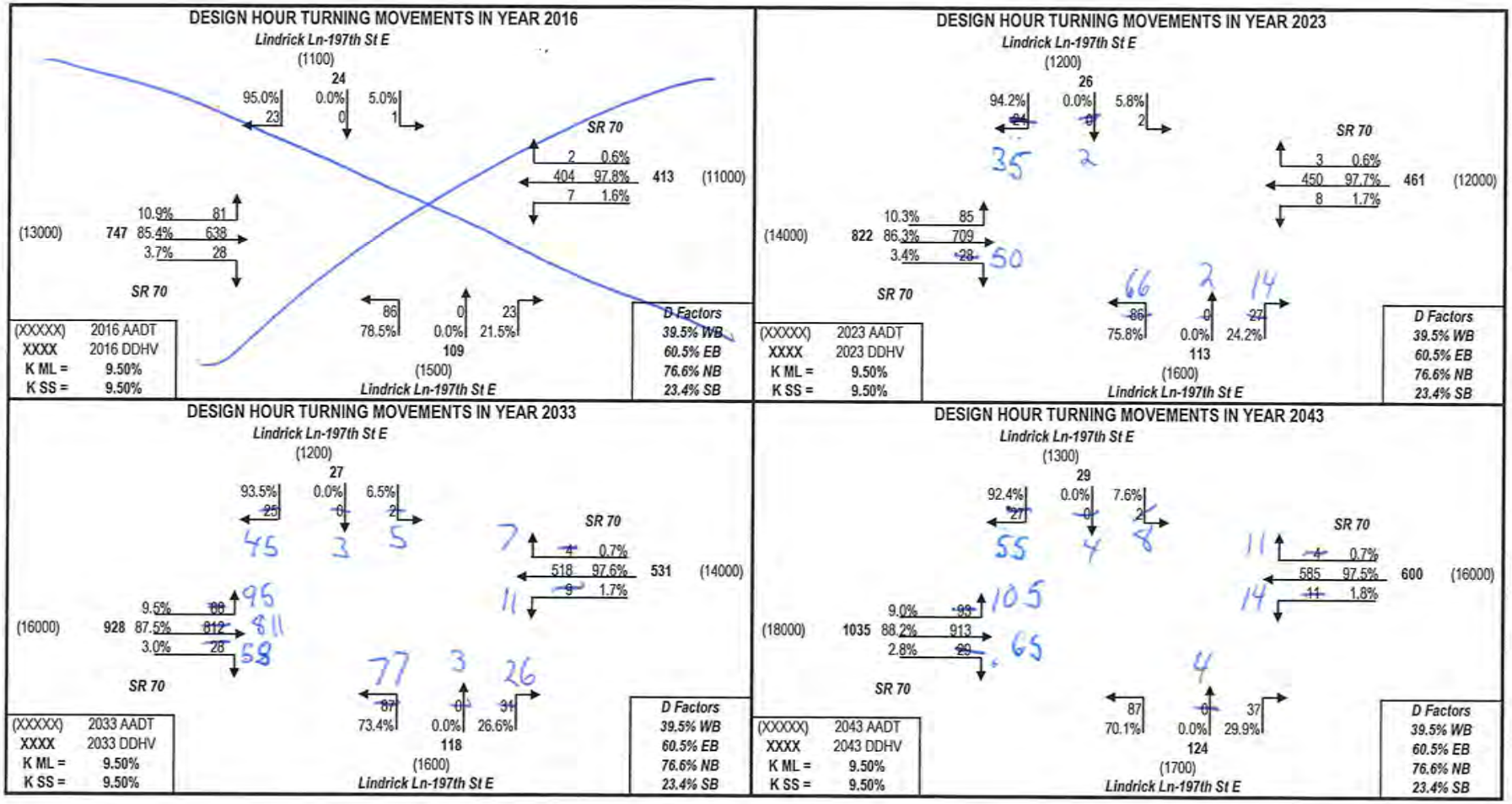
Only the existing year total departure volumes [AADT*K*(1-D)] will be used to calculate the turning percentages first guess.

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

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

PM B

PROJECT TRAFFIC FOR SR 70 AT Lindrick Ln-197th St E



TURNS5 ANALYSIS SHEET - INPUT

PM B

Analyst:
Date: 28-Jul-16
Highway: SR 70
Intersection: 213th St E
Project: SR 70 DTTM
County: Manatee

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

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

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

K Factors	Mainline
	9.50%
	Side street
	9.50%

D Factors	*Mainline*
Westbound (WB)	39.5%
Eastbound (EB)	60.5%
	Side street
Northbound (NB)	26.5%
Southbound (SB)	0.0%

Do you have FTSUTMS Model Year traffic from which you would like to interpolate/extrapolate for project years? (Y/N)

Enter Yes or No
- ◉ Yes
- ○ No

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

Enter Year and Growth Rates from Base Year:

	Year	*Rate* (1.0% = 0.01) Mainline	Side Street
Base	2016		
Opening	2023	0.60%	0.60%
Mid	2033		
Design	2043		

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

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

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

From West: *EB Approach*	*From East:* *WB Approach*	*From North:* *SB Approach*	*From South:* *NB Approach*	***TOTAL***
11000	10000	0	310	21310

Enter Project and Model Years

	Year
Base	2016
Opening	2023
Mid	2033
Design	2043
Model	2043

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

	From West: *EB Approach*	*From East:* *WB Approach*	*From North:* *SB Approach*	*From South:* *NB Approach*	***TOTAL***
2016	11000	11000	0	310	22310
2043	16000	14000	0	360	30360

		1st Guess Turning %'s for AADT Balancing	**Actual/Counted Traffic for 2016**
(EB LT)	*West-to-North*	0.0%	0
(EB THRU)	*West-to-East*	97.2%	562
(EB RT)	*West-to-South*	2.8%	16
(WB LT)	*East-to-South*	0.3%	1
(WB THRU)	*East-to-West*	99.7%	294
(WB RT)	*East-to-North*	0.0%	0
(SB LT)	*North-to-East*	0.0%	0
(SB THRU)	*North-to-South*	0.0%	0
(SB RT)	*North-to-West*	0.0%	0
(NB LT)	*South-to-West*	100.0%	10
(NB THRU)	*South-to-North*	0.0%	0
(NB RT)	*South-to-East*	0.0%	0

Desired Closure: 3.00

Existing Year AADTs

Existing Turning Movement Counts

FSUTMS Model Year AADTs

First Guess Turning % Option Used
Existing Turning Movement Counts

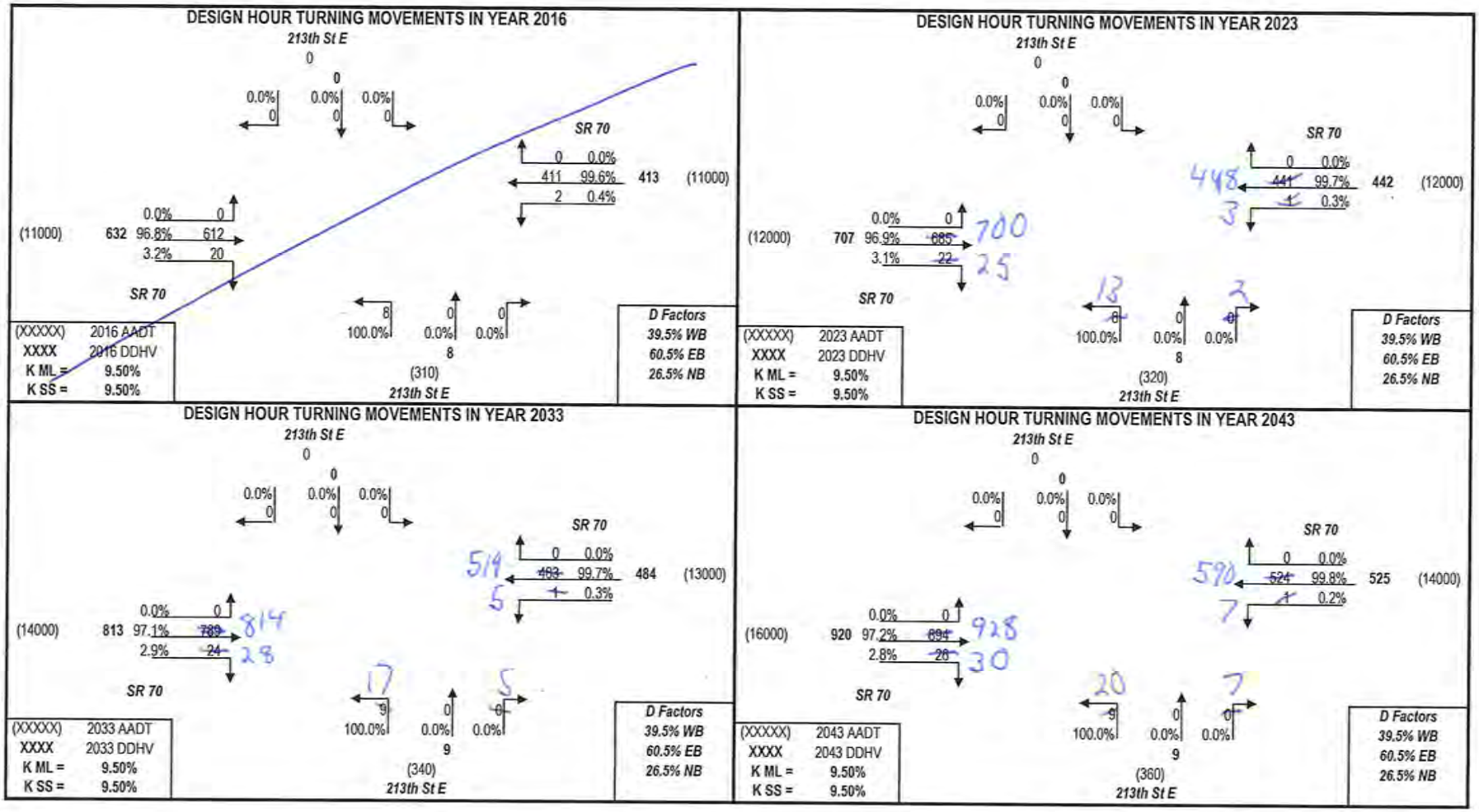
Only the existing year total departure volumes [AADT*K*(1-D)] will be used to calculate the turning percentages first guess.

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

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

PM B

PROJECT TRAFFIC FOR SR 70 AT 213th St E



TURNS5 ANALYSIS SHEET - INPUT

PM B

Analyst:
Date: 28-Jul-16
Highway: SR 70
Intersection: Treeumph Adventure Park Entrance
Project: SR 70 DTTM
County: Manatee

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

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

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

K Factors	Mainline
	9.50%
	Side street
	9.50%

D Factors	*Mainline*
Westbound (WB)	39.5%
Eastbound (EB)	60.5%
	Side street
Northbound (NB)	0.0%
Southbound (SB)	99.0%

Do you have FTSUTMS Model Year traffic from which you would like to interpolate/extrapolate for project years? (Y/N)

Enter Yes or No
- ◉ Yes
- ○ No

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

Enter Year and Growth Rates from Base Year:

	Year	*Rate* (1.0% = 0.01) Mainline	Side Street
Base	2016		
Opening	2023	0.60%	0.60%
Mid	2033		
Design	2043		

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

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

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

From West: *EB Approach*	*From East:* *WB Approach*	*From North:* *SB Approach*	*From South:* *NB Approach*	***TOTAL***
10000	9600	60	0	19660

Enter Project and Model Years

	Year
Base	2016
Opening	2023
Mid	2033
Design	2043
Model	2043

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

	From West: *EB Approach*	*From East:* *WB Approach*	*From North:* *SB Approach*	*From South:* *NB Approach*	***TOTAL***
2016	10000	9600	60	0	19660
2043	14000	14000	70	0	28070

First Guess Turning % Option Used
Existing Turning Movement Counts

		1st Guess Turning %'s for AADT Balancing	**Actual/Counted Traffic for 2016**
(EB LT)	*West-to-North*	0.4%	2
(EB THRU)	*West-to-East*	99.6%	550
(EB RT)	*West-to-South*	0.0%	0
(WB LT)	*East-to-South*	0.0%	0
(WB THRU)	*East-to-West*	100.0%	295
(WB RT)	*East-to-North*	0.0%	0
(SB LT)	*North-to-East*	0.0%	0
(SB THRU)	*North-to-South*	0.0%	0
(SB RT)	*North-to-West*	100.0%	0
(NB LT)	*South-to-West*	0.0%	0
(NB THRU)	*South-to-North*	0.0%	0
(NB RT)	*South-to-East*	0.0%	0
Desired Closure:		1.00	

Existing Year AADTs

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

Existing Turning Movement Counts

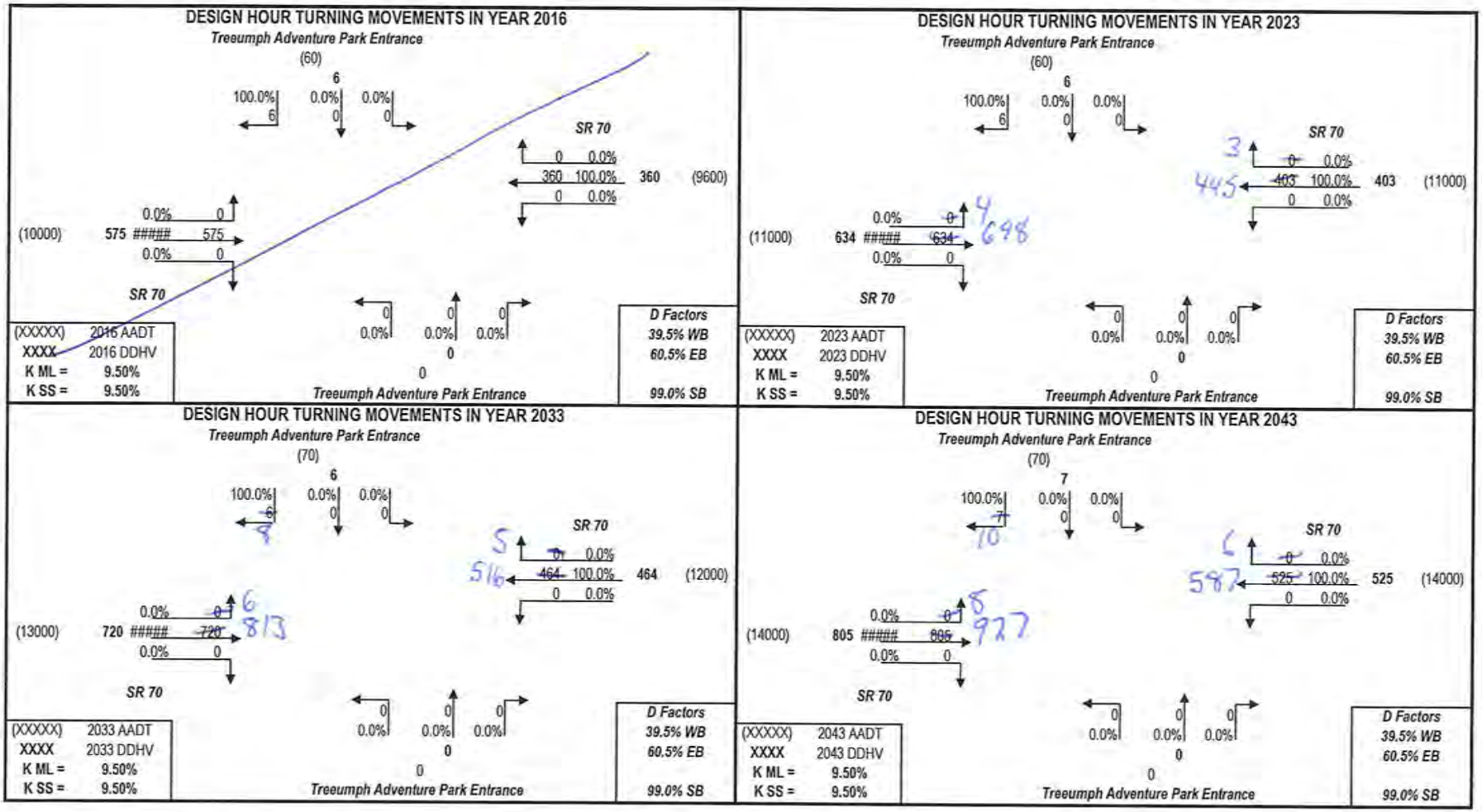
The turning percentages first guess is the same as the ***actual distribution of turning volumes entered***. No balancing technique is used.

FSUTMS Model Year AADTs

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

PM B

PROJECT TRAFFIC FOR SR 70 AT Treeumph Adventure Park Entrance



TURNS5 ANALYSIS SHEET - INPUT

PM B

Analyst:
Date: 28-Jul-16
Highway: SR 70
Intersection: 225th St E
Project: SR 70 DTTM
County: Manatee

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

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

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

K Factors	
Mainline	9.50%
Side street	9.50%

D Factors	
Mainline	
Westbound (WB)	39.5%
Eastbound (EB)	60.5%
Side street	
Northbound (NB)	63.4%
Southbound (SB)	36.6%

Do you have FTSUTMS Model Year traffic from which you would like to interpolate/extrapolate for project years? (Y/N) — Yes

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

Enter Year and Growth Rates from Base Year:

	Year	Rate (1.0% = 0.01) Mainline	Side Street
Base	2016		
Opening	2023	0.60%	0.60%
Mid	2033		
Design	2043		

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

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

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

From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
10000	9600	200	810	20610

Enter Project and Model Years

	Year
Base	2016
Opening	2023
Mid	2033
Design	2043
Model	2043

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

	From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
2016	10000	9600	200	810	20610
2043	14000	14000	230	940	29170

First Guess Turning % Option Used: Existing Turning Movement Counts

		1st Guess Turning %'s for AADT Balancing	Actual/Counted Traffic for 2016	
(EB LT)	*West-to-North*	1.4%	8	Existing Year AADTs
(EB THRU)	*West-to-East*	89.2%	496	
(EB RT)	*West-to-South*	9.4%	52	
(WB LT)	*East-to-South*	0.4%	1	Existing Turning Movement Counts
(WB THRU)	*East-to-West*	99.2%	256	
(WB RT)	*East-to-North*	0.4%	1	
(SB LT)	*North-to-East*	0.0%	0	
(SB THRU)	*North-to-South*	0.0%	0	
(SB RT)	*North-to-West*	100.0%	10	
(NB LT)	*South-to-West*	88.5%	23	FSUTMS Model Year AADTs
(NB THRU)	*South-to-North*	3.8%	1	
(NB RT)	*South-to-East*	7.7%	2	

Desired Closure: 0.01

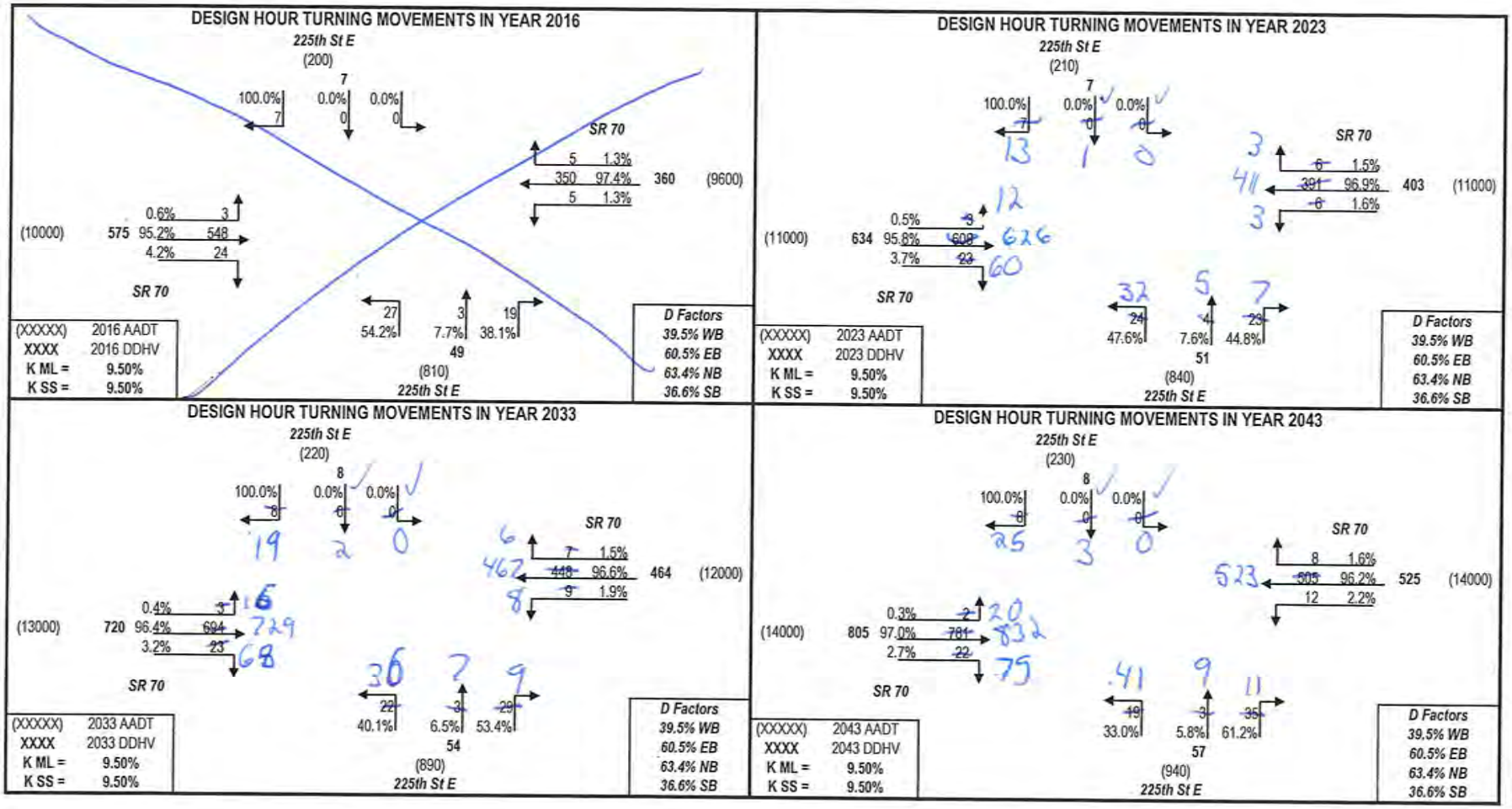
Only the existing year total departure volumes [AADT*K*(1-D)] will be used to calculate the turning percentages first guess.

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

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

PM B

PROJECT TRAFFIC FOR SR 70 AT 225th St E



TURNS5 ANALYSIS SHEET - INPUT

PM B

Analyst:
Date: 28-Jul-16
Highway: SR 70
Intersection: Meadow Dove Ln-CR 675
Project: SR 70 DTTM
County: Manatee

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

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

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

K Factors	Mainline
	9.50%
	Side street
	9.50%

D Factors	*Mainline*
Westbound (WB)	39.5%
Eastbound (EB)	60.5%
	Side street
Northbound (NB)	61.2%
Southbound (SB)	38.8%

Do you have FTSUTMS Model Year traffic from which you would like to interpolate/extrapolate for project years? (Y/N)

Enter Yes or No
- (●) Yes
- ( ) No

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

Enter Year and Growth Rates from Base Year:

	Year	*Rate* (1.0% = 0.01) Mainline	Side Street
Base	2016		
Opening	2023		
Mid	2033	0.60%	0.60%
Design	2043		

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

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

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

From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
10000	9600	200	810	20610

Enter Project and Model Years

	Year
Base	2016
Opening	2023
Mid	2033
Design	2043
Model	2043

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

	From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
2016	9600	9500	2600	360	22060
2043	14000	14000	4200	580	32780

First Guess Turning % Option Used
Existing Turning Movement Counts

		1st Guess Turning %'s for AADT Balancing	**Actual/Counted Traffic for 2016**
(EB LT)	*West-to-North*	19.9%	99
(EB THRU)	*West-to-East*	78.5%	391
(EB RT)	*West-to-South*	1.6%	8
(WB LT)	*East-to-South*	2.2%	6
(WB THRU)	*East-to-West*	77.9%	211
(WB RT)	*East-to-North*	19.9%	54
(SB LT)	*North-to-East*	59.8%	55
(SB THRU)	*North-to-South*	3.2%	3
(SB RT)	*North-to-West*	37.0%	34
(NB LT)	*South-to-West*	75.0%	15
(NB THRU)	*South-to-North*	10.0%	2
(NB RT)	*South-to-East*	15.0%	3

Desired Closure: 1.00

Existing Year AADTs

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

Existing Turning Movement Counts

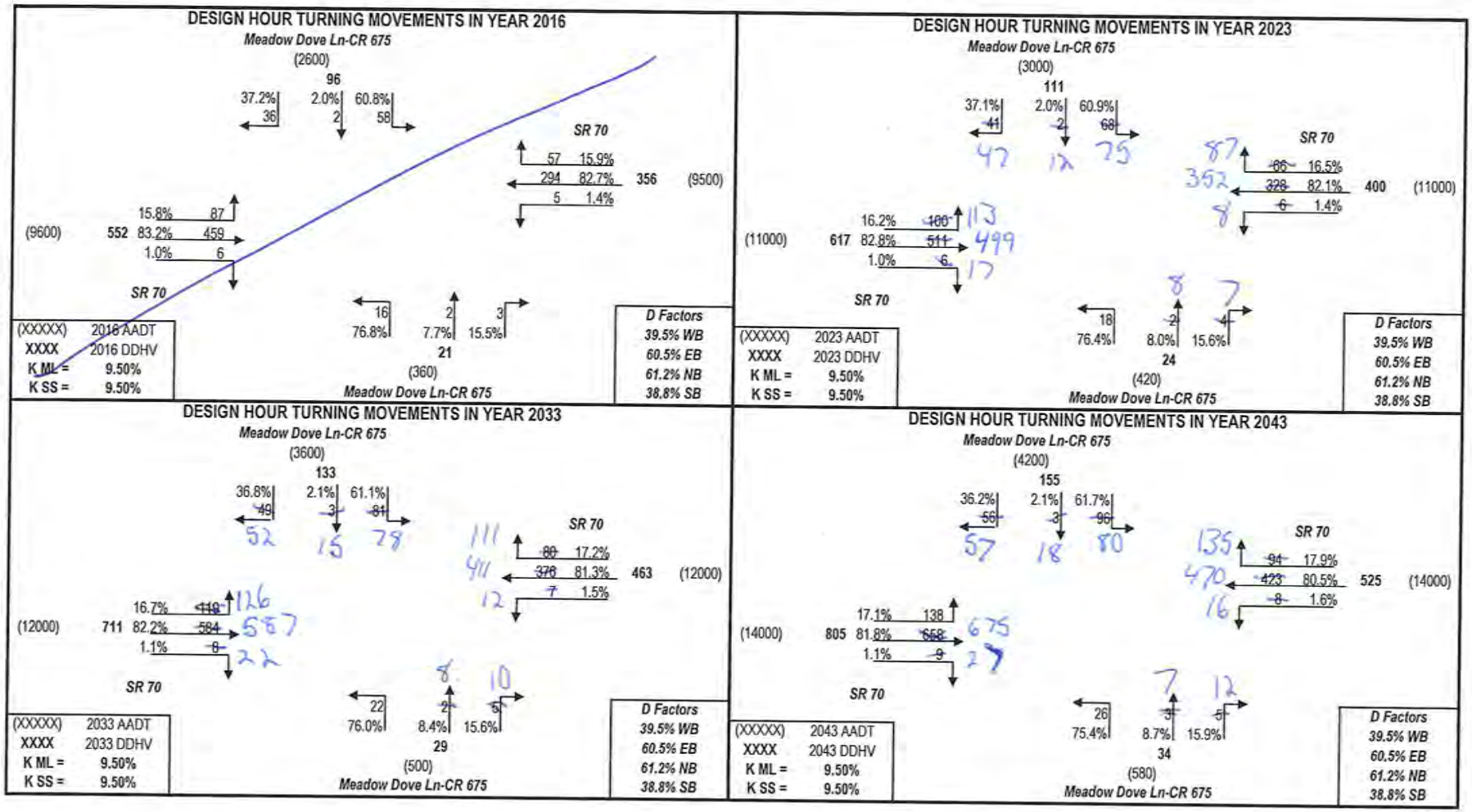
The turning percentages first guess is the same as the ***actual distribution of turning volumes entered***. No balancing technique is used.

FSUTMS Model Year AADTs

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

PM B

PROJECT TRAFFIC FOR SR 70 AT Meadow Dove Ln-CR 675



Appendix N

Signal Warrant Analysis Spreadsheets

TRAFFIC SIGNAL WARRANT SUMMARY

City: **NA** Engineer: **NA**
County: **Manatee** Date: **August 4, 2016**

Major Street: **SR 70** Lanes: **1** Critical Approach Speed: **60**
Minor Street: **Greenbrook Blvd/ Post Blvd** Lanes: **1**
Opening Year 2023 - No Build/Build

Volume Level Criteria

1. Is the critical speed of major street traffic > 70 km/h (40 mph) ? ☝ Yes ☐ No
2. Is the intersection in a built-up area of isolated community of <10,000 population? ☝ Yes ☐ No

If Question 1 or 2 above is answered "Yes", then use "70%" volume level ☝ 70% ☐ 100%

WARRANT 1 - EIGHT-HOUR VEHICULAR VOLUME

Applicable: ☝ Yes ☐ No
Satisfied: ☝ Yes ☐ No

Warrant 1 is satisfied if Condition A or Condition B is "100%" satisfied.
Warrant is also satisfied if both Condition A and Condition B are "80%" satisfied for major streets 40 mph or less, or "56%" satisfied for major streets greater than 40 mph.

Condition A - Minimum Vehicular Volume*

100% (70%) Satisfied: ☝ Yes ☐ No
56% or 80% Satisfied: ☐ Yes ☐ No

(volumes in veh/hr)	Minimum Requirements (80% Shown in Brackets)				Eight Highest Hours							
Approach Lanes	1		2 or more		3-4 PM	7-8 AM	8-9 AM	5-6 PM	4-5 PM	6-7 PM	9-10 AM	2-3 PM
Volume Level	100%	70%	100%	70%								
Both Approaches on Major Street	500 (400) [280]	350	600 (480) [336]	420	2,371	2,580	2,460	2,680	2,271	1,910	1,916	2,375
Highest Approach on Minor Street	150 (120) [84]	105	200 (160) [112]	140	237	228	220	193	182	143	139	134

Record 8 highest hours and the corresponding volumes in boxes provided. Condition is 100% satisfied if the minimum volumes are met for eight hours . Condition is 80% satisfied if (parenthetical) volumes are met for eight hours. Condition is 56% satisfied if [bracketed] volumes are met for eight hours.

Condition B - Interruption of Continuous Traffic

Condition B is intended for application where the traffic volume is so heavy that traffic on the minor street suffers excessive delay.

Applicable: ☐ Yes ☝ No
Excessive Delay: ☐ Yes ☐ No
100% (70%) Satisfied: ☐ Yes ☐ No
56% or 80% Satisfied: ☐ Yes ☐ No

(volumes in veh/hr)	Minimum Requirements (80% Shown in Brackets)				Eight Highest Hours							
Approach Lanes	1		2 or more		3-4 PM	7-8 AM	8-9 AM	5-6 PM	4-5 PM	6-7 PM	9-10 AM	2-3 PM
Volume Level	100%	70%	100%	70%								
Both Approaches on Major Street	750 (600) [420]	525	900 (720) [504]	630	2,371	2,580	2,460	2,680	2,271	1,910	1,916	2,375
Highest Approach on Minor Street	75 (60) [42]	53	100 (80) [56]	70	237	228	220	193	182	143	139	134

Record 8 highest hours and the corresponding volumes in boxes provided. Condition is 100% satisfied if the minimum volumes are met for eight hours . Condition is 80% satisfied if (parenthetical) volumes are met for eight hours. Condition is 56% satisfied if [bracketed] volumes are met for eight hours.

Source: Revised from NCHRP Report 457

TRAFFIC SIGNAL WARRANT SUMMARY

City: **NA** Engineer: **NA**
County: **Manatee** Date: **August 4, 2016**

Major Street: **SR 70** Lanes: **1** Critical Approach Speed: **60**
Minor Street: **Lindrick Ln/197 St E** Lanes: **1**
Design Year 2043 - No Build/ Build

Volume Level Criteria

1. Is the critical speed of major street traffic > 70 km/h (40 mph) ? ☟ Yes ☐ No
2. Is the intersection in a built-up area of isolated community of <10,000 population? ☟ Yes ☐ No

If Question 1 or 2 above is answered "Yes", then use "70%" volume level ☟ 70% ☐ 100%

WARRANT 1 - EIGHT-HOUR VEHICULAR VOLUME

Applicable: ☟ Yes ☐ No
Satisfied: ☐ Yes ☟ No

Warrant 1 is satisfied if Condition A or Condition B is "100%" satisfied.
Warrant is also satisfied if both Condition A and Condition B are "80%" satisfied for major streets 40 mph or less, or "56%" satisfied for major streets greater than 40 mph.

Condition A - Minimum Vehicular Volume*

100% (70%) Satisfied: ☐ Yes ☟ No
56% or 80% Satisfied: ☐ Yes ☐ No

(volumes in veh/hr)	Minimum Requirements (80% Shown in Brackets)				Eight Highest Hours							
Approach Lanes	1		2 or more		7-8 AM	5-6 PM	2-3 PM	4-5 PM	9-10 PM	11-12 AM	12-1 PM	3-4 PM
Volume Level	100%	70%	100%	70%								
Both Approaches on Major Street	500 (400) [280]	350	600 (480) [336]	420	2,940	2,416	2,334	2,167	760	2,044	2,156	2,336
Highest Approach on Minor Street	150 (120) [84]	105	200 (160) [112]	140	67	133	131	123	115	113	113	113

Record 8 highest hours and the corresponding volumes in boxes provided. Condition is 100% satisfied if the minimum volumes are met for eight hours . Condition is 80% satisfied if (parenthetical) volumes are met for eight hours. Condition is 56% satisfied if [bracketed] volumes are met for eight hours.

Condition B - Interruption of Continuous Traffic

Condition B is intended for application where the traffic volume is so heavy that traffic on the minor street suffers excessive delay.

Applicable: ☐ Yes ☟ No
Excessive Delay: ☐ Yes ☐ No
100% (70%) Satisfied: ☐ Yes ☐ No
56% or 80% Satisfied: ☐ Yes ☐ No

(volumes in veh/hr)	Minimum Requirements (80% Shown in Brackets)				Eight Highest Hours							
Approach Lanes	1		2 or more		7-8 AM	5-6 PM	2-3 PM	4-5 PM	9-10 PM	11-12 AM	12-1 PM	3-4 PM
Volume Level	100%	70%	100%	70%								
Both Approaches on Major Street	750 (600) [420]	525	900 (720) [504]	630	2,940	2,416	2,334	2,167	760	2,044	2,156	2,336
Highest Approach on Minor Street	75 (60) [42]	53	100 (80) [56]	70	67	133	131	123	115	113	113	113

Record 8 highest hours and the corresponding volumes in boxes provided. Condition is 100% satisfied if the minimum volumes are met for eight hours . Condition is 80% satisfied if (parenthetical) volumes are met for eight hours. Condition is 56% satisfied if [bracketed] volumes are met for eight hours.

Source: Revised from NCHRP Report 457

Appendix O

Synchro Intersections Output Sheets- No Build

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	508	405	137	910	42	427	219	77	94	368	111
Future Volume (veh/h)	152	508	405	137	910	42	427	219	77	94	368	111
Number	1	6	16	5	2	12	7	4	14	3	8	18
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
Adj Sat Flow, veh/h/ln	1776	1776	1776	1776	1776	1776	1810	1827	1727	1570	1812	1900
Adj Flow Rate, veh/h	157	524	418	141	938	43	440	226	79	97	379	114
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	7	7	7	7	7	7	5	4	10	21	3	3
Cap, veh/h	176	931	416	160	910	407	316	891	716	310	395	119
Arrive On Green	0.10	0.28	0.28	0.09	0.27	0.27	0.15	0.49	0.49	0.30	0.30	0.30
Sat Flow, veh/h	1691	3374	1509	1691	3374	1509	1723	1827	1468	902	1338	403
Grp Volume(v), veh/h	157	524	418	141	938	43	440	226	79	97	0	493
Grp Sat Flow(s),veh/h/ln	1691	1687	1509	1691	1687	1509	1723	1827	1468	902	0	1741
Q Serve(g_s), s	15.3	22.2	46.0	13.7	45.0	3.6	25.0	12.1	4.9	14.2	0.0	46.4
Cycle Q Clear(g_c), s	15.3	22.2	46.0	13.7	45.0	3.6	25.0	12.1	4.9	14.2	0.0	46.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.23
Lane Grp Cap(c), veh/h	176	931	416	160	910	407	316	891	716	310	0	514
V/C Ratio(X)	0.89	0.56	1.00	0.88	1.03	0.11	1.39	0.25	0.11	0.31	0.00	0.96
Avail Cap(c_a), veh/h	203	931	416	203	910	407	316	899	722	313	0	522
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	73.8	51.8	60.4	74.6	60.9	45.8	51.9	25.0	23.1	46.4	0.0	57.8
Incr Delay (d2), s/veh	32.6	0.8	45.0	28.1	38.1	0.1	194.4	0.1	0.1	0.6	0.0	29.0
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(50%),veh/ln	8.7	10.4	24.4	7.7	25.7	1.5	31.6	6.1	2.0	3.6	0.0	26.5
LnGrp Delay(d),s/veh	106.4	52.6	105.4	102.6	99.0	45.9	246.3	25.1	23.2	47.0	0.0	86.8
LnGrp LOS	F	D	F	F	F	D	F	C	C	D		F
Approach Vol, veh/h		1099			1122			745			590	
Approach Delay, s/veh		80.4			97.4			155.6			80.2	
Approach LOS		F			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.1	52.2		89.6	24.0	53.2	32.1	57.5
Change Period (Y+Rc), s	7.7	7.2		8.2	8.2	7.2	7.1	8.2
Max Green Setting (Gmax), s	20.0	45.0		82.1	20.0	45.0	25.0	50.0
Max Q Clear Time (g_c+I1), s	17.3	47.0		14.1	15.7	48.0	27.0	48.4
Green Ext Time (p_c), s	0.1	0.0		6.7	0.1	0.0	0.0	0.9

Intersection Summary	
HCM 2010 Ctrl Delay	101.5
HCM 2010 LOS	F

Intersection	
Int Delay, s/veh	8.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	26	535	55	65	835	7	130	6	20	20	14	19
Future Vol, veh/h	26	535	55	65	835	7	130	6	20	20	14	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	530	-	480	500	-	460	300	-	0	325	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	0	0	0	55	11	0
Mvmt Flow	27	563	58	68	879	7	137	6	21	21	15	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	879	0	0	563	0	0	1641	1634	563	1637	1634	879
Stage 1	-	-	-	-	-	-	618	618	-	1016	1016	-
Stage 2	-	-	-	-	-	-	1023	1016	-	621	618	-
Critical Hdwy	4.17	-	-	4.17	-	-	7.1	6.5	6.2	7.65	6.61	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.65	5.61	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.65	5.61	-
Follow-up Hdwy	2.263	-	-	2.263	-	-	3.5	4	3.3	3.995	4.099	3.3
Pot Cap-1 Maneuver	748	-	-	984	-	-	~ 81	102	530	60	96	350
Stage 1	-	-	-	-	-	-	480	484	-	230	304	-
Stage 2	-	-	-	-	-	-	287	318	-	396	467	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	748	-	-	984	-	-	~ 66	92	530	52	86	350
Mov Cap-2 Maneuver	-	-	-	-	-	-	158	194	-	139	186	-
Stage 1	-	-	-	-	-	-	463	467	-	222	283	-
Stage 2	-	-	-	-	-	-	239	296	-	362	450	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.6	83	26
HCM LOS			F	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	158	194	530	748	-	-	984	-	-	139	186	350
HCM Lane V/C Ratio	0.866	0.033	0.04	0.037	-	-	0.07	-	-	0.151	0.079	0.057
HCM Control Delay (s)	96.6	24.2	12.1	10	-	-	8.9	-	-	35.5	26	15.9
HCM Lane LOS	F	C	B	A	-	-	A	-	-	E	D	C
HCM 95th %tile Q(veh)	6	0.1	0.1	0.1	-	-	0.2	-	-	0.5	0.3	0.2

Notes

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

Intersection	
Int Delay, s/veh	5.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	514	61	35	779	96	41
Future Vol, veh/h	514	61	35	779	96	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	410	460	-	0	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	2	2
Mvmt Flow	541	64	37	820	101	43

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	541	0	1435	541
Stage 1	-	-	-	-	541	-
Stage 2	-	-	-	-	894	-
Critical Hdwy	-	-	4.17	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.263	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1003	-	147	541
Stage 1	-	-	-	-	583	-
Stage 2	-	-	-	-	399	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1003	-	142	541
Mov Cap-2 Maneuver	-	-	-	-	142	-
Stage 1	-	-	-	-	583	-
Stage 2	-	-	-	-	384	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	57.3
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	142	541	-	-	1003	-
HCM Lane V/C Ratio	0.712	0.08	-	-	0.037	-
HCM Control Delay (s)	76.5	12.2	-	-	8.7	-
HCM Lane LOS	F	B	-	-	A	-
HCM 95th %tile Q(veh)	4.1	0.3	-	-	0.1	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	24	424	94	10	705	2	30	2	5	3	3	79
Future Vol, veh/h	24	424	94	10	705	2	30	2	5	3	3	79
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	510	-	510	510	-	510	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	7	0	25	50	0	3
Mvmt Flow	25	446	99	11	742	2	32	2	5	3	3	83

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	742	0	0	446	0	0	1303	1260	446	1264	1260	742
Stage 1	-	-	-	-	-	-	497	497	-	763	763	-
Stage 2	-	-	-	-	-	-	806	763	-	501	497	-
Critical Hdwy	4.17	-	-	4.17	-	-	7.17	6.5	6.45	7.6	6.5	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.17	5.5	-	6.6	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.17	5.5	-	6.6	5.5	-
Follow-up Hdwy	2.263	-	-	2.263	-	-	3.563	4	3.525	3.95	4	3.327
Pot Cap-1 Maneuver	843	-	-	1088	-	-	134	172	567	117	172	414
Stage 1	-	-	-	-	-	-	546	548	-	332	416	-
Stage 2	-	-	-	-	-	-	368	416	-	473	548	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	843	-	-	1088	-	-	103	165	567	112	165	414
Mov Cap-2 Maneuver	-	-	-	-	-	-	201	277	-	219	284	-
Stage 1	-	-	-	-	-	-	530	532	-	322	412	-
Stage 2	-	-	-	-	-	-	289	412	-	453	532	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.1	23.8	16.8
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	201	436	843	-	-	1088	-	-	395
HCM Lane V/C Ratio	0.157	0.017	0.03	-	-	0.01	-	-	0.227
HCM Control Delay (s)	26.2	13.4	9.4	-	-	8.3	-	-	16.8
HCM Lane LOS	D	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.5	0.1	0.1	-	-	0	-	-	0.9

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	424	8	3	697	20	5
Future Vol, veh/h	424	8	3	697	20	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	510	570	-	180	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	0	0
Mvmt Flow	446	8	3	734	21	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	446	0	1186	446
Stage 1	-	-	-	-	446	-
Stage 2	-	-	-	-	740	-
Critical Hdwy	-	-	4.17	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.263	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1088	-	210	617
Stage 1	-	-	-	-	649	-
Stage 2	-	-	-	-	475	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1088	-	209	617
Mov Cap-2 Maneuver	-	-	-	-	209	-
Stage 1	-	-	-	-	649	-
Stage 2	-	-	-	-	474	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	21.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	209	617	-	-	1088	-
HCM Lane V/C Ratio	0.101	0.009	-	-	0.003	-
HCM Control Delay (s)	24.1	10.9	-	-	8.3	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	10	415	696	3	0	4
Future Vol, veh/h	10	415	696	3	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	410	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	0	0
Mvmt Flow	11	437	733	3	0	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	736	0	-	0	1192	734
Stage 1	-	-	-	-	734	-
Stage 2	-	-	-	-	458	-
Critical Hdwy	4.17	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.263	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	847	-	-	-	209	423
Stage 1	-	-	-	-	478	-
Stage 2	-	-	-	-	641	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	847	-	-	-	206	423
Mov Cap-2 Maneuver	-	-	-	-	206	-
Stage 1	-	-	-	-	478	-
Stage 2	-	-	-	-	633	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	13.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	847	-	-	-	423
HCM Lane V/C Ratio	0.012	-	-	-	0.01
HCM Control Delay (s)	9.3	-	-	-	13.6
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	5	387	23	8	619	5	60	0	6	7	2	20
Future Vol, veh/h	5	387	23	8	619	5	60	0	6	7	2	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	400	600	-	490	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	2	0	0	0	100	6
Mvmt Flow	5	407	24	8	652	5	63	0	6	7	2	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	652	0	0	407	0	0	1098	1086	407	1086	1086	652
Stage 1	-	-	-	-	-	-	418	418	-	668	668	-
Stage 2	-	-	-	-	-	-	680	668	-	418	418	-
Critical Hdwy	4.17	-	-	4.17	-	-	7.12	6.5	6.2	7.1	7.5	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.5	-	6.1	6.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.5	-	6.1	6.5	-
Follow-up Hdwy	2.263	-	-	2.263	-	-	3.518	4	3.3	3.5	4.9	3.354
Pot Cap-1 Maneuver	911	-	-	1125	-	-	190	218	648	196	146	461
Stage 1	-	-	-	-	-	-	612	594	-	451	335	-
Stage 2	-	-	-	-	-	-	441	459	-	616	453	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	911	-	-	1125	-	-	178	215	648	192	144	461
Mov Cap-2 Maneuver	-	-	-	-	-	-	300	329	-	319	237	-
Stage 1	-	-	-	-	-	-	609	591	-	449	333	-
Stage 2	-	-	-	-	-	-	415	456	-	607	451	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	19.3	14.9
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	300	648	911	-	-	1125	-	-	393
HCM Lane V/C Ratio	0.211	0.01	0.006	-	-	0.007	-	-	0.078
HCM Control Delay (s)	20.2	10.6	9	-	-	8.2	-	-	14.9
HCM Lane LOS	C	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.8	0	0	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	40	342	18	5	484	0	28	6	12	80	0	120
Future Vol, veh/h	40	342	18	5	484	0	28	6	12	80	0	120
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	520	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	0	0	0	15	0	7
Mvmt Flow	42	360	19	5	509	0	29	6	13	84	0	126

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	509	0	0	379	0	0	974	974	369	983	983	-
Stage 1	-	-	-	-	-	-	454	454	-	520	520	-
Stage 2	-	-	-	-	-	-	520	520	-	463	463	-
Critical Hdwy	4.17	-	-	4.17	-	-	7.1	6.5	6.2	7.25	6.5	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.25	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.25	5.5	-
Follow-up Hdwy	2.263	-	-	2.263	-	-	3.5	4	3.3	3.635	4	-
Pot Cap-1 Maneuver	1031	-	-	1153	-	-	233	254	681	216	251	0
Stage 1	-	-	-	-	-	-	589	573	-	516	535	0
Stage 2	-	-	-	-	-	-	543	535	-	555	568	0
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1031	-	-	1153	-	-	225	242	681	202	239	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	344	346	-	322	354	-
Stage 1	-	-	-	-	-	-	565	550	-	495	532	-
Stage 2	-	-	-	-	-	-	540	532	-	517	545	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.1	15.4	
HCM LOS			C	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	395	1031	-	-	1153	-	-	-
HCM Lane V/C Ratio	0.123	0.041	-	-	0.005	-	-	-
HCM Control Delay (s)	15.4	8.6	-	-	8.1	0	-	-
HCM Lane LOS	C	A	-	-	A	A	-	-
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0	-	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	282	902	438	57	543	60	417	251	127	89	137	153
Future Volume (veh/h)	282	902	438	57	543	60	417	251	127	89	137	153
Number	1	6	16	5	2	12	7	4	14	3	8	18
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
Adj Sat Flow, veh/h/ln	1776	1776	1776	1776	1776	1776	1881	1863	1845	1727	1861	1900
Adj Flow Rate, veh/h	291	930	452	59	560	62	430	259	131	92	141	158
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	7	7	7	7	7	7	1	2	3	10	0	0
Cap, veh/h	246	1129	505	75	801	358	431	837	704	250	173	194
Arrive On Green	0.15	0.33	0.33	0.04	0.24	0.24	0.18	0.45	0.45	0.22	0.22	0.22
Sat Flow, veh/h	1691	3374	1509	1691	3374	1509	1792	1863	1568	918	803	899
Grp Volume(v), veh/h	291	930	452	59	560	62	430	259	131	92	0	299
Grp Sat Flow(s),veh/h/ln	1691	1687	1509	1691	1687	1509	1792	1863	1568	918	0	1702
Q Serve(g_s), s	20.0	34.8	39.1	4.7	20.9	4.5	25.0	12.2	6.9	12.0	0.0	23.0
Cycle Q Clear(g_c), s	20.0	34.8	39.1	4.7	20.9	4.5	25.0	12.2	6.9	12.0	0.0	23.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.53
Lane Grp Cap(c), veh/h	246	1129	505	75	801	358	431	837	704	250	0	367
V/C Ratio(X)	1.18	0.82	0.89	0.79	0.70	0.17	1.00	0.31	0.19	0.37	0.00	0.81
Avail Cap(c_a), veh/h	246	1129	505	246	1104	494	431	1112	936	386	0	619
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	58.8	42.0	43.4	65.1	48.0	41.7	34.9	24.2	22.8	47.0	0.0	51.3
Incr Delay (d2), s/veh	116.0	5.1	18.3	16.2	1.2	0.2	42.7	0.2	0.1	0.9	0.0	4.4
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	17.2	16.9	18.8	2.6	9.9	1.9	9.0	6.3	3.0	3.1	0.0	11.2
LnGrp Delay(d),s/veh	174.7	47.1	61.7	81.3	49.1	41.9	77.6	24.4	22.9	47.9	0.0	55.7
LnGrp LOS	F	D	E	F	D	D	E	C	C	D		E
Approach Vol, veh/h		1673			681			820			391	
Approach Delay, s/veh		73.2			51.3			52.0			53.9	
Approach LOS		E			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	27.7	39.8		70.0	14.3	53.2	32.1	37.9
Change Period (Y+Rc), s	7.7	7.2		8.2	8.2	7.2	7.1	8.2
Max Green Setting (Gmax), s	20.0	45.0		82.1	20.0	45.0	25.0	50.0
Max Q Clear Time (g_c+I1), s	22.0	22.9		14.2	6.7	41.1	27.0	25.0
Green Ext Time (p_c), s	0.0	9.8		5.1	0.1	3.1	0.0	4.7

Intersection Summary	
HCM 2010 Ctrl Delay	62.0
HCM 2010 LOS	E

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	70	860	120	9	558	8	85	24	39	13	9	41
Future Vol, veh/h	70	860	120	9	558	8	85	24	39	13	9	41
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	530	-	480	500	-	460	300	-	0	325	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	0	0	0	55	11	0
Mvmt Flow	74	905	126	9	587	8	89	25	41	14	9	43

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	587	0	0	905	0	0	1664	1659	905	1671	1659	587
Stage 1	-	-	-	-	-	-	1053	1053	-	606	606	-
Stage 2	-	-	-	-	-	-	611	606	-	1065	1053	-
Critical Hdwy	4.17	-	-	4.17	-	-	7.1	6.5	6.2	7.65	6.61	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.65	5.61	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.65	5.61	-
Follow-up Hdwy	2.263	-	-	2.263	-	-	3.5	4	3.3	3.995	4.099	3.3
Pot Cap-1 Maneuver	964	-	-	731	-	-	~ 78	99	338	57	93	513
Stage 1	-	-	-	-	-	-	276	306	-	404	473	-
Stage 2	-	-	-	-	-	-	484	490	-	215	292	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	964	-	-	731	-	-	~ 64	90	338	42	85	513
Mov Cap-2 Maneuver	-	-	-	-	-	-	164	192	-	113	188	-
Stage 1	-	-	-	-	-	-	255	283	-	373	467	-
Stage 2	-	-	-	-	-	-	429	484	-	159	270	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.2	37.9	20.4
HCM LOS			E	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	164	192	338	964	-	-	731	-	-	113	188	513
HCM Lane V/C Ratio	0.546	0.132	0.121	0.076	-	-	0.013	-	-	0.121	0.05	0.084
HCM Control Delay (s)	50.6	26.6	17.1	9	-	-	10	-	-	41.2	25.2	12.7
HCM Lane LOS	F	D	C	A	-	-	A	-	-	E	D	B
HCM 95th %tile Q(veh)	2.8	0.4	0.4	0.2	-	-	0	-	-	0.4	0.2	0.3

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

Intersection	
Int Delay, s/veh	2.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	817	95	45	457	49	42
Future Vol, veh/h	817	95	45	457	49	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	410	460	-	0	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	2	2
Mvmt Flow	860	100	47	481	52	44

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	860	0	1436	860
Stage 1	-	-	-	-	860	-
Stage 2	-	-	-	-	576	-
Critical Hdwy	-	-	4.17	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.263	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	761	-	147	356
Stage 1	-	-	-	-	414	-
Stage 2	-	-	-	-	562	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	761	-	138	356
Mov Cap-2 Maneuver	-	-	-	-	138	-
Stage 1	-	-	-	-	414	-
Stage 2	-	-	-	-	527	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	32.3
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	138	356	-	-	761	-
HCM Lane V/C Ratio	0.374	0.124	-	-	0.062	-
HCM Control Delay (s)	45.9	16.5	-	-	10	-
HCM Lane LOS	E	C	-	-	B	-
HCM 95th %tile Q(veh)	1.6	0.4	-	-	0.2	-

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	85	659	50	8	401	3	66	2	14	2	2	35
Future Vol, veh/h	85	659	50	8	401	3	66	2	14	2	2	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	510	-	510	510	-	510	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	6	0	0	0	0	0
Mvmt Flow	89	694	53	8	422	3	69	2	15	2	2	37

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	422	0	0	694	0	0	1331	1312	694	1320	1312	422
Stage 1	-	-	-	-	-	-	873	873	-	439	439	-
Stage 2	-	-	-	-	-	-	458	439	-	881	873	-
Critical Hdwy	4.17	-	-	4.17	-	-	7.16	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.16	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.16	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.263	-	-	2.263	-	-	3.554	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1111	-	-	879	-	-	129	160	446	135	160	636
Stage 1	-	-	-	-	-	-	339	370	-	601	582	-
Stage 2	-	-	-	-	-	-	575	582	-	344	370	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1111	-	-	879	-	-	113	146	446	121	146	636
Mov Cap-2 Maneuver	-	-	-	-	-	-	217	246	-	224	252	-
Stage 1	-	-	-	-	-	-	312	340	-	553	577	-
Stage 2	-	-	-	-	-	-	535	577	-	304	340	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.2	26.3	12.2
HCM LOS			D	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	217	405	1111	-	-	879	-	-	542
HCM Lane V/C Ratio	0.32	0.042	0.081	-	-	0.01	-	-	0.076
HCM Control Delay (s)	29.2	14.3	8.5	-	-	9.1	-	-	12.2
HCM Lane LOS	D	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	1.3	0.1	0.3	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	665	23	2	399	13	2
Future Vol, veh/h	665	23	2	399	13	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	510	570	-	180	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	0	0
Mvmt Flow	700	24	2	420	14	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	700	0	1124	700
Stage 1	-	-	-	-	700	-
Stage 2	-	-	-	-	424	-
Critical Hdwy	-	-	4.17	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.263	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	874	-	229	443
Stage 1	-	-	-	-	496	-
Stage 2	-	-	-	-	664	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	874	-	228	443
Mov Cap-2 Maneuver	-	-	-	-	228	-
Stage 1	-	-	-	-	496	-
Stage 2	-	-	-	-	662	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	20.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	228	443	-	-	874	-
HCM Lane V/C Ratio	0.06	0.005	-	-	0.002	-
HCM Control Delay (s)	21.8	13.2	-	-	9.1	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	3	664	395	2	0	6
Future Vol, veh/h	3	664	395	2	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	410	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	0	0
Mvmt Flow	3	699	416	2	0	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	418	0	-	0	1122	417
Stage 1	-	-	-	-	417	-
Stage 2	-	-	-	-	705	-
Critical Hdwy	4.17	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.263	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1115	-	-	-	230	640
Stage 1	-	-	-	-	669	-
Stage 2	-	-	-	-	494	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1115	-	-	-	229	640
Mov Cap-2 Maneuver	-	-	-	-	229	-
Stage 1	-	-	-	-	669	-
Stage 2	-	-	-	-	493	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1115	-	-	-	640
HCM Lane V/C Ratio	0.003	-	-	-	0.01
HCM Control Delay (s)	8.2	-	-	-	10.7
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	10	599	55	3	362	3	30	4	6	0	1	12
Future Vol, veh/h	10	599	55	3	362	3	30	4	6	0	1	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	400	600	-	490	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	0	0	0	0	0	0
Mvmt Flow	11	631	58	3	381	3	32	4	6	0	1	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	381	0	0	631	0	0	1046	1039	631	1041	1039	381
Stage 1	-	-	-	-	-	-	652	652	-	387	387	-
Stage 2	-	-	-	-	-	-	394	387	-	654	652	-
Critical Hdwy	4.17	-	-	4.17	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.263	-	-	2.263	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1151	-	-	928	-	-	208	232	485	210	232	671
Stage 1	-	-	-	-	-	-	460	467	-	641	613	-
Stage 2	-	-	-	-	-	-	635	613	-	459	467	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1151	-	-	928	-	-	202	229	485	203	229	671
Mov Cap-2 Maneuver	-	-	-	-	-	-	327	340	-	326	340	-
Stage 1	-	-	-	-	-	-	456	463	-	635	611	-
Stage 2	-	-	-	-	-	-	620	611	-	445	463	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	16.6	10.9
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	328	485	1151	-	-	928	-	-	624
HCM Lane V/C Ratio	0.109	0.013	0.009	-	-	0.003	-	-	0.022
HCM Control Delay (s)	17.3	12.5	8.2	-	-	8.9	-	-	10.9
HCM Lane LOS	C	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.4	0	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	103	485	13	8	313	0	18	4	4	67	5	37
Future Vol, veh/h	103	485	13	8	313	0	18	4	4	67	5	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	520	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	0	0	0	16	0	0
Mvmt Flow	108	511	14	8	329	0	19	4	4	71	5	39

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	329	0	0	524	0	0	1083	1080	517	1084	1087	-
Stage 1	-	-	-	-	-	-	734	734	-	346	346	-
Stage 2	-	-	-	-	-	-	349	346	-	738	741	-
Critical Hdwy	4.17	-	-	4.17	-	-	7.1	6.5	6.2	7.26	6.5	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.26	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.26	5.5	-
Follow-up Hdwy	2.263	-	-	2.263	-	-	3.5	4	3.3	3.644	4	-
Pot Cap-1 Maneuver	1203	-	-	1018	-	-	197	220	562	183	218	0
Stage 1	-	-	-	-	-	-	415	429	-	642	639	0
Stage 2	-	-	-	-	-	-	671	639	-	389	426	0
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1203	-	-	1018	-	-	180	198	562	166	196	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	282	291	-	264	297	-
Stage 1	-	-	-	-	-	-	378	390	-	584	633	-
Stage 2	-	-	-	-	-	-	659	633	-	348	388	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.4	0.2	17.9	
HCM LOS			C	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	307	1203	-	-	1018	-	-	-
HCM Lane V/C Ratio	0.089	0.09	-	-	0.008	-	-	-
HCM Control Delay (s)	17.9	8.3	-	-	8.6	0	-	-
HCM Lane LOS	C	A	-	-	A	A	-	-
HCM 95th %tile Q(veh)	0.3	0.3	-	-	0	-	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	276	604	513	127	1048	49	616	259	97	109	407	214
Future Volume (veh/h)	276	604	513	127	1048	49	616	259	97	109	407	214
Number	1	6	16	5	2	12	7	4	14	3	8	18
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
Adj Sat Flow, veh/h/ln	1776	1776	1776	1776	1776	1776	1810	1827	1727	1570	1797	1900
Adj Flow Rate, veh/h	285	623	529	131	1080	51	635	267	100	112	420	221
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	7	7	7	7	7	7	5	4	10	21	3	3
Cap, veh/h	199	979	438	150	892	399	295	881	708	293	326	172
Arrive On Green	0.12	0.29	0.29	0.09	0.26	0.26	0.15	0.48	0.48	0.29	0.29	0.29
Sat Flow, veh/h	1691	3374	1509	1691	3374	1509	1723	1827	1468	852	1110	584
Grp Volume(v), veh/h	285	623	529	131	1080	51	635	267	100	112	0	641
Grp Sat Flow(s),veh/h/ln	1691	1687	1509	1691	1687	1509	1723	1827	1468	852	0	1694
Q Serve(g_s), s	20.0	27.4	49.4	13.0	45.0	4.4	25.0	15.1	6.4	18.2	0.0	50.0
Cycle Q Clear(g_c), s	20.0	27.4	49.4	13.0	45.0	4.4	25.0	15.1	6.4	18.2	0.0	50.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.34
Lane Grp Cap(c), veh/h	199	979	438	150	892	399	295	881	708	293	0	498
V/C Ratio(X)	1.43	0.64	1.21	0.87	1.21	0.13	2.15	0.30	0.14	0.38	0.00	1.29
Avail Cap(c_a), veh/h	199	979	438	199	892	399	295	881	708	293	0	498
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	75.1	52.6	60.4	76.6	62.6	47.7	57.5	26.7	24.5	48.9	0.0	60.1
Incr Delay (d2), s/veh	221.7	1.4	113.2	26.2	105.3	0.1	528.4	0.2	0.1	0.8	0.0	144.3
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	21.6	13.0	34.3	7.2	34.0	1.8	57.2	7.7	2.6	4.4	0.0	43.3
LnGrp Delay(d),s/veh	296.8	54.0	173.6	102.8	167.9	47.8	585.8	26.9	24.6	49.7	0.0	204.4
LnGrp LOS	F	D	F	F	F	D	F	C	C	D		F
Approach Vol, veh/h		1437			1262			1002			753	
Approach Delay, s/veh		146.2			156.3			380.9			181.4	
Approach LOS		F			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	27.7	52.2		90.3	23.3	56.6	32.1	58.2
Change Period (Y+Rc), s	7.7	7.2		8.2	8.2	7.2	7.1	8.2
Max Green Setting (Gmax), s	20.0	45.0		82.1	20.0	45.0	25.0	50.0
Max Q Clear Time (g_c+I1), s	22.0	47.0		17.1	15.0	51.4	27.0	52.0
Green Ext Time (p_c), s	0.0	0.0		9.6	0.1	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	207.8
HCM 2010 LOS	F

Intersection	
Int Delay, s/veh	21.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	31	660	64	70	984	10	140	10	25	28	19	24
Future Vol, veh/h	31	660	64	70	984	10	140	10	25	28	19	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	530	-	480	500	-	460	300	-	0	325	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	0	0	0	55	11	0
Mvmt Flow	33	695	67	74	1036	11	147	11	26	29	20	25

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1036	0	0	695	0	0	1953	1943	695	1948	1943	1036
Stage 1	-	-	-	-	-	-	760	760	-	1183	1183	-
Stage 2	-	-	-	-	-	-	1193	1183	-	765	760	-
Critical Hdwy	4.17	-	-	4.17	-	-	7.1	6.5	6.2	7.65	6.61	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.65	5.61	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.65	5.61	-
Follow-up Hdwy	2.263	-	-	2.263	-	-	3.5	4	3.3	3.995	4.099	3.3
Pot Cap-1 Maneuver	652	-	-	878	-	-	~ 49	66	446	35	62	284
Stage 1	-	-	-	-	-	-	401	417	-	182	253	-
Stage 2	-	-	-	-	-	-	230	265	-	325	402	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	652	-	-	878	-	-	~ 36	57	446	~ 28	54	284
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 107	148	-	99	145	-
Stage 1	-	-	-	-	-	-	381	396	-	173	232	-
Stage 2	-	-	-	-	-	-	175	243	-	283	382	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.6	236.5	37.6
HCM LOS			F	E

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	107	148	446	652	-	-	878	-	-	99	145	284
HCM Lane V/C Ratio	1.377	0.071	0.059	0.05	-	-	0.084	-	-	0.298	0.138	0.089
HCM Control Delay (s)	291	31.2	13.6	10.8	-	-	9.5	-	-	56.1	33.8	18.9
HCM Lane LOS	F	D	B	B	-	-	A	-	-	F	D	C
HCM 95th %tile Q(veh)	10.4	0.2	0.2	0.2	-	-	0.3	-	-	1.1	0.5	0.3

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

Intersection	
Int Delay, s/veh	29.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	618	95	55	831	148	63
Future Vol, veh/h	618	95	55	831	148	63
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	410	460	-	0	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	2	2
Mvmt Flow	651	100	58	875	156	66

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	651	0	1642	651
Stage 1	-	-	-	-	651	-
Stage 2	-	-	-	-	991	-
Critical Hdwy	-	-	4.17	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.263	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	912	-	~ 110	469
Stage 1	-	-	-	-	519	-
Stage 2	-	-	-	-	359	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	912	-	~ 103	469
Mov Cap-2 Maneuver	-	-	-	-	~ 103	-
Stage 1	-	-	-	-	519	-
Stage 2	-	-	-	-	336	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	248.1
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	103	469	-	-	912	-
HCM Lane V/C Ratio	1.513	0.141	-	-	0.063	-
HCM Control Delay (s)	$ 347.8	13.9	-	-	9.2	-
HCM Lane LOS	F	B	-	-	A	-
HCM 95th %tile Q(veh)	11.6	0.5	-	-	0.2	-

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

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	25	452	98	15	750	5	31	3	6	5	5	84
Future Vol, veh/h	25	452	98	15	750	5	31	3	6	5	5	84
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	510	-	510	510	-	510	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	7	0	25	50	0	3
Mvmt Flow	26	476	103	16	789	5	33	3	6	5	5	88

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	789	0	0	476	0	0	1396	1349	476	1354	1349	789
Stage 1	-	-	-	-	-	-	528	528	-	821	821	-
Stage 2	-	-	-	-	-	-	868	821	-	533	528	-
Critical Hdwy	4.17	-	-	4.17	-	-	7.17	6.5	6.45	7.6	6.5	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.17	5.5	-	6.6	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.17	5.5	-	6.6	5.5	-
Follow-up Hdwy	2.263	-	-	2.263	-	-	3.563	4	3.525	3.95	4	3.327
Pot Cap-1 Maneuver	809	-	-	1061	-	-	116	152	545	100	152	389
Stage 1	-	-	-	-	-	-	525	531	-	307	391	-
Stage 2	-	-	-	-	-	-	340	391	-	453	531	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	809	-	-	1061	-	-	85	145	545	94	145	389
Mov Cap-2 Maneuver	-	-	-	-	-	-	176	256	-	199	263	-
Stage 1	-	-	-	-	-	-	508	514	-	297	385	-
Stage 2	-	-	-	-	-	-	255	385	-	431	514	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.2	26.5	18.7
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	176	396	809	-	-	1061	-	-	361
HCM Lane V/C Ratio	0.185	0.024	0.033	-	-	0.015	-	-	0.274
HCM Control Delay (s)	30.1	14.3	9.6	-	-	8.4	-	-	18.7
HCM Lane LOS	D	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.7	0.1	0.1	-	-	0	-	-	1.1

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	452	10	4	749	21	7
Future Vol, veh/h	452	10	4	749	21	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	510	570	-	180	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	0	0
Mvmt Flow	476	11	4	788	22	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	476	0	1273	476
Stage 1	-	-	-	-	476	-
Stage 2	-	-	-	-	797	-
Critical Hdwy	-	-	4.17	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.263	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1061	-	187	593
Stage 1	-	-	-	-	629	-
Stage 2	-	-	-	-	447	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1061	-	186	593
Mov Cap-2 Maneuver	-	-	-	-	186	-
Stage 1	-	-	-	-	629	-
Stage 2	-	-	-	-	445	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	22.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	186	593	-	-	1061	-
HCM Lane V/C Ratio	0.119	0.012	-	-	0.004	-
HCM Control Delay (s)	26.9	11.1	-	-	8.4	-
HCM Lane LOS	D	B	-	-	A	-
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	13	444	747	5	0	6
Future Vol, veh/h	13	444	747	5	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	410	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	0	0
Mvmt Flow	14	467	786	5	0	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	792	0	-	0	1284	789
Stage 1	-	-	-	-	789	-
Stage 2	-	-	-	-	495	-
Critical Hdwy	4.17	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.263	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	807	-	-	-	184	394
Stage 1	-	-	-	-	451	-
Stage 2	-	-	-	-	617	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	807	-	-	-	181	394
Mov Cap-2 Maneuver	-	-	-	-	181	-
Stage 1	-	-	-	-	451	-
Stage 2	-	-	-	-	606	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	14.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	807	-	-	-	394
HCM Lane V/C Ratio	0.017	-	-	-	0.016
HCM Control Delay (s)	9.5	-	-	-	14.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	8	409	27	9	662	7	65	0	8	10	3	25
Future Vol, veh/h	8	409	27	9	662	7	65	0	8	10	3	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	400	600	-	490	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	2	0	0	0	100	6
Mvmt Flow	8	431	28	9	697	7	68	0	8	11	3	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	697	0	0	431	0	0	1178	1163	431	1163	1163	697
Stage 1	-	-	-	-	-	-	447	447	-	716	716	-
Stage 2	-	-	-	-	-	-	731	716	-	447	447	-
Critical Hdwy	4.17	-	-	4.17	-	-	7.12	6.5	6.2	7.1	7.5	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.5	-	6.1	6.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.5	-	6.1	6.5	-
Follow-up Hdwy	2.263	-	-	2.263	-	-	3.518	4	3.3	3.5	4.9	3.354
Pot Cap-1 Maneuver	876	-	-	1102	-	-	168	196	629	173	130	434
Stage 1	-	-	-	-	-	-	591	577	-	424	316	-
Stage 2	-	-	-	-	-	-	413	437	-	595	438	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	876	-	-	1102	-	-	154	193	629	168	128	434
Mov Cap-2 Maneuver	-	-	-	-	-	-	273	308	-	295	221	-
Stage 1	-	-	-	-	-	-	586	572	-	420	313	-
Stage 2	-	-	-	-	-	-	381	433	-	582	434	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	21.2	16.2
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	273	629	876	-	-	1102	-	-	362
HCM Lane V/C Ratio	0.251	0.013	0.01	-	-	0.009	-	-	0.11
HCM Control Delay (s)	22.5	10.8	9.1	-	-	8.3	-	-	16.2
HCM Lane LOS	C	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	1	0	0	-	-	0	-	-	0.4

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	48	357	23	7	521	0	32	8	15	85	0	125
Future Vol, veh/h	48	357	23	7	521	0	32	8	15	85	0	125
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	520	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	0	0	0	15	0	7
Mvmt Flow	51	376	24	7	548	0	34	8	16	89	0	132

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	548	0	0	400	0	0	1052	1052	388	1064	1064	-
Stage 1	-	-	-	-	-	-	489	489	-	563	563	-
Stage 2	-	-	-	-	-	-	563	563	-	501	501	-
Critical Hdwy	4.17	-	-	4.17	-	-	7.1	6.5	6.2	7.25	6.5	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.25	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.25	5.5	-
Follow-up Hdwy	2.263	-	-	2.263	-	-	3.5	4	3.3	3.635	4	-
Pot Cap-1 Maneuver	997	-	-	1132	-	-	206	228	665	190	225	0
Stage 1	-	-	-	-	-	-	564	553	-	489	512	0
Stage 2	-	-	-	-	-	-	514	512	-	529	546	0
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	997	-	-	1132	-	-	197	214	665	174	212	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	314	320	-	294	329	-
Stage 1	-	-	-	-	-	-	535	525	-	464	507	-
Stage 2	-	-	-	-	-	-	509	507	-	482	518	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	0.1	16.6	
HCM LOS			C	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	368	997	-	-	1132	-	-	-
HCM Lane V/C Ratio	0.157	0.051	-	-	0.007	-	-	-
HCM Control Delay (s)	16.6	8.8	-	-	8.2	0	-	-
HCM Lane LOS	C	A	-	-	A	A	-	-
HCM 95th %tile Q(veh)	0.6	0.2	-	-	0	-	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	401	1103	629	70	671	64	622	271	140	108	195	221
Future Volume (veh/h)	401	1103	629	70	671	64	622	271	140	108	195	221
Number	1	6	16	5	2	12	7	4	14	3	8	18
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
Adj Sat Flow, veh/h/ln	1776	1776	1776	1776	1776	1776	1881	1863	1845	1727	1860	1900
Adj Flow Rate, veh/h	413	1137	648	72	692	66	641	279	144	111	201	228
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	7	7	7	7	7	7	1	2	3	10	0	0
Cap, veh/h	218	1032	462	90	788	352	373	911	766	297	225	255
Arrive On Green	0.13	0.31	0.31	0.05	0.23	0.23	0.16	0.49	0.49	0.28	0.28	0.28
Sat Flow, veh/h	1691	3374	1509	1691	3374	1509	1792	1863	1568	890	797	904
Grp Volume(v), veh/h	413	1137	648	72	692	66	641	279	144	111	0	429
Grp Sat Flow(s),veh/h/ln	1691	1687	1509	1691	1687	1509	1792	1863	1568	890	0	1701
Q Serve(g_s), s	20.0	47.5	47.5	6.5	30.7	5.4	25.0	14.0	8.0	15.9	0.0	37.6
Cycle Q Clear(g_c), s	20.0	47.5	47.5	6.5	30.7	5.4	25.0	14.0	8.0	15.9	0.0	37.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.53
Lane Grp Cap(c), veh/h	218	1032	462	90	788	352	373	911	766	297	0	480
V/C Ratio(X)	1.89	1.10	1.40	0.80	0.88	0.19	1.72	0.31	0.19	0.37	0.00	0.89
Avail Cap(c_a), veh/h	218	1032	462	218	978	438	373	985	829	333	0	548
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	67.6	53.9	53.9	72.7	57.4	47.7	42.8	23.8	22.3	45.7	0.0	53.5
Incr Delay (d2), s/veh	419.5	60.0	194.1	15.0	7.8	0.3	333.6	0.2	0.1	0.8	0.0	15.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	34.7	30.7	44.7	3.4	15.2	2.3	50.6	7.3	3.5	4.0	0.0	19.7
LnGrp Delay(d),s/veh	487.1	113.9	247.9	87.7	65.2	47.9	376.4	24.0	22.4	46.5	0.0	69.2
LnGrp LOS	F	F	F	F	E	D	F	C	C	D		E
Approach Vol, veh/h		2198			830			1064			540	
Approach Delay, s/veh		223.5			65.8			236.1			64.6	
Approach LOS		F			E			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	27.7	43.4		84.1	16.4	54.7	32.1	52.0
Change Period (Y+Rc), s	7.7	7.2		8.2	8.2	7.2	7.1	8.2
Max Green Setting (Gmax), s	20.0	45.0		82.1	20.0	45.0	25.0	50.0
Max Q Clear Time (g_c+I1), s	22.0	32.7		16.0	8.5	49.5	27.0	39.6
Green Ext Time (p_c), s	0.0	3.5		7.0	0.1	0.0	0.0	4.2

Intersection Summary	
HCM 2010 Ctrl Delay	179.6
HCM 2010 LOS	F

Intersection	
Int Delay, s/veh	8.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	80	1059	130	11	685	13	97	30	43	16	10	46
Future Vol, veh/h	80	1059	130	11	685	13	97	30	43	16	10	46
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	530	-	480	500	-	460	300	-	0	325	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	0	0	0	55	11	0
Mvmt Flow	84	1115	137	12	721	14	102	32	45	17	11	48

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	721	0	0	1115	0	0	2032	2027	1115	2043	2027	721
Stage 1	-	-	-	-	-	-	1283	1283	-	744	744	-
Stage 2	-	-	-	-	-	-	749	744	-	1299	1283	-
Critical Hdwy	4.17	-	-	4.17	-	-	7.1	6.5	6.2	7.65	6.61	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.65	5.61	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.65	5.61	-
Follow-up Hdwy	2.263	-	-	2.263	-	-	3.5	4	3.3	3.995	4.099	3.3
Pot Cap-1 Maneuver	858	-	-	608	-	-	~ 43	58	255	30	54	431
Stage 1	-	-	-	-	-	-	205	238	-	335	408	-
Stage 2	-	-	-	-	-	-	407	424	-	154	226	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	858	-	-	608	-	-	~ 33	51	255	19	48	431
Mov Cap-2 Maneuver	-	-	-	-	-	-	113	141	-	66	137	-
Stage 1	-	-	-	-	-	-	185	215	-	302	400	-
Stage 2	-	-	-	-	-	-	345	416	-	97	204	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.2	87	31
HCM LOS			F	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	113	141	255	858	-	-	608	-	-	66	137	431
HCM Lane V/C Ratio	0.904	0.224	0.178	0.098	-	-	0.019	-	-	0.255	0.077	0.112
HCM Control Delay (s)	131	37.8	22.1	9.7	-	-	11	-	-	77.3	33.5	14.4
HCM Lane LOS	F	E	C	A	-	-	B	-	-	F	D	B
HCM 95th %tile Q(veh)	5.5	0.8	0.6	0.3	-	-	0.1	-	-	0.9	0.2	0.4

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

Intersection	
Int Delay, s/veh	7.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	986	147	69	509	76	65
Future Vol, veh/h	986	147	69	509	76	65
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	410	460	-	0	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	2	2
Mvmt Flow	1038	155	73	536	80	68

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1038	0	1719	1038
Stage 1	-	-	-	-	1038	-
Stage 2	-	-	-	-	681	-
Critical Hdwy	-	-	4.17	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.263	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	651	-	99	280
Stage 1	-	-	-	-	341	-
Stage 2	-	-	-	-	503	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	651	-	88	280
Mov Cap-2 Maneuver	-	-	-	-	88	-
Stage 1	-	-	-	-	341	-
Stage 2	-	-	-	-	447	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.3	94.4
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	88	280	-	-	651	-
HCM Lane V/C Ratio	0.909	0.244	-	-	0.112	-
HCM Control Delay (s)	156.4	22	-	-	11.2	-
HCM Lane LOS	F	C	-	-	B	-
HCM 95th %tile Q(veh)	5	0.9	-	-	0.4	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	90	699	55	10	427	6	71	3	19	3	3	40
Future Vol, veh/h	90	699	55	10	427	6	71	3	19	3	3	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	510	-	510	510	-	510	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	6	0	0	0	0	0
Mvmt Flow	95	736	58	11	449	6	75	3	20	3	3	42

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	449	0	0	736	0	0	1418	1396	736	1408	1396	449
Stage 1	-	-	-	-	-	-	925	925	-	471	471	-
Stage 2	-	-	-	-	-	-	493	471	-	937	925	-
Critical Hdwy	4.17	-	-	4.17	-	-	7.16	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.16	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.16	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.263	-	-	2.263	-	-	3.554	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1085	-	-	847	-	-	112	142	422	118	142	614
Stage 1	-	-	-	-	-	-	317	351	-	577	563	-
Stage 2	-	-	-	-	-	-	550	563	-	320	351	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1085	-	-	847	-	-	95	128	422	103	128	614
Mov Cap-2 Maneuver	-	-	-	-	-	-	196	228	-	200	233	-
Stage 1	-	-	-	-	-	-	289	320	-	526	556	-
Stage 2	-	-	-	-	-	-	503	556	-	275	320	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.2	29.8	13.1
HCM LOS			D	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	196	378	1085	-	-	847	-	-	495
HCM Lane V/C Ratio	0.381	0.061	0.087	-	-	0.012	-	-	0.098
HCM Control Delay (s)	34.3	15.1	8.6	-	-	9.3	-	-	13.1
HCM Lane LOS	D	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	1.7	0.2	0.3	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	703	24	3	428	15	3
Future Vol, veh/h	703	24	3	428	15	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	510	570	-	180	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	0	0
Mvmt Flow	740	25	3	451	16	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	740	0	1197	740
Stage 1	-	-	-	-	740	-
Stage 2	-	-	-	-	457	-
Critical Hdwy	-	-	4.17	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.263	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	844	-	207	420
Stage 1	-	-	-	-	475	-
Stage 2	-	-	-	-	642	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	844	-	206	420
Mov Cap-2 Maneuver	-	-	-	-	206	-
Stage 1	-	-	-	-	475	-
Stage 2	-	-	-	-	640	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	22.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	206	420	-	-	844	-
HCM Lane V/C Ratio	0.077	0.008	-	-	0.004	-
HCM Control Delay (s)	23.9	13.6	-	-	9.3	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	4	702	424	3	0	7
Future Vol, veh/h	4	702	424	3	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	410	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	0	0
Mvmt Flow	4	739	446	3	0	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	449	0	-	0	1195	448
Stage 1	-	-	-	-	448	-
Stage 2	-	-	-	-	747	-
Critical Hdwy	4.17	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.263	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1085	-	-	-	208	615
Stage 1	-	-	-	-	648	-
Stage 2	-	-	-	-	472	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1085	-	-	-	207	615
Mov Cap-2 Maneuver	-	-	-	-	207	-
Stage 1	-	-	-	-	648	-
Stage 2	-	-	-	-	470	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1085	-	-	-	615
HCM Lane V/C Ratio	0.004	-	-	-	0.012
HCM Control Delay (s)	8.3	-	-	-	10.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	13	627	63	5	380	5	35	6	8	0	2	15
Future Vol, veh/h	13	627	63	5	380	5	35	6	8	0	2	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	400	600	-	490	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	0	0	0	0	0	0
Mvmt Flow	14	660	66	5	400	5	37	6	8	0	2	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	400	0	0	660	0	0	1106	1098	660	1102	1098	400
Stage 1	-	-	-	-	-	-	687	687	-	411	411	-
Stage 2	-	-	-	-	-	-	419	411	-	691	687	-
Critical Hdwy	4.17	-	-	4.17	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.263	-	-	2.263	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1132	-	-	905	-	-	190	215	467	191	215	654
Stage 1	-	-	-	-	-	-	440	450	-	622	598	-
Stage 2	-	-	-	-	-	-	616	598	-	438	450	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1132	-	-	905	-	-	182	211	467	182	211	654
Mov Cap-2 Maneuver	-	-	-	-	-	-	308	323	-	304	323	-
Stage 1	-	-	-	-	-	-	435	444	-	614	595	-
Stage 2	-	-	-	-	-	-	596	595	-	419	444	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	17.6	11.4
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	310	467	1132	-	-	905	-	-	584
HCM Lane V/C Ratio	0.139	0.018	0.012	-	-	0.006	-	-	0.031
HCM Control Delay (s)	18.5	12.9	8.2	-	-	9	-	-	11.4
HCM Lane LOS	C	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.5	0.1	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	109	504	18	10	328	0	19	5	6	74	0	42
Future Vol, veh/h	109	504	18	10	328	0	19	5	6	74	0	42
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	520	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	0	0	0	16	0	0
Mvmt Flow	115	531	19	11	345	0	20	5	6	78	0	44

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	345	0	0	549	0	0	1135	1135	540	1141	1145	-
Stage 1	-	-	-	-	-	-	769	769	-	366	366	-
Stage 2	-	-	-	-	-	-	366	366	-	775	779	-
Critical Hdwy	4.17	-	-	4.17	-	-	7.1	6.5	6.2	7.26	6.5	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.26	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.26	5.5	-
Follow-up Hdwy	2.263	-	-	2.263	-	-	3.5	4	3.3	3.644	4	-
Pot Cap-1 Maneuver	1187	-	-	996	-	-	181	204	546	167	201	0
Stage 1	-	-	-	-	-	-	397	413	-	626	626	0
Stage 2	-	-	-	-	-	-	657	626	-	370	409	0
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1187	-	-	996	-	-	166	182	546	149	179	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	267	275	-	244	279	-
Stage 1	-	-	-	-	-	-	359	373	-	565	617	-
Stage 2	-	-	-	-	-	-	648	617	-	326	369	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.4	0.3	18.5	
HCM LOS			C	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	299	1187	-	-	996	-	-	-
HCM Lane V/C Ratio	0.106	0.097	-	-	0.011	-	-	-
HCM Control Delay (s)	18.5	8.4	-	-	8.7	0	-	-
HCM Lane LOS	C	A	-	-	A	A	-	-
HCM 95th %tile Q(veh)	0.4	0.3	-	-	0	-	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	344	706	675	157	1251	55	801	300	117	127	446	277
Future Volume (veh/h)	344	706	675	157	1251	55	801	300	117	127	446	277
Number	1	6	16	5	2	12	7	4	14	3	8	18
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
Adj Sat Flow, veh/h/ln	1776	1776	1776	1776	1776	1776	1810	1827	1727	1570	1791	1900
Adj Flow Rate, veh/h	355	728	696	162	1290	57	826	309	121	131	460	286
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	7	7	7	7	7	7	5	4	10	21	3	3
Cap, veh/h	199	918	411	181	892	399	295	881	708	279	304	189
Arrive On Green	0.12	0.27	0.27	0.11	0.26	0.26	0.15	0.48	0.48	0.29	0.29	0.29
Sat Flow, veh/h	1691	3374	1509	1691	3374	1509	1723	1827	1468	804	1035	643
Grp Volume(v), veh/h	355	728	696	162	1290	57	826	309	121	131	0	746
Grp Sat Flow(s),veh/h/ln	1691	1687	1509	1691	1687	1509	1723	1827	1468	804	0	1678
Q Serve(g_s), s	20.0	34.1	46.3	16.1	45.0	4.9	25.0	17.9	7.9	23.4	0.0	50.0
Cycle Q Clear(g_c), s	20.0	34.1	46.3	16.1	45.0	4.9	25.0	17.9	7.9	23.4	0.0	50.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.38
Lane Grp Cap(c), veh/h	199	918	411	181	892	399	295	881	708	279	0	493
V/C Ratio(X)	1.79	0.79	1.69	0.90	1.45	0.14	2.80	0.35	0.17	0.47	0.00	1.51
Avail Cap(c_a), veh/h	199	918	411	199	892	399	295	881	708	279	0	493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	75.1	57.5	61.9	75.1	62.6	47.9	57.5	27.4	24.8	50.7	0.0	60.1
Incr Delay (d2), s/veh	373.4	4.8	322.6	35.2	207.1	0.2	817.5	0.2	0.1	1.2	0.0	241.4
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	29.9	16.5	56.1	9.3	46.6	2.1	81.0	9.1	3.2	5.3	0.0	56.2
LnGrp Delay(d),s/veh	448.5	62.3	384.6	110.3	269.7	48.0	875.0	27.7	25.0	51.9	0.0	301.5
LnGrp LOS	F	E	F	F	F	D	F	C	C	D		F
Approach Vol, veh/h		1779			1509			1256			877	
Approach Delay, s/veh		265.4			244.2			584.6			264.2	
Approach LOS		F			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	27.7	52.2		90.3	26.4	53.5	32.1	58.2
Change Period (Y+Rc), s	7.7	7.2		8.2	8.2	7.2	7.1	8.2
Max Green Setting (Gmax), s	20.0	45.0		82.1	20.0	45.0	25.0	50.0
Max Q Clear Time (g_c+I1), s	22.0	47.0		19.9	18.1	48.3	27.0	52.0
Green Ext Time (p_c), s	0.0	0.0		12.7	0.1	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	333.3
HCM 2010 LOS	F

Intersection	
Int Delay, s/veh	50.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	36	784	72	75	1133	12	150	14	30	35	24	29
Future Vol, veh/h	36	784	72	75	1133	12	150	14	30	35	24	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	530	-	480	500	-	460	300	-	0	325	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	0	0	0	55	11	0
Mvmt Flow	38	825	76	79	1193	13	158	15	32	37	25	31

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1193	0	0	825	0	0	2264	2252	825	2259	2252	1193
Stage 1	-	-	-	-	-	-	901	901	-	1351	1351	-
Stage 2	-	-	-	-	-	-	1363	1351	-	908	901	-
Critical Hdwy	4.17	-	-	4.17	-	-	7.1	6.5	6.2	7.65	6.61	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.65	5.61	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.65	5.61	-
Follow-up Hdwy	2.263	-	-	2.263	-	-	3.5	4	3.3	3.995	4.099	3.3
Pot Cap-1 Maneuver	568	-	-	784	-	-	~ 29	42	376	~ 20	39	230
Stage 1	-	-	-	-	-	-	335	360	-	143	210	-
Stage 2	-	-	-	-	-	-	184	221	-	267	345	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	568	-	-	784	-	-	~ 18	35	376	~ 14	33	230
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 67	113	-	68	112	-
Stage 1	-	-	-	-	-	-	313	336	-	133	189	-
Stage 2	-	-	-	-	-	-	~ 124	199	-	218	322	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.6	$ 586.5	63.3
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	67	113	376	568	-	-	784	-	-	68	112	230
HCM Lane V/C Ratio	2.357	0.13	0.084	0.067	-	-	0.101	-	-	0.542	0.226	0.133
HCM Control Delay (s)	$ 751.5	41.6	15.5	11.8	-	-	10.1	-	-	108.3	46.3	23
HCM Lane LOS	F	E	C	B	-	-	B	-	-	F	E	C
HCM 95th %tile Q(veh)	15.2	0.4	0.3	0.2	-	-	0.3	-	-	2.2	0.8	0.5

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

Intersection	
Int Delay, s/veh	97.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	719	130	75	906	201	84
Future Vol, veh/h	719	130	75	906	201	84
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	410	460	-	0	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	2	2
Mvmt Flow	757	137	79	954	212	88

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	757	0	1869	757
Stage 1	-	-	-	-	757	-
Stage 2	-	-	-	-	1112	-
Critical Hdwy	-	-	4.17	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.263	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	832	-	~ 79	408
Stage 1	-	-	-	-	463	-
Stage 2	-	-	-	-	315	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	832	-	~ 71	408
Mov Cap-2 Maneuver	-	-	-	-	~ 71	-
Stage 1	-	-	-	-	463	-
Stage 2	-	-	-	-	285	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	$ 722.3
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	71	408	-	-	832	-
HCM Lane V/C Ratio	2.98	0.217	-	-	0.095	-
HCM Control Delay (s)	$ 1017.4	16.2	-	-	9.8	-
HCM Lane LOS	F	C	-	-	A	-
HCM 95th %tile Q(veh)	21.3	0.8	-	-	0.3	-

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

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	26	479	102	20	795	8	32	4	6	6	6	89
Future Vol, veh/h	26	479	102	20	795	8	32	4	6	6	6	89
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	510	-	510	510	-	510	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	7	0	25	50	0	3
Mvmt Flow	27	504	107	21	837	8	34	4	6	6	6	94

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	837	0	0	504	0	0	1488	1438	504	1443	1438	837
Stage 1	-	-	-	-	-	-	559	559	-	879	879	-
Stage 2	-	-	-	-	-	-	929	879	-	564	559	-
Critical Hdwy	4.17	-	-	4.17	-	-	7.17	6.5	6.45	7.6	6.5	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.17	5.5	-	6.6	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.17	5.5	-	6.6	5.5	-
Follow-up Hdwy	2.263	-	-	2.263	-	-	3.563	4	3.525	3.95	4	3.327
Pot Cap-1 Maneuver	776	-	-	1035	-	-	100	134	524	86	134	365
Stage 1	-	-	-	-	-	-	505	514	-	284	368	-
Stage 2	-	-	-	-	-	-	314	368	-	435	514	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	776	-	-	1035	-	-	70	127	524	80	127	365
Mov Cap-2 Maneuver	-	-	-	-	-	-	153	237	-	182	244	-
Stage 1	-	-	-	-	-	-	487	496	-	274	361	-
Stage 2	-	-	-	-	-	-	225	361	-	411	496	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.2	30.4	20.7
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	153	353	776	-	-	1035	-	-	335
HCM Lane V/C Ratio	0.22	0.03	0.035	-	-	0.02	-	-	0.317
HCM Control Delay (s)	35.1	15.5	9.8	-	-	8.6	-	-	20.7
HCM Lane LOS	E	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.8	0.1	0.1	-	-	0.1	-	-	1.3

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	479	12	5	801	22	8
Future Vol, veh/h	479	12	5	801	22	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	510	570	-	180	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	0	0
Mvmt Flow	504	13	5	843	23	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	504	0	1358	504
Stage 1	-	-	-	-	504	-
Stage 2	-	-	-	-	854	-
Critical Hdwy	-	-	4.17	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.263	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1035	-	166	572
Stage 1	-	-	-	-	611	-
Stage 2	-	-	-	-	421	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1035	-	165	572
Mov Cap-2 Maneuver	-	-	-	-	165	-
Stage 1	-	-	-	-	611	-
Stage 2	-	-	-	-	419	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	25.3
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	165	572	-	-	1035	-
HCM Lane V/C Ratio	0.14	0.015	-	-	0.005	-
HCM Control Delay (s)	30.3	11.4	-	-	8.5	-
HCM Lane LOS	D	B	-	-	A	-
HCM 95th %tile Q(veh)	0.5	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	15	472	798	7	0	8
Future Vol, veh/h	15	472	798	7	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	410	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	0	0
Mvmt Flow	16	497	840	7	0	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	847	0	-	0	1372	844
Stage 1	-	-	-	-	844	-
Stage 2	-	-	-	-	528	-
Critical Hdwy	4.17	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.263	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	769	-	-	-	163	366
Stage 1	-	-	-	-	425	-
Stage 2	-	-	-	-	596	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	769	-	-	-	160	366
Mov Cap-2 Maneuver	-	-	-	-	160	-
Stage 1	-	-	-	-	425	-
Stage 2	-	-	-	-	584	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	15.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	769	-	-	-	366
HCM Lane V/C Ratio	0.021	-	-	-	0.023
HCM Control Delay (s)	9.8	-	-	-	15.1
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	10	431	31	10	705	8	70	0	10	12	4	30
Future Vol, veh/h	10	431	31	10	705	8	70	0	10	12	4	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	400	600	-	490	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	2	0	0	0	100	6
Mvmt Flow	11	454	33	11	742	8	74	0	11	13	4	32

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	742	0	0	454	0	0	1256	1238	454	1238	1238	742
Stage 1	-	-	-	-	-	-	475	475	-	763	763	-
Stage 2	-	-	-	-	-	-	781	763	-	475	475	-
Critical Hdwy	4.17	-	-	4.17	-	-	7.12	6.5	6.2	7.1	7.5	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.5	-	6.1	6.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.5	-	6.1	6.5	-
Follow-up Hdwy	2.263	-	-	2.263	-	-	3.518	4	3.3	3.5	4.9	3.354
Pot Cap-1 Maneuver	843	-	-	1081	-	-	148	177	610	154	115	409
Stage 1	-	-	-	-	-	-	570	561	-	400	298	-
Stage 2	-	-	-	-	-	-	388	416	-	574	423	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	843	-	-	1081	-	-	132	173	610	149	112	409
Mov Cap-2 Maneuver	-	-	-	-	-	-	248	288	-	275	205	-
Stage 1	-	-	-	-	-	-	563	554	-	395	295	-
Stage 2	-	-	-	-	-	-	349	412	-	557	417	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	23.7	17.5
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	248	610	843	-	-	1081	-	-	337
HCM Lane V/C Ratio	0.297	0.017	0.012	-	-	0.01	-	-	0.144
HCM Control Delay (s)	25.5	11	9.3	-	-	8.4	-	-	17.5
HCM Lane LOS	D	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	1.2	0.1	0	-	-	0	-	-	0.5

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	55	371	27	8	557	0	36	9	18	90	0	130
Future Vol, veh/h	55	371	27	8	557	0	36	9	18	90	0	130
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	520	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	0	0	0	15	0	7
Mvmt Flow	58	391	28	8	586	0	38	9	19	95	0	137

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	586	0	0	419	0	0	1124	1124	405	1138	1138	-
Stage 1	-	-	-	-	-	-	521	521	-	603	603	-
Stage 2	-	-	-	-	-	-	603	603	-	535	535	-
Critical Hdwy	4.17	-	-	4.17	-	-	7.1	6.5	6.2	7.25	6.5	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.25	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.25	5.5	-
Follow-up Hdwy	2.263	-	-	2.263	-	-	3.5	4	3.3	3.635	4	-
Pot Cap-1 Maneuver	965	-	-	1114	-	-	184	207	650	168	203	0
Stage 1	-	-	-	-	-	-	542	535	-	464	492	0
Stage 2	-	-	-	-	-	-	489	492	-	506	527	0
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	965	-	-	1114	-	-	174	192	650	151	189	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	290	298	-	270	309	-
Stage 1	-	-	-	-	-	-	509	503	-	436	487	-
Stage 2	-	-	-	-	-	-	484	487	-	453	495	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	0.1	17.9	
HCM LOS			C	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	346	965	-	-	1114	-	-	-
HCM Lane V/C Ratio	0.192	0.06	-	-	0.008	-	-	-
HCM Control Delay (s)	17.9	9	-	-	8.3	0	-	-
HCM Lane LOS	C	A	-	-	A	A	-	-
HCM 95th %tile Q(veh)	0.7	0.2	-	-	0	-	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	521	1303	820	81	790	67	825	349	154	127	255	288
Future Volume (veh/h)	521	1303	820	81	790	67	825	349	154	127	255	288
Number	1	6	16	5	2	12	7	4	14	3	8	18
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
Adj Sat Flow, veh/h/ln	1776	1776	1776	1776	1776	1776	1881	1863	1845	1727	1861	1900
Adj Flow Rate, veh/h	537	1343	845	84	814	69	851	360	159	131	263	297
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	7	7	7	7	7	7	1	2	3	10	0	0
Cap, veh/h	202	1045	468	102	857	383	310	911	767	286	238	269
Arrive On Green	0.12	0.31	0.31	0.06	0.25	0.25	0.15	0.49	0.49	0.30	0.30	0.30
Sat Flow, veh/h	1691	3374	1509	1691	3374	1509	1792	1863	1568	815	799	902
Grp Volume(v), veh/h	537	1343	845	84	814	69	851	360	159	131	0	560
Grp Sat Flow(s),veh/h/ln	1691	1687	1509	1691	1687	1509	1792	1863	1568	815	0	1701
Q Serve(g_s), s	20.0	52.0	52.0	8.2	39.8	6.0	25.0	20.5	9.7	22.6	0.0	50.0
Cycle Q Clear(g_c), s	20.0	52.0	52.0	8.2	39.8	6.0	25.0	20.5	9.7	22.6	0.0	50.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.53
Lane Grp Cap(c), veh/h	202	1045	468	102	857	383	310	911	767	286	0	507
V/C Ratio(X)	2.66	1.29	1.81	0.82	0.95	0.18	2.75	0.40	0.21	0.46	0.00	1.10
Avail Cap(c_a), veh/h	202	1045	468	202	905	405	310	911	767	286	0	507
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	73.9	57.9	57.9	78.0	61.6	48.9	57.1	27.1	24.4	49.3	0.0	58.9
Incr Delay (d2), s/veh	763.1	135.6	371.7	14.8	18.5	0.2	795.2	0.3	0.1	1.1	0.0	71.8
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	52.0	43.8	69.9	4.3	20.7	2.5	82.7	10.7	4.2	5.2	0.0	33.5
LnGrp Delay(d),s/veh	837.0	193.6	429.7	92.8	80.0	49.2	852.3	27.4	24.5	50.4	0.0	130.7
LnGrp LOS	F	F	F	F	F	D	F	C	C	D		F
Approach Vol, veh/h		2725			967			1370			691	
Approach Delay, s/veh		393.6			78.9			539.5			115.5	
Approach LOS		F			E			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	27.7	49.8		90.3	18.3	59.2	32.1	58.2
Change Period (Y+Rc), s	7.7	7.2		8.2	8.2	7.2	7.1	8.2
Max Green Setting (Gmax), s	20.0	45.0		82.1	20.0	45.0	25.0	50.0
Max Q Clear Time (g_c+I1), s	22.0	41.8		22.5	10.2	54.0	27.0	52.0
Green Ext Time (p_c), s	0.0	0.8		10.2	0.1	0.0	0.0	0.0

Intersection Summary		
HCM 2010 Ctrl Delay		342.0
HCM 2010 LOS		F

Intersection	
Int Delay, s/veh	19.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	90	1257	140	13	811	17	108	35	47	18	11	51
Future Vol, veh/h	90	1257	140	13	811	17	108	35	47	18	11	51
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	530	-	480	500	-	460	300	-	0	325	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	0	0	0	55	11	0
Mvmt Flow	95	1323	147	14	854	18	114	37	49	19	12	54

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	854	0	0	1323	0	0	2400	2394	1323	2412	2394	854
Stage 1	-	-	-	-	-	-	1513	1513	-	881	881	-
Stage 2	-	-	-	-	-	-	887	881	-	1531	1513	-
Critical Hdwy	4.17	-	-	4.17	-	-	7.1	6.5	6.2	7.65	6.61	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.65	5.61	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.65	5.61	-
Follow-up Hdwy	2.263	-	-	2.263	-	-	3.5	4	3.3	3.995	4.099	3.3
Pot Cap-1 Maneuver	764	-	-	506	-	-	~ 23	~ 34	193	~ 15	32	361
Stage 1	-	-	-	-	-	-	151	184	-	277	352	-
Stage 2	-	-	-	-	-	-	341	367	-	111	174	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	764	-	-	506	-	-	~ 16	~ 29	193	~ 7	27	361
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 76	103	-	34	100	-
Stage 1	-	-	-	-	-	-	132	161	-	243	342	-
Stage 2	-	-	-	-	-	-	273	357	-	56	152	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.2	231	62.4
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	76	103	193	764	-	-	506	-	-	34	100	361
HCM Lane V/C Ratio	1.496	0.358	0.256	0.124	-	-	0.027	-	-	0.557	0.116	0.149
HCM Control Delay (s)	$ 374.5	58.3	30	10.4	-	-	12.3	-	-	202.3	45.7	16.7
HCM Lane LOS	F	F	D	B	-	-	B	-	-	F	E	C
HCM 95th %tile Q(veh)	9.3	1.4	1	0.4	-	-	0.1	-	-	1.9	0.4	0.5

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

Intersection	
Int Delay, s/veh	25.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	1066	198	91	569	103	87
Future Vol, veh/h	1066	198	91	569	103	87
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	410	460	-	0	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	2	2
Mvmt Flow	1122	208	96	599	108	92

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1122	0	1913	1122
Stage 1	-	-	-	-	1122	-
Stage 2	-	-	-	-	791	-
Critical Hdwy	-	-	4.17	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.263	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	604	-	~ 75	251
Stage 1	-	-	-	-	311	-
Stage 2	-	-	-	-	447	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	604	-	~ 63	251
Mov Cap-2 Maneuver	-	-	-	-	~ 63	-
Stage 1	-	-	-	-	311	-
Stage 2	-	-	-	-	376	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	278.2
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	63	251	-	-	604	-
HCM Lane V/C Ratio	1.721	0.365	-	-	0.159	-
HCM Control Delay (s)	$ 490	27.4	-	-	12.1	-
HCM Lane LOS	F	D	-	-	B	-
HCM 95th %tile Q(veh)	9.8	1.6	-	-	0.6	-

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

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	95	738	60	11	453	8	76	4	24	4	4	45
Future Vol, veh/h	95	738	60	11	453	8	76	4	24	4	4	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	510	-	510	510	-	510	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	6	0	0	0	0	0
Mvmt Flow	100	777	63	12	477	8	80	4	25	4	4	47

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	477	0	0	777	0	0	1503	1477	777	1492	1477	477
Stage 1	-	-	-	-	-	-	977	977	-	500	500	-
Stage 2	-	-	-	-	-	-	526	500	-	992	977	-
Critical Hdwy	4.17	-	-	4.17	-	-	7.16	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.16	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.16	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.263	-	-	2.263	-	-	3.554	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1060	-	-	818	-	-	98	127	400	103	127	592
Stage 1	-	-	-	-	-	-	297	332	-	557	546	-
Stage 2	-	-	-	-	-	-	528	546	-	299	332	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1060	-	-	818	-	-	82	113	400	87	113	592
Mov Cap-2 Maneuver	-	-	-	-	-	-	179	212	-	181	217	-
Stage 1	-	-	-	-	-	-	269	301	-	504	538	-
Stage 2	-	-	-	-	-	-	475	538	-	250	301	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.2	33.9	14
HCM LOS			D	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	179	355	1060	-	-	818	-	-	455
HCM Lane V/C Ratio	0.447	0.083	0.094	-	-	0.014	-	-	0.123
HCM Control Delay (s)	40.4	16.1	8.8	-	-	9.5	-	-	14
HCM Lane LOS	E	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	2.1	0.3	0.3	-	-	0	-	-	0.4

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	741	25	4	456	16	4
Future Vol, veh/h	741	25	4	456	16	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	510	570	-	180	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	0	0
Mvmt Flow	780	26	4	480	17	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	780	0	1268	780
Stage 1	-	-	-	-	780	-
Stage 2	-	-	-	-	488	-
Critical Hdwy	-	-	4.17	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.263	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	815	-	188	399
Stage 1	-	-	-	-	455	-
Stage 2	-	-	-	-	621	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	815	-	187	399
Mov Cap-2 Maneuver	-	-	-	-	187	-
Stage 1	-	-	-	-	455	-
Stage 2	-	-	-	-	618	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	23.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	187	399	-	-	815	-
HCM Lane V/C Ratio	0.09	0.011	-	-	0.005	-
HCM Control Delay (s)	26.1	14.1	-	-	9.4	-
HCM Lane LOS	D	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	5	740	452	4	0	8
Future Vol, veh/h	5	740	452	4	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	410	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	0	0
Mvmt Flow	5	779	476	4	0	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	480	0	-	0	1267	478
Stage 1	-	-	-	-	478	-
Stage 2	-	-	-	-	789	-
Critical Hdwy	4.17	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.263	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1057	-	-	-	188	591
Stage 1	-	-	-	-	628	-
Stage 2	-	-	-	-	451	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1057	-	-	-	187	591
Mov Cap-2 Maneuver	-	-	-	-	187	-
Stage 1	-	-	-	-	628	-
Stage 2	-	-	-	-	449	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1057	-	-	-	591
HCM Lane V/C Ratio	0.005	-	-	-	0.014
HCM Control Delay (s)	8.4	-	-	-	11.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	15	655	70	6	398	6	40	8	10	0	3	18
Future Vol, veh/h	15	655	70	6	398	6	40	8	10	0	3	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	400	600	-	490	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	0	0	0	0	0	0
Mvmt Flow	16	689	74	6	419	6	42	8	11	0	3	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	419	0	0	689	0	0	1164	1153	689	1157	1153	419
Stage 1	-	-	-	-	-	-	721	721	-	432	432	-
Stage 2	-	-	-	-	-	-	443	432	-	725	721	-
Critical Hdwy	4.17	-	-	4.17	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.263	-	-	2.263	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1114	-	-	882	-	-	173	199	449	175	199	638
Stage 1	-	-	-	-	-	-	422	435	-	606	586	-
Stage 2	-	-	-	-	-	-	598	586	-	420	435	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1114	-	-	882	-	-	164	195	449	165	195	638
Mov Cap-2 Maneuver	-	-	-	-	-	-	290	309	-	286	309	-
Stage 1	-	-	-	-	-	-	416	429	-	597	582	-
Stage 2	-	-	-	-	-	-	573	582	-	396	429	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	18.7	11.8
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	293	449	1114	-	-	882	-	-	554
HCM Lane V/C Ratio	0.172	0.023	0.014	-	-	0.007	-	-	0.04
HCM Control Delay (s)	19.8	13.2	8.3	-	-	9.1	-	-	11.8
HCM Lane LOS	C	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.6	0.1	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	115	523	23	12	343	0	20	5	8	80	8	47
Future Vol, veh/h	115	523	23	12	343	0	20	5	8	80	8	47
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	520	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	0	0	0	16	0	0
Mvmt Flow	121	551	24	13	361	0	21	5	8	84	8	49

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	361	0	0	575	0	0	1196	1191	563	1198	1203	-
Stage 1	-	-	-	-	-	-	805	805	-	386	386	-
Stage 2	-	-	-	-	-	-	391	386	-	812	817	-
Critical Hdwy	4.17	-	-	4.17	-	-	7.1	6.5	6.2	7.26	6.5	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.26	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.26	5.5	-
Follow-up Hdwy	2.263	-	-	2.263	-	-	3.5	4	3.3	3.644	4	-
Pot Cap-1 Maneuver	1170	-	-	974	-	-	164	189	530	152	186	0
Stage 1	-	-	-	-	-	-	379	398	-	610	614	0
Stage 2	-	-	-	-	-	-	637	614	-	353	393	0
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1170	-	-	974	-	-	146	167	530	134	164	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	247	261	-	228	264	-
Stage 1	-	-	-	-	-	-	340	357	-	547	604	-
Stage 2	-	-	-	-	-	-	617	604	-	307	352	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	0.3	19.3	
HCM LOS			C	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	286	1170	-	-	974	-	-	-
HCM Lane V/C Ratio	0.121	0.103	-	-	0.013	-	-	-
HCM Control Delay (s)	19.3	8.4	-	-	8.7	0	-	-
HCM Lane LOS	C	A	-	-	A	A	-	-
HCM 95th %tile Q(veh)	0.4	0.3	-	-	0	-	-	-

Appendix P

Synchro Intersections Output Sheets- No Build (After Additional Signalizations)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	535	55	65	835	7	130	6	20	20	14	19
Future Volume (veh/h)	26	535	55	65	835	7	130	6	20	20	14	19
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1776	1776	1776	1776	1776	1776	1900	1900	1900	1226	1712	1900
Adj Flow Rate, veh/h	27	563	58	68	879	7	137	6	21	21	15	20
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	7	7	7	7	7	0	0	0	55	11	0
Cap, veh/h	256	1108	942	447	1108	942	458	495	420	338	446	420
Arrive On Green	0.62	0.62	0.62	0.62	0.62	0.62	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	595	1776	1509	762	1776	1509	1395	1900	1615	907	1712	1615
Grp Volume(v), veh/h	27	563	58	68	879	7	137	6	21	21	15	20
Grp Sat Flow(s),veh/h/ln	595	1776	1509	762	1776	1509	1395	1900	1615	907	1712	1615
Q Serve(g_s), s	2.4	12.1	1.0	3.7	25.5	0.1	5.6	0.2	0.7	1.2	0.5	0.6
Cycle Q Clear(g_c), s	27.9	12.1	1.0	15.8	25.5	0.1	6.1	0.2	0.7	1.4	0.5	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	256	1108	942	447	1108	942	458	495	420	338	446	420
V/C Ratio(X)	0.11	0.51	0.06	0.15	0.79	0.01	0.30	0.01	0.05	0.06	0.03	0.05
Avail Cap(c_a), veh/h	436	1644	1397	677	1644	1397	458	495	420	338	446	420
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.1	7.2	5.1	11.5	9.7	4.9	21.3	19.0	19.2	19.5	19.1	19.1
Incr Delay (d2), s/veh	0.2	0.4	0.0	0.2	1.7	0.0	1.7	0.0	0.2	0.4	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	5.9	0.4	0.8	12.7	0.1	2.4	0.1	0.3	0.3	0.2	0.3
LnGrp Delay(d),s/veh	20.3	7.5	5.1	11.7	11.3	4.9	23.0	19.0	19.4	19.8	19.2	19.4
LnGrp LOS	C	A	A	B	B	A	C	B	B	B	B	B
Approach Vol, veh/h		648			954			164			56	
Approach Delay, s/veh		7.8			11.3			22.4			19.5	
Approach LOS		A			B			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		22.0		47.1		22.0		47.1
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0
Max Green Setting (Gmax), s		18.0		64.0		18.0		64.0
Max Q Clear Time (g_c+I1), s		8.1		29.9		3.4		27.5
Green Ext Time (p_c), s		0.5		13.2		0.6		13.5

Intersection Summary	
HCM 2010 Ctrl Delay	11.3
HCM 2010 LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	514	61	35	779	96	41
Future Volume (veh/h)	514	61	35	779	96	41
Number	4	14	3	8	5	12
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
Adj Sat Flow, veh/h/ln	1776	1776	1776	1776	1863	1863
Adj Flow Rate, veh/h	541	64	37	820	101	43
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	7	7	7	2	2
Cap, veh/h	981	834	410	981	529	472
Arrive On Green	0.55	0.55	0.55	0.55	0.30	0.30
Sat Flow, veh/h	1776	1509	774	1776	1774	1583
Grp Volume(v), veh/h	541	64	37	820	101	43
Grp Sat Flow(s),veh/h/ln	1776	1509	774	1776	1774	1583
Q Serve(g_s), s	10.5	1.1	1.7	20.6	2.3	1.1
Cycle Q Clear(g_c), s	10.5	1.1	12.2	20.6	2.3	1.1
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	981	834	410	981	529	472
V/C Ratio(X)	0.55	0.08	0.09	0.84	0.19	0.09
Avail Cap(c_a), veh/h	1192	1013	502	1192	529	472
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	7.7	5.6	11.7	10.0	14.0	13.6
Incr Delay (d2), s/veh	0.5	0.0	0.1	4.5	0.8	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	5.2	0.5	0.4	11.0	1.2	0.5
LnGrp Delay(d),s/veh	8.2	5.6	11.8	14.5	14.8	14.0
LnGrp LOS	A	A	B	B	B	B
Approach Vol, veh/h	605			857	144	
Approach Delay, s/veh	7.9			14.4	14.6	
Approach LOS	A			B	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		20.0		33.6				33.6
Change Period (Y+Rc), s		4.0		4.0				4.0
Max Green Setting (Gmax), s		16.0		36.0				36.0
Max Q Clear Time (g_c+I1), s		4.3		12.5				22.6
Green Ext Time (p_c), s		0.3		9.5				7.1

Intersection Summary	
HCM 2010 Ctrl Delay	12.0
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	860	120	9	558	8	85	24	39	13	9	41
Future Volume (veh/h)	70	860	120	9	558	8	85	24	39	13	9	41
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1776	1776	1776	1776	1776	1776	1900	1900	1900	1226	1712	1900
Adj Flow Rate, veh/h	74	905	126	9	587	8	89	25	41	14	9	43
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	7	7	7	7	7	0	0	0	55	11	0
Cap, veh/h	451	1117	949	229	1117	949	450	488	415	319	440	415
Arrive On Green	0.63	0.63	0.63	0.63	0.63	0.63	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	781	1776	1509	519	1776	1509	1374	1900	1615	875	1712	1615
Grp Volume(v), veh/h	74	905	126	9	587	8	89	25	41	14	9	43
Grp Sat Flow(s),veh/h/ln	781	1776	1509	519	1776	1509	1374	1900	1615	875	1712	1615
Q Serve(g_s), s	4.1	27.0	2.4	0.9	12.8	0.1	3.6	0.7	1.4	0.9	0.3	1.4
Cycle Q Clear(g_c), s	16.9	27.0	2.4	28.0	12.8	0.1	3.9	0.7	1.4	1.6	0.3	1.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	451	1117	949	229	1117	949	450	488	415	319	440	415
V/C Ratio(X)	0.16	0.81	0.13	0.04	0.53	0.01	0.20	0.05	0.10	0.04	0.02	0.10
Avail Cap(c_a), veh/h	673	1622	1379	377	1622	1379	450	488	415	319	440	415
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.9	9.8	5.3	20.4	7.2	4.9	20.9	19.6	19.8	20.2	19.4	19.9
Incr Delay (d2), s/veh	0.2	2.1	0.1	0.1	0.4	0.0	1.0	0.2	0.5	0.3	0.1	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(50%),veh/ln	0.9	13.5	1.0	0.1	6.3	0.1	1.5	0.4	0.7	0.2	0.1	0.7
LnGrp Delay(d),s/veh	12.1	11.9	5.3	20.5	7.6	4.9	21.9	19.8	20.3	20.4	19.5	20.4
LnGrp LOS	B	B	A	C	A	A	C	B	C	C	B	C
Approach Vol, veh/h		1105			604			155			66	
Approach Delay, s/veh		11.2			7.7			21.1			20.3	
Approach LOS		B			A			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		22.0		48.0		22.0		48.0
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0
Max Green Setting (Gmax), s		18.0		64.0		18.0		64.0
Max Q Clear Time (g_c+I1), s		5.9		29.0		3.6		30.0
Green Ext Time (p_c), s		0.6		14.2		0.6		14.1

Intersection Summary	
HCM 2010 Ctrl Delay	11.2
HCM 2010 LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	817	95	45	457	49	42
Future Volume (veh/h)	817	95	45	457	49	42
Number	4	14	3	8	5	12
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
Adj Sat Flow, veh/h/ln	1776	1776	1776	1776	1863	1863
Adj Flow Rate, veh/h	860	100	47	481	52	44
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	7	7	7	2	2
Cap, veh/h	1034	879	231	1034	494	441
Arrive On Green	0.58	0.58	0.58	0.58	0.28	0.28
Sat Flow, veh/h	1776	1509	555	1776	1774	1583
Grp Volume(v), veh/h	860	100	47	481	52	44
Grp Sat Flow(s),veh/h/ln	1776	1509	555	1776	1774	1583
Q Serve(g_s), s	22.5	1.7	4.3	8.9	1.3	1.2
Cycle Q Clear(g_c), s	22.5	1.7	26.8	8.9	1.3	1.2
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1034	879	231	1034	494	441
V/C Ratio(X)	0.83	0.11	0.20	0.47	0.11	0.10
Avail Cap(c_a), veh/h	1113	946	255	1113	494	441
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	9.7	5.4	20.6	6.9	15.4	15.4
Incr Delay (d2), s/veh	5.2	0.1	0.4	0.3	0.4	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.2	0.7	0.7	4.4	0.7	0.6
LnGrp Delay(d),s/veh	14.9	5.4	21.0	7.2	15.8	15.8
LnGrp LOS	B	A	C	A	B	B
Approach Vol, veh/h	960			528	96	
Approach Delay, s/veh	13.9			8.4	15.8	
Approach LOS	B			A	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		20.0		37.5				37.5
Change Period (Y+Rc), s		4.0		4.0				4.0
Max Green Setting (Gmax), s		16.0		36.0				36.0
Max Q Clear Time (g_c+I1), s		3.3		24.5				28.8
Green Ext Time (p_c), s		0.2		6.6				4.6

Intersection Summary	
HCM 2010 Ctrl Delay	12.2
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	660	64	70	984	10	140	10	25	28	19	24
Future Volume (veh/h)	31	660	64	70	984	10	140	10	25	28	19	24
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1776	1776	1776	1776	1776	1776	1900	1900	1900	1226	1712	1900
Adj Flow Rate, veh/h	33	695	67	74	1036	11	147	11	26	29	20	25
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	7	7	7	7	7	0	0	0	55	11	0
Cap, veh/h	211	1215	1033	409	1215	1033	377	415	353	280	374	353
Arrive On Green	0.68	0.68	0.68	0.68	0.68	0.68	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	512	1776	1509	669	1776	1509	1383	1900	1615	898	1712	1615
Grp Volume(v), veh/h	33	695	67	74	1036	11	147	11	26	29	20	25
Grp Sat Flow(s),veh/h/ln	512	1776	1509	669	1776	1509	1383	1900	1615	898	1712	1615
Q Serve(g_s), s	4.3	16.7	1.2	5.3	36.4	0.2	7.7	0.4	1.1	2.2	0.8	1.0
Cycle Q Clear(g_c), s	40.7	16.7	1.2	22.0	36.4	0.2	8.5	0.4	1.1	2.5	0.8	1.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	211	1215	1033	409	1215	1033	377	415	353	280	374	353
V/C Ratio(X)	0.16	0.57	0.06	0.18	0.85	0.01	0.39	0.03	0.07	0.10	0.05	0.07
Avail Cap(c_a), veh/h	259	1380	1173	471	1380	1173	377	415	353	280	374	353
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.3	6.7	4.3	12.5	9.9	4.1	28.8	25.3	25.5	26.3	25.4	25.5
Incr Delay (d2), s/veh	0.3	0.4	0.0	0.2	4.9	0.0	3.0	0.1	0.4	0.7	0.3	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	0.6	8.3	0.5	1.0	19.2	0.1	3.3	0.2	0.5	0.6	0.4	0.5
LnGrp Delay(d),s/veh	25.6	7.2	4.3	12.7	14.7	4.1	31.8	25.4	25.9	27.0	25.7	25.9
LnGrp LOS	C	A	A	B	B	A	C	C	C	C	C	C
Approach Vol, veh/h		795			1121			184			74	
Approach Delay, s/veh		7.7			14.5			30.6			26.3	
Approach LOS		A			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		22.0		60.3		22.0		60.3
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0
Max Green Setting (Gmax), s		18.0		64.0		18.0		64.0
Max Q Clear Time (g_c+I1), s		10.5		42.7		4.5		38.4
Green Ext Time (p_c), s		0.5		13.6		0.7		15.3

Intersection Summary	
HCM 2010 Ctrl Delay	13.8
HCM 2010 LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	618	95	55	831	148	63
Future Volume (veh/h)	618	95	55	831	148	63
Number	4	14	3	8	5	12
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
Adj Sat Flow, veh/h/ln	1776	1776	1776	1776	1863	1863
Adj Flow Rate, veh/h	651	100	58	875	156	66
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	7	7	7	2	2
Cap, veh/h	1018	865	348	1018	505	450
Arrive On Green	0.57	0.57	0.57	0.57	0.28	0.28
Sat Flow, veh/h	1776	1509	675	1776	1774	1583
Grp Volume(v), veh/h	651	100	58	875	156	66
Grp Sat Flow(s),veh/h/ln	1776	1509	675	1776	1774	1583
Q Serve(g_s), s	13.9	1.7	3.6	23.3	3.9	1.8
Cycle Q Clear(g_c), s	13.9	1.7	17.5	23.3	3.9	1.8
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1018	865	348	1018	505	450
V/C Ratio(X)	0.64	0.12	0.17	0.86	0.31	0.15
Avail Cap(c_a), veh/h	1137	966	394	1137	505	450
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	8.1	5.5	14.0	10.1	15.8	15.0
Incr Delay (d2), s/veh	1.0	0.1	0.2	6.3	1.6	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	7.0	0.7	0.7	13.0	2.1	0.9
LnGrp Delay(d),s/veh	9.1	5.5	14.2	16.4	17.4	15.7
LnGrp LOS	A	A	B	B	B	B
Approach Vol, veh/h	751			933	222	
Approach Delay, s/veh	8.6			16.2	16.9	
Approach LOS	A			B	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		20.0		36.2				36.2
Change Period (Y+Rc), s		4.0		4.0				4.0
Max Green Setting (Gmax), s		16.0		36.0				36.0
Max Q Clear Time (g_c+I1), s		5.9		15.9				25.3
Green Ext Time (p_c), s		0.4		10.5				6.9

Intersection Summary	
HCM 2010 Ctrl Delay	13.3
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	1059	130	11	685	13	97	30	43	16	10	46
Future Volume (veh/h)	80	1059	130	11	685	13	97	30	43	16	10	46
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1776	1776	1776	1776	1776	1776	1900	1900	1900	1226	1712	1900
Adj Flow Rate, veh/h	84	1115	137	12	721	14	102	32	45	17	11	48
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	7	7	7	7	7	0	0	0	55	11	0
Cap, veh/h	420	1238	1052	162	1238	1052	363	398	339	254	359	339
Arrive On Green	0.70	0.70	0.70	0.70	0.70	0.70	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	686	1776	1509	421	1776	1509	1365	1900	1615	867	1712	1615
Grp Volume(v), veh/h	84	1115	137	12	721	14	102	32	45	17	11	48
Grp Sat Flow(s),veh/h/ln	686	1776	1509	421	1776	1509	1365	1900	1615	867	1712	1615
Q Serve(g_s), s	6.1	43.9	2.6	2.0	17.8	0.2	5.5	1.2	1.9	1.4	0.4	2.1
Cycle Q Clear(g_c), s	23.9	43.9	2.6	45.9	17.8	0.2	6.0	1.2	1.9	2.5	0.4	2.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	420	1238	1052	162	1238	1052	363	398	339	254	359	339
V/C Ratio(X)	0.20	0.90	0.13	0.07	0.58	0.01	0.28	0.08	0.13	0.07	0.03	0.14
Avail Cap(c_a), veh/h	453	1324	1125	183	1324	1125	363	398	339	254	359	339
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.7	10.6	4.3	29.3	6.6	4.0	29.3	27.3	27.6	28.3	27.0	27.6
Incr Delay (d2), s/veh	0.2	8.4	0.1	0.2	0.6	0.0	1.9	0.4	0.8	0.5	0.2	0.9
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(50%),veh/ln	1.2	23.9	1.1	0.2	8.8	0.1	2.3	0.7	0.9	0.4	0.2	1.0
LnGrp Delay(d),s/veh	13.0	18.9	4.4	29.5	7.2	4.0	31.3	27.7	28.4	28.8	27.1	28.5
LnGrp LOS	B	B	A	C	A	A	C	C	C	C	C	C
Approach Vol, veh/h		1336			747			179			76	
Approach Delay, s/veh		17.1			7.5			29.9			28.4	
Approach LOS		B			A			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		22.0		63.8		22.0		63.8
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0
Max Green Setting (Gmax), s		18.0		64.0		18.0		64.0
Max Q Clear Time (g_c+I1), s		8.0		45.9		4.5		47.9
Green Ext Time (p_c), s		0.6		13.1		0.7		11.9

Intersection Summary	
HCM 2010 Ctrl Delay	15.4
HCM 2010 LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	986	147	69	509	76	65
Future Volume (veh/h)	986	147	69	509	76	65
Number	4	14	3	8	5	12
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
Adj Sat Flow, veh/h/ln	1776	1776	1776	1776	1863	1863
Adj Flow Rate, veh/h	1038	155	73	536	80	68
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	7	7	7	2	2
Cap, veh/h	1065	906	137	1065	473	422
Arrive On Green	0.60	0.60	0.60	0.60	0.27	0.27
Sat Flow, veh/h	1776	1509	446	1776	1774	1583
Grp Volume(v), veh/h	1038	155	73	536	80	68
Grp Sat Flow(s),veh/h/ln	1776	1509	446	1776	1774	1583
Q Serve(g_s), s	33.8	2.7	2.2	10.4	2.1	2.0
Cycle Q Clear(g_c), s	33.8	2.7	36.0	10.4	2.1	2.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1065	906	137	1065	473	422
V/C Ratio(X)	0.97	0.17	0.53	0.50	0.17	0.16
Avail Cap(c_a), veh/h	1065	906	137	1065	473	422
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	11.6	5.3	29.7	6.9	16.9	16.9
Incr Delay (d2), s/veh	21.5	0.1	4.0	0.4	0.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	22.5	1.1	1.3	5.0	1.1	0.9
LnGrp Delay(d),s/veh	33.0	5.4	33.8	7.3	17.7	17.7
LnGrp LOS	C	A	C	A	B	B
Approach Vol, veh/h	1193			609	148	
Approach Delay, s/veh	29.5			10.4	17.7	
Approach LOS	C			B	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		20.0		40.0				40.0
Change Period (Y+Rc), s		4.0		4.0				4.0
Max Green Setting (Gmax), s		16.0		36.0				36.0
Max Q Clear Time (g_c+I1), s		4.1		35.8				38.0
Green Ext Time (p_c), s		0.3		0.2				0.0

Intersection Summary	
HCM 2010 Ctrl Delay	22.6
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	784	72	75	1133	12	150	14	30	35	24	29
Future Volume (veh/h)	36	784	72	75	1133	12	150	14	30	35	24	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1776	1776	1776	1776	1776	1776	1900	1900	1900	1226	1712	1900
Adj Flow Rate, veh/h	38	825	76	79	1193	13	158	15	32	37	25	31
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	7	7	7	7	7	0	0	0	55	11	0
Cap, veh/h	132	1262	1073	350	1262	1073	338	380	323	253	343	323
Arrive On Green	0.71	0.71	0.71	0.71	0.71	0.71	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	440	1776	1509	587	1776	1509	1369	1900	1615	890	1712	1615
Grp Volume(v), veh/h	38	825	76	79	1193	13	158	15	32	37	25	31
Grp Sat Flow(s),veh/h/ln	440	1776	1509	587	1776	1509	1369	1900	1615	890	1712	1615
Q Serve(g_s), s	7.5	22.6	1.4	7.6	53.2	0.2	9.5	0.6	1.5	3.1	1.1	1.4
Cycle Q Clear(g_c), s	60.7	22.6	1.4	30.1	53.2	0.2	10.6	0.6	1.5	3.7	1.1	1.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	132	1262	1073	350	1262	1073	338	380	323	253	343	323
V/C Ratio(X)	0.29	0.65	0.07	0.23	0.95	0.01	0.47	0.04	0.10	0.15	0.07	0.10
Avail Cap(c_a), veh/h	133	1264	1074	351	1264	1074	338	380	323	253	343	323
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.2	7.0	4.0	15.2	11.5	3.8	33.5	29.0	29.3	30.5	29.2	29.3
Incr Delay (d2), s/veh	1.2	1.2	0.0	0.3	14.2	0.0	4.6	0.2	0.6	1.2	0.4	0.6
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	1.0	11.2	0.6	1.3	30.5	0.1	4.0	0.3	0.7	0.9	0.5	0.7
LnGrp Delay(d),s/veh	39.4	8.2	4.0	15.5	25.7	3.8	38.1	29.2	30.0	31.7	29.6	29.9
LnGrp LOS	D	A	A	B	C	A	D	C	C	C	C	C
Approach Vol, veh/h		939			1285			205			93	
Approach Delay, s/veh		9.2			24.8			36.2			30.5	
Approach LOS		A			C			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		22.0		67.9		22.0		67.9
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0
Max Green Setting (Gmax), s		18.0		64.0		18.0		64.0
Max Q Clear Time (g_c+I1), s		12.6		62.7		5.7		55.2
Green Ext Time (p_c), s		0.5		1.2		0.9		7.6

Intersection Summary	
HCM 2010 Ctrl Delay	20.1
HCM 2010 LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	719	130	75	906	201	84
Future Volume (veh/h)	719	130	75	906	201	84
Number	4	14	3	8	5	12
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
Adj Sat Flow, veh/h/ln	1776	1776	1776	1776	1863	1863
Adj Flow Rate, veh/h	757	137	79	954	212	88
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	7	7	7	2	2
Cap, veh/h	1050	893	293	1050	483	431
Arrive On Green	0.59	0.59	0.59	0.59	0.27	0.27
Sat Flow, veh/h	1776	1509	591	1776	1774	1583
Grp Volume(v), veh/h	757	137	79	954	212	88
Grp Sat Flow(s),veh/h/ln	1776	1509	591	1776	1774	1583
Q Serve(g_s), s	17.8	2.4	6.5	27.9	5.8	2.5
Cycle Q Clear(g_c), s	17.8	2.4	24.3	27.9	5.8	2.5
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1050	893	293	1050	483	431
V/C Ratio(X)	0.72	0.15	0.27	0.91	0.44	0.20
Avail Cap(c_a), veh/h	1088	925	305	1088	483	431
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	8.5	5.4	17.2	10.6	17.7	16.5
Incr Delay (d2), s/veh	2.3	0.1	0.5	10.8	2.9	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.3	1.0	1.1	16.4	3.2	1.2
LnGrp Delay(d),s/veh	10.8	5.5	17.7	21.4	20.5	17.5
LnGrp LOS	B	A	B	C	C	B
Approach Vol, veh/h	894			1033	300	
Approach Delay, s/veh	10.0			21.2	19.7	
Approach LOS	A			C	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		20.0		38.7				38.7
Change Period (Y+Rc), s		4.0		4.0				4.0
Max Green Setting (Gmax), s		16.0		36.0				36.0
Max Q Clear Time (g_c+I1), s		7.8		19.8				29.9
Green Ext Time (p_c), s		0.6		10.7				4.9

Intersection Summary	
HCM 2010 Ctrl Delay	16.5
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	1257	140	13	811	17	108	35	47	18	11	51
Future Volume (veh/h)	90	1257	140	13	811	17	108	35	47	18	11	51
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1776	1776	1776	1776	1776	1776	1900	1900	1900	1226	1712	1900
Adj Flow Rate, veh/h	95	1323	147	14	854	18	114	37	49	19	12	54
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	7	7	7	7	7	0	0	0	55	11	0
Cap, veh/h	347	1263	1073	80	1263	1073	344	380	323	238	342	323
Arrive On Green	0.71	0.71	0.71	0.71	0.71	0.71	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	603	1776	1509	342	1776	1509	1357	1900	1615	860	1712	1615
Grp Volume(v), veh/h	95	1323	147	14	854	18	114	37	49	19	12	54
Grp Sat Flow(s),veh/h/ln	603	1776	1509	342	1776	1509	1357	1900	1615	860	1712	1615
Q Serve(g_s), s	9.4	64.0	2.8	0.0	24.1	0.3	6.7	1.4	2.3	1.7	0.5	2.5
Cycle Q Clear(g_c), s	33.5	64.0	2.8	64.0	24.1	0.3	7.2	1.4	2.3	3.1	0.5	2.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	347	1263	1073	80	1263	1073	344	380	323	238	342	323
V/C Ratio(X)	0.27	1.05	0.14	0.17	0.68	0.02	0.33	0.10	0.15	0.08	0.04	0.17
Avail Cap(c_a), veh/h	347	1263	1073	80	1263	1073	344	380	323	238	342	323
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.5	13.0	4.2	45.0	7.2	3.8	31.9	29.4	29.7	30.6	29.0	29.8
Incr Delay (d2), s/veh	0.4	38.8	0.1	1.0	1.5	0.0	2.6	0.5	1.0	0.7	0.2	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	1.6	44.1	1.2	0.4	12.1	0.1	2.7	0.8	1.1	0.4	0.3	1.2
LnGrp Delay(d),s/veh	17.0	51.8	4.2	46.0	8.7	3.8	34.5	29.9	30.7	31.3	29.2	30.9
LnGrp LOS	B	F	A	D	A	A	C	C	C	C	C	C
Approach Vol, veh/h		1565			886			200			85	
Approach Delay, s/veh		45.2			9.2			32.7			30.8	
Approach LOS		D			A			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		22.0		68.0		22.0		68.0
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0
Max Green Setting (Gmax), s		18.0		64.0		18.0		64.0
Max Q Clear Time (g_c+I1), s		9.2		66.0		5.1		66.0
Green Ext Time (p_c), s		0.7		0.0		0.8		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	32.2
HCM 2010 LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1066	198	91	569	103	87
Future Volume (veh/h)	1066	198	91	569	103	87
Number	4	14	3	8	5	12
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
Adj Sat Flow, veh/h/ln	1776	1776	1776	1776	1863	1863
Adj Flow Rate, veh/h	1122	208	96	599	108	92
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	7	7	7	2	2
Cap, veh/h	1065	906	120	1065	473	422
Arrive On Green	0.60	0.60	0.60	0.60	0.27	0.27
Sat Flow, veh/h	1776	1509	391	1776	1774	1583
Grp Volume(v), veh/h	1122	208	96	599	108	92
Grp Sat Flow(s),veh/h/ln	1776	1509	391	1776	1774	1583
Q Serve(g_s), s	36.0	3.8	0.0	12.2	2.9	2.7
Cycle Q Clear(g_c), s	36.0	3.8	36.0	12.2	2.9	2.7
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1065	906	120	1065	473	422
V/C Ratio(X)	1.05	0.23	0.80	0.56	0.23	0.22
Avail Cap(c_a), veh/h	1065	906	120	1065	473	422
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	12.0	5.6	30.0	7.2	17.2	17.1
Incr Delay (d2), s/veh	42.7	0.1	30.7	0.7	1.1	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	29.8	1.6	2.6	6.0	1.5	1.3
LnGrp Delay(d),s/veh	54.7	5.7	60.7	7.9	18.3	18.3
LnGrp LOS	F	A	E	A	B	B
Approach Vol, veh/h	1330			695	200	
Approach Delay, s/veh	47.0			15.2	18.3	
Approach LOS	D			B	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		20.0		40.0				40.0
Change Period (Y+Rc), s		4.0		4.0				4.0
Max Green Setting (Gmax), s		16.0		36.0				36.0
Max Q Clear Time (g_c+I1), s		4.9		38.0				38.0
Green Ext Time (p_c), s		0.4		0.0				0.0

Intersection Summary	
HCM 2010 Ctrl Delay	34.5
HCM 2010 LOS	C

Appendix Q

Roadway Analysis Outputs- No Build

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	JP/VHB	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/11/2016 12:42:50 PM	**From**	Greenbrook Blvd/Post Blvd. (M.P. 10.137	**Analysis Type**	Two-Lane Segment
Agency	FDOT D1	**To**	DelWebb Blvd. (M.P. 11.718)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Westbound	**Version Date**	12/12/2012
File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\Greenbrook to Del Webb\2023 AM NB.xhp				
User Notes	2023 AM NB				

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	1.581	**Median**	No	**AADT**	15000	**PHF**	0.950
# Thru Lanes	2	**Left Turn Impact**	No	**K**	0.095	**% Heavy Vehicles**	7.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.605	**Base Capacity**	1700
Posted Speed	60	**% NPZ**	35	**Peak Dir. Hrly. Vol.**	862	**Local Adj. Factor**	0.88
Free Flow Speed	60	**Class**	1	**Off Peak Dir. Hrly. Vol.**	563	**Adjusted Capacity**	0

LOS Results

v/c Ratio	0.61	**Density**	N/A	**PTSF**	87.0	**ATS**	45.7	**% FFS**	76.1
FFS Delay	29.8	**LOS Thresh. Delay**	10.8	**Service Measure**	PTSF	**LOS**	E		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1500 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1	80	190	360	650	1420
2					
3					
4					
Lanes	**Hourly Volume In Both Directions**				
2	140	320	600	1080	2350
4					
6					
8					

Lanes	Annual Average Daily Traffic				
2	1500	3400	6400	11400	24800
4					
6					
8					

*****
Cannot be achieved based on input data provided.
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	JP/VHB	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/11/2016 12:42:50 PM	**From**	Greenbrook Blvd/Post Blvd. (M.P. 10.137)	**Analysis Type**	Two-Lane Segment
Agency	FDOT D1	**To**	Del Webb Blvd. (M.P. 11.718)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Westbound	**Version Date**	12/12/2012
File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\Greenbrook to Del Webb\2033 AM NB.xhp				
User Notes	2033 AM NB				

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	1.581	**Median**	No	**AADT**	19000	**PHF**	0.950
# Thru Lanes	2	**Left Turn Impact**	No	**K**	0.095	**% Heavy Vehicles**	7.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.605	**Base Capacity**	1700
Posted Speed	60	**% NPZ**	35	**Peak Dir. Hrly. Vol.**	1092	**Local Adj. Factor**	0.88
Free Flow Speed	60	**Class**	1	**Off Peak Dir. Hrly. Vol.**	713	**Adjusted Capacity**	1428

LOS Results

v/c Ratio	0.77	**Density**	N/A	**PTSF**	91.7	**ATS**	42.4	**% FFS**	70.7
FFS Delay	39.2	**LOS Thresh. Delay**	20.3	**Service Measure**	PTSF	**LOS**	E		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 0 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1	80	190	360	650	1420
2					
3					
4					
Lanes	**Hourly Volume In Both Directions**				
2	140	320	600	1080	2350
4					
6					
8					

Lanes	Annual Average Daily Traffic				
2	1500	3400	6400	11400	24800
4					
6					
8					

*****
Cannot be achieved based on input data provided.
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	JP/VHB	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/11/2016 12:42:50 PM	**From**	Greenbrook Blvd/Post Blvd. (M.P. 10.137)	**Analysis Type**	Two-Lane Segment
Agency	FDOT D1	**To**	Del Webb Blvd. (M.P. 11.718)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Westbound	**Version Date**	12/12/2012

File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\Greenbrook to Del Webb\2043 AM NB.xhp
User Notes	2043 AM NB

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	1.581	**Median**	No	**AADT**	22000	**PHF**	0.950
# Thru Lanes	2	**Left Turn Impact**	No	**K**	0.095	**% Heavy Vehicles**	7.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.605	**Base Capacity**	1700
Posted Speed	60	**% NPZ**	35	**Peak Dir. Hrly. Vol.**	1264	**Local Adj. Factor**	0.88
Free Flow Speed	60	**Class**	1	**Off Peak Dir. Hrly. Vol.**	826	**Adjusted Capacity**	1428

LOS Results

v/c Ratio	0.89	**Density**	N/A	**PTSF**	93.5	**ATS**	39.9	**% FFS**	66.5
FFS Delay	47.7	**LOS Thresh. Delay**	28.8	**Service Measure**	PTSF	**LOS**	E		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 0 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1	90	190	370	660	1420
2					
3					
4					
Lanes	**Hourly Volume In Both Directions**				
2	150	320	620	1100	2350
4					
6					
8					

Lanes	Annual Average Daily Traffic				
2	1600	3400	6600	11600	24800
4					
6					
8					

*****
Cannot be achieved based on input data provided.
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	JP/VHB	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/11/2016 12:42:50 PM	**From**	Greenbrook Blvd/Post Blvd. (M.P. 10.137)	**Analysis Type**	Two-Lane Segment
Agency	FDOT D1	**To**	Del Webb Blvd. (M.P. 11.718)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Eastbound	**Version Date**	12/12/2012
File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\Greenbrook to Del Webb\2023 PM NB.xhp				
User Notes	2023 PM NB				

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	1.581	**Median**	No	**AADT**	15000	**PHF**	0.950
# Thru Lanes	2	**Left Turn Impact**	No	**K**	0.095	**% Heavy Vehicles**	7.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.605	**Base Capacity**	1700
Posted Speed	60	**% NPZ**	32	**Peak Dir. Hrly. Vol.**	862	**Local Adj. Factor**	0.88
Free Flow Speed	60	**Class**	1	**Off Peak Dir. Hrly. Vol.**	563	**Adjusted Capacity**	1428

LOS Results

v/c Ratio	0.61	**Density**	N/A	**PTSF**	86.8	**ATS**	45.7	**% FFS**	76.1
FFS Delay	29.7	**LOS Thresh. Delay**	10.7	**Service Measure**	PTSF	**LOS**	E		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 0 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1	80	190	360	650	1420
2					
3					
4					
Lanes	**Hourly Volume In Both Directions**				
2	140	320	600	1080	2350
4					
6					
8					

Lanes	Annual Average Daily Traffic				
2	1500	3400	6400	11400	24800
4					
6					
8					

*****
Cannot be achieved based on input data provided.
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	JP/VHB	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/11/2016 12:42:50 PM	**From**	Grenbrook Blvd/Post Blvd. (M.P. 10.137)	**Analysis Type**	Two-Lane Segment
Agency	FDOT D1	**To**	Del Webb Blvd. (M.P. 11.218)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Eastbound	**Version Date**	12/12/2012

File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\Greenbrook to Del Webb\2033 PM NB.xhp
User Notes	2033 PM NB

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	1.581	**Median**	No	**AADT**	19000	**PHF**	0.950
# Thru Lanes	2	**Left Turn Impact**	No	**K**	0.095	**% Heavy Vehicles**	7.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.605	**Base Capacity**	1700
Posted Speed	60	**% NPZ**	32	**Peak Dir. Hrly. Vol.**	1092	**Local Adj. Factor**	0.88
Free Flow Speed	60	**Class**	1	**Off Peak Dir. Hrly. Vol.**	713	**Adjusted Capacity**	1428

LOS Results

v/c Ratio	0.77	**Density**	N/A	**PTSF**	91.6	**ATS**	42.5	**% FFS**	70.8
FFS Delay	39.1	**LOS Thresh. Delay**	20.2	**Service Measure**	PTSF	**LOS**	E		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1500 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1	90	190	370	660	1420
2					
3					
4					
Lanes	**Hourly Volume In Both Directions**				
2	150	320	620	1100	2350
4					
6					
8					

Lanes	Annual Average Daily Traffic				
2	1600	3400	6600	11600	24800
4					
6					
8					

*****
Cannot be achieved based on input data provided.
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	JP/VHB	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/11/2016 12:42:50 PM	**From**	Greenbrook Blvd/Post Blvd. (M.P. 10.137)	**Analysis Type**	Two-Lane Segment
Agency	FDOT D1	**To**	Del Webb Blvd. (M.P. 11.718)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Eastbound	**Version Date**	12/12/2012
File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\Greenbrook to Del Webb\2043 PM NB.xhp				
User Notes	2043 PM NB				

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	1.581	**Median**	No	**AADT**	22000	**PHF**	0.950
# Thru Lanes	2	**Left Turn Impact**	No	**K**	0.095	**% Heavy Vehicles**	7.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.605	**Base Capacity**	1700
Posted Speed	60	**% NPZ**	32	**Peak Dir. Hrly. Vol.**	862	**Local Adj. Factor**	0.88
Free Flow Speed	60	**Class**	1	**Off Peak Dir. Hrly. Vol.**	563	**Adjusted Capacity**	1428

LOS Results

v/c Ratio	0.61	**Density**	N/A	**PTSF**	86.8	**ATS**	45.7	**% FFS**	76.1
FFS Delay	29.7	**LOS Thresh. Delay**	10.7	**Service Measure**	PTSF	**LOS**	E		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 0 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1	90	190	370	660	1420
2					
3					
4					
Lanes	**Hourly Volume In Both Directions**				
2	150	320	620	1100	2350
4					
6					
8					

Lanes	Annual Average Daily Traffic				
2	1600	3400	6600	11600	24800
4					
6					
8					

*****
Cannot be achieved based on input data provided.
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	JP/VHB	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/11/2016 12:42:50 PM	**From**	DelWebb Blvd. (M.P. 11.718)	**Analysis Type**	Two-Lane Segment
Agency	FDOT D1	**To**	Lindrick Ln./197th Street E. (M.P. 13.218)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Westbound	**Version Date**	12/12/2012

File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\Del Webb to Lindrick\2023 AM NB.xhp
User Notes	2023 AM NB

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	1.500	**Median**	No	**AADT**	14000	**PHF**	0.950
# Thru Lanes	2	**Left Turn Impact**	No	**K**	0.095	**% Heavy Vehicles**	7.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.605	**Base Capacity**	1700
Posted Speed	60	**% NPZ**	33	**Peak Dir. Hrly. Vol.**	805	**Local Adj. Factor**	0.88
Free Flow Speed	60	**Class**	1	**Off Peak Dir. Hrly. Vol.**	525	**Adjusted Capacity**	0

LOS Results

v/c Ratio	0.57	**Density**	N/A	**PTSF**	84.8	**ATS**	46.5	**% FFS**	77.4
FFS Delay	26.2	**LOS Thresh. Delay**	8.2	**Service Measure**	PTSF	**LOS**	E		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1500 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1	80	190	370	650	1420
2					
3					
4					
Lanes	**Hourly Volume In Both Directions**				
2	140	320	620	1080	2350
4					
6					
8					
Lanes	**Annual Average Daily Traffic**				
2	1500	3400	6600	11400	24800
4					
6					
8					

*** Cannot be achieved based on input data provided.**
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	JP/VHB	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/11/2016 12:42:50 PM	**From**	Del Webb Blvd. (M.P. 11.718)	**Analysis Type**	Two-Lane Segment
Agency	FDOT D1	**To**	Lindrick Ln./197th Street E. (M.P. 13.218)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Westbound	**Version Date**	12/12/2012
File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\Del Webb to Lindrick\2033 AM NB.xhp				
User Notes	2033 AM NB				

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	1.500	**Median**	No	**AADT**	14000	**PHF**	0.950
# Thru Lanes	2	**Left Turn Impact**	No	**K**	0.095	**% Heavy Vehicles**	7.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.605	**Base Capacity**	1700
Posted Speed	60	**% NPZ**	33	**Peak Dir. Hrly. Vol.**	805	**Local Adj. Factor**	0.88
Free Flow Speed	60	**Class**	1	**Off Peak Dir. Hrly. Vol.**	525	**Adjusted Capacity**	0

LOS Results

v/c Ratio	0.57	**Density**	N/A	**PTSF**	84.8	**ATS**	46.5	**% FFS**	77.4
FFS Delay	26.2	**LOS Thresh. Delay**	8.2	**Service Measure**	PTSF	**LOS**	E		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1500 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1	80	190	370	650	1420
2					
3					
4					
Lanes	**Hourly Volume In Both Directions**				
2	140	320	620	1080	2350
4					
6					
8					
Lanes	**Annual Average Daily Traffic**				
2	1500	3400	6600	11400	24800
4					
6					
8					

*** Cannot be achieved based on input data provided.**
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	JP/VHB	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/11/2016 12:42:50 PM	**From**	Del Webb Blvd. (M.P. 11.718)	**Analysis Type**	Two-Lane Segment
Agency	FDOT D1	**To**	Lindrick Ln./197th Street E. (M.P. 13.218)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Westbound	**Version Date**	12/12/2012
File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\Del Webb to Lindrick\2043 AM NB.xhp				
User Notes	2043 AM NB				

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	1.500	**Median**	No	**AADT**	15000	**PHF**	0.950
# Thru Lanes	2	**Left Turn Impact**	No	**K**	0.095	**% Heavy Vehicles**	7.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.605	**Base Capacity**	1700
Posted Speed	60	**% NPZ**	33	**Peak Dir. Hrly. Vol.**	862	**Local Adj. Factor**	0.88
Free Flow Speed	60	**Class**	1	**Off Peak Dir. Hrly. Vol.**	563	**Adjusted Capacity**	0

LOS Results

v/c Ratio	0.61	**Density**	N/A	**PTSF**	86.9	**ATS**	45.7	**% FFS**	76.1
FFS Delay	28.2	**LOS Thresh. Delay**	10.2	**Service Measure**	PTSF	**LOS**	E		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1500 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1	80	190	370	650	1420
2					
3					
4					
Lanes	**Hourly Volume In Both Directions**				
2	140	320	620	1080	2350
4					
6					
8					
Lanes	**Annual Average Daily Traffic**				
2	1500	3400	6600	11400	24800
4					
6					
8					

*** Cannot be achieved based on input data provided.**
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	JP/VHB	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/11/2016 12:42:50 PM	**From**	Del Webb Blvd. (M.P. 11.718)	**Analysis Type**	Two-Lane Segment
Agency	FDOT D1	**To**	Lindrick Ln./197th Street E. (M.P. 13.218)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Eastbound	**Version Date**	12/12/2012

File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\Del Webb to Lindrick\2023 PM NB.xhp
User Notes	2023 PM NB

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	1.500	**Median**	No	**AADT**	14000	**PHF**	0.950
# Thru Lanes	2	**Left Turn Impact**	No	**K**	0.095	**% Heavy Vehicles**	7.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.605	**Base Capacity**	1700
Posted Speed	60	**% NPZ**	37	**Peak Dir. Hrly. Vol.**	632	**Local Adj. Factor**	0.88
Free Flow Speed	60	**Class**	1	**Off Peak Dir. Hrly. Vol.**	413	**Adjusted Capacity**	0

LOS Results

v/c Ratio	0.45	**Density**	N/A	**PTSF**	79.4	**ATS**	48.6	**% FFS**	81.0
FFS Delay	21.1	**LOS Thresh. Delay**	3.1	**Service Measure**	PTSF	**LOS**	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1500 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1	70	180	350	640	1420
2					
3					
4					
Lanes	**Hourly Volume In Both Directions**				
2	120	300	580	1060	2350
4					
6					
8					
Lanes	**Annual Average Daily Traffic**				
2	1300	3200	6200	11200	24800
4					
6					
8					

*** Cannot be achieved based on input data provided.**
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	JP/VHB	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/11/2016 12:42:50 PM	**From**	Del Webb Blvd. (M.P. 11.218)	**Analysis Type**	Two-Lane Segment
Agency	FDOT D1	**To**	Lindrick Ln./197th Street E. (M.P. 13.218)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Eastbound	**Version Date**	12/12/2012

File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\Del Webb to Lindrick\2033 PM NB.xhp
User Notes	2033 PM NB

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	1.500	**Median**	No	**AADT**	14000	**PHF**	0.950
# Thru Lanes	2	**Left Turn Impact**	No	**K**	0.095	**% Heavy Vehicles**	7.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.605	**Base Capacity**	1700
Posted Speed	60	**% NPZ**	37	**Peak Dir. Hrly. Vol.**	805	**Local Adj. Factor**	0.88
Free Flow Speed	60	**Class**	1	**Off Peak Dir. Hrly. Vol.**	525	**Adjusted Capacity**	0

LOS Results

v/c Ratio	0.57	**Density**	N/A	**PTSF**	85.1	**ATS**	46.4	**% FFS**	77.4
FFS Delay	26.3	**LOS Thresh. Delay**	8.3	**Service Measure**	PTSF	**LOS**	E		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1500 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1	70	180	350	640	1420
2					
3					
4					
Lanes	**Hourly Volume In Both Directions**				
2	120	300	580	1060	2350
4					
6					
8					
Lanes	**Annual Average Daily Traffic**				
2	1300	3200	6200	11200	24800
4					
6					
8					

*** Cannot be achieved based on input data provided.**
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	JP/VHB	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/11/2016 12:42:50 PM	**From**	Del Webb Blvd. (M.P. 11.718)	**Analysis Type**	Two-Lane Segment
Agency	FDOT D1	**To**	Lindrick Ln./197th Street E. (M.P. 13.218)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Eastbound	**Version Date**	12/12/2012

File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\Del Webb to Lindrick\2043 PM NB.xhp
User Notes	2043 PM NB

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	1.500	**Median**	No	**AADT**	15000	**PHF**	0.950
# Thru Lanes	2	**Left Turn Impact**	No	**K**	0.095	**% Heavy Vehicles**	7.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.605	**Base Capacity**	1700
Posted Speed	60	**% NPZ**	37	**Peak Dir. Hrly. Vol.**	862	**Local Adj. Factor**	0.88
Free Flow Speed	60	**Class**	1	**Off Peak Dir. Hrly. Vol.**	563	**Adjusted Capacity**	0

LOS Results

v/c Ratio	0.61	**Density**	N/A	**PTSF**	87.1	**ATS**	45.6	**% FFS**	76.0
FFS Delay	28.3	**LOS Thresh. Delay**	10.3	**Service Measure**	PTSF	**LOS**	E		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1500 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1	70	180	350	640	1420
2					
3					
4					
Lanes	**Hourly Volume In Both Directions**				
2	120	300	580	1060	2350
4					
6					
8					
Lanes	**Annual Average Daily Traffic**				
2	1300	3200	6200	11200	24800
4					
6					
8					

*** Cannot be achieved based on input data provided.**
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	AP/VHB	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/9/2016 12:42:50 PM	**From**	Lindrick Ln./197th Street E. (M.P. 13.218)	**Analysis Type**	Two-Lane Segment
Agency	FDOT D1	**To**	Meadow Dove Ln./CR 675 (M.P. 15.567)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Westbound	**Version Date**	12/12/2012

File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\Old\2023 AM NB.xhp
User Notes	2023 AM NB

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	2.300	**Median**	No	**AADT**	11000	**PHF**	0.950
# Thru Lanes	2	**Left Turn Impact**	No	**K**	0.095	**% Heavy Vehicles**	7.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.605	**Base Capacity**	1700
Posted Speed	60	**% NPZ**	36	**Peak Dir. Hrly. Vol.**	632	**Local Adj. Factor**	0.88
Free Flow Speed	60	**Class**	1	**Off Peak Dir. Hrly. Vol.**	413	**Adjusted Capacity**	0

LOS Results

v/c Ratio	0.45	**Density**	N/A	**PTSF**	79.3	**ATS**	48.6	**% FFS**	81.1
FFS Delay	32.2	**LOS Thresh. Delay**	4.6	**Service Measure**	PTSF	**LOS**	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1500 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1	80	190	360	650	1420
2					
3					
4					
Lanes	**Hourly Volume In Both Directions**				
2	140	320	600	1080	2350
4					
6					
8					
Lanes	**Annual Average Daily Traffic**				
2	1500	3400	6400	11400	24800
4					
6					
8					

*** Cannot be achieved based on input data provided.**
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	AP/VHB	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/9/2016 12:42:50 PM	**From**	Lindrick Ln./197th Street E. (M.P. 13.218)	**Analysis Type**	Two-Lane Segment
Agency	FDOT D1	**To**	Meadow Dove Ln./CR 675 (M.P. 15.567)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Westbound	**Version Date**	12/12/2012

File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\Old\2033 AM NB.xhp
User Notes	2033 AM NB

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	2.300	**Median**	No	**AADT**	12000	**PHF**	0.950
# Thru Lanes	2	**Left Turn Impact**	No	**K**	0.095	**% Heavy Vehicles**	7.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.605	**Base Capacity**	1700
Posted Speed	60	**% NPZ**	36	**Peak Dir. Hrly. Vol.**	690	**Local Adj. Factor**	0.88
Free Flow Speed	60	**Class**	1	**Off Peak Dir. Hrly. Vol.**	450	**Adjusted Capacity**	0

LOS Results

v/c Ratio	0.49	**Density**	N/A	**PTSF**	81.2	**ATS**	47.9	**% FFS**	79.8
FFS Delay	34.8	**LOS Thresh. Delay**	7.2	**Service Measure**	PTSF	**LOS**	E		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1500 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1	80	190	360	650	1420
2					
3					
4					
Lanes	**Hourly Volume In Both Directions**				
2	140	320	600	1080	2350
4					
6					
8					
Lanes	**Annual Average Daily Traffic**				
2	1500	3400	6400	11400	24800
4					
6					
8					

*** Cannot be achieved based on input data provided.**
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	AP/VHB	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/9/2016 12:42:50 PM	**From**	Lindrick Ln./197th Street E. (M.P. 13.218)	**Analysis Type**	Two-Lane Segment
Agency	FDOT D1	**To**	Meadow Dove Ln./CR 675 (M.P. 15.567)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Westbound	**Version Date**	12/12/2012

File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\Old\2043 AM NB.xhp
User Notes	2043 AM NB

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	2.300	**Median**	No	**AADT**	13000	**PHF**	0.950
# Thru Lanes	2	**Left Turn Impact**	No	**K**	0.095	**% Heavy Vehicles**	7.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.605	**Base Capacity**	1700
Posted Speed	60	**% NPZ**	36	**Peak Dir. Hrly. Vol.**	747	**Local Adj. Factor**	0.88
Free Flow Speed	60	**Class**	1	**Off Peak Dir. Hrly. Vol.**	488	**Adjusted Capacity**	0

LOS Results

v/c Ratio	0.53	**Density**	N/A	**PTSF**	82.9	**ATS**	47.2	**% FFS**	78.7
FFS Delay	37.4	**LOS Thresh. Delay**	9.8	**Service Measure**	PTSF	**LOS**	E		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1500 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1	80	190	360	650	1420
2					
3					
4					
Lanes	**Hourly Volume In Both Directions**				
2	140	320	600	1080	2350
4					
6					
8					
Lanes	**Annual Average Daily Traffic**				
2	1500	3400	6400	11400	24800
4					
6					
8					

*** Cannot be achieved based on input data provided.**
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	AP/VHB	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/9/2016 12:42:50 PM	**From**	Lindrick Ln./197th Street E. (M.P. 13.218)	**Analysis Type**	Two-Lane Segment
Agency	FDOT D1	**To**	Meadow Dove Ln./CR 675 (M.P. 15.567)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Eastbound	**Version Date**	12/12/2012

File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\Old\2023 PM NB.xhp
User Notes	2023 PM NB

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	2.300	**Median**	No	**AADT**	11000	**PHF**	0.950
# Thru Lanes	2	**Left Turn Impact**	No	**K**	0.095	**% Heavy Vehicles**	7.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.605	**Base Capacity**	1700
Posted Speed	60	**% NPZ**	89	**Peak Dir. Hrly. Vol.**	632	**Local Adj. Factor**	0.88
Free Flow Speed	60	**Class**	1	**Off Peak Dir. Hrly. Vol.**	413	**Adjusted Capacity**	0

LOS Results

v/c Ratio	0.45	**Density**	N/A	**PTSF**	83.0	**ATS**	47.8	**% FFS**	79.7
FFS Delay	35.1	**LOS Thresh. Delay**	7.5	**Service Measure**	PTSF	**LOS**	E		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1500 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1	*	130	260	550	1420
2					
3					
4					
Lanes	**Hourly Volume In Both Directions**				
2	*	220	430	910	2350
4					
6					
8					
Lanes	**Annual Average Daily Traffic**				
2	*	2400	4600	9600	24800
4					
6					
8					

*** Cannot be achieved based on input data provided.**
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	AP/VHB	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/9/2016 12:42:50 PM	**From**	Lindrick Ln./197th Street E. (M.P. 13.218)	**Analysis Type**	Two-Lane Segment
Agency	FDOT D1	**To**	Meadow Dove Ln./CR 675 (M.P. 15.567)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Eastbound	**Version Date**	12/12/2012

File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\Old\2033 PM NB.xhp
User Notes	2033 PM NB

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	2.300	**Median**	No	**AADT**	12000	**PHF**	0.950
# Thru Lanes	2	**Left Turn Impact**	No	**K**	0.095	**% Heavy Vehicles**	7.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.605	**Base Capacity**	1700
Posted Speed	60	**% NPZ**	89	**Peak Dir. Hrly. Vol.**	690	**Local Adj. Factor**	0.88
Free Flow Speed	60	**Class**	1	**Off Peak Dir. Hrly. Vol.**	450	**Adjusted Capacity**	0

LOS Results

v/c Ratio	0.49	**Density**	N/A	**PTSF**	84.6	**ATS**	47.2	**% FFS**	78.6
FFS Delay	37.6	**LOS Thresh. Delay**	10.0	**Service Measure**	PTSF	**LOS**	E		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1500 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1	*	130	260	550	1420
2					
3					
4					
Lanes	**Hourly Volume In Both Directions**				
2	*	220	430	910	2350
4					
6					
8					
Lanes	**Annual Average Daily Traffic**				
2	*	2400	4600	9600	24800
4					
6					
8					

*** Cannot be achieved based on input data provided.**
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	AP/VHB	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/9/2016 12:42:50 PM	**From**	Lindrick Ln./197th Street E. (M.P. 13.218)	**Analysis Type**	Two-Lane Segment
Agency	FDOT D1	**To**	Meadow Dove Ln./CR 675 (M.P. 15.567)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Eastbound	**Version Date**	12/12/2012

File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\Old\2043 PM NB.xhp
User Notes	2043 PM NB

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	2.300	**Median**	No	**AADT**	13000	**PHF**	0.950
# Thru Lanes	2	**Left Turn Impact**	No	**K**	0.095	**% Heavy Vehicles**	7.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.605	**Base Capacity**	1700
Posted Speed	60	**% NPZ**	89	**Peak Dir. Hrly. Vol.**	747	**Local Adj. Factor**	0.88
Free Flow Speed	60	**Class**	1	**Off Peak Dir. Hrly. Vol.**	488	**Adjusted Capacity**	0

LOS Results

v/c Ratio	0.53	**Density**	N/A	**PTSF**	85.8	**ATS**	46.5	**% FFS**	77.5
FFS Delay	40.1	**LOS Thresh. Delay**	12.5	**Service Measure**	PTSF	**LOS**	E		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1500 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1	*	130	260	550	1420
2					
3					
4					
Lanes	**Hourly Volume In Both Directions**				
2	*	220	430	910	2350
4					
6					
8					
Lanes	**Annual Average Daily Traffic**				
2	*	2400	4600	9600	24800
4					
6					
8					

*** Cannot be achieved based on input data provided.**
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

Appendix R

Synchro Intersections Output Sheets- Build

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	556	375	147	920	48	407	219	77	106	358	101
Future Volume (veh/h)	140	556	375	147	920	48	407	219	77	106	358	101
Number	1	6	16	5	2	12	7	4	14	3	8	18
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
Adj Sat Flow, veh/h/ln	1776	1776	1776	1776	1776	1776	1810	1827	1727	1570	1845	1712
Adj Flow Rate, veh/h	144	573	387	152	948	49	420	226	79	109	369	104
Adj No. of Lanes	2	2	2	1	2	1	2	2	1	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	7	7	7	7	7	7	5	4	10	21	3	11
Cap, veh/h	200	1244	1375	316	1299	581	498	846	358	314	551	317
Arrive On Green	0.06	0.37	0.37	0.07	0.39	0.39	0.15	0.24	0.24	0.08	0.16	0.16
Sat Flow, veh/h	3281	3374	2656	1691	3374	1509	3343	3471	1468	1495	3505	1455
Grp Volume(v), veh/h	144	573	387	152	948	49	420	226	79	109	369	104
Grp Sat Flow(s),veh/h/ln	1640	1687	1328	1691	1687	1509	1672	1736	1468	1495	1752	1455
Q Serve(g_s), s	5.3	15.7	10.0	6.7	29.3	2.5	14.9	6.4	5.2	7.3	12.1	7.3
Cycle Q Clear(g_c), s	5.3	15.7	10.0	6.7	29.3	2.5	14.9	6.4	5.2	7.3	12.1	7.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	200	1244	1375	316	1299	581	498	846	358	314	551	317
V/C Ratio(X)	0.72	0.46	0.28	0.48	0.73	0.08	0.84	0.27	0.22	0.35	0.67	0.33
Avail Cap(c_a), veh/h	388	1773	1791	450	1903	851	793	1856	785	363	1376	660
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.2	29.2	16.6	22.2	32.0	23.8	50.5	37.2	36.8	38.7	48.3	40.1
Incr Delay (d2), s/veh	4.9	0.3	0.1	1.1	0.8	0.1	4.8	0.2	0.3	0.7	1.4	0.6
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	2.5	7.4	3.7	3.2	13.7	1.1	7.2	3.1	2.2	3.1	6.0	3.0
LnGrp Delay(d),s/veh	61.0	29.5	16.7	23.4	32.8	23.9	55.3	37.4	37.1	39.3	49.8	40.7
LnGrp LOS	E	C	B	C	C	C	E	D	D	D	D	D
Approach Vol, veh/h		1104			1149			725			582	
Approach Delay, s/veh		29.1			31.2			47.7			46.2	
Approach LOS		C			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.1	54.1	14.7	37.9	17.1	52.1	25.2	27.4
Change Period (Y+Rc), s	7.7	7.2	5.5	8.2	8.2	7.2	7.1	8.2
Max Green Setting (Gmax), s	14.4	68.7	13.2	65.1	18.6	64.0	28.9	47.8
Max Q Clear Time (g_c+I1), s	7.3	31.3	9.3	8.4	8.7	17.7	16.9	14.1
Green Ext Time (p_c), s	0.2	15.6	0.1	5.3	0.2	16.8	1.2	5.1

Intersection Summary	
HCM 2010 Ctrl Delay	36.4
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	5.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	30	602	60	75	938	8	135	6	25	22	14	25
Future Vol, veh/h	30	602	60	75	938	8	135	6	25	22	14	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	530	-	480	500	-	460	300	-	0	325	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	0	0	0	55	11	0
Mvmt Flow	32	634	63	79	987	8	142	6	26	23	15	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	987	0	0	634	0	0	1356	1842	317	1528	1842	494
Stage 1	-	-	-	-	-	-	697	697	-	1145	1145	-
Stage 2	-	-	-	-	-	-	659	1145	-	383	697	-
Critical Hdwy	4.24	-	-	4.24	-	-	7.5	6.5	6.9	8.6	6.72	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	7.6	5.72	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	7.6	5.72	-
Follow-up Hdwy	2.27	-	-	2.27	-	-	3.5	4	3.3	4.05	4.11	3.3
Pot Cap-1 Maneuver	666	-	-	912	-	-	~ 110	76	685	48	67	526
Stage 1	-	-	-	-	-	-	402	446	-	141	255	-
Stage 2	-	-	-	-	-	-	424	277	-	487	420	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	666	-	-	912	-	-	~ 87	66	685	40	58	526
Mov Cap-2 Maneuver	-	-	-	-	-	-	196	159	-	103	149	-
Stage 1	-	-	-	-	-	-	383	425	-	134	233	-
Stage 2	-	-	-	-	-	-	345	253	-	439	400	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.7	51.9	30.3
HCM LOS			F	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	196	159	685	666	-	-	912	-	-	103	149	526
HCM Lane V/C Ratio	0.725	0.04	0.038	0.047	-	-	0.087	-	-	0.225	0.099	0.05
HCM Control Delay (s)	60.6	28.6	10.5	10.7	-	-	9.3	-	-	49.8	31.8	12.2
HCM Lane LOS	F	D	B	B	-	-	A	-	-	E	D	B
HCM 95th %tile Q(veh)	4.7	0.1	0.1	0.1	-	-	0.3	-	-	0.8	0.3	0.2

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

Intersection	
Int Delay, s/veh	6.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	547	102	44	816	147	49
Future Vol, veh/h	547	102	44	816	147	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	410	460	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	2	2
Mvmt Flow	576	107	46	859	155	52

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	576	0	1098	288
Stage 1	-	-	-	-	576	-
Stage 2	-	-	-	-	522	-
Critical Hdwy	-	-	4.24	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.27	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	960	-	207	709
Stage 1	-	-	-	-	525	-
Stage 2	-	-	-	-	560	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	960	-	197	709
Mov Cap-2 Maneuver	-	-	-	-	197	-
Stage 1	-	-	-	-	525	-
Stage 2	-	-	-	-	533	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	54.2
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	197	709	-	-	960	-
HCM Lane V/C Ratio	0.785	0.073	-	-	0.048	-
HCM Control Delay (s)	68.8	10.5	-	-	8.9	-
HCM Lane LOS	F	B	-	-	A	-
HCM 95th %tile Q(veh)	5.4	0.2	-	-	0.2	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	26	452	94	10	749	2	31	2	6	4	3	80
Future Vol, veh/h	26	452	94	10	749	2	31	2	6	4	3	80
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	510	-	510	510	-	510	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	7	0	25	50	0	3
Mvmt Flow	27	476	99	11	788	2	33	2	6	4	3	84

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	788	0	0	476	0	0	948	1340	238	1103	1340	394
Stage 1	-	-	-	-	-	-	531	531	-	809	809	-
Stage 2	-	-	-	-	-	-	417	809	-	294	531	-
Critical Hdwy	4.24	-	-	4.24	-	-	7.64	6.5	7.4	8.5	6.5	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	6.64	5.5	-	7.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.64	5.5	-	7.5	5.5	-
Follow-up Hdwy	2.27	-	-	2.27	-	-	3.57	4	3.55	4	4	3.33
Pot Cap-1 Maneuver	796	-	-	1048	-	-	208	154	698	115	154	602
Stage 1	-	-	-	-	-	-	487	529	-	253	396	-
Stage 2	-	-	-	-	-	-	571	396	-	572	529	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	796	-	-	1048	-	-	171	147	698	109	147	602
Mov Cap-2 Maneuver	-	-	-	-	-	-	289	259	-	193	266	-
Stage 1	-	-	-	-	-	-	470	511	-	244	392	-
Stage 2	-	-	-	-	-	-	482	392	-	545	511	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.1	17.7	13.2
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	289	490	796	-	-	1048	-	-	528
HCM Lane V/C Ratio	0.113	0.017	0.034	-	-	0.01	-	-	0.173
HCM Control Delay (s)	19	12.5	9.7	-	-	8.5	-	-	13.2
HCM Lane LOS	C	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.4	0.1	0.1	-	-	0	-	-	0.6

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	452	10	4	741	20	5
Future Vol, veh/h	452	10	4	741	20	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	510	570	-	180	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	0	0
Mvmt Flow	476	11	4	780	21	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	476	0	874	238
Stage 1	-	-	-	-	476	-
Stage 2	-	-	-	-	398	-
Critical Hdwy	-	-	4.24	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.27	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1048	-	293	769
Stage 1	-	-	-	-	597	-
Stage 2	-	-	-	-	653	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1048	-	292	769
Mov Cap-2 Maneuver	-	-	-	-	292	-
Stage 1	-	-	-	-	597	-
Stage 2	-	-	-	-	651	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	16.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	292	769	-	-	1048	-
HCM Lane V/C Ratio	0.072	0.007	-	-	0.004	-
HCM Control Delay (s)	18.3	9.7	-	-	8.4	-
HCM Lane LOS	C	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	11	446	741	4	0	4
Future Vol, veh/h	11	446	741	4	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	410	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	0	0
Mvmt Flow	12	469	780	4	0	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	784	0	-	0	1040	392
Stage 1	-	-	-	-	782	-
Stage 2	-	-	-	-	258	-
Critical Hdwy	4.24	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.27	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	798	-	-	-	229	613
Stage 1	-	-	-	-	417	-
Stage 2	-	-	-	-	767	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	798	-	-	-	226	613
Mov Cap-2 Maneuver	-	-	-	-	226	-
Stage 1	-	-	-	-	417	-
Stage 2	-	-	-	-	755	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	798	-	-	-	613
HCM Lane V/C Ratio	0.015	-	-	-	0.007
HCM Control Delay (s)	9.6	-	-	-	10.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	7	415	24	9	662	6	62	0	8	8	2	21
Future Vol, veh/h	7	415	24	9	662	6	62	0	8	8	2	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	400	600	-	490	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	2	0	0	0	100	6
Mvmt Flow	7	437	25	9	697	6	65	0	8	8	2	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	697	0	0	437	0	0	820	1168	218	949	1168	348
Stage 1	-	-	-	-	-	-	452	452	-	716	716	-
Stage 2	-	-	-	-	-	-	368	716	-	233	452	-
Critical Hdwy	4.24	-	-	4.24	-	-	7.54	6.5	6.9	7.5	8.5	7.02
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.5	-	6.5	7.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.5	-	6.5	7.5	-
Follow-up Hdwy	2.27	-	-	2.27	-	-	3.52	4	3.3	3.5	5	3.36
Pot Cap-1 Maneuver	862	-	-	1084	-	-	267	195	792	218	92	637
Stage 1	-	-	-	-	-	-	557	574	-	392	256	-
Stage 2	-	-	-	-	-	-	624	437	-	755	378	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	862	-	-	1084	-	-	252	192	792	213	90	637
Mov Cap-2 Maneuver	-	-	-	-	-	-	374	307	-	314	176	-
Stage 1	-	-	-	-	-	-	552	569	-	389	254	-
Stage 2	-	-	-	-	-	-	592	433	-	741	375	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	15.8	13.8
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	374	792	862	-	-	1084	-	-	444
HCM Lane V/C Ratio	0.175	0.011	0.009	-	-	0.009	-	-	0.073
HCM Control Delay (s)	16.6	9.6	9.2	-	-	8.3	-	-	13.8
HCM Lane LOS	C	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.6	0	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	50	362	19	7	507	0	30	10	14	80	0	140
Future Vol, veh/h	50	362	19	7	507	0	30	10	14	80	0	140
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	520	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	0	0	0	15	0	7
Mvmt Flow	53	381	20	7	534	0	32	11	15	84	0	147

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	534	0	0	401	0	0	778	1044	201	849	1054	-
Stage 1	-	-	-	-	-	-	496	496	-	548	548	-
Stage 2	-	-	-	-	-	-	282	548	-	301	506	-
Critical Hdwy	4.24	-	-	4.24	-	-	7.5	6.5	6.9	7.8	6.5	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.8	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.8	5.5	-
Follow-up Hdwy	2.27	-	-	2.27	-	-	3.5	4	3.3	3.65	4	-
Pot Cap-1 Maneuver	996	-	-	1119	-	-	290	231	813	234	228	0
Stage 1	-	-	-	-	-	-	529	549	-	457	520	0
Stage 2	-	-	-	-	-	-	707	520	-	648	543	0
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	996	-	-	1119	-	-	277	217	813	214	215	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	381	322	-	321	332	-
Stage 1	-	-	-	-	-	-	501	520	-	433	517	-
Stage 2	-	-	-	-	-	-	703	517	-	590	514	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	0.1	14.8	
HCM LOS			B	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	425	996	-	-	1119	-	-	-
HCM Lane V/C Ratio	0.134	0.053	-	-	0.007	-	-	-
HCM Control Delay (s)	14.8	8.8	-	-	8.2	-	-	-
HCM Lane LOS	B	A	-	-	A	-	-	-
HCM 95th %tile Q(veh)	0.5	0.2	-	-	0	-	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	276	980	396	62	596	70	398	251	127	101	130	148
Future Volume (veh/h)	276	980	396	62	596	70	398	251	127	101	130	148
Number	1	6	16	5	2	12	7	4	14	3	8	18
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
Adj Sat Flow, veh/h/ln	1776	1776	1776	1776	1776	1776	1881	1863	1845	1727	1900	1827
Adj Flow Rate, veh/h	285	1010	408	64	614	72	410	259	131	104	134	153
Adj No. of Lanes	2	2	2	1	2	1	2	2	1	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	7	7	7	7	7	7	1	2	3	10	0	4
Cap, veh/h	354	1316	1409	182	1103	494	487	829	367	299	509	386
Arrive On Green	0.11	0.39	0.39	0.04	0.33	0.33	0.14	0.23	0.23	0.06	0.14	0.14
Sat Flow, veh/h	3281	3374	2656	1691	3374	1509	3476	3539	1568	1645	3610	1553
Grp Volume(v), veh/h	285	1010	408	64	614	72	410	259	131	104	134	153
Grp Sat Flow(s),veh/h/ln	1640	1687	1328	1691	1687	1509	1738	1770	1568	1645	1805	1553
Q Serve(g_s), s	9.0	27.7	9.1	2.6	15.9	3.6	12.2	6.4	7.4	5.7	3.5	8.7
Cycle Q Clear(g_c), s	9.0	27.7	9.1	2.6	15.9	3.6	12.2	6.4	7.4	5.7	3.5	8.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	354	1316	1409	182	1103	494	487	829	367	299	509	386
V/C Ratio(X)	0.81	0.77	0.29	0.35	0.56	0.15	0.84	0.31	0.36	0.35	0.26	0.40
Avail Cap(c_a), veh/h	506	1536	1581	194	1190	532	618	2027	898	299	1596	854
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.3	28.2	13.9	24.7	29.4	25.3	44.6	33.6	34.0	36.0	40.7	33.3
Incr Delay (d2), s/veh	6.2	2.0	0.1	1.2	0.5	0.1	8.3	0.2	0.6	0.7	0.3	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	13.3	3.3	1.3	7.5	1.5	6.4	3.2	3.3	2.6	1.8	3.8
LnGrp Delay(d),s/veh	52.6	30.3	14.0	25.8	29.9	25.4	52.9	33.9	34.6	36.7	41.0	33.9
LnGrp LOS	D	C	B	C	C	C	D	C	C	D	D	C
Approach Vol, veh/h		1703			750			800			391	
Approach Delay, s/veh		30.1			29.2			43.7			37.1	
Approach LOS		C			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.2	42.0	12.1	33.1	12.4	48.7	22.0	23.2
Change Period (Y+Rc), s	7.7	7.2	5.5	8.2	8.2	7.2	7.1	8.2
Max Green Setting (Gmax), s	16.4	37.5	6.6	60.9	5.0	48.4	18.9	47.0
Max Q Clear Time (g_c+I1), s	11.0	17.9	7.7	9.4	4.6	29.7	14.2	10.7
Green Ext Time (p_c), s	0.4	12.1	0.0	3.9	0.0	11.8	0.7	3.8

Intersection Summary	
HCM 2010 Ctrl Delay	33.6
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	75	963	124	12	625	11	89	24	44	17	9	45
Future Vol, veh/h	75	963	124	12	625	11	89	24	44	17	9	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	530	-	480	500	-	460	300	-	0	325	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	0	0	0	55	11	0
Mvmt Flow	79	1014	131	13	658	12	94	25	46	18	9	47

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	658	0	0	1014	0	0	1531	1855	507	1360	1855	329
Stage 1	-	-	-	-	-	-	1172	1172	-	683	683	-
Stage 2	-	-	-	-	-	-	359	683	-	677	1172	-
Critical Hdwy	4.24	-	-	4.24	-	-	7.5	6.5	6.9	8.6	6.72	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	7.6	5.72	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	7.6	5.72	-
Follow-up Hdwy	2.27	-	-	2.27	-	-	3.5	4	3.3	4.05	4.11	3.3
Pot Cap-1 Maneuver	893	-	-	650	-	-	~ 81	75	516	67	66	673
Stage 1	-	-	-	-	-	-	208	269	-	301	426	-
Stage 2	-	-	-	-	-	-	637	452	-	304	247	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	893	-	-	650	-	-	~ 66	67	516	49	59	673
Mov Cap-2 Maneuver	-	-	-	-	-	-	148	163	-	131	152	-
Stage 1	-	-	-	-	-	-	190	245	-	274	417	-
Stage 2	-	-	-	-	-	-	567	443	-	226	225	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.2	44.6	19.5
HCM LOS			E	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	148	163	516	893	-	-	650	-	-	131	152	673
HCM Lane V/C Ratio	0.633	0.155	0.09	0.088	-	-	0.019	-	-	0.137	0.062	0.07
HCM Control Delay (s)	64	31.1	12.7	9.4	-	-	10.6	-	-	36.8	30.3	10.8
HCM Lane LOS	F	D	B	A	-	-	B	-	-	E	D	B
HCM 95th %tile Q(veh)	3.4	0.5	0.3	0.3	-	-	0.1	-	-	0.5	0.2	0.2

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

Intersection	
Int Delay, s/veh	3.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	866	158	53	498	80	51
Future Vol, veh/h	866	158	53	498	80	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	410	460	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	2	2
Mvmt Flow	912	166	56	524	84	54

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	912	0	1286	456
Stage 1	-	-	-	-	912	-
Stage 2	-	-	-	-	374	-
Critical Hdwy	-	-	4.24	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.27	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	712	-	156	551
Stage 1	-	-	-	-	352	-
Stage 2	-	-	-	-	666	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	712	-	144	551
Mov Cap-2 Maneuver	-	-	-	-	144	-
Stage 1	-	-	-	-	352	-
Stage 2	-	-	-	-	614	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	41.6
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	144	551	-	-	712	-
HCM Lane V/C Ratio	0.585	0.097	-	-	0.078	-
HCM Control Delay (s)	60.3	12.2	-	-	10.5	-
HCM Lane LOS	F	B	-	-	B	-
HCM 95th %tile Q(veh)	3	0.3	-	-	0.3	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	85	709	50	8	450	3	66	2	14	2	2	35
Future Vol, veh/h	85	709	50	8	450	3	66	2	14	2	2	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	510	-	510	510	-	510	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	6	0	0	0	0	0
Mvmt Flow	89	746	53	8	474	3	69	2	15	2	2	37

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	474	0	0	746	0	0	1180	1416	373	1044	1416	237
Stage 1	-	-	-	-	-	-	925	925	-	491	491	-
Stage 2	-	-	-	-	-	-	255	491	-	553	925	-
Critical Hdwy	4.24	-	-	4.24	-	-	7.62	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.62	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.62	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.27	-	-	2.27	-	-	3.56	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1050	-	-	826	-	-	141	139	630	186	139	771
Stage 1	-	-	-	-	-	-	282	351	-	533	552	-
Stage 2	-	-	-	-	-	-	716	552	-	490	351	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1050	-	-	826	-	-	124	126	630	167	126	771
Mov Cap-2 Maneuver	-	-	-	-	-	-	208	227	-	284	233	-
Stage 1	-	-	-	-	-	-	258	321	-	488	547	-
Stage 2	-	-	-	-	-	-	673	547	-	435	321	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.2	27.2	11
HCM LOS			D	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	208	516	1050	-	-	826	-	-	639
HCM Lane V/C Ratio	0.334	0.033	0.085	-	-	0.01	-	-	0.064
HCM Control Delay (s)	30.8	12.2	8.7	-	-	9.4	-	-	11
HCM Lane LOS	D	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	1.4	0.1	0.3	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	700	25	3	448	13	2
Future Vol, veh/h	700	25	3	448	13	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	510	570	-	180	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	0	0
Mvmt Flow	737	26	3	472	14	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	737	0	979	368
Stage 1	-	-	-	-	737	-
Stage 2	-	-	-	-	242	-
Critical Hdwy	-	-	4.24	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.27	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	832	-	251	635
Stage 1	-	-	-	-	439	-
Stage 2	-	-	-	-	782	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	832	-	250	635
Mov Cap-2 Maneuver	-	-	-	-	250	-
Stage 1	-	-	-	-	439	-
Stage 2	-	-	-	-	779	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	18.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	250	635	-	-	832	-
HCM Lane V/C Ratio	0.055	0.003	-	-	0.004	-
HCM Control Delay (s)	20.2	10.7	-	-	9.3	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	4	698	445	3	0	6
Future Vol, veh/h	4	698	445	3	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	410	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	0	0
Mvmt Flow	4	735	468	3	0	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	472	0	-	0	846	236
Stage 1	-	-	-	-	470	-
Stage 2	-	-	-	-	376	-
Critical Hdwy	4.24	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.27	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1052	-	-	-	305	772
Stage 1	-	-	-	-	601	-
Stage 2	-	-	-	-	670	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1052	-	-	-	304	772
Mov Cap-2 Maneuver	-	-	-	-	304	-
Stage 1	-	-	-	-	601	-
Stage 2	-	-	-	-	667	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1052	-	-	-	772
HCM Lane V/C Ratio	0.004	-	-	-	0.008
HCM Control Delay (s)	8.4	-	-	-	9.7
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	12	626	60	3	411	3	32	5	7	0	1	13
Future Vol, veh/h	12	626	60	3	411	3	32	5	7	0	1	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	400	600	-	490	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	0	0	0	0	0	0
Mvmt Flow	13	659	63	3	433	3	34	5	7	0	1	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	433	0	0	659	0	0	907	1123	329	796	1123	216
Stage 1	-	-	-	-	-	-	684	684	-	439	439	-
Stage 2	-	-	-	-	-	-	223	439	-	357	684	-
Critical Hdwy	4.24	-	-	4.24	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.27	-	-	2.27	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1088	-	-	892	-	-	234	207	673	281	207	795
Stage 1	-	-	-	-	-	-	410	452	-	572	582	-
Stage 2	-	-	-	-	-	-	765	582	-	639	452	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1088	-	-	892	-	-	227	204	673	271	204	795
Mov Cap-2 Maneuver	-	-	-	-	-	-	328	319	-	392	320	-
Stage 1	-	-	-	-	-	-	405	447	-	565	580	-
Stage 2	-	-	-	-	-	-	748	580	-	617	447	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	16.4	10.1
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	327	673	1088	-	-	892	-	-	719
HCM Lane V/C Ratio	0.119	0.011	0.012	-	-	0.004	-	-	0.02
HCM Control Delay (s)	17.5	10.4	8.3	-	-	9.1	-	-	10.1
HCM Lane LOS	C	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.4	0	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	113	499	17	8	352	0	18	8	7	75	12	47
Future Vol, veh/h	113	499	17	8	352	0	18	8	7	75	12	47
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	520	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	0	0	0	16	0	0
Mvmt Flow	119	525	18	8	371	0	19	8	7	79	13	49

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	371	0	0	543	0	0	980	1159	272	892	1168	-
Stage 1	-	-	-	-	-	-	772	772	-	387	387	-
Stage 2	-	-	-	-	-	-	208	387	-	505	781	-
Critical Hdwy	4.24	-	-	4.24	-	-	7.5	6.5	6.9	7.82	6.5	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.82	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.82	5.5	-
Follow-up Hdwy	2.27	-	-	2.27	-	-	3.5	4	3.3	3.66	4	-
Pot Cap-1 Maneuver	1149	-	-	988	-	-	207	197	732	216	195	0
Stage 1	-	-	-	-	-	-	363	412	-	572	613	0
Stage 2	-	-	-	-	-	-	780	613	-	483	408	0
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1149	-	-	988	-	-	183	175	732	191	173	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	266	269	-	294	276	-
Stage 1	-	-	-	-	-	-	325	369	-	513	608	-
Stage 2	-	-	-	-	-	-	758	608	-	419	366	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	0.2	18.2	
HCM LOS			C	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	308	1149	-	-	988	-	-	-
HCM Lane V/C Ratio	0.113	0.104	-	-	0.009	-	-	-
HCM Control Delay (s)	18.2	8.5	-	-	8.7	-	-	-
HCM Lane LOS	C	A	-	-	A	-	-	-
HCM 95th %tile Q(veh)	0.4	0.3	-	-	0	-	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	274	728	438	162	1250	65	537	259	97	142	381	142
Future Volume (veh/h)	274	728	438	162	1250	65	537	259	97	142	381	142
Number	1	6	16	5	2	12	7	4	14	3	8	18
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
Adj Sat Flow, veh/h/ln	1776	1776	1776	1776	1776	1776	1810	1827	1727	1570	1845	1712
Adj Flow Rate, veh/h	282	751	452	167	1289	67	554	267	100	146	393	146
Adj No. of Lanes	2	2	2	1	2	1	2	2	1	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	7	7	7	7	7	7	5	4	10	21	3	11
Cap, veh/h	307	1350	1509	245	1367	611	562	385	163	348	524	353
Arrive On Green	0.09	0.40	0.40	0.09	0.41	0.41	0.17	0.11	0.11	0.20	0.15	0.15
Sat Flow, veh/h	3281	3374	2656	1691	3374	1509	3343	3471	1468	1495	3505	1455
Grp Volume(v), veh/h	282	751	452	167	1289	67	554	267	100	146	393	146
Grp Sat Flow(s),veh/h/ln	1640	1687	1328	1691	1687	1509	1672	1736	1468	1495	1752	1455
Q Serve(g_s), s	12.1	24.4	12.6	9.8	52.3	3.9	23.5	10.5	7.1	7.0	15.3	3.2
Cycle Q Clear(g_c), s	12.1	24.4	12.6	9.8	52.3	3.9	23.5	10.5	7.1	7.0	15.3	3.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	307	1350	1509	245	1367	611	562	385	163	348	524	353
V/C Ratio(X)	0.92	0.56	0.30	0.68	0.94	0.11	0.99	0.69	0.61	0.42	0.75	0.41
Avail Cap(c_a), veh/h	307	1350	1509	299	1389	622	562	1444	611	348	1182	627
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.0	32.9	16.0	35.4	40.8	26.4	59.0	60.9	35.6	47.3	58.0	18.7
Incr Delay (d2), s/veh	31.4	0.5	0.1	4.7	12.9	0.1	34.4	2.3	3.7	0.8	2.2	0.8
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	6.9	11.5	4.6	4.9	26.8	1.6	13.5	5.2	3.6	5.0	7.6	2.8
LnGrp Delay(d),s/veh	95.4	33.4	16.1	40.0	53.6	26.4	93.4	63.2	39.3	48.1	60.2	19.5
LnGrp LOS	F	C	B	D	D	C	F	E	D	D	E	B
Approach Vol, veh/h		1485			1523			921			685	
Approach Delay, s/veh		39.9			51.0			78.8			48.9	
Approach LOS		D			D			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	63.8	35.5	23.0	20.2	63.6	30.0	28.5
Change Period (Y+Rc), s	7.7	7.2	8.2	* 8.2	8.2	* 7.7	7.1	8.2
Max Green Setting (Gmax), s	12.3	57.6	13.3	* 58	16.5	* 53	22.9	47.0
Max Q Clear Time (g_c+I1), s	14.1	54.3	9.0	12.5	11.8	26.4	25.5	17.3
Green Ext Time (p_c), s	0.0	2.3	1.5	2.2	0.2	8.4	0.0	3.0

Intersection Summary	
HCM 2010 Ctrl Delay	52.7
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	17.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	36	824	69	80	1280	12	145	10	30	30	19	31
Future Vol, veh/h	36	824	69	80	1280	12	145	10	30	30	19	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	530	-	480	500	-	460	300	-	0	325	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	0	0	0	55	11	0
Mvmt Flow	38	867	73	84	1347	13	153	11	32	32	20	33

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1347	0	0	867	0	0	1795	2459	434	2031	2459	674
Stage 1	-	-	-	-	-	-	943	943	-	1516	1516	-
Stage 2	-	-	-	-	-	-	852	1516	-	515	943	-
Critical Hdwy	4.24	-	-	4.24	-	-	7.5	6.5	6.9	8.6	6.72	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	7.6	5.72	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	7.6	5.72	-
Follow-up Hdwy	2.27	-	-	2.27	-	-	3.5	4	3.3	4.05	4.11	3.3
Pot Cap-1 Maneuver	482	-	-	742	-	-	~ 52	31	576	~ 18	27	402
Stage 1	-	-	-	-	-	-	286	344	-	75	166	-
Stage 2	-	-	-	-	-	-	325	184	-	395	320	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	482	-	-	742	-	-	~ 34	25	576	~ 13	22	402
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 116	91	-	53	89	-
Stage 1	-	-	-	-	-	-	263	317	-	69	147	-
Stage 2	-	-	-	-	-	-	229	163	-	332	295	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.6	208.4	73.4
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	116	91	576	482	-	-	742	-	-	53	89	402
HCM Lane V/C Ratio	1.316	0.116	0.055	0.079	-	-	0.113	-	-	0.596	0.225	0.081
HCM Control Delay (s)	260.1	49.7	11.6	13.1	-	-	10.5	-	-	144.7	56.8	14.7
HCM Lane LOS	F	E	B	B	-	-	B	-	-	F	F	B
HCM 95th %tile Q(veh)	10.2	0.4	0.2	0.3	-	-	0.4	-	-	2.4	0.8	0.3

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

Intersection	
Int Delay, s/veh	80.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	686	198	72	906	276	79
Future Vol, veh/h	686	198	72	906	276	79
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	410	460	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	2	2
Mvmt Flow	722	208	76	954	291	83

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	722	0	1350	361
Stage 1	-	-	-	-	722	-
Stage 2	-	-	-	-	628	-
Critical Hdwy	-	-	4.24	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.27	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	844	-	~ 142	636
Stage 1	-	-	-	-	442	-
Stage 2	-	-	-	-	494	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	844	-	~ 129	636
Mov Cap-2 Maneuver	-	-	-	-	~ 129	-
Stage 1	-	-	-	-	442	-
Stage 2	-	-	-	-	450	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	$ 502.2
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	129	636	-	-	844	-
HCM Lane V/C Ratio	2.252	0.131	-	-	0.09	-
HCM Control Delay (s)	$ 642.7	11.5	-	-	9.7	-
HCM Lane LOS	F	B	-	-	A	-
HCM 95th %tile Q(veh)	24.6	0.4	-	-	0.3	-

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

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	31	516	102	19	855	8	35	3	8	6	5	88
Future Vol, veh/h	31	516	102	19	855	8	35	3	8	6	5	88
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	510	-	510	510	-	510	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	7	0	25	50	0	3
Mvmt Flow	33	543	107	20	900	8	37	3	8	6	5	93

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	900	0	0	543	0	0	1101	1548	272	1278	1548	450
Stage 1	-	-	-	-	-	-	608	608	-	940	940	-
Stage 2	-	-	-	-	-	-	493	940	-	338	608	-
Critical Hdwy	4.24	-	-	4.24	-	-	7.64	6.5	7.4	8.5	6.5	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	6.64	5.5	-	7.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.64	5.5	-	7.5	5.5	-
Follow-up Hdwy	2.27	-	-	2.27	-	-	3.57	4	3.55	4	4	3.33
Pot Cap-1 Maneuver	720	-	-	988	-	-	160	115	661	82	115	554
Stage 1	-	-	-	-	-	-	437	489	-	205	345	-
Stage 2	-	-	-	-	-	-	514	345	-	534	489	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	720	-	-	988	-	-	124	108	661	76	108	554
Mov Cap-2 Maneuver	-	-	-	-	-	-	238	215	-	154	224	-
Stage 1	-	-	-	-	-	-	417	467	-	196	338	-
Stage 2	-	-	-	-	-	-	413	338	-	500	467	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.2	20.7	15.4
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	238	422	720	-	-	988	-	-	450
HCM Lane V/C Ratio	0.155	0.027	0.045	-	-	0.02	-	-	0.232
HCM Control Delay (s)	22.9	13.8	10.2	-	-	8.7	-	-	15.4
HCM Lane LOS	C	B	B	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.5	0.1	0.1	-	-	0.1	-	-	0.9

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	517	13	6	860	23	8
Future Vol, veh/h	517	13	6	860	23	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	510	570	-	180	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	0	0
Mvmt Flow	544	14	6	905	24	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	544	0	1009	272
Stage 1	-	-	-	-	544	-
Stage 2	-	-	-	-	465	-
Critical Hdwy	-	-	4.24	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.27	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	987	-	240	732
Stage 1	-	-	-	-	551	-
Stage 2	-	-	-	-	604	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	987	-	239	732
Mov Cap-2 Maneuver	-	-	-	-	239	-
Stage 1	-	-	-	-	551	-
Stage 2	-	-	-	-	600	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	18.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	239	732	-	-	987	-
HCM Lane V/C Ratio	0.101	0.012	-	-	0.006	-
HCM Control Delay (s)	21.8	10	-	-	8.7	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	15	510	859	7	0	7
Future Vol, veh/h	15	510	859	7	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	410	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	0	0
Mvmt Flow	16	537	904	7	0	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	912	0	-	0	1208	456
Stage 1	-	-	-	-	908	-
Stage 2	-	-	-	-	300	-
Critical Hdwy	4.24	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.27	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	712	-	-	-	178	557
Stage 1	-	-	-	-	359	-
Stage 2	-	-	-	-	731	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	712	-	-	-	174	557
Mov Cap-2 Maneuver	-	-	-	-	174	-
Stage 1	-	-	-	-	359	-
Stage 2	-	-	-	-	715	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	11.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	712	-	-	-	557
HCM Lane V/C Ratio	0.022	-	-	-	0.013
HCM Control Delay (s)	10.2	-	-	-	11.6
HCM Lane LOS	B	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	11	470	30	12	768	9	69	0	12	12	3	29
Future Vol, veh/h	11	470	30	12	768	9	69	0	12	12	3	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	400	600	-	490	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	2	0	0	0	100	6
Mvmt Flow	12	495	32	13	808	9	73	0	13	13	3	31

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	808	0	0	495	0	0	949	1352	247	1105	1352	404
Stage 1	-	-	-	-	-	-	518	518	-	834	834	-
Stage 2	-	-	-	-	-	-	431	834	-	271	518	-
Critical Hdwy	4.24	-	-	4.24	-	-	7.54	6.5	6.9	7.5	8.5	7.02
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.5	-	6.5	7.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.5	-	6.5	7.5	-
Follow-up Hdwy	2.27	-	-	2.27	-	-	3.52	4	3.3	3.5	5	3.36
Pot Cap-1 Maneuver	782	-	-	1031	-	-	215	151	759	168	66	585
Stage 1	-	-	-	-	-	-	509	536	-	333	214	-
Stage 2	-	-	-	-	-	-	573	386	-	717	343	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	782	-	-	1031	-	-	196	147	759	162	64	585
Mov Cap-2 Maneuver	-	-	-	-	-	-	321	262	-	263	144	-
Stage 1	-	-	-	-	-	-	501	528	-	328	211	-
Stage 2	-	-	-	-	-	-	528	381	-	694	338	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	18.1	15.8
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	321	759	782	-	-	1031	-	-	379
HCM Lane V/C Ratio	0.226	0.017	0.015	-	-	0.012	-	-	0.122
HCM Control Delay (s)	19.5	9.8	9.7	-	-	8.5	-	-	15.8
HCM Lane LOS	C	A	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.9	0.1	0	-	-	0	-	-	0.4

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	61	404	29	11	597	0	38	10	20	95	0	155
Future Vol, veh/h	61	404	29	11	597	0	38	10	20	95	0	155
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	520	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	0	0	0	15	0	7
Mvmt Flow	64	425	31	12	628	0	40	11	21	100	0	163

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	628	0	0	456	0	0	906	1221	228	998	1236	-
Stage 1	-	-	-	-	-	-	569	569	-	652	652	-
Stage 2	-	-	-	-	-	-	337	652	-	346	584	-
Critical Hdwy	4.24	-	-	4.24	-	-	7.5	6.5	6.9	7.8	6.5	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.8	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.8	5.5	-
Follow-up Hdwy	2.27	-	-	2.27	-	-	3.5	4	3.3	3.65	4	-
Pot Cap-1 Maneuver	917	-	-	1067	-	-	234	181	781	180	178	0
Stage 1	-	-	-	-	-	-	479	509	-	393	467	0
Stage 2	-	-	-	-	-	-	656	467	-	608	501	0
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	917	-	-	1067	-	-	220	166	781	160	164	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	328	272	-	266	284	-
Stage 1	-	-	-	-	-	-	446	473	-	366	462	-
Stage 2	-	-	-	-	-	-	649	462	-	538	466	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	0.2	16.6	
HCM LOS			C	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	382	917	-	-	1067	-	-	-
HCM Lane V/C Ratio	0.187	0.07	-	-	0.011	-	-	-
HCM Control Delay (s)	16.6	9.2	-	-	8.4	-	-	-
HCM Lane LOS	C	A	-	-	A	-	-	-
HCM 95th %tile Q(veh)	0.7	0.2	-	-	0	-	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	384	1294	527	81	798	86	529	286	150	138	180	206
Future Volume (veh/h)	384	1294	527	81	798	86	529	286	150	138	180	206
Number	1	6	16	5	2	12	7	4	14	3	8	18
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
Adj Sat Flow, veh/h/ln	1776	1776	1776	1776	1776	1776	1881	1863	1845	1727	1900	1827
Adj Flow Rate, veh/h	396	1334	543	84	823	89	545	295	155	142	186	217
Adj No. of Lanes	2	2	2	1	2	1	2	2	1	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.95
Percent Heavy Veh, %	7	7	7	7	7	7	1	2	3	10	0	4
Cap, veh/h	469	1424	1556	140	1106	495	569	937	415	334	614	486
Arrive On Green	0.14	0.42	0.42	0.04	0.33	0.33	0.16	0.26	0.26	0.08	0.17	0.17
Sat Flow, veh/h	3281	3374	2656	1691	3374	1509	3476	3539	1568	1645	3610	1553
Grp Volume(v), veh/h	396	1334	543	84	823	89	545	295	155	142	186	217
Grp Sat Flow(s),veh/h/ln	1640	1687	1328	1691	1687	1509	1738	1770	1568	1645	1805	1553
Q Serve(g_s), s	15.7	50.6	14.2	4.4	29.0	5.6	20.8	8.9	10.8	9.5	6.0	14.9
Cycle Q Clear(g_c), s	15.7	50.6	14.2	4.4	29.0	5.6	20.8	8.9	10.8	9.5	6.0	14.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	469	1424	1556	140	1106	495	569	937	415	334	614	486
V/C Ratio(X)	0.84	0.94	0.35	0.60	0.74	0.18	0.96	0.31	0.37	0.43	0.30	0.45
Avail Cap(c_a), veh/h	522	1447	1574	140	1106	495	569	1605	711	334	1294	779
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.9	37.0	14.4	34.6	40.0	32.1	55.5	39.5	40.1	41.1	48.6	36.7
Incr Delay (d2), s/veh	11.2	11.6	0.1	7.0	2.8	0.2	27.6	0.2	0.6	0.9	0.3	0.6
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	7.9	25.8	5.2	2.3	13.9	2.4	12.2	4.4	4.7	4.4	3.0	6.5
LnGrp Delay(d),s/veh	67.1	48.6	14.6	41.5	42.8	32.3	83.1	39.7	40.7	42.0	48.9	37.4
LnGrp LOS	E	D	B	D	D	C	F	D	D	D	D	D
Approach Vol, veh/h		2273			996			995			545	
Approach Delay, s/veh		43.7			41.7			63.6			42.5	
Approach LOS		D			D			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.8	50.1	15.3	42.6	13.2	62.7	28.0	29.9
Change Period (Y+Rc), s	7.7	7.2	5.5	8.2	8.2	7.2	7.1	8.2
Max Green Setting (Gmax), s	20.3	41.6	9.8	59.7	5.0	56.4	20.9	47.0
Max Q Clear Time (g_c+I1), s	17.7	31.0	11.5	12.8	6.4	52.6	22.8	16.9
Green Ext Time (p_c), s	0.4	9.1	0.0	5.0	0.0	2.9	0.0	4.8

Intersection Summary	
HCM 2010 Ctrl Delay	47.3
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	16.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	88	1309	137	19	848	20	109	30	52	22	10	55
Future Vol, veh/h	88	1309	137	19	848	20	109	30	52	22	10	55
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	530	-	480	500	-	460	300	-	0	325	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	0	0	0	55	11	0
Mvmt Flow	93	1378	144	20	893	21	115	32	55	23	11	58

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	893	0	0	1378	0	0	2055	2496	689	1823	2496	446
Stage 1	-	-	-	-	-	-	1563	1563	-	933	933	-
Stage 2	-	-	-	-	-	-	492	933	-	890	1563	-
Critical Hdwy	4.24	-	-	4.24	-	-	7.5	6.5	6.9	8.6	6.72	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	7.6	5.72	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	7.6	5.72	-
Follow-up Hdwy	2.27	-	-	2.27	-	-	3.5	4	3.3	4.05	4.11	3.3
Pot Cap-1 Maneuver	725	-	-	468	-	-	~ 33	~ 29	393	27	25	565
Stage 1	-	-	-	-	-	-	119	174	-	200	323	-
Stage 2	-	-	-	-	-	-	532	348	-	215	157	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	725	-	-	468	-	-	~ 23	~ 24	393	~ 15	21	565
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 80	95	-	67	85	-
Stage 1	-	-	-	-	-	-	~ 104	152	-	174	309	-
Stage 2	-	-	-	-	-	-	442	333	-	128	137	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.3	210.2	35.2
HCM LOS			F	E

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	80	95	393	725	-	-	468	-	-	67	85	565
HCM Lane V/C Ratio	1.434	0.332	0.139	0.128	-	-	0.043	-	-	0.346	0.124	0.102
HCM Control Delay (s)	$ 344.1	60.7	15.6	10.7	-	-	13	-	-	84.8	53.3	12.1
HCM Lane LOS	F	F	C	B	-	-	B	-	-	F	F	B
HCM 95th %tile Q(veh)	9.1	1.3	0.5	0.4	-	-	0.1	-	-	1.3	0.4	0.3

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

Intersection	
Int Delay, s/veh	39

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	1077	306	85	555	152	84
Future Vol, veh/h	1077	306	85	555	152	84
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	410	460	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	2	2
Mvmt Flow	1134	322	89	584	160	88

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1134	0	1605	567
Stage 1	-	-	-	-	1134	-
Stage 2	-	-	-	-	471	-
Critical Hdwy	-	-	4.24	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.27	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	584	-	~ 96	467
Stage 1	-	-	-	-	269	-
Stage 2	-	-	-	-	594	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	584	-	~ 81	467
Mov Cap-2 Maneuver	-	-	-	-	~ 81	-
Stage 1	-	-	-	-	269	-
Stage 2	-	-	-	-	503	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.6	$ 369.1
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	81	467	-	-	584	-
HCM Lane V/C Ratio	1.975	0.189	-	-	0.153	-
HCM Control Delay (s)	$ 565	14.5	-	-	12.3	-
HCM Lane LOS	F	B	-	-	B	-
HCM 95th %tile Q(veh)	14.1	0.7	-	-	0.5	-

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

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	95	811	58	11	518	7	77	3	26	5	3	45
Future Vol, veh/h	95	811	58	11	518	7	77	3	26	5	3	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	510	-	510	510	-	510	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	6	0	0	0	0	0
Mvmt Flow	100	854	61	12	545	7	81	3	27	5	3	47

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	545	0	0	854	0	0	1351	1622	427	1196	1622	273
Stage 1	-	-	-	-	-	-	1054	1054	-	568	568	-
Stage 2	-	-	-	-	-	-	297	568	-	628	1054	-
Critical Hdwy	4.24	-	-	4.24	-	-	7.62	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.62	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.62	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.27	-	-	2.27	-	-	3.56	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	986	-	-	750	-	-	105	104	582	144	104	731
Stage 1	-	-	-	-	-	-	234	305	-	480	510	-
Stage 2	-	-	-	-	-	-	676	510	-	442	305	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	986	-	-	750	-	-	88	92	582	123	92	731
Mov Cap-2 Maneuver	-	-	-	-	-	-	167	189	-	235	194	-
Stage 1	-	-	-	-	-	-	210	274	-	431	502	-
Stage 2	-	-	-	-	-	-	618	502	-	374	274	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.2	36.5	12.4
HCM LOS			E	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	167	479	986	-	-	750	-	-	539
HCM Lane V/C Ratio	0.485	0.064	0.101	-	-	0.015	-	-	0.104
HCM Control Delay (s)	45.4	13	9.1	-	-	9.9	-	-	12.4
HCM Lane LOS	E	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	2.3	0.2	0.3	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	814	28	5	519	17	5
Future Vol, veh/h	814	28	5	519	17	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	510	570	-	180	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	0	0
Mvmt Flow	857	29	5	546	18	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	857	0	1141	428
Stage 1	-	-	-	-	857	-
Stage 2	-	-	-	-	284	-
Critical Hdwy	-	-	4.24	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.27	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	748	-	197	581
Stage 1	-	-	-	-	381	-
Stage 2	-	-	-	-	745	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	748	-	196	581
Mov Cap-2 Maneuver	-	-	-	-	196	-
Stage 1	-	-	-	-	381	-
Stage 2	-	-	-	-	740	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	22
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	196	581	-	-	748	-
HCM Lane V/C Ratio	0.091	0.009	-	-	0.007	-
HCM Control Delay (s)	25.2	11.3	-	-	9.8	-
HCM Lane LOS	D	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	6	813	516	5	0	8
Future Vol, veh/h	6	813	516	5	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	410	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	0	0
Mvmt Flow	6	856	543	5	0	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	548	0	-	0	987	274
Stage 1	-	-	-	-	546	-
Stage 2	-	-	-	-	441	-
Critical Hdwy	4.24	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.27	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	984	-	-	-	248	730
Stage 1	-	-	-	-	550	-
Stage 2	-	-	-	-	622	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	984	-	-	-	246	730
Mov Cap-2 Maneuver	-	-	-	-	246	-
Stage 1	-	-	-	-	550	-
Stage 2	-	-	-	-	618	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	10
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	984	-	-	-	730
HCM Lane V/C Ratio	0.006	-	-	-	0.012
HCM Control Delay (s)	8.7	-	-	-	10
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	16	729	68	8	467	6	36	7	9	0	2	19
Future Vol, veh/h	16	729	68	8	467	6	36	7	9	0	2	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	400	600	-	490	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	0	0	0	0	0	0
Mvmt Flow	17	767	72	8	492	6	38	7	9	0	2	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	492	0	0	767	0	0	1065	1309	384	929	1309	246
Stage 1	-	-	-	-	-	-	801	801	-	508	508	-
Stage 2	-	-	-	-	-	-	264	508	-	421	801	-
Critical Hdwy	4.24	-	-	4.24	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.27	-	-	2.27	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1033	-	-	810	-	-	180	161	620	226	161	760
Stage 1	-	-	-	-	-	-	349	400	-	521	542	-
Stage 2	-	-	-	-	-	-	724	542	-	586	400	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1033	-	-	810	-	-	171	157	620	214	157	760
Mov Cap-2 Maneuver	-	-	-	-	-	-	273	274	-	339	273	-
Stage 1	-	-	-	-	-	-	343	393	-	512	537	-
Stage 2	-	-	-	-	-	-	695	537	-	557	393	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.2	19.1	10.7
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	273	620	1033	-	-	810	-	-	650
HCM Lane V/C Ratio	0.166	0.015	0.016	-	-	0.01	-	-	0.034
HCM Control Delay (s)	20.8	10.9	8.5	-	-	9.5	-	-	10.7
HCM Lane LOS	C	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.6	0	0.1	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	126	587	22	12	411	0	22	8	10	78	15	52
Future Vol, veh/h	126	587	22	12	411	0	22	8	10	78	15	52
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	520	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	0	0	0	16	0	0
Mvmt Flow	133	618	23	13	433	0	23	8	11	82	16	55

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	433	0	0	641	0	0	1144	1353	321	1036	1364	-
Stage 1	-	-	-	-	-	-	895	895	-	458	458	-
Stage 2	-	-	-	-	-	-	249	458	-	578	906	-
Critical Hdwy	4.24	-	-	4.24	-	-	7.5	6.5	6.9	7.82	6.5	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.82	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.82	5.5	-
Follow-up Hdwy	2.27	-	-	2.27	-	-	3.5	4	3.3	3.66	4	-
Pot Cap-1 Maneuver	1088	-	-	906	-	-	157	151	681	168	149	0
Stage 1	-	-	-	-	-	-	306	362	-	517	570	0
Stage 2	-	-	-	-	-	-	739	570	-	435	358	0
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1088	-	-	906	-	-	134	131	681	144	129	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	217	224	-	245	230	-
Stage 1	-	-	-	-	-	-	269	318	-	454	562	-
Stage 2	-	-	-	-	-	-	708	562	-	366	314	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	0.3	21.2	
HCM LOS			C	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	264	1088	-	-	906	-	-	-
HCM Lane V/C Ratio	0.159	0.122	-	-	0.014	-	-	-
HCM Control Delay (s)	21.2	8.8	-	-	9	-	-	-
HCM Lane LOS	C	A	-	-	A	-	-	-
HCM 95th %tile Q(veh)	0.6	0.4	-	-	0	-	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	344	904	553	177	1602	81	673	300	117	179	404	267
Future Volume (veh/h)	344	904	553	177	1602	81	673	300	117	179	404	267
Number	1	6	16	5	2	12	7	4	14	3	8	18
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
Adj Sat Flow, veh/h/ln	1776	1776	1776	1776	1776	1776	1810	1827	1727	1570	1845	1712
Adj Flow Rate, veh/h	355	932	570	182	1652	84	694	309	121	185	416	275
Adj No. of Lanes	2	2	2	1	2	1	2	2	1	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	7	7	7	7	7	7	5	4	10	21	3	11
Cap, veh/h	315	1492	1648	220	1482	663	595	403	170	345	522	357
Arrive On Green	0.10	0.44	0.44	0.09	0.44	0.44	0.18	0.12	0.12	0.21	0.15	0.15
Sat Flow, veh/h	3281	3374	2656	1691	3374	1509	3343	3471	1468	1495	3505	1455
Grp Volume(v), veh/h	355	932	570	182	1652	84	694	309	121	185	416	275
Grp Sat Flow(s),veh/h/ln	1640	1687	1328	1691	1687	1509	1672	1736	1468	1495	1752	1455
Q Serve(g_s), s	18.3	40.5	19.7	13.5	83.6	6.3	33.9	16.4	12.1	15.9	21.8	11.5
Cycle Q Clear(g_c), s	18.3	40.5	19.7	13.5	83.6	6.3	33.9	16.4	12.1	15.9	21.8	11.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	315	1492	1648	220	1482	663	595	403	170	345	522	357
V/C Ratio(X)	1.13	0.62	0.35	0.83	1.11	0.13	1.17	0.77	0.71	0.54	0.80	0.77
Avail Cap(c_a), veh/h	315	1492	1648	267	1482	663	595	1149	486	345	884	507
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	86.0	40.9	17.5	45.1	53.4	31.7	78.2	81.6	52.3	64.8	78.2	33.1
Incr Delay (d2), s/veh	89.0	0.8	0.1	16.4	61.6	0.1	91.8	3.1	5.4	1.6	2.8	4.6
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	12.2	19.1	7.3	7.3	51.6	2.6	23.2	8.1	5.8	8.7	10.8	12.7
LnGrp Delay(d),s/veh	175.0	41.7	17.6	61.5	115.0	31.8	170.0	84.7	57.7	66.4	81.1	37.7
LnGrp LOS	F	D	B	E	F	C	F	F	E	E	F	D
Approach Vol, veh/h		1857			1918			1124			876	
Approach Delay, s/veh		59.8			106.3			134.5			64.3	
Approach LOS		E			F			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.0	89.8	46.3	29.3	23.9	90.9	40.0	35.6
Change Period (Y+Rc), s	7.7	7.2	8.2	* 8.2	8.2	* 7.7	7.1	8.2
Max Green Setting (Gmax), s	17.3	82.6	19.5	* 62	21.0	* 78	32.9	47.0
Max Q Clear Time (g_c+I1), s	20.3	85.6	17.9	18.4	15.5	42.5	35.9	23.8
Green Ext Time (p_c), s	0.0	0.0	0.8	2.6	0.2	12.5	0.0	3.5

Intersection Summary	
HCM 2010 Ctrl Delay	90.5
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	55.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	42	1045	78	85	1622	16	155	14	35	38	24	36
Future Vol, veh/h	42	1045	78	85	1622	16	155	14	35	38	24	36
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	530	-	480	500	-	460	300	-	0	325	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	0	0	0	55	11	0
Mvmt Flow	44	1100	82	89	1707	17	163	15	37	40	25	38

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1707	0	0	1100	0	0	2233	3074	550	2532	3074	854
Stage 1	-	-	-	-	-	-	1188	1188	-	1886	1886	-
Stage 2	-	-	-	-	-	-	1045	1886	-	646	1188	-
Critical Hdwy	4.24	-	-	4.24	-	-	7.5	6.5	6.9	8.6	6.72	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	7.6	5.72	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	7.6	5.72	-
Follow-up Hdwy	2.27	-	-	2.27	-	-	3.5	4	3.3	4.05	4.11	3.3
Pot Cap-1 Maneuver	347	-	-	602	-	-	~ 24	~ 12	484	~ 6	~ 10	306
Stage 1	-	-	-	-	-	-	203	264	-	40	107	-
Stage 2	-	-	-	-	-	-	248	121	-	320	242	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	347	-	-	602	-	-	~ 11	~ 9	484	~ 3	~ 7	306
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 59	45	-	~ 27	51	-
Stage 1	-	-	-	-	-	-	177	231	-	~ 35	91	-
Stage 2	-	-	-	-	-	-	~ 134	103	-	242	211	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.6	$ 729.8	257.5
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	59	45	484	347	-	-	602	-	-	27	51	306
HCM Lane V/C Ratio	2.765	0.327	0.076	0.127	-	-	0.149	-	-	1.481	0.495	0.124
HCM Control Delay (s)	$ 946.7	119.9	13.1	16.9	-	-	12	-	-	$ 563.9	131.2	18.4
HCM Lane LOS	F	F	B	C	-	-	B	-	-	F	F	C
HCM 95th %tile Q(veh)	16.7	1.1	0.2	0.4	-	-	0.5	-	-	4.8	1.9	0.4

Notes

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

Intersection	
Int Delay, s/veh	341.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	801	317	108	1022	437	108
Future Vol, veh/h	801	317	108	1022	437	108
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	410	460	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	2	2
Mvmt Flow	843	334	114	1076	460	114

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	843	0	1608	422
Stage 1	-	-	-	-	843	-
Stage 2	-	-	-	-	765	-
Critical Hdwy	-	-	4.24	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.27	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	758	-	~ 96	580
Stage 1	-	-	-	-	~ 382	-
Stage 2	-	-	-	-	~ 420	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	758	-	~ 82	580
Mov Cap-2 Maneuver	-	-	-	-	~ 82	-
Stage 1	-	-	-	-	~ 382	-
Stage 2	-	-	-	-	~ 357	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	$ 1746.8
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	82	580	-	-	758	-
HCM Lane V/C Ratio	5.61	0.196	-	-	0.15	-
HCM Control Delay (s)	$ 2175.4	12.7	-	-	10.6	-
HCM Lane LOS	F	B	-	-	B	-
HCM 95th %tile Q(veh)	50.7	0.7	-	-	0.5	-

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

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	36	579	110	28	961	14	38	4	10	8	6	96
Future Vol, veh/h	36	579	110	28	961	14	38	4	10	8	6	96
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	510	-	510	510	-	510	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	7	0	25	50	0	3
Mvmt Flow	38	609	116	29	1012	15	40	4	11	8	6	101

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1012	0	0	609	0	0	1253	1756	305	1454	1756	506
Stage 1	-	-	-	-	-	-	685	685	-	1071	1071	-
Stage 2	-	-	-	-	-	-	568	1071	-	383	685	-
Critical Hdwy	4.24	-	-	4.24	-	-	7.64	6.5	7.4	8.5	6.5	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	6.64	5.5	-	7.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.64	5.5	-	7.5	5.5	-
Follow-up Hdwy	2.27	-	-	2.27	-	-	3.57	4	3.55	4	4	3.33
Pot Cap-1 Maneuver	651	-	-	932	-	-	123	86	627	59	86	509
Stage 1	-	-	-	-	-	-	393	451	-	165	300	-
Stage 2	-	-	-	-	-	-	463	300	-	498	451	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	651	-	-	932	-	-	90	78	627	53	78	509
Mov Cap-2 Maneuver	-	-	-	-	-	-	196	177	-	122	188	-
Stage 1	-	-	-	-	-	-	370	425	-	155	291	-
Stage 2	-	-	-	-	-	-	352	291	-	456	425	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.3	24.6	18.4
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	196	363	651	-	-	932	-	-	384
HCM Lane V/C Ratio	0.204	0.041	0.058	-	-	0.032	-	-	0.302
HCM Control Delay (s)	28	15.3	10.9	-	-	9	-	-	18.4
HCM Lane LOS	D	C	B	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.7	0.1	0.2	-	-	0.1	-	-	1.2

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	582	15	8	978	25	10
Future Vol, veh/h	582	15	8	978	25	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	510	570	-	180	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	0	0
Mvmt Flow	613	16	8	1029	26	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	613	0	1145	306
Stage 1	-	-	-	-	613	-
Stage 2	-	-	-	-	532	-
Critical Hdwy	-	-	4.24	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.27	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	929	-	196	696
Stage 1	-	-	-	-	509	-
Stage 2	-	-	-	-	559	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	929	-	194	696
Mov Cap-2 Maneuver	-	-	-	-	194	-
Stage 1	-	-	-	-	509	-
Stage 2	-	-	-	-	554	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	21.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	194	696	-	-	929	-
HCM Lane V/C Ratio	0.136	0.015	-	-	0.009	-
HCM Control Delay (s)	26.4	10.3	-	-	8.9	-
HCM Lane LOS	D	B	-	-	A	-
HCM 95th %tile Q(veh)	0.5	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	18	574	976	9	0	10
Future Vol, veh/h	18	574	976	9	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	410	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	0	0
Mvmt Flow	19	604	1027	9	0	11

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1037	0	-	0	1372	518
Stage 1	-	-	-	-	1032	-
Stage 2	-	-	-	-	340	-
Critical Hdwy	4.24	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.27	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	637	-	-	-	140	508
Stage 1	-	-	-	-	309	-
Stage 2	-	-	-	-	698	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	637	-	-	-	136	508
Mov Cap-2 Maneuver	-	-	-	-	136	-
Stage 1	-	-	-	-	309	-
Stage 2	-	-	-	-	677	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	12.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	637	-	-	-	508
HCM Lane V/C Ratio	0.03	-	-	-	0.021
HCM Control Delay (s)	10.8	-	-	-	12.2
HCM Lane LOS	B	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	14	524	36	15	874	12	75	0	15	16	4	36
Future Vol, veh/h	14	524	36	15	874	12	75	0	15	16	4	36
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	400	600	-	490	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	2	0	0	0	100	6
Mvmt Flow	15	552	38	16	920	13	79	0	16	17	4	38

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	920	0	0	552	0	0	1075	1533	276	1257	1533	460
Stage 1	-	-	-	-	-	-	581	581	-	952	952	-
Stage 2	-	-	-	-	-	-	494	952	-	305	581	-
Critical Hdwy	4.24	-	-	4.24	-	-	7.54	6.5	6.9	7.5	8.5	7.02
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.5	-	6.5	7.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.5	-	6.5	7.5	-
Follow-up Hdwy	2.27	-	-	2.27	-	-	3.52	4	3.3	3.5	5	3.36
Pot Cap-1 Maneuver	707	-	-	980	-	-	174	118	727	130	47	537
Stage 1	-	-	-	-	-	-	467	503	-	283	179	-
Stage 2	-	-	-	-	-	-	526	341	-	685	313	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	707	-	-	980	-	-	153	114	727	124	45	537
Mov Cap-2 Maneuver	-	-	-	-	-	-	278	226	-	221	119	-
Stage 1	-	-	-	-	-	-	457	492	-	277	176	-
Stage 2	-	-	-	-	-	-	469	335	-	656	306	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	20.8	18.6
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	278	727	707	-	-	980	-	-	324
HCM Lane V/C Ratio	0.284	0.022	0.021	-	-	0.016	-	-	0.182
HCM Control Delay (s)	23	10.1	10.2	-	-	8.7	-	-	18.6
HCM Lane LOS	C	B	B	-	-	A	-	-	C
HCM 95th %tile Q(veh)	1.1	0.1	0.1	-	-	0	-	-	0.7

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	71	446	38	15	686	0	45	9	25	110	0	170
Future Vol, veh/h	71	446	38	15	686	0	45	9	25	110	0	170
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	520	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	0	0	0	15	0	7
Mvmt Flow	75	469	40	16	722	0	47	9	26	116	0	179

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	722	0	0	509	0	0	1032	1393	255	1143	1413	-
Stage 1	-	-	-	-	-	-	639	639	-	754	754	-
Stage 2	-	-	-	-	-	-	393	754	-	389	659	-
Critical Hdwy	4.24	-	-	4.24	-	-	7.5	6.5	6.9	7.8	6.5	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.8	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.8	5.5	-
Follow-up Hdwy	2.27	-	-	2.27	-	-	3.5	4	3.3	3.65	4	-
Pot Cap-1 Maneuver	844	-	-	1018	-	-	190	143	750	140	139	0
Stage 1	-	-	-	-	-	-	436	474	-	340	420	0
Stage 2	-	-	-	-	-	-	609	420	-	572	464	0
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	844	-	-	1018	-	-	175	128	750	121	125	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	284	230	-	223	244	-
Stage 1	-	-	-	-	-	-	397	432	-	310	413	-
Stage 2	-	-	-	-	-	-	599	413	-	492	423	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0.2	18.9	
HCM LOS			C	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	342	844	-	-	1018	-	-	-
HCM Lane V/C Ratio	0.243	0.089	-	-	0.016	-	-	-
HCM Control Delay (s)	18.9	9.7	-	-	8.6	-	-	-
HCM Lane LOS	C	A	-	-	A	-	-	-
HCM 95th %tile Q(veh)	0.9	0.3	-	-	0	-	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	491	1609	659	101	1003	97	661	322	185	166	229	275
Future Volume (veh/h)	491	1609	659	101	1003	97	661	322	185	166	229	275
Number	1	6	16	5	2	12	7	4	14	3	8	18
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
Adj Sat Flow, veh/h/ln	1776	1776	1776	1776	1776	1776	1881	1863	1845	1727	1900	1827
Adj Flow Rate, veh/h	506	1659	679	104	1034	100	681	332	191	171	236	284
Adj No. of Lanes	2	2	2	1	2	1	2	2	1	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	7	7	7	7	7	7	1	2	3	10	0	4
Cap, veh/h	679	1696	1838	178	1147	513	659	489	217	347	352	473
Arrive On Green	0.21	0.50	0.50	0.04	0.34	0.34	0.19	0.14	0.14	0.14	0.10	0.10
Sat Flow, veh/h	3281	3374	2656	1691	3374	1509	3476	3539	1568	1645	3610	1553
Grp Volume(v), veh/h	506	1659	679	104	1034	100	681	332	191	171	236	284
Grp Sat Flow(s),veh/h/ln	1640	1687	1328	1691	1687	1509	1738	1770	1568	1645	1805	1553
Q Serve(g_s), s	22.8	75.9	16.7	6.0	46.0	7.4	29.9	14.1	15.8	3.5	10.0	7.8
Cycle Q Clear(g_c), s	22.8	75.9	16.7	6.0	46.0	7.4	29.9	14.1	15.8	3.5	10.0	7.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	679	1696	1838	178	1147	513	659	489	217	347	352	473
V/C Ratio(X)	0.74	0.98	0.37	0.58	0.90	0.19	1.03	0.68	0.88	0.49	0.67	0.60
Avail Cap(c_a), veh/h	679	1698	1840	178	1251	560	659	1386	614	347	1098	794
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.7	38.4	10.1	50.8	49.6	36.8	63.9	64.7	46.5	58.4	68.8	18.2
Incr Delay (d2), s/veh	4.5	16.9	0.1	4.8	8.8	0.2	44.1	1.7	11.0	1.1	2.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.8	39.2	6.1	2.0	22.8	3.1	18.3	7.0	7.8	6.7	5.1	5.8
LnGrp Delay(d),s/veh	63.1	55.3	10.2	55.6	58.3	37.0	108.1	66.3	57.6	59.5	71.0	19.4
LnGrp LOS	E	E	B	E	E	D	F	E	E	E	E	B
Approach Vol, veh/h		2844			1238			1204			691	
Approach Delay, s/veh		45.9			56.4			88.5			46.9	
Approach LOS		D			E			F			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	39.4	59.8	29.6	29.0	13.2	86.0	36.0	22.6
Change Period (Y+Rc), s	7.7	7.2	8.2	* 8.2	8.2	* 7.7	7.1	8.2
Max Green Setting (Gmax), s	26.4	57.5	16.7	* 61	5.0	* 78	28.9	47.0
Max Q Clear Time (g_c+I1), s	24.8	48.0	5.5	17.8	8.0	77.9	31.9	12.0
Green Ext Time (p_c), s	1.5	4.6	2.4	3.1	0.0	0.4	0.0	2.4

Intersection Summary	
HCM 2010 Ctrl Delay	56.8
HCM 2010 LOS	E

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	52.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	100	1655	150	25	1071	29	129	35	60	27	11	65
Future Vol, veh/h	100	1655	150	25	1071	29	129	35	60	27	11	65
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	530	-	480	500	-	460	300	-	0	325	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	0	0	0	55	11	0
Mvmt Flow	105	1742	158	26	1127	31	136	37	63	28	12	68

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1127	0	0	1742	0	0	2575	3133	871	2280	3133	564
Stage 1	-	-	-	-	-	-	1953	1953	-	1180	1180	-
Stage 2	-	-	-	-	-	-	622	1180	-	1100	1953	-
Critical Hdwy	4.24	-	-	4.24	-	-	7.5	6.5	6.9	8.6	6.72	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	7.6	5.72	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	7.6	5.72	-
Follow-up Hdwy	2.27	-	-	2.27	-	-	3.5	4	3.3	4.05	4.11	3.3
Pot Cap-1 Maneuver	588	-	-	336	-	-	~ 13	~ 11	298	~ 11	~ 9	474
Stage 1	-	-	-	-	-	-	~ 68	112	-	133	245	-
Stage 2	-	-	-	-	-	-	446	266	-	152	98	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	588	-	-	336	-	-	~ 7	~ 8	298	~ 3	~ 7	474
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 43	54	-	~ 24	42	-
Stage 1	-	-	-	-	-	-	~ 56	92	-	109	226	-
Stage 2	-	-	-	-	-	-	334	245	-	59	81	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.4	$ 704.1	148.1
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	43	54	298	588	-	-	336	-	-	24	42	474
HCM Lane V/C Ratio	3.158	0.682	0.212	0.179	-	-	0.078	-	-	1.184	0.276	0.144
HCM Control Delay (s)	$ 1169.8	160.1	20.3	12.5	-	-	16.6	-	-	$ 482.2	120.6	13.9
HCM Lane LOS	F	F	C	B	-	-	C	-	-	F	F	B
HCM 95th %tile Q(veh)	15	2.8	0.8	0.6	-	-	0.3	-	-	3.6	0.9	0.5

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

Intersection	
Int Delay, s/veh	186.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	1257	485	90	637	260	108
Future Vol, veh/h	1257	485	90	637	260	108
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	410	460	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	2	2
Mvmt Flow	1323	511	95	671	274	114

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1323	0	1848	662
Stage 1	-	-	-	-	1323	-
Stage 2	-	-	-	-	525	-
Critical Hdwy	-	-	4.24	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.27	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	492	-	~ 66	404
Stage 1	-	-	-	-	~ 213	-
Stage 2	-	-	-	-	558	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	492	-	~ 53	404
Mov Cap-2 Maneuver	-	-	-	-	~ 53	-
Stage 1	-	-	-	-	~ 213	-
Stage 2	-	-	-	-	450	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	$ 1437.5
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	53	404	-	-	492	-
HCM Lane V/C Ratio	5.164	0.281	-	-	0.193	-
HCM Control Delay (s)	$ 2027.4	17.4	-	-	14.1	-
HCM Lane LOS	F	C	-	-	B	-
HCM 95th %tile Q(veh)	30.9	1.1	-	-	0.7	-

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

Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	105	913	65	14	585	11	87	4	37	8	4	55
Future Vol, veh/h	105	913	65	14	585	11	87	4	37	8	4	55
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	510	-	510	510	-	510	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	6	0	0	0	0	0
Mvmt Flow	111	961	68	15	616	12	92	4	39	8	4	58

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	616	0	0	961	0	0	1521	1827	481	1349	1827	308
Stage 1	-	-	-	-	-	-	1182	1182	-	645	645	-
Stage 2	-	-	-	-	-	-	339	645	-	704	1182	-
Critical Hdwy	4.24	-	-	4.24	-	-	7.62	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.62	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.62	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.27	-	-	2.27	-	-	3.56	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	926	-	-	682	-	-	~ 78	78	537	111	78	694
Stage 1	-	-	-	-	-	-	195	266	-	432	471	-
Stage 2	-	-	-	-	-	-	638	471	-	398	266	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	926	-	-	682	-	-	~ 63	67	537	90	67	694
Mov Cap-2 Maneuver	-	-	-	-	-	-	135	157	-	195	161	-
Stage 1	-	-	-	-	-	-	172	234	-	380	461	-
Stage 2	-	-	-	-	-	-	567	461	-	319	234	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.2	55.5	14.2
HCM LOS			F	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	135	434	926	-	-	682	-	-	462
HCM Lane V/C Ratio	0.678	0.099	0.119	-	-	0.022	-	-	0.153
HCM Control Delay (s)	75	14.2	9.4	-	-	10.4	-	-	14.2
HCM Lane LOS	F	B	A	-	-	B	-	-	B
HCM 95th %tile Q(veh)	3.7	0.3	0.4	-	-	0.1	-	-	0.5

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

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	928	30	7	590	20	7
Future Vol, veh/h	928	30	7	590	20	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	510	570	-	180	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	0	0
Mvmt Flow	977	32	7	621	21	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	977	0	1302	488
Stage 1	-	-	-	-	977	-
Stage 2	-	-	-	-	325	-
Critical Hdwy	-	-	4.24	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.27	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	672	-	155	531
Stage 1	-	-	-	-	330	-
Stage 2	-	-	-	-	711	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	672	-	153	531
Mov Cap-2 Maneuver	-	-	-	-	153	-
Stage 1	-	-	-	-	330	-
Stage 2	-	-	-	-	704	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	26.9
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	153	531	-	-	672	-
HCM Lane V/C Ratio	0.138	0.014	-	-	0.011	-
HCM Control Delay (s)	32.2	11.9	-	-	10.4	-
HCM Lane LOS	D	B	-	-	B	-
HCM 95th %tile Q(veh)	0.5	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	8	927	587	6	0	10
Future Vol, veh/h	8	927	587	6	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	410	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	0	0
Mvmt Flow	8	976	618	6	0	11

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	624	0	-	0	1126	312
Stage 1	-	-	-	-	621	-
Stage 2	-	-	-	-	505	-
Critical Hdwy	4.24	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.27	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	920	-	-	-	202	690
Stage 1	-	-	-	-	504	-
Stage 2	-	-	-	-	577	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	920	-	-	-	200	690
Mov Cap-2 Maneuver	-	-	-	-	200	-
Stage 1	-	-	-	-	504	-
Stage 2	-	-	-	-	572	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	10.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	920	-	-	-	690
HCM Lane V/C Ratio	0.009	-	-	-	0.015
HCM Control Delay (s)	8.9	-	-	-	10.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	20	832	75	12	523	8	41	9	11	0	3	25
Future Vol, veh/h	20	832	75	12	523	8	41	9	11	0	3	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	400	600	-	490	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	0	0	0	0	0	0
Mvmt Flow	21	876	79	13	551	8	43	9	12	0	3	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	551	0	0	876	0	0	1220	1494	438	1061	1494	275
Stage 1	-	-	-	-	-	-	918	918	-	576	576	-
Stage 2	-	-	-	-	-	-	302	576	-	485	918	-
Critical Hdwy	4.24	-	-	4.24	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.27	-	-	2.27	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	981	-	-	736	-	-	138	124	572	181	124	729
Stage 1	-	-	-	-	-	-	296	353	-	475	505	-
Stage 2	-	-	-	-	-	-	688	505	-	537	353	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	981	-	-	736	-	-	128	119	572	167	119	729
Mov Cap-2 Maneuver	-	-	-	-	-	-	228	235	-	293	233	-
Stage 1	-	-	-	-	-	-	290	345	-	465	496	-
Stage 2	-	-	-	-	-	-	647	496	-	501	345	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.2	22.9	11.4
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	229	572	981	-	-	736	-	-	594
HCM Lane V/C Ratio	0.23	0.02	0.021	-	-	0.017	-	-	0.05
HCM Control Delay (s)	25.4	11.4	8.8	-	-	10	-	-	11.4
HCM Lane LOS	D	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.9	0.1	0.1	-	-	0.1	-	-	0.2

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	138	675	27	16	470	0	26	7	12	80	18	57
Future Vol, veh/h	138	675	27	16	470	0	26	7	12	80	18	57
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	520	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	0	0	0	16	0	0
Mvmt Flow	145	711	28	17	495	0	27	7	13	84	19	60

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	495	0	0	739	0	0	1306	1543	369	1177	1557	-
Stage 1	-	-	-	-	-	-	1015	1015	-	528	528	-
Stage 2	-	-	-	-	-	-	291	528	-	649	1029	-
Critical Hdwy	4.24	-	-	4.24	-	-	7.5	6.5	6.9	7.82	6.5	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.82	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.82	5.5	-
Follow-up Hdwy	2.27	-	-	2.27	-	-	3.5	4	3.3	3.66	4	-
Pot Cap-1 Maneuver	1031	-	-	831	-	-	120	116	634	131	114	0
Stage 1	-	-	-	-	-	-	259	318	-	467	531	0
Stage 2	-	-	-	-	-	-	698	531	-	393	314	0
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1031	-	-	831	-	-	98	98	634	109	96	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	177	187	-	207	192	-
Stage 1	-	-	-	-	-	-	223	273	-	401	520	-
Stage 2	-	-	-	-	-	-	659	520	-	322	270	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	0.3	25.7	
HCM LOS			D	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	221	1031	-	-	831	-	-	-
HCM Lane V/C Ratio	0.214	0.141	-	-	0.02	-	-	-
HCM Control Delay (s)	25.7	9.1	-	-	9.4	-	-	-
HCM Lane LOS	D	A	-	-	A	-	-	-
HCM 95th %tile Q(veh)	0.8	0.5	-	-	0.1	-	-	-

Appendix S

Synchro Intersections Output Sheets- Build (After Additional Signalizations)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	602	60	75	938	8	135	6	25	22	14	25
Future Volume (veh/h)	30	602	60	75	938	8	135	6	25	22	14	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1776	1776	1776	1776	1776	1776	1900	1900	1900	1226	1712	1900
Adj Flow Rate, veh/h	32	634	63	79	987	8	142	6	26	23	15	26
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	7	7	7	7	7	0	0	0	55	11	0
Cap, veh/h	269	1723	771	386	1723	771	615	711	604	439	640	604
Arrive On Green	0.51	0.51	0.51	0.51	0.51	0.51	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	537	3374	1509	710	3374	1509	1388	1900	1615	903	1712	1615
Grp Volume(v), veh/h	32	634	63	79	987	8	142	6	26	23	15	26
Grp Sat Flow(s),veh/h/ln	537	1687	1509	710	1687	1509	1388	1900	1615	903	1712	1615
Q Serve(g_s), s	3.0	7.9	1.5	5.2	14.1	0.2	5.0	0.1	0.7	1.1	0.4	0.7
Cycle Q Clear(g_c), s	17.1	7.9	1.5	13.1	14.1	0.2	5.4	0.1	0.7	1.3	0.4	0.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	269	1723	771	386	1723	771	615	711	604	439	640	604
V/C Ratio(X)	0.12	0.37	0.08	0.20	0.57	0.01	0.23	0.01	0.04	0.05	0.02	0.04
Avail Cap(c_a), veh/h	466	2961	1325	647	2961	1325	615	711	604	439	640	604
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.7	10.2	8.7	14.2	11.8	8.4	15.4	13.7	13.8	14.1	13.7	13.8
Incr Delay (d2), s/veh	0.2	0.1	0.0	0.3	0.3	0.0	0.9	0.0	0.1	0.2	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	3.6	0.6	1.1	6.5	0.1	2.0	0.1	0.3	0.3	0.2	0.3
LnGrp Delay(d),s/veh	17.9	10.4	8.7	14.4	12.1	8.4	16.3	13.7	14.0	14.3	13.8	14.0
LnGrp LOS	B	B	A	B	B	A	B	B	B	B	B	B
Approach Vol, veh/h		729			1074			174			64	
Approach Delay, s/veh		10.6			12.2			15.9			14.0	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		30.0		39.5		30.0		39.5
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0
Max Green Setting (Gmax), s		26.0		61.0		26.0		61.0
Max Q Clear Time (g_c+I1), s		7.4		19.1		3.3		16.1
Green Ext Time (p_c), s		0.7		16.4		0.8		16.8

Intersection Summary	
HCM 2010 Ctrl Delay	12.0
HCM 2010 LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	547	102	44	816	147	49
Future Volume (veh/h)	547	102	44	816	147	49
Number	4	14	3	8	5	12
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
Adj Sat Flow, veh/h/ln	1776	1776	1776	1776	1863	1863
Adj Flow Rate, veh/h	576	107	46	859	155	52
Adj No. of Lanes	2	1	1	2	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	7	7	7	2	2
Cap, veh/h	1500	671	359	1500	746	666
Arrive On Green	0.44	0.44	0.44	0.44	0.42	0.42
Sat Flow, veh/h	3463	1509	720	3463	1774	1583
Grp Volume(v), veh/h	576	107	46	859	155	52
Grp Sat Flow(s),veh/h/ln	1687	1509	720	1687	1774	1583
Q Serve(g_s), s	6.8	2.5	2.7	11.3	3.3	1.2
Cycle Q Clear(g_c), s	6.8	2.5	9.5	11.3	3.3	1.2
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1500	671	359	1500	746	666
V/C Ratio(X)	0.38	0.16	0.13	0.57	0.21	0.08
Avail Cap(c_a), veh/h	3520	1575	790	3520	746	666
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	11.0	9.9	14.2	12.3	10.9	10.3
Incr Delay (d2), s/veh	0.2	0.1	0.2	0.3	0.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	1.1	0.6	5.2	1.7	0.5
LnGrp Delay(d),s/veh	11.2	10.0	14.4	12.6	11.6	10.5
LnGrp LOS	B	A	B	B	B	B
Approach Vol, veh/h	683			905	207	
Approach Delay, s/veh	11.0			12.7	11.3	
Approach LOS	B			B	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		29.0		30.4				30.4
Change Period (Y+Rc), s		4.0		4.0				4.0
Max Green Setting (Gmax), s		25.0		62.0				62.0
Max Q Clear Time (g_c+I1), s		5.3		8.8				13.3
Green Ext Time (p_c), s		0.5		13.3				13.2

Intersection Summary	
HCM 2010 Ctrl Delay	11.9
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	963	124	12	625	11	89	24	44	17	9	45
Future Volume (veh/h)	75	963	124	12	625	11	89	24	44	17	9	45
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1776	1776	1776	1776	1776	1776	1900	1900	1900	1226	1712	1900
Adj Flow Rate, veh/h	79	1014	131	13	658	12	94	25	46	18	9	47
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	7	7	7	7	7	0	0	0	55	11	0
Cap, veh/h	428	1830	819	275	1830	819	562	630	535	395	567	535
Arrive On Green	0.54	0.54	0.54	0.54	0.54	0.54	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	728	3374	1509	466	3374	1509	1369	1900	1615	871	1712	1615
Grp Volume(v), veh/h	79	1014	131	13	658	12	94	25	46	18	9	47
Grp Sat Flow(s),veh/h/ln	728	1687	1509	466	1687	1509	1369	1900	1615	871	1712	1615
Q Serve(g_s), s	4.4	12.5	2.8	1.2	7.0	0.2	3.1	0.6	1.2	0.9	0.2	1.3
Cycle Q Clear(g_c), s	11.4	12.5	2.8	13.7	7.0	0.2	3.4	0.6	1.2	1.5	0.2	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	428	1830	819	275	1830	819	562	630	535	395	567	535
V/C Ratio(X)	0.18	0.55	0.16	0.05	0.36	0.01	0.17	0.04	0.09	0.05	0.02	0.09
Avail Cap(c_a), veh/h	849	3780	1691	544	3780	1691	562	630	535	395	567	535
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.5	9.5	7.3	14.0	8.2	6.7	15.4	14.4	14.6	14.9	14.2	14.6
Incr Delay (d2), s/veh	0.2	0.3	0.1	0.1	0.1	0.0	0.6	0.1	0.3	0.2	0.1	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	0.9	5.8	1.1	0.2	3.2	0.1	1.3	0.3	0.6	0.2	0.1	0.6
LnGrp Delay(d),s/veh	11.7	9.7	7.4	14.0	8.4	6.7	16.0	14.5	14.9	15.1	14.3	14.9
LnGrp LOS	B	A	A	B	A	A	B	B	B	B	B	B
Approach Vol, veh/h		1224			683			165			74	
Approach Delay, s/veh		9.6			8.4			15.5			14.9	
Approach LOS		A			A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		25.0		38.4		25.0		38.4
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0
Max Green Setting (Gmax), s		21.0		71.0		21.0		71.0
Max Q Clear Time (g_c+I1), s		5.4		14.5		3.5		15.7
Green Ext Time (p_c), s		0.7		18.8		0.7		18.7

Intersection Summary	
HCM 2010 Ctrl Delay	9.9
HCM 2010 LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	866	158	53	498	80	51
Future Volume (veh/h)	866	158	53	498	80	51
Number	4	14	3	8	5	12
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
Adj Sat Flow, veh/h/ln	1776	1776	1776	1776	1863	1863
Adj Flow Rate, veh/h	912	166	56	524	84	54
Adj No. of Lanes	2	1	1	2	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	7	7	7	2	2
Cap, veh/h	1704	763	268	1704	665	594
Arrive On Green	0.51	0.51	0.51	0.51	0.37	0.37
Sat Flow, veh/h	3463	1509	497	3463	1774	1583
Grp Volume(v), veh/h	912	166	56	524	84	54
Grp Sat Flow(s),veh/h/ln	1687	1509	497	1687	1774	1583
Q Serve(g_s), s	12.2	4.1	5.7	6.1	2.1	1.5
Cycle Q Clear(g_c), s	12.2	4.1	18.0	6.1	2.1	1.5
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1704	763	268	1704	665	594
V/C Ratio(X)	0.54	0.22	0.21	0.31	0.13	0.09
Avail Cap(c_a), veh/h	3136	1403	479	3136	665	594
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	11.2	9.2	17.3	9.7	13.7	13.5
Incr Delay (d2), s/veh	0.3	0.1	0.4	0.1	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	5.6	1.7	0.8	2.8	1.1	0.7
LnGrp Delay(d),s/veh	11.5	9.3	17.7	9.8	14.1	13.8
LnGrp LOS	B	A	B	A	B	B
Approach Vol, veh/h	1078			580	138	
Approach Delay, s/veh	11.1			10.5	14.0	
Approach LOS	B			B	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		29.0		37.7				37.7
Change Period (Y+Rc), s		4.0		4.0				4.0
Max Green Setting (Gmax), s		25.0		62.0				62.0
Max Q Clear Time (g_c+I1), s		4.1		14.2				20.0
Green Ext Time (p_c), s		0.3		14.1				13.7

Intersection Summary	
HCM 2010 Ctrl Delay	11.1
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	824	69	80	1280	12	145	10	30	30	19	31
Future Volume (veh/h)	36	824	69	80	1280	12	145	10	30	30	19	31
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1776	1776	1776	1776	1776	1776	1900	1900	1900	1226	1712	1900
Adj Flow Rate, veh/h	38	867	73	84	1347	13	153	11	32	32	20	33
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	7	7	7	7	7	0	0	0	55	11	0
Cap, veh/h	213	2037	911	348	2037	911	489	576	489	351	519	489
Arrive On Green	0.60	0.60	0.60	0.60	0.60	0.60	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	380	3374	1509	566	3374	1509	1373	1900	1615	894	1712	1615
Grp Volume(v), veh/h	38	867	73	84	1347	13	153	11	32	32	20	33
Grp Sat Flow(s),veh/h/ln	380	1687	1509	566	1687	1509	1373	1900	1615	894	1712	1615
Q Serve(g_s), s	6.3	11.8	1.7	8.0	22.6	0.3	7.6	0.3	1.2	2.2	0.7	1.2
Cycle Q Clear(g_c), s	28.9	11.8	1.7	19.7	22.6	0.3	8.3	0.3	1.2	2.6	0.7	1.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	213	2037	911	348	2037	911	489	576	489	351	519	489
V/C Ratio(X)	0.18	0.43	0.08	0.24	0.66	0.01	0.31	0.02	0.07	0.09	0.04	0.07
Avail Cap(c_a), veh/h	254	2398	1073	409	2398	1073	489	576	489	351	519	489
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.7	9.1	7.1	14.3	11.2	6.8	24.0	21.0	21.3	21.9	21.1	21.3
Incr Delay (d2), s/veh	0.4	0.1	0.0	0.4	0.5	0.0	1.7	0.1	0.3	0.5	0.1	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	0.7	5.5	0.7	1.3	10.4	0.1	3.1	0.2	0.6	0.6	0.4	0.6
LnGrp Delay(d),s/veh	21.1	9.2	7.1	14.7	11.8	6.8	25.7	21.0	21.5	22.4	21.2	21.5
LnGrp LOS	C	A	A	B	B	A	C	C	C	C	C	C
Approach Vol, veh/h		978			1444			196			85	
Approach Delay, s/veh		9.5			11.9			24.7			21.8	
Approach LOS		A			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		30.0		55.8		30.0		55.8
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0
Max Green Setting (Gmax), s		26.0		61.0		26.0		61.0
Max Q Clear Time (g_c+I1), s		10.3		30.9		4.6		24.6
Green Ext Time (p_c), s		0.9		20.9		1.0		23.8

Intersection Summary	
HCM 2010 Ctrl Delay	12.3
HCM 2010 LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	686	198	72	906	276	79
Future Volume (veh/h)	686	198	72	906	276	79
Number	4	14	3	8	5	12
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
Adj Sat Flow, veh/h/ln	1776	1776	1776	1776	1863	1863
Adj Flow Rate, veh/h	722	208	76	954	291	83
Adj No. of Lanes	2	1	1	2	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	7	7	7	2	2
Cap, veh/h	1743	780	325	1743	650	580
Arrive On Green	0.52	0.52	0.52	0.52	0.37	0.37
Sat Flow, veh/h	3463	1509	571	3463	1774	1583
Grp Volume(v), veh/h	722	208	76	954	291	83
Grp Sat Flow(s),veh/h/ln	1687	1509	571	1687	1774	1583
Q Serve(g_s), s	9.0	5.3	6.4	13.0	8.5	2.4
Cycle Q Clear(g_c), s	9.0	5.3	15.4	13.0	8.5	2.4
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1743	780	325	1743	650	580
V/C Ratio(X)	0.41	0.27	0.23	0.55	0.45	0.14
Avail Cap(c_a), veh/h	3064	1371	549	3064	650	580
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	10.1	9.2	14.9	11.1	16.4	14.5
Incr Delay (d2), s/veh	0.2	0.2	0.4	0.3	2.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	2.2	1.0	6.0	4.5	1.1
LnGrp Delay(d),s/veh	10.3	9.4	15.3	11.4	18.6	15.0
LnGrp LOS	B	A	B	B	B	B
Approach Vol, veh/h	930			1030	374	
Approach Delay, s/veh	10.1			11.7	17.8	
Approach LOS	B			B	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		29.0		39.3				39.3
Change Period (Y+Rc), s		4.0		4.0				4.0
Max Green Setting (Gmax), s		25.0		62.0				62.0
Max Q Clear Time (g_c+I1), s		10.5		11.0				17.4
Green Ext Time (p_c), s		1.0		18.6				17.9

Intersection Summary	
HCM 2010 Ctrl Delay	12.0
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	1309	137	19	848	20	109	30	52	22	10	55
Future Volume (veh/h)	88	1309	137	19	848	20	109	30	52	22	10	55
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1776	1776	1776	1776	1776	1776	1900	1900	1900	1226	1712	1900
Adj Flow Rate, veh/h	93	1378	144	20	893	21	115	32	55	23	11	58
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	7	7	7	7	7	0	0	0	55	11	0
Cap, veh/h	391	2192	981	220	2192	981	424	482	410	294	434	410
Arrive On Green	0.65	0.65	0.65	0.65	0.65	0.65	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	580	3374	1509	325	3374	1509	1353	1900	1615	859	1712	1615
Grp Volume(v), veh/h	93	1378	144	20	893	21	115	32	55	23	11	58
Grp Sat Flow(s),veh/h/ln	580	1687	1509	325	1687	1509	1353	1900	1615	859	1712	1615
Q Serve(g_s), s	7.5	20.0	3.1	3.2	10.4	0.4	5.8	1.1	2.2	1.7	0.4	2.3
Cycle Q Clear(g_c), s	18.0	20.0	3.1	23.2	10.4	0.4	6.2	1.1	2.2	2.8	0.4	2.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	391	2192	981	220	2192	981	424	482	410	294	434	410
V/C Ratio(X)	0.24	0.63	0.15	0.09	0.41	0.02	0.27	0.07	0.13	0.08	0.03	0.14
Avail Cap(c_a), veh/h	511	2894	1295	287	2894	1295	424	482	410	294	434	410
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.2	8.6	5.6	15.5	6.9	5.2	25.5	23.4	23.9	24.5	23.2	23.9
Incr Delay (d2), s/veh	0.3	0.3	0.1	0.2	0.1	0.0	1.6	0.3	0.7	0.5	0.1	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	9.3	1.3	0.3	4.9	0.2	2.3	0.6	1.0	0.5	0.2	1.1
LnGrp Delay(d),s/veh	11.5	8.9	5.7	15.6	7.0	5.2	27.1	23.7	24.5	25.0	23.3	24.6
LnGrp LOS	B	A	A	B	A	A	C	C	C	C	C	C
Approach Vol, veh/h		1615			934			202			92	
Approach Delay, s/veh		8.8			7.2			25.9			24.6	
Approach LOS		A			A			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		25.0		57.8		25.0		57.8
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0
Max Green Setting (Gmax), s		21.0		71.0		21.0		71.0
Max Q Clear Time (g_c+I1), s		8.2		22.0		4.8		25.2
Green Ext Time (p_c), s		0.9		29.7		0.9		28.5

Intersection Summary	
HCM 2010 Ctrl Delay	10.0
HCM 2010 LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1077	306	85	555	152	84
Future Volume (veh/h)	1077	306	85	555	152	84
Number	4	14	3	8	5	12
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
Adj Sat Flow, veh/h/ln	1776	1776	1776	1776	1863	1863
Adj Flow Rate, veh/h	1134	322	89	584	160	88
Adj No. of Lanes	2	1	1	2	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	7	7	7	2	2
Cap, veh/h	2062	923	228	2062	522	466
Arrive On Green	0.61	0.61	0.61	0.61	0.29	0.29
Sat Flow, veh/h	3463	1509	347	3463	1774	1583
Grp Volume(v), veh/h	1134	322	89	584	160	88
Grp Sat Flow(s),veh/h/ln	1687	1509	347	1687	1774	1583
Q Serve(g_s), s	16.7	8.9	17.2	6.9	5.9	3.5
Cycle Q Clear(g_c), s	16.7	8.9	33.9	6.9	5.9	3.5
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2062	923	228	2062	522	466
V/C Ratio(X)	0.55	0.35	0.39	0.28	0.31	0.19
Avail Cap(c_a), veh/h	2464	1102	270	2464	522	466
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	9.7	8.2	19.6	7.8	23.2	22.4
Incr Delay (d2), s/veh	0.2	0.2	1.1	0.1	1.5	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.8	3.7	1.7	3.2	3.1	1.7
LnGrp Delay(d),s/veh	9.9	8.4	20.7	7.8	24.7	23.3
LnGrp LOS	A	A	C	A	C	C
Approach Vol, veh/h	1456			673	248	
Approach Delay, s/veh	9.6			9.5	24.2	
Approach LOS	A			A	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		29.0		55.9				55.9
Change Period (Y+Rc), s		4.0		4.0				4.0
Max Green Setting (Gmax), s		25.0		62.0				62.0
Max Q Clear Time (g_c+I1), s		7.9		18.7				35.9
Green Ext Time (p_c), s		0.7		21.0				16.0

Intersection Summary	
HCM 2010 Ctrl Delay	11.1
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	1045	78	85	1622	16	155	14	35	38	24	36
Future Volume (veh/h)	42	1045	78	85	1622	16	155	14	35	38	24	36
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1776	1776	1776	1776	1776	1776	1900	1900	1900	1226	1712	1900
Adj Flow Rate, veh/h	44	1100	82	89	1707	17	163	15	37	40	25	38
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	7	7	7	7	7	0	0	0	55	11	0
Cap, veh/h	149	2158	965	286	2158	965	437	524	445	316	472	445
Arrive On Green	0.64	0.64	0.64	0.64	0.64	0.64	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	268	3374	1509	450	3374	1509	1360	1900	1615	886	1712	1615
Grp Volume(v), veh/h	44	1100	82	89	1707	17	163	15	37	40	25	38
Grp Sat Flow(s),veh/h/ln	268	1687	1509	450	1687	1509	1360	1900	1615	886	1712	1615
Q Serve(g_s), s	13.5	16.4	2.0	12.4	34.8	0.4	9.4	0.5	1.6	3.3	1.0	1.6
Cycle Q Clear(g_c), s	48.4	16.4	2.0	28.9	34.8	0.4	10.5	0.5	1.6	3.8	1.0	1.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	149	2158	965	286	2158	965	437	524	445	316	472	445
V/C Ratio(X)	0.30	0.51	0.08	0.31	0.79	0.02	0.37	0.03	0.08	0.13	0.05	0.09
Avail Cap(c_a), veh/h	151	2182	976	289	2182	976	437	524	445	316	472	445
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.0	9.1	6.5	16.8	12.4	6.2	29.0	24.9	25.3	26.3	25.1	25.3
Incr Delay (d2), s/veh	1.1	0.2	0.0	0.6	2.0	0.0	2.4	0.1	0.4	0.8	0.2	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	1.0	7.5	0.8	1.6	16.5	0.2	3.8	0.3	0.8	0.9	0.5	0.8
LnGrp Delay(d),s/veh	31.1	9.3	6.5	17.4	14.4	6.2	31.4	25.0	25.7	27.2	25.3	25.7
LnGrp LOS	C	A	A	B	B	A	C	C	C	C	C	C
Approach Vol, veh/h		1226			1813			215			103	
Approach Delay, s/veh		9.9			14.5			30.0			26.2	
Approach LOS		A			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		30.0		64.3		30.0		64.3
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0
Max Green Setting (Gmax), s		26.0		61.0		26.0		61.0
Max Q Clear Time (g_c+I1), s		12.5		50.4		5.8		36.8
Green Ext Time (p_c), s		1.0		10.0		1.1		21.3

Intersection Summary	
HCM 2010 Ctrl Delay	14.2
HCM 2010 LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	801	317	108	1022	437	108
Future Volume (veh/h)	801	317	108	1022	437	108
Number	4	14	3	8	5	12
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
Adj Sat Flow, veh/h/ln	1776	1776	1776	1776	1863	1863
Adj Flow Rate, veh/h	843	334	114	1076	460	114
Adj No. of Lanes	2	1	1	2	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	7	7	7	2	2
Cap, veh/h	2011	899	297	2011	543	485
Arrive On Green	0.60	0.60	0.60	0.60	0.31	0.31
Sat Flow, veh/h	3463	1509	452	3463	1774	1583
Grp Volume(v), veh/h	843	334	114	1076	460	114
Grp Sat Flow(s),veh/h/ln	1687	1509	452	1687	1774	1583
Q Serve(g_s), s	11.0	9.4	14.8	15.5	19.8	4.4
Cycle Q Clear(g_c), s	11.0	9.4	25.8	15.5	19.8	4.4
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2011	899	297	2011	543	485
V/C Ratio(X)	0.42	0.37	0.38	0.54	0.85	0.24
Avail Cap(c_a), veh/h	2561	1146	371	2561	543	485
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	8.9	8.6	15.8	9.8	26.5	21.2
Incr Delay (d2), s/veh	0.1	0.3	0.8	0.2	15.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	4.0	1.9	7.1	12.0	2.1
LnGrp Delay(d),s/veh	9.0	8.8	16.7	10.0	41.6	22.3
LnGrp LOS	A	A	B	B	D	C
Approach Vol, veh/h	1177			1190	574	
Approach Delay, s/veh	9.0			10.6	37.8	
Approach LOS	A			B	D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		29.0		52.7				52.7
Change Period (Y+Rc), s		4.0		4.0				4.0
Max Green Setting (Gmax), s		25.0		62.0				62.0
Max Q Clear Time (g_c+I1), s		21.8		13.0				27.8
Green Ext Time (p_c), s		0.7		25.3				20.9

Intersection Summary	
HCM 2010 Ctrl Delay	15.3
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	1655	150	25	1071	29	129	35	60	27	11	65
Future Volume (veh/h)	100	1655	150	25	1071	29	129	35	60	27	11	65
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1776	1776	1776	1776	1776	1776	1900	1900	1900	1226	1712	1900
Adj Flow Rate, veh/h	105	1742	158	26	1127	31	136	37	63	28	12	68
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	7	7	7	7	7	0	0	0	55	11	0
Cap, veh/h	327	2356	1054	160	2356	1054	360	415	353	247	374	353
Arrive On Green	0.70	0.70	0.70	0.70	0.70	0.70	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	461	3374	1509	225	3374	1509	1339	1900	1615	849	1712	1615
Grp Volume(v), veh/h	105	1742	158	26	1127	31	136	37	63	28	12	68
Grp Sat Flow(s),veh/h/ln	461	1687	1509	225	1687	1509	1339	1900	1615	849	1712	1615
Q Serve(g_s), s	12.9	31.0	3.4	7.8	14.5	0.6	8.6	1.5	3.0	2.6	0.5	3.3
Cycle Q Clear(g_c), s	27.4	31.0	3.4	38.8	14.5	0.6	9.1	1.5	3.0	4.1	0.5	3.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	327	2356	1054	160	2356	1054	360	415	353	247	374	353
V/C Ratio(X)	0.32	0.74	0.15	0.16	0.48	0.03	0.38	0.09	0.18	0.11	0.03	0.19
Avail Cap(c_a), veh/h	345	2492	1115	169	2492	1115	360	415	353	247	374	353
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.8	9.0	4.9	21.1	6.6	4.5	33.1	29.9	30.6	31.6	29.6	30.7
Incr Delay (d2), s/veh	0.6	1.1	0.1	0.5	0.2	0.0	3.0	0.4	1.1	0.9	0.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	14.4	1.4	0.5	6.8	0.3	3.5	0.8	1.5	0.7	0.3	1.6
LnGrp Delay(d),s/veh	13.3	10.2	5.0	21.6	6.7	4.5	36.1	30.4	31.7	32.5	29.7	31.9
LnGrp LOS	B	B	A	C	A	A	D	C	C	C	C	C
Approach Vol, veh/h		2005			1184			236			108	
Approach Delay, s/veh		9.9			7.0			34.0			31.8	
Approach LOS		A			A			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		25.0		71.1		25.0		71.1
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0
Max Green Setting (Gmax), s		21.0		71.0		21.0		71.0
Max Q Clear Time (g_c+I1), s		11.1		33.0		6.1		40.8
Green Ext Time (p_c), s		0.9		32.2		1.1		26.4

Intersection Summary	
HCM 2010 Ctrl Delay	11.2
HCM 2010 LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1257	485	90	637	260	108
Future Volume (veh/h)	1257	485	90	637	260	108
Number	4	14	3	8	5	12
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
Adj Sat Flow, veh/h/ln	1776	1776	1776	1776	1863	1863
Adj Flow Rate, veh/h	1323	511	95	671	274	114
Adj No. of Lanes	2	1	1	2	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	7	7	7	2	2
Cap, veh/h	2199	984	179	2199	468	418
Arrive On Green	0.65	0.65	0.65	0.65	0.26	0.26
Sat Flow, veh/h	3463	1509	240	3463	1774	1583
Grp Volume(v), veh/h	1323	511	95	671	274	114
Grp Sat Flow(s),veh/h/ln	1687	1509	240	1687	1774	1583
Q Serve(g_s), s	21.3	16.9	35.5	8.2	12.7	5.4
Cycle Q Clear(g_c), s	21.3	16.9	56.8	8.2	12.7	5.4
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2199	984	179	2199	468	418
V/C Ratio(X)	0.60	0.52	0.53	0.31	0.59	0.27
Avail Cap(c_a), veh/h	2207	987	179	2207	468	418
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	9.5	8.7	25.7	7.2	30.4	27.7
Incr Delay (d2), s/veh	0.5	0.5	3.0	0.1	5.3	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	9.9	7.1	2.5	3.8	6.9	2.6
LnGrp Delay(d),s/veh	9.9	9.2	28.7	7.2	35.7	29.3
LnGrp LOS	A	A	C	A	D	C
Approach Vol, veh/h	1834			766	388	
Approach Delay, s/veh	9.7			9.9	33.8	
Approach LOS	A			A	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		29.0		65.8				65.8
Change Period (Y+Rc), s		4.0		4.0				4.0
Max Green Setting (Gmax), s		25.0		62.0				62.0
Max Q Clear Time (g_c+I1), s		14.7		23.3				58.8
Green Ext Time (p_c), s		0.9		26.4				3.0

Intersection Summary	
HCM 2010 Ctrl Delay	12.9
HCM 2010 LOS	B

Appendix T

Roadway Analysis Outputs- Build

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	JP/VHB	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/11/2016 12:42:50 PM	**From**	Greenbrook Blvd/Post Blvd. (M.P. 10.137)	**Analysis Type**	Multilane Segment
Agency	FDOT D1	**To**	Del Webb Blvd. (M.P. 11.718)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Westbound	**Version Date**	12/12/2012

File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\Greenbrook to Del Webb\2023 AM B.xhp
User Notes	2023 AM Build

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	1.581	**Median**	Yes	**AADT**	17000	**PHF**	0.950
# Thru Lanes	4	**Left Turn Impact**	No	**K**	0.095	**% Heavy Vehicles**	7.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.605	**Base Capacity**	2200
Posted Speed	60	**% NPZ**	N/A	**Peak Dir. Hrly. Vol.**	977	**Local Adj. Factor**	0.73
Free Flow Speed	60	**Class**	1	**Off Peak Dir. Hrly. Vol.**	638	**Adjusted Capacity**	1428

LOS Results

v/c Ratio	0.33	**Density**	12.2	**PTSF**	N/A	**ATS**	60.0	**% FFS**	100.0
FFS Delay	0.0	**LOS Thresh. Delay**	0.0	**Service Measure**	Density	**LOS**	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 0 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1					
2					
3					
4					
Lanes	**Hourly Volume In Both Directions**				
2					
4					
6					
8					

Lanes	Annual Average Daily Traffic				
2					
4					
6					
8					

*****
Cannot be achieved based on input data provided.
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	JP/VHB	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/11/2016 12:42:50 PM	**From**	Greenbrook Blvd/Post Blvd. (M.P. 10.137)	**Analysis Type**	Multilane Segment
Agency	FDOT D1	**To**	Del Webb Blvd. (M.P. 11.718)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Westbound	**Version Date**	12/12/2012

File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\Greenbrook to Del Webb\2033 AM B.xhp
User Notes	2033 AM Build

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	1.581	**Median**	Yes	**AADT**	23000	**PHF**	0.950
# Thru Lanes	4	**Left Turn Impact**	No	**K**	0.095	**% Heavy Vehicles**	7.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.605	**Base Capacity**	2200
Posted Speed	60	**% NPZ**	N/A	**Peak Dir. Hrly. Vol.**	1322	**Local Adj. Factor**	0.73
Free Flow Speed	60	**Class**	1	**Off Peak Dir. Hrly. Vol.**	863	**Adjusted Capacity**	1428

LOS Results

v/c Ratio	0.45	**Density**	16.4	**PTSF**	N/A	**ATS**	60.0	**% FFS**	100.0
FFS Delay	0.0	**LOS Thresh. Delay**	0.0	**Service Measure**	Density	**LOS**	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 0 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1					
2					
3					
4					
Lanes	**Hourly Volume In Both Directions**				
2					
4					
6					
8					

Lanes	Annual Average Daily Traffic				
2					
4					
6					
8					

*****
Cannot be achieved based on input data provided.
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	JP/VHB	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/11/2016 12:42:50 PM	**From**	Greenbrook Blvd/Post Blvd. (M.P. 10.137)	**Analysis Type**	Multilane Segment
Agency	FDOT D1	**To**	Del Webb Blvd. (M.P. 11.718)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Westbound	**Version Date**	12/12/2012

File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\Greenbrook to Del Webb\2043 AM B.xhp
User Notes	2043 AM Build

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	1.581	**Median**	Yes	**AADT**	29000	**PHF**	0.950
# Thru Lanes	4	**Left Turn Impact**	No	**K**	0.095	**% Heavy Vehicles**	7.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.605	**Base Capacity**	2200
Posted Speed	60	**% NPZ**	N/A	**Peak Dir. Hrly. Vol.**	1667	**Local Adj. Factor**	0.73
Free Flow Speed	60	**Class**	1	**Off Peak Dir. Hrly. Vol.**	1088	**Adjusted Capacity**	1428

LOS Results

v/c Ratio	0.57	**Density**	20.7	**PTSF**	N/A	**ATS**	60.0	**% FFS**	100.0
FFS Delay	0.0	**LOS Thresh. Delay**	0.0	**Service Measure**	Density	**LOS**	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 0 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1					
2					
3					
4					
Lanes	**Hourly Volume In Both Directions**				
2					
4					
6					
8					

Lanes	Annual Average Daily Traffic				
2					
4					
6					
8					

*****
Cannot be achieved based on input data provided.
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	JP/VHB	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/11/2016 12:42:50 PM	**From**	Greenbrook Blvd/Post Blvd. (M.P. 10.137)	**Analysis Type**	Multilane Segment
Agency	FDOT D1	**To**	Del Webb Blvd. (M.P. 11.718)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Eastbound	**Version Date**	12/12/2012

File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\Greenbrook to Del Webb\2023 PM B.xhp
User Notes	2023 PM Build

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	1.581	**Median**	Yes	**AADT**	17000	**PHF**	0.950
# Thru Lanes	4	**Left Turn Impact**	No	**K**	0.095	**% Heavy Vehicles**	7.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.605	**Base Capacity**	2200
Posted Speed	60	**% NPZ**	N/A	**Peak Dir. Hrly. Vol.**	977	**Local Adj. Factor**	0.73
Free Flow Speed	60	**Class**	1	**Off Peak Dir. Hrly. Vol.**	638	**Adjusted Capacity**	1428

LOS Results

v/c Ratio	0.33	**Density**	12.2	**PTSF**	N/A	**ATS**	60.0	**% FFS**	100.0
FFS Delay	0.0	**LOS Thresh. Delay**	0.0	**Service Measure**	Density	**LOS**	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 0 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1					
2					
3					
4					
Lanes	**Hourly Volume In Both Directions**				
2					
4					
6					
8					

Lanes	Annual Average Daily Traffic				
2					
4					
6					
8					

*****
Cannot be achieved based on input data provided.
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	JP/VHB	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/11/2016 12:42:50 PM	**From**	Greenbrook Blvd/Post Blvd. (M.P. 10.137)	**Analysis Type**	Multilane Segment
Agency	FDOT D1	**To**	Del Webb Blvd. (M.P. 11.718)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Eastbound	**Version Date**	12/12/2012

File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\Greenbrook to Del Webb\2033 PM B.xhp
User Notes	2033 PM Build

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	1.581	**Median**	Yes	**AADT**	23000	**PHF**	0.950
# Thru Lanes	4	**Left Turn Impact**	No	**K**	0.095	**% Heavy Vehicles**	7.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.605	**Base Capacity**	2200
Posted Speed	60	**% NPZ**	N/A	**Peak Dir. Hrly. Vol.**	1322	**Local Adj. Factor**	0.73
Free Flow Speed	60	**Class**	1	**Off Peak Dir. Hrly. Vol.**	863	**Adjusted Capacity**	1428

LOS Results

v/c Ratio	0.45	**Density**	16.4	**PTSF**	N/A	**ATS**	60.0	**% FFS**	100.0
FFS Delay	0.0	**LOS Thresh. Delay**	0.0	**Service Measure**	Density	**LOS**	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 0 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1					
2					
3					
4					
Lanes	**Hourly Volume In Both Directions**				
2					
4					
6					
8					

Lanes	Annual Average Daily Traffic				
2					
4					
6					
8					

*****
Cannot be achieved based on input data provided.
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	JP/VHB	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/11/2016 12:42:50 PM	**From**	Greenbrook Blvd/Post Blvd. (M.P. 10.137)	**Analysis Type**	Multilane Segment
Agency	FDOT D1	**To**	Del Webb Blvd. (M.P. 11.718)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Eastbound	**Version Date**	12/12/2012

File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\Greenbrook to Del Webb\2043 PM B.xhp
User Notes	2043 PM Build

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	1.581	**Median**	Yes	**AADT**	29000	**PHF**	0.950
# Thru Lanes	4	**Left Turn Impact**	No	**K**	0.095	**% Heavy Vehicles**	7.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.605	**Base Capacity**	2200
Posted Speed	60	**% NPZ**	N/A	**Peak Dir. Hrly. Vol.**	1667	**Local Adj. Factor**	0.73
Free Flow Speed	60	**Class**	1	**Off Peak Dir. Hrly. Vol.**	1088	**Adjusted Capacity**	1428

LOS Results

v/c Ratio	0.57	**Density**	20.7	**PTSF**	N/A	**ATS**	60.0	**% FFS**	100.0
FFS Delay	0.0	**LOS Thresh. Delay**	0.0	**Service Measure**	Density	**LOS**	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 0 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1					
2					
3					
4					
Lanes	**Hourly Volume In Both Directions**				
2					
4					
6					
8					

Lanes	Annual Average Daily Traffic				
2					
4					
6					
8					

*****
Cannot be achieved based on input data provided.
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	JP/VHB	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/11/2016 12:42:50 PM	**From**	Del Webb Blvd. (M.P. 11.718)	**Analysis Type**	Multilane Segment
Agency	FDOT D1	**To**	Lindrick Ln./197th Street E. (M.P. 13.218)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Westbound	**Version Date**	12/12/2012

File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\Del Webb to Lindrick\2023 AM B.xhp
User Notes	2023 AM Build

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	1.500	**Median**	Yes	**AADT**	14000	**PHF**	0.950
# Thru Lanes	4	**Left Turn Impact**	No	**K**	0.095	**% Heavy Vehicles**	7.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.605	**Base Capacity**	2200
Posted Speed	60	**% NPZ**	N/A	**Peak Dir. Hrly. Vol.**	805	**Local Adj. Factor**	0.73
Free Flow Speed	60	**Class**	1	**Off Peak Dir. Hrly. Vol.**	525	**Adjusted Capacity**	0

LOS Results

v/c Ratio	0.27	**Density**	10.0	**PTSF**	N/A	**ATS**	60.0	**% FFS**	100.0
FFS Delay	0.0	**LOS Thresh. Delay**	0.0	**Service Measure**	Density	**LOS**	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1600 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1					
2	480	1120	1760	2270	2590
3	720	1680	2650	3410	3890
4	960	2250	3530	4550	5190
Lanes	**Hourly Volume In Both Directions**				
2					
4	800	1860	2910	3760	4290
6	1200	2780	4390	5640	6430
8	1590	3720	5840	7530	8580
Lanes	**Annual Average Daily Traffic**				
2					
4	8500	19600	30700	39600	45200
6	12700	29300	46300	59400	67700
8	16800	39200	61500	79300	90400

*** Cannot be achieved based on input data provided.**
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	JP/VHB	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/11/2016 12:42:50 PM	**From**	Del Webb Blvd. (M.P. 11.718)	**Analysis Type**	Multilane Segment
Agency	FDOT D1	**To**	Lindrick Ln./197th Street E. (M.P. 13.218)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Westbound	**Version Date**	12/12/2012

File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\Del Webb to Lindrick\2033 AM B.xhp
User Notes	2033 AM Build

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	1.500	**Median**	Yes	**AADT**	16000	**PHF**	0.950
# Thru Lanes	4	**Left Turn Impact**	No	**K**	0.095	**% Heavy Vehicles**	7.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.605	**Base Capacity**	2200
Posted Speed	60	**% NPZ**	N/A	**Peak Dir. Hrly. Vol.**	805	**Local Adj. Factor**	0.73
Free Flow Speed	60	**Class**	1	**Off Peak Dir. Hrly. Vol.**	525	**Adjusted Capacity**	0

LOS Results

v/c Ratio	0.31	**Density**	11.4	**PTSF**	N/A	**ATS**	60.0	**% FFS**	100.0
FFS Delay	0.0	**LOS Thresh. Delay**	0.0	**Service Measure**	Density	**LOS**	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1600 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1					
2	480	1120	1760	2270	2590
3	720	1680	2650	3410	3890
4	960	2250	3530	4550	5190
Lanes	**Hourly Volume In Both Directions**				
2					
4	800	1860	2910	3760	4290
6	1200	2780	4390	5640	6430
8	1590	3720	5840	7530	8580
Lanes	**Annual Average Daily Traffic**				
2					
4	8500	19600	30700	39600	45200
6	12700	29300	46300	59400	67700
8	16800	39200	61500	79300	90400

*** Cannot be achieved based on input data provided.**
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	JP/VHB	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/11/2016 12:42:50 PM	**From**	Del Webb Blvd. (M.P. 11.718)	**Analysis Type**	Multilane Segment
Agency	FDOT D1	**To**	Lindrick Ln./197th Street E. (M.P. 13.218)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Westbound	**Version Date**	12/12/2012
File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\Del Webb to Lindrick\2043 AM B.xhp				
User Notes	2043 AM Build				

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	1.500	**Median**	Yes	**AADT**	18000	**PHF**	0.950
# Thru Lanes	4	**Left Turn Impact**	No	**K**	0.095	**% Heavy Vehicles**	7.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.605	**Base Capacity**	2200
Posted Speed	60	**% NPZ**	N/A	**Peak Dir. Hrly. Vol.**	862	**Local Adj. Factor**	0.73
Free Flow Speed	60	**Class**	1	**Off Peak Dir. Hrly. Vol.**	563	**Adjusted Capacity**	0

LOS Results

v/c Ratio	0.35	**Density**	12.9	**PTSF**	N/A	**ATS**	60.0	**% FFS**	100.0
FFS Delay	0.0	**LOS Thresh. Delay**	0.0	**Service Measure**	Density	**LOS**	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1600 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1					
2	480	1120	1760	2270	2590
3	720	1680	2650	3410	3890
4	960	2250	3530	4550	5190
Lanes	**Hourly Volume In Both Directions**				
2					
4	800	1860	2910	3760	4290
6	1200	2780	4390	5640	6430
8	1590	3720	5840	7530	8580
Lanes	**Annual Average Daily Traffic**				
2					
4	8500	19600	30700	39600	45200
6	12700	29300	46300	59400	67700
8	16800	39200	61500	79300	90400

*** Cannot be achieved based on input data provided.**
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	JP/VHB	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/11/2016 12:42:50 PM	**From**	Del Webb Blvd. (M.P. 11.718)	**Analysis Type**	Multilane Segment
Agency	FDOT D1	**To**	Lindrick Ln./197th Street E. (M.P. 13.218)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Eastbound	**Version Date**	12/12/2012

File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\Del Webb to Lindrick\2023 PM B.xhp
User Notes	2023 PM Build

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	1.500	**Median**	Yes	**AADT**	14000	**PHF**	0.950
# Thru Lanes	4	**Left Turn Impact**	No	**K**	0.095	**% Heavy Vehicles**	7.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.605	**Base Capacity**	2200
Posted Speed	60	**% NPZ**	N/A	**Peak Dir. Hrly. Vol.**	805	**Local Adj. Factor**	0.73
Free Flow Speed	60	**Class**	1	**Off Peak Dir. Hrly. Vol.**	525	**Adjusted Capacity**	0

LOS Results

v/c Ratio	0.27	**Density**	10.0	**PTSF**	N/A	**ATS**	60.0	**% FFS**	100.0
FFS Delay	0.0	**LOS Thresh. Delay**	0.0	**Service Measure**	Density	**LOS**	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1600 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1					
2	480	1120	1760	2270	2590
3	720	1680	2650	3410	3890
4	960	2250	3530	4550	5190
Lanes	**Hourly Volume In Both Directions**				
2					
4	800	1860	2910	3760	4290
6	1200	2780	4390	5640	6430
8	1590	3720	5840	7530	8580
Lanes	**Annual Average Daily Traffic**				
2					
4	8500	19600	30700	39600	45200
6	12700	29300	46300	59400	67700
8	16800	39200	61500	79300	90400

*** Cannot be achieved based on input data provided.**
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	JP/VHB	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/11/2016 12:42:50 PM	**From**	Del Webb Blvd. (M.P. 11.718)	**Analysis Type**	Multilane Segment
Agency	FDOT D1	**To**	Lindrick Ln./197th Street E. (M.P. 13.218)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Eastbound	**Version Date**	12/12/2012

File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\Del Webb to Lindrick\2033 PM B.xhp
User Notes	2033 PM Build

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	1.500	**Median**	Yes	**AADT**	16000	**PHF**	0.950
# Thru Lanes	4	**Left Turn Impact**	No	**K**	0.095	**% Heavy Vehicles**	7.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.605	**Base Capacity**	2200
Posted Speed	60	**% NPZ**	N/A	**Peak Dir. Hrly. Vol.**	805	**Local Adj. Factor**	0.73
Free Flow Speed	60	**Class**	1	**Off Peak Dir. Hrly. Vol.**	525	**Adjusted Capacity**	0

LOS Results

v/c Ratio	0.31	**Density**	11.4	**PTSF**	N/A	**ATS**	60.0	**% FFS**	100.0
FFS Delay	0.0	**LOS Thresh. Delay**	0.0	**Service Measure**	Density	**LOS**	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1600 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1					
2	480	1120	1760	2270	2590
3	720	1680	2650	3410	3890
4	960	2250	3530	4550	5190
Lanes	**Hourly Volume In Both Directions**				
2					
4	800	1860	2910	3760	4290
6	1200	2780	4390	5640	6430
8	1590	3720	5840	7530	8580
Lanes	**Annual Average Daily Traffic**				
2					
4	8500	19600	30700	39600	45200
6	12700	29300	46300	59400	67700
8	16800	39200	61500	79300	90400

*** Cannot be achieved based on input data provided.**
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	JP/VHB	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/11/2016 12:42:50 PM	**From**	Del Webb Blvd. (M.P. 11.718)	**Analysis Type**	Multilane Segment
Agency	FDOT D1	**To**	Lindrick Ln./197th Street E. (M.P. 13.218)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Eastbound	**Version Date**	12/12/2012

File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\Del Webb to Lindrick\2043 PM B.xhp
User Notes	2043 PM Build

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	1.500	**Median**	Yes	**AADT**	18000	**PHF**	0.950
# Thru Lanes	4	**Left Turn Impact**	No	**K**	0.095	**% Heavy Vehicles**	7.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.605	**Base Capacity**	2200
Posted Speed	60	**% NPZ**	N/A	**Peak Dir. Hrly. Vol.**	1035	**Local Adj. Factor**	0.73
Free Flow Speed	60	**Class**	1	**Off Peak Dir. Hrly. Vol.**	675	**Adjusted Capacity**	0

LOS Results

v/c Ratio	0.35	**Density**	12.9	**PTSF**	N/A	**ATS**	60.0	**% FFS**	100.0
FFS Delay	0.0	**LOS Thresh. Delay**	0.0	**Service Measure**	Density	**LOS**	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1600 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1					
2	480	1120	1760	2270	2590
3	720	1680	2650	3410	3890
4	960	2250	3530	4550	5190
Lanes	**Hourly Volume In Both Directions**				
2					
4	800	1860	2910	3760	4290
6	1200	2780	4390	5640	6430
8	1590	3720	5840	7530	8580
Lanes	**Annual Average Daily Traffic**				
2					
4	8500	19600	30700	39600	45200
6	12700	29300	46300	59400	67700
8	16800	39200	61500	79300	90400

*** Cannot be achieved based on input data provided.**
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	AP/VHB	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/9/2016 12:42:50 PM	**From**	Lindrick Ln./197th Street E. (M.P. 13.218)	**Analysis Type**	Multilane Segment
Agency	FDOT D1	**To**	Meadow Dove Ln./CR 675 (M.P. 15.567)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Westbound	**Version Date**	12/12/2012

File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\Old\2023 AM B.xhp
User Notes	2023 AM Build

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	2.300	**Median**	Yes	**AADT**	12000	**PHF**	0.950
# Thru Lanes	4	**Left Turn Impact**	No	**K**	0.095	**% Heavy Vehicles**	7.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.605	**Base Capacity**	2200
Posted Speed	60	**% NPZ**	N/A	**Peak Dir. Hrly. Vol.**	690	**Local Adj. Factor**	0.73
Free Flow Speed	60	**Class**	1	**Off Peak Dir. Hrly. Vol.**	450	**Adjusted Capacity**	0

LOS Results

v/c Ratio	0.23	**Density**	8.6	**PTSF**	N/A	**ATS**	60.0	**% FFS**	100.0
FFS Delay	0.0	**LOS Thresh. Delay**	0.0	**Service Measure**	Density	**LOS**	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1600 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1					
2	480	1120	1760	2270	2590
3	720	1680	2650	3410	3890
4	960	2250	3530	4550	5190
Lanes	**Hourly Volume In Both Directions**				
2					
4	800	1860	2910	3760	4290
6	1200	2780	4390	5640	6430
8	1590	3720	5840	7530	8580
Lanes	**Annual Average Daily Traffic**				
2					
4	8500	19600	30700	39600	45200
6	12700	29300	46300	59400	67700
8	16800	39200	61500	79300	90400

*** Cannot be achieved based on input data provided.**
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	AP/VHB	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/9/2016 12:42:50 PM	**From**	Lindrick Ln./197th Street E. (M.P. 13.218)	**Analysis Type**	Multilane Segment
Agency	FDOT D1	**To**	Meadow Dove Ln./CR 675 (M.P. 15.567)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Westbound	**Version Date**	12/12/2012

File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\Old\2033 AM B.xhp
User Notes	2033 AM Build

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	2.300	**Median**	Yes	**AADT**	14000	**PHF**	0.950
# Thru Lanes	4	**Left Turn Impact**	No	**K**	0.095	**% Heavy Vehicles**	7.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.605	**Base Capacity**	2200
Posted Speed	60	**% NPZ**	N/A	**Peak Dir. Hrly. Vol.**	805	**Local Adj. Factor**	0.73
Free Flow Speed	60	**Class**	1	**Off Peak Dir. Hrly. Vol.**	525	**Adjusted Capacity**	0

LOS Results

v/c Ratio	0.27	**Density**	10.0	**PTSF**	N/A	**ATS**	60.0	**% FFS**	100.0
FFS Delay	0.0	**LOS Thresh. Delay**	0.0	**Service Measure**	Density	**LOS**	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1600 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1					
2	480	1120	1760	2270	2590
3	720	1680	2650	3410	3890
4	960	2250	3530	4550	5190
Lanes	**Hourly Volume In Both Directions**				
2					
4	800	1860	2910	3760	4290
6	1200	2780	4390	5640	6430
8	1590	3720	5840	7530	8580
Lanes	**Annual Average Daily Traffic**				
2					
4	8500	19600	30700	39600	45200
6	12700	29300	46300	59400	67700
8	16800	39200	61500	79300	90400

*** Cannot be achieved based on input data provided.**
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	AP/VHB	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/9/2016 12:42:50 PM	**From**	Lindrick Ln./197th Street E. (M.P. 13.218)	**Analysis Type**	Multilane Segment
Agency	FDOT D1	**To**	Meadow Dove Ln./CR 675 (M.P. 15.567)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Westbound	**Version Date**	12/12/2012

File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\Old\2043 AM B.xhp
User Notes	2043 AM Build

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	2.300	**Median**	Yes	**AADT**	16000	**PHF**	0.950
# Thru Lanes	4	**Left Turn Impact**	No	**K**	0.095	**% Heavy Vehicles**	7.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.605	**Base Capacity**	2200
Posted Speed	60	**% NPZ**	N/A	**Peak Dir. Hrly. Vol.**	920	**Local Adj. Factor**	0.73
Free Flow Speed	60	**Class**	1	**Off Peak Dir. Hrly. Vol.**	600	**Adjusted Capacity**	0

LOS Results

v/c Ratio	0.31	**Density**	11.4	**PTSF**	N/A	**ATS**	60.0	**% FFS**	100.0
FFS Delay	0.0	**LOS Thresh. Delay**	0.0	**Service Measure**	Density	**LOS**	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1600 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1					
2	480	1120	1760	2270	2590
3	720	1680	2650	3410	3890
4	960	2250	3530	4550	5190
Lanes	**Hourly Volume In Both Directions**				
2					
4	800	1860	2910	3760	4290
6	1200	2780	4390	5640	6430
8	1590	3720	5840	7530	8580
Lanes	**Annual Average Daily Traffic**				
2					
4	8500	19600	30700	39600	45200
6	12700	29300	46300	59400	67700
8	16800	39200	61500	79300	90400

*** Cannot be achieved based on input data provided.**
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	AP/VHB	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/9/2016 12:42:50 PM	**From**	Lindrick Ln./197th Street E. (M.P. 13.218)	**Analysis Type**	Multilane Segment
Agency	FDOT D1	**To**	Meadow Dove Ln./CR 675 (M.P. 15.567)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Eastbound	**Version Date**	12/12/2012

File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\Old\2023 PM B.xhp
User Notes	2023 PM Build

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	2.300	**Median**	Yes	**AADT**	12000	**PHF**	0.950
# Thru Lanes	4	**Left Turn Impact**	No	**K**	0.095	**% Heavy Vehicles**	7.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.605	**Base Capacity**	2200
Posted Speed	60	**% NPZ**	N/A	**Peak Dir. Hrly. Vol.**	690	**Local Adj. Factor**	0.73
Free Flow Speed	60	**Class**	1	**Off Peak Dir. Hrly. Vol.**	450	**Adjusted Capacity**	0

LOS Results

v/c Ratio	0.23	**Density**	8.6	**PTSF**	N/A	**ATS**	60.0	**% FFS**	100.0
FFS Delay	0.0	**LOS Thresh. Delay**	0.0	**Service Measure**	Density	**LOS**	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1600 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1					
2	480	1120	1760	2270	2590
3	720	1680	2650	3410	3890
4	960	2250	3530	4550	5190
Lanes	**Hourly Volume In Both Directions**				
2					
4	800	1860	2910	3760	4290
6	1200	2780	4390	5640	6430
8	1590	3720	5840	7530	8580
Lanes	**Annual Average Daily Traffic**				
2					
4	8500	19600	30700	39600	45200
6	12700	29300	46300	59400	67700
8	16800	39200	61500	79300	90400

*** Cannot be achieved based on input data provided.**
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	AP/VHB	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/9/2016 12:42:50 PM	**From**	Lindrick Ln./197th Street E. (M.P. 13.218)	**Analysis Type**	Multilane Segment
Agency	FDOT D1	**To**	Meadow Dove Ln./CR 675 (M.P. 15.567)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Eastbound	**Version Date**	12/12/2012
File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\Old\2033 PM B.xhp				
User Notes	2033 PM Build				

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	2.300	**Median**	Yes	**AADT**	14000	**PHF**	0.950
# Thru Lanes	4	**Left Turn Impact**	No	**K**	0.095	**% Heavy Vehicles**	7.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.605	**Base Capacity**	2200
Posted Speed	60	**% NPZ**	N/A	**Peak Dir. Hrly. Vol.**	805	**Local Adj. Factor**	0.73
Free Flow Speed	60	**Class**	1	**Off Peak Dir. Hrly. Vol.**	525	**Adjusted Capacity**	0

LOS Results

v/c Ratio	0.27	**Density**	10.0	**PTSF**	N/A	**ATS**	60.0	**% FFS**	100.0
FFS Delay	0.0	**LOS Thresh. Delay**	0.0	**Service Measure**	Density	**LOS**	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1600 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1					
2	480	1120	1760	2270	2590
3	720	1680	2650	3410	3890
4	960	2250	3530	4550	5190
Lanes	**Hourly Volume In Both Directions**				
2					
4	800	1860	2910	3760	4290
6	1200	2780	4390	5640	6430
8	1590	3720	5840	7530	8580
Lanes	**Annual Average Daily Traffic**				
2					
4	8500	19600	30700	39600	45200
6	12700	29300	46300	59400	67700
8	16800	39200	61500	79300	90400

*** Cannot be achieved based on input data provided.**
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	AP/VHB	**Highway Name**	SR 70	**Study Period**	**Kother**
Date Prepared	8/9/2016 12:42:50 PM	**From**	Lindrick Ln./197th Street E. (M.P. 13.218)	**Analysis Type**	Multilane Segment
Agency	FDOT D1	**To**	Meadow Dove Ln./CR 675 (M.P. 15.567)	**Program**	HIGHPLAN 2012
Area Type	Rural Undeveloped	**Peak Direction**	Eastbound	**Version Date**	12/12/2012

File Name	\\vhb\proj\Orlando\62558.13 TWO 13 SR 70 Design Traf\tech\HIGHPLAN\Old\2043 PM B.xhp
User Notes	2043 PM Build

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	2.300	**Median**	Yes	**AADT**	16000	**PHF**	0.950
# Thru Lanes	4	**Left Turn Impact**	No	**K**	0.095	**% Heavy Vehicles**	7.1
Terrain	Level	**Pass Lane Length**	N/A	**D**	0.605	**Base Capacity**	2200
Posted Speed	60	**% NPZ**	N/A	**Peak Dir. Hrly. Vol.**	920	**Local Adj. Factor**	0.73
Free Flow Speed	60	**Class**	1	**Off Peak Dir. Hrly. Vol.**	600	**Adjusted Capacity**	0

LOS Results

v/c Ratio	0.31	**Density**	11.4	**PTSF**	N/A	**ATS**	60.0	**% FFS**	100.0
FFS Delay	0.0	**LOS Thresh. Delay**	0.0	**Service Measure**	Density	**LOS**	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1600 veh/h/ln.

	A	B	C	D	E
Lanes	**Hourly Volume In Peak Direction**				
1					
2	480	1120	1760	2270	2590
3	720	1680	2650	3410	3890
4	960	2250	3530	4550	5190
Lanes	**Hourly Volume In Both Directions**				
2					
4	800	1860	2910	3760	4290
6	1200	2780	4390	5640	6430
8	1590	3720	5840	7530	8580
Lanes	**Annual Average Daily Traffic**				
2					
4	8500	19600	30700	39600	45200
6	12700	29300	46300	59400	67700
8	16800	39200	61500	79300	90400

*** Cannot be achieved based on input data provided.**
 # Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

Appendix U

SIDRA Roundabout Analysis Outputs

INTERSECTION SUMMARY

Site: SR 70 & Lorraine Rd

2043 NB
Roundabout

Intersection Performance - Hourly Values				
Performance Measure	**Vehicles**		**Persons**	
Travel Speed (Average)	8.1	mph	8.1	mph
Travel Distance (Total)	3385.1	veh-mi/h	4062.1	pers-mi/h
Travel Time (Total)	417.4	veh-h/h	500.8	pers-h/h
Demand Flows (Total)	5322	veh/h	6386	pers/h
Percent Heavy Vehicles (Demand)	5.2	%		
Degree of Saturation	2.035			
Practical Spare Capacity	-58.2	%		
Effective Intersection Capacity	2615	veh/h		
Control Delay (Total)	336.21	veh-h/h	403.45	pers-h/h
Control Delay (Average)	227.4	sec	227.4	sec
Control Delay (Worst Lane)	502.0	sec		
Control Delay (Worst Movement)	502.0	sec	502.0	sec
Geometric Delay (Average)	0.0	sec		
Stop-Line Delay (Average)	227.4	sec		
Idling Time (Average)	180.0	sec		
Intersection Level of Service (LOS)	LOS F			
95% Back of Queue - Vehicles (Worst Lane)	124.0	veh		
95% Back of Queue - Distance (Worst Lane)	3268.3	ft		
Queue Storage Ratio (Worst Lane)	2.70			
Total Effective Stops	14382	veh/h	17258	pers/h
Effective Stop Rate	2.70	per veh	2.70	per pers
Proportion Queued	0.91		0.91	
Performance Index	1012.4		1012.4	
Cost (Total)	6695.32	$/h	6695.32	$/h
Fuel Consumption (Total)	317.2	gal/h		
Carbon Dioxide (Total)	2848.4	kg/h		
Hydrocarbons (Total)	0.346	kg/h		
Carbon Monoxide (Total)	3.651	kg/h		
NOx (Total)	5.231	kg/h		

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Intersection Performance - Annual Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	2,554,392	veh/y	3,065,270	pers/y
Delay	161,379	veh-h/y	193,654	pers-h/y
Effective Stops	6,903,360	veh/y	8,284,033	pers/y
Travel Distance	1,624,835	veh-mi/y	1,949,802	pers-mi/y
Travel Time	200,337	veh-h/y	240,405	pers-h/y
Cost	3,213,752	$/y	3,213,752	$/y
Fuel Consumption	152,247	gal/y		
Carbon Dioxide	1,367,214	kg/y		
Hydrocarbons	166	kg/y		
Carbon Monoxide	1,753	kg/y		
NOx	2,511	kg/y		

INTERSECTION SUMMARY

Site: SR 70 & Lorraine Rd

2043 NB
Roundabout

Intersection Performance - Hourly Values				
Performance Measure	**Vehicles**		**Persons**	
Travel Speed (Average)	10.4	mph	10.4	mph
Travel Distance (Total)	3656.3	veh-mi/h	4387.5	pers-mi/h
Travel Time (Total)	353.2	veh-h/h	423.9	pers-h/h
Demand Flows (Total)	5753	veh/h	6903	pers/h
Percent Heavy Vehicles (Demand)	5.5	%		
Degree of Saturation	1.677			
Practical Spare Capacity	-49.3	%		
Effective Intersection Capacity	3431	veh/h		
Control Delay (Total)	265.92	veh-h/h	319.10	pers-h/h
Control Delay (Average)	166.4	sec	166.4	sec
Control Delay (Worst Lane)	347.6	sec		
Control Delay (Worst Movement)	347.6	sec	347.6	sec
Geometric Delay (Average)	0.0	sec		
Stop-Line Delay (Average)	166.4	sec		
Idling Time (Average)	119.1	sec		
Intersection Level of Service (LOS)	LOS F			
95% Back of Queue - Vehicles (Worst Lane)	71.5	veh		
95% Back of Queue - Distance (Worst Lane)	1821.6	ft		
Queue Storage Ratio (Worst Lane)	1.50			
Total Effective Stops	16249	veh/h	19499	pers/h
Effective Stop Rate	2.82	per veh	2.82	per pers
Proportion Queued	0.99		0.99	
Performance Index	872.0		872.0	
Cost (Total)	5949.78	$/h	5949.78	$/h
Fuel Consumption (Total)	318.2	gal/h		
Carbon Dioxide (Total)	2858.5	kg/h		
Hydrocarbons (Total)	0.327	kg/h		
Carbon Monoxide (Total)	3.670	kg/h		
NOx (Total)	5.685	kg/h		

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
The results of iterative calculations indicate a somewhat unstable solution. See the Diagnostics section in the Detailed Output report.

Intersection Performance - Annual Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	2,761,237	veh/y	3,313,484	pers/y
Delay	127,640	veh-h/y	153,168	pers-h/y
Effective Stops	7,799,545	veh/y	9,359,452	pers/y
Travel Distance	1,755,001	veh-mi/y	2,106,001	pers-mi/y
Travel Time	169,553	veh-h/y	203,464	pers-h/y
Cost	2,855,895	$/y	2,855,895	$/y
Fuel Consumption	152,745	gal/y		
Carbon Dioxide	1,372,089	kg/y		
Hydrocarbons	157	kg/y		
Carbon Monoxide	1,761	kg/y		
NOx	2,729	kg/y		

INTERSECTION SUMMARY

Site: SR 70 & Greenbrook

2043 NB
Roundabout

Intersection Performance - Hourly Values				
Performance Measure	**Vehicles**		**Persons**	
Travel Speed (Average)	16.8	mph	16.8	mph
Travel Distance (Total)	2509.8	veh-mi/h	3011.7	pers-mi/h
Travel Time (Total)	149.7	veh-h/h	179.6	pers-h/h
Demand Flows (Total)	2602	veh/h	3123	pers/h
Percent Heavy Vehicles (Demand)	7.2	%		
Degree of Saturation	1.471			
Practical Spare Capacity	-42.2	%		
Effective Intersection Capacity	1769	veh/h		
Control Delay (Total)	95.35	veh-h/h	114.42	pers-h/h
Control Delay (Average)	131.9	sec	131.9	sec
Control Delay (Worst Lane)	233.7	sec		
Control Delay (Worst Movement)	233.7	sec	233.7	sec
Geometric Delay (Average)	0.0	sec		
Stop-Line Delay (Average)	131.9	sec		
Idling Time (Average)	96.8	sec		
Intersection Level of Service (LOS)	LOS F			
95% Back of Queue - Vehicles (Worst Lane)	151.2	veh		
95% Back of Queue - Distance (Worst Lane)	3990.7	ft		
Queue Storage Ratio (Worst Lane)	3.29			
Total Effective Stops	5451	veh/h	6541	pers/h
Effective Stop Rate	2.09	per veh	2.09	per pers
Proportion Queued	0.91		0.91	
Performance Index	479.3		479.3	
Cost (Total)	2591.40	$/h	2591.40	$/h
Fuel Consumption (Total)	178.4	gal/h		
Carbon Dioxide (Total)	1609.4	kg/h		
Hydrocarbons (Total)	0.177	kg/h		
Carbon Monoxide (Total)	2.312	kg/h		
NOx (Total)	4.216	kg/h		

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Intersection Performance - Annual Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	1,249,044	veh/y	1,498,852	pers/y
Delay	45,768	veh-h/y	54,922	pers-h/y
Effective Stops	2,616,408	veh/y	3,139,690	pers/y
Travel Distance	1,204,689	veh-mi/y	1,445,627	pers-mi/y
Travel Time	71,842	veh-h/y	86,210	pers-h/y
Cost	1,243,872	$/y	1,243,872	$/y
Fuel Consumption	85,613	gal/y		
Carbon Dioxide	772,502	kg/y		
Hydrocarbons	85	kg/y		
Carbon Monoxide	1,110	kg/y		
NOx	2,024	kg/y		

INTERSECTION SUMMARY

Site: SR 70 & Greenbrook

2043 NB
Roundabout

Intersection Performance - Hourly Values				
Performance Measure	**Vehicles**		**Persons**	
Travel Speed (Average)	15.9	mph	15.9	mph
Travel Distance (Total)	2745.5	veh-mi/h	3294.5	pers-mi/h
Travel Time (Total)	172.4	veh-h/h	206.9	pers-h/h
Demand Flows (Total)	2824	veh/h	3389	pers/h
Percent Heavy Vehicles (Demand)	6.8	%		
Degree of Saturation	1.470			
Practical Spare Capacity	-42.2	%		
Effective Intersection Capacity	1921	veh/h		
Control Delay (Total)	113.44	veh-h/h	136.13	pers-h/h
Control Delay (Average)	144.6	sec	144.6	sec
Control Delay (Worst Lane)	231.0	sec		
Control Delay (Worst Movement)	231.0	sec	231.0	sec
Geometric Delay (Average)	0.0	sec		
Stop-Line Delay (Average)	144.6	sec		
Idling Time (Average)	125.0	sec		
Intersection Level of Service (LOS)	LOS F			
95% Back of Queue - Vehicles (Worst Lane)	230.7	veh		
95% Back of Queue - Distance (Worst Lane)	6091.7	ft		
Queue Storage Ratio (Worst Lane)	2.31			
Total Effective Stops	4090	veh/h	4908	pers/h
Effective Stop Rate	1.45	per veh	1.45	per pers
Proportion Queued	0.91		0.91	
Performance Index	635.4		635.4	
Cost (Total)	3046.25	$/h	3046.25	$/h
Fuel Consumption (Total)	193.9	gal/h		
Carbon Dioxide (Total)	1747.4	kg/h		
Hydrocarbons (Total)	0.196	kg/h		
Carbon Monoxide (Total)	2.507	kg/h		
NOx (Total)	4.304	kg/h		

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Intersection Performance - Annual Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	1,355,478	veh/y	1,626,574	pers/y
Delay	54,453	veh-h/y	65,344	pers-h/y
Effective Stops	1,963,335	veh/y	2,356,002	pers/y
Travel Distance	1,317,818	veh-mi/y	1,581,382	pers-mi/y
Travel Time	82,771	veh-h/y	99,325	pers-h/y
Cost	1,462,201	$/y	1,462,201	$/y
Fuel Consumption	93,067	gal/y		
Carbon Dioxide	838,745	kg/y		
Hydrocarbons	94	kg/y		
Carbon Monoxide	1,203	kg/y		
NOx	2,066	kg/y		

INTERSECTION SUMMARY

Site: SR 70 & Del Webb

2043 NB
Roundabout

Intersection Performance - Hourly Values				
Performance Measure	**Vehicles**		**Persons**	
Travel Speed (Average)	33.4	mph	33.4	mph
Travel Distance (Total)	4592.8	veh-mi/h	5511.4	pers-mi/h
Travel Time (Total)	137.6	veh-h/h	165.1	pers-h/h
Demand Flows (Total)	2299	veh/h	2759	pers/h
Percent Heavy Vehicles (Demand)	6.3	%		
Degree of Saturation	1.262			
Practical Spare Capacity	-32.6	%		
Effective Intersection Capacity	1822	veh/h		
Control Delay (Total)	48.47	veh-h/h	58.17	pers-h/h
Control Delay (Average)	75.9	sec	75.9	sec
Control Delay (Worst Lane)	144.9	sec		
Control Delay (Worst Movement)	144.9	sec	144.9	sec
Geometric Delay (Average)	0.0	sec		
Stop-Line Delay (Average)	75.9	sec		
Idling Time (Average)	53.6	sec		
Intersection Level of Service (LOS)	LOS F			
95% Back of Queue - Vehicles (Worst Lane)	93.9	veh		
95% Back of Queue - Distance (Worst Lane)	2479.4	ft		
Queue Storage Ratio (Worst Lane)	1.09			
Total Effective Stops	3040	veh/h	3648	pers/h
Effective Stop Rate	1.32	per veh	1.32	per pers
Proportion Queued	0.73		0.73	
Performance Index	307.5		307.5	
Cost (Total)	2385.65	$/h	2385.65	$/h
Fuel Consumption (Total)	236.7	gal/h		
Carbon Dioxide (Total)	2137.3	kg/h		
Hydrocarbons (Total)	0.238	kg/h		
Carbon Monoxide (Total)	4.227	kg/h		
NOx (Total)	5.179	kg/h		

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Intersection Performance - Annual Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	1,103,478	veh/y	1,324,174	pers/y
Delay	23,267	veh-h/y	27,920	pers-h/y
Effective Stops	1,459,199	veh/y	1,751,039	pers/y
Travel Distance	2,204,552	veh-mi/y	2,645,462	pers-mi/y
Travel Time	66,037	veh-h/y	79,244	pers-h/y
Cost	1,145,111	$/y	1,145,111	$/y
Fuel Consumption	113,601	gal/y		
Carbon Dioxide	1,025,910	kg/y		
Hydrocarbons	114	kg/y		
Carbon Monoxide	2,029	kg/y		
NOx	2,486	kg/y		

INTERSECTION SUMMARY

Site: SR 70 & Del Webb

2043 NB
Roundabout

Intersection Performance - Hourly Values				
Performance Measure	**Vehicles**		**Persons**	
Travel Speed (Average)	34.7	mph	34.7	mph
Travel Distance (Total)	4570.8	veh-mi/h	5485.0	pers-mi/h
Travel Time (Total)	131.6	veh-h/h	157.9	pers-h/h
Demand Flows (Total)	2298	veh/h	2757	pers/h
Percent Heavy Vehicles (Demand)	6.5	%		
Degree of Saturation	1.220			
Practical Spare Capacity	-30.3	%		
Effective Intersection Capacity	1884	veh/h		
Control Delay (Total)	44.86	veh-h/h	53.83	pers-h/h
Control Delay (Average)	70.3	sec	70.3	sec
Control Delay (Worst Lane)	125.5	sec		
Control Delay (Worst Movement)	125.5	sec	125.5	sec
Geometric Delay (Average)	0.0	sec		
Stop-Line Delay (Average)	70.3	sec		
Idling Time (Average)	54.3	sec		
Intersection Level of Service (LOS)	LOS F			
95% Back of Queue - Vehicles (Worst Lane)	108.4	veh		
95% Back of Queue - Distance (Worst Lane)	2861.2	ft		
Queue Storage Ratio (Worst Lane)	0.47			
Total Effective Stops	2354	veh/h	2824	pers/h
Effective Stop Rate	1.02	per veh	1.02	per pers
Proportion Queued	0.75		0.75	
Performance Index	237.1		237.1	
Cost (Total)	2518.79	$/h	2518.79	$/h
Fuel Consumption (Total)	237.3	gal/h		
Carbon Dioxide (Total)	2140.3	kg/h		
Hydrocarbons (Total)	0.241	kg/h		
Carbon Monoxide (Total)	4.326	kg/h		
NOx (Total)	5.245	kg/h		

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Intersection Performance - Annual Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	1,102,957	veh/y	1,323,548	pers/y
Delay	21,531	veh-h/y	25,838	pers-h/y
Effective Stops	1,129,781	veh/y	1,355,738	pers/y
Travel Distance	2,194,007	veh-mi/y	2,632,809	pers-mi/y
Travel Time	63,167	veh-h/y	75,801	pers-h/y
Cost	1,209,020	$/y	1,209,020	$/y
Fuel Consumption	113,897	gal/y		
Carbon Dioxide	1,027,329	kg/y		
Hydrocarbons	116	kg/y		
Carbon Monoxide	2,076	kg/y		
NOx	2,518	kg/y		

INTERSECTION SUMMARY

Site: SR 70 & CR 675

2043 NB
Roundabout

Intersection Performance - Hourly Values				
Performance Measure	**Vehicles**		**Persons**	
Travel Speed (Average)	41.4	mph	41.4	mph
Travel Distance (Total)	1621.9	veh-mi/h	1946.2	pers-mi/h
Travel Time (Total)	39.1	veh-h/h	47.0	pers-h/h
Demand Flows (Total)	1416	veh/h	1700	pers/h
Percent Heavy Vehicles (Demand)	7.3	%		
Degree of Saturation	0.652			
Practical Spare Capacity	30.3	%		
Effective Intersection Capacity	2171	veh/h		
Control Delay (Total)	4.38	veh-h/h	5.26	pers-h/h
Control Delay (Average)	11.1	sec	11.1	sec
Control Delay (Worst Lane)	13.9	sec		
Control Delay (Worst Movement)	13.9	sec	13.9	sec
Geometric Delay (Average)	0.0	sec		
Stop-Line Delay (Average)	11.1	sec		
Idling Time (Average)	8.6	sec		
Intersection Level of Service (LOS)	LOS B			
95% Back of Queue - Vehicles (Worst Lane)	4.5	veh		
95% Back of Queue - Distance (Worst Lane)	118.2	ft		
Queue Storage Ratio (Worst Lane)	0.05			
Total Effective Stops	445	veh/h	534	pers/h
Effective Stop Rate	0.31	per veh	0.31	per pers
Proportion Queued	0.43		0.43	
Performance Index	54.6		54.6	
Cost (Total)	793.71	$/h	793.71	$/h
Fuel Consumption (Total)	87.9	gal/h		
Carbon Dioxide (Total)	794.7	kg/h		
Hydrocarbons (Total)	0.081	kg/h		
Carbon Monoxide (Total)	1.417	kg/h		
NOx (Total)	2.199	kg/h		

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Intersection Performance - Annual Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	679,826	veh/y	815,791	pers/y
Delay	2,103	veh-h/y	2,524	pers-h/y
Effective Stops	213,602	veh/y	256,322	pers/y
Travel Distance	778,494	veh-mi/y	934,193	pers-mi/y
Travel Time	18,783	veh-h/y	22,540	pers-h/y
Cost	380,982	$/y	380,982	$/y
Fuel Consumption	42,199	gal/y		
Carbon Dioxide	381,477	kg/y		
Hydrocarbons	39	kg/y		
Carbon Monoxide	680	kg/y		
NOx	1,055	kg/y		

INTERSECTION SUMMARY

Site: SR 70 & CR 675

2043 NB
Roundabout

Intersection Performance - Hourly Values				
Performance Measure	**Vehicles**		**Persons**	
Travel Speed (Average)	40.9	mph	40.9	mph
Travel Distance (Total)	1481.6	veh-mi/h	1777.9	pers-mi/h
Travel Time (Total)	36.2	veh-h/h	43.5	pers-h/h
Demand Flows (Total)	1288	veh/h	1546	pers/h
Percent Heavy Vehicles (Demand)	7.2	%		
Degree of Saturation	0.743			
Practical Spare Capacity	14.4	%		
Effective Intersection Capacity	1733	veh/h		
Control Delay (Total)	4.76	veh-h/h	5.72	pers-h/h
Control Delay (Average)	13.3	sec	13.3	sec
Control Delay (Worst Lane)	17.8	sec		
Control Delay (Worst Movement)	17.8	sec	17.8	sec
Geometric Delay (Average)	0.0	sec		
Stop-Line Delay (Average)	13.3	sec		
Idling Time (Average)	10.4	sec		
Intersection Level of Service (LOS)	LOS B			
95% Back of Queue - Vehicles (Worst Lane)	6.4	veh		
95% Back of Queue - Distance (Worst Lane)	168.3	ft		
Queue Storage Ratio (Worst Lane)	0.07			
Total Effective Stops	450	veh/h	540	pers/h
Effective Stop Rate	0.35	per veh	0.35	per pers
Proportion Queued	0.49		0.49	
Performance Index	51.4		51.4	
Cost (Total)	741.89	$/h	741.89	$/h
Fuel Consumption (Total)	81.1	gal/h		
Carbon Dioxide (Total)	732.8	kg/h		
Hydrocarbons (Total)	0.075	kg/h		
Carbon Monoxide (Total)	1.314	kg/h		
NOx (Total)	2.010	kg/h		

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Intersection Performance - Annual Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	618,261	veh/y	741,913	pers/y
Delay	2,287	veh-h/y	2,744	pers-h/y
Effective Stops	216,095	veh/y	259,314	pers/y
Travel Distance	711,144	veh-mi/y	853,373	pers-mi/y
Travel Time	17,392	veh-h/y	20,870	pers-h/y
Cost	356,107	$/y	356,107	$/y
Fuel Consumption	38,922	gal/y		
Carbon Dioxide	351,752	kg/y		
Hydrocarbons	36	kg/y		
Carbon Monoxide	631	kg/y		
NOx	965	kg/y		

INTERSECTION SUMMARY

Site: SR 70 & Lorraine Rd

2043 B PM
Roundabout

Intersection Performance - Hourly Values				
Performance Measure	**Vehicles**		**Persons**	
Travel Speed (Average)	8.6	mph	8.6	mph
Travel Distance (Total)	4908.4	veh-mi/h	5890.1	pers-mi/h
Travel Time (Total)	571.6	veh-h/h	686.0	pers-h/h
Demand Flows (Total)	5896	veh/h	7075	pers/h
Percent Heavy Vehicles (Demand)	7.0	%		
Degree of Saturation	2.429			
Practical Spare Capacity	-65.0	%		
Effective Intersection Capacity	2427	veh/h		
Control Delay (Total)	460.98	veh-h/h	553.17	pers-h/h
Control Delay (Average)	281.5	sec	281.5	sec
Control Delay (Worst Lane)	672.7	sec		
Control Delay (Worst Movement)	672.7	sec	672.7	sec
Geometric Delay (Average)	0.0	sec		
Stop-Line Delay (Average)	281.5	sec		
Idling Time (Average)	223.5	sec		
Intersection Level of Service (LOS)	LOS F			
95% Back of Queue - Vehicles (Worst Lane)	195.1	veh		
95% Back of Queue - Distance (Worst Lane)	5149.5	ft		
Queue Storage Ratio (Worst Lane)	1.94			
Total Effective Stops	18170	veh/h	21803	pers/h
Effective Stop Rate	3.08	per veh	3.08	per pers
Proportion Queued	0.90		0.90	
Performance Index	1260.9		1260.9	
Cost (Total)	9175.19	$/h	9175.19	$/h
Fuel Consumption (Total)	448.1	gal/h		
Carbon Dioxide (Total)	4036.4	kg/h		
Hydrocarbons (Total)	0.501	kg/h		
Carbon Monoxide (Total)	5.444	kg/h		
NOx (Total)	9.150	kg/h		

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Intersection Performance - Annual Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	2,829,979	veh/y	3,395,975	pers/y
Delay	221,268	veh-h/y	265,522	pers-h/y
Effective Stops	8,721,392	veh/y	10,465,670	pers/y
Travel Distance	2,356,025	veh-mi/y	2,827,230	pers-mi/y
Travel Time	274,382	veh-h/y	329,258	pers-h/y
Cost	4,404,090	$/y	4,404,090	$/y
Fuel Consumption	215,076	gal/y		
Carbon Dioxide	1,937,470	kg/y		
Hydrocarbons	240	kg/y		
Carbon Monoxide	2,613	kg/y		
NOx	4,392	kg/y		

INTERSECTION SUMMARY

Site: SR 70 & Lorraine Rd

2043 B PM
Roundabout

Intersection Performance - Hourly Values				
Performance Measure	**Vehicles**		**Persons**	
Travel Speed (Average)	12.0	mph	12.0	mph
Travel Distance (Total)	5075.6	veh-mi/h	6090.7	pers-mi/h
Travel Time (Total)	423.0	veh-h/h	507.6	pers-h/h
Demand Flows (Total)	6103	veh/h	7324	pers/h
Percent Heavy Vehicles (Demand)	5.7	%		
Degree of Saturation	2.035			
Practical Spare Capacity	-58.2	%		
Effective Intersection Capacity	3000	veh/h		
Control Delay (Total)	309.30	veh-h/h	371.15	pers-h/h
Control Delay (Average)	182.4	sec	182.4	sec
Control Delay (Worst Lane)	523.2	sec		
Control Delay (Worst Movement)	523.2	sec	523.2	sec
Geometric Delay (Average)	0.0	sec		
Stop-Line Delay (Average)	182.4	sec		
Idling Time (Average)	142.2	sec		
Intersection Level of Service (LOS)	LOS F			
95% Back of Queue - Vehicles (Worst Lane)	76.2	veh		
95% Back of Queue - Distance (Worst Lane)	1943.1	ft		
Queue Storage Ratio (Worst Lane)	1.60			
Total Effective Stops	14881	veh/h	17858	pers/h
Effective Stop Rate	2.44	per veh	2.44	per pers
Proportion Queued	0.96		0.96	
Performance Index	858.8		858.8	
Cost (Total)	6917.96	$/h	6917.96	$/h
Fuel Consumption (Total)	390.6	gal/h		
Carbon Dioxide (Total)	3513.9	kg/h		
Hydrocarbons (Total)	0.397	kg/h		
Carbon Monoxide (Total)	4.861	kg/h		
NOx (Total)	7.355	kg/h		

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Intersection Performance - Annual Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	2,929,515	veh/y	3,515,419	pers/y
Delay	148,462	veh-h/y	178,154	pers-h/y
Effective Stops	7,143,019	veh/y	8,571,622	pers/y
Travel Distance	2,436,297	veh-mi/y	2,923,557	pers-mi/y
Travel Time	203,051	veh-h/y	243,661	pers-h/y
Cost	3,320,622	$/y	3,320,622	$/y
Fuel Consumption	187,505	gal/y		
Carbon Dioxide	1,686,658	kg/y		
Hydrocarbons	191	kg/y		
Carbon Monoxide	2,333	kg/y		
NOx	3,531	kg/y		

INTERSECTION SUMMARY

Site: SR 70 & Greenbrook

2043 B PM
Roundabout

Intersection Performance - Hourly Values				
Performance Measure	**Vehicles**		**Persons**	
Travel Speed (Average)	36.0	mph	36.0	mph
Travel Distance (Total)	3362.4	veh-mi/h	4034.9	pers-mi/h
Travel Time (Total)	93.5	veh-h/h	112.2	pers-h/h
Demand Flows (Total)	3358	veh/h	4029	pers/h
Percent Heavy Vehicles (Demand)	7.2	%		
Degree of Saturation	0.912			
Practical Spare Capacity	-6.8	%		
Effective Intersection Capacity	3683	veh/h		
Control Delay (Total)	21.15	veh-h/h	25.38	pers-h/h
Control Delay (Average)	22.7	sec	22.7	sec
Control Delay (Worst Lane)	32.9	sec		
Control Delay (Worst Movement)	32.7	sec	32.7	sec
Geometric Delay (Average)	0.0	sec		
Stop-Line Delay (Average)	22.7	sec		
Idling Time (Average)	17.2	sec		
Intersection Level of Service (LOS)	LOS C			
95% Back of Queue - Vehicles (Worst Lane)	12.8	veh		
95% Back of Queue - Distance (Worst Lane)	337.5	ft		
Queue Storage Ratio (Worst Lane)	0.28			
Total Effective Stops	2021	veh/h	2425	pers/h
Effective Stop Rate	0.60	per veh	0.60	per pers
Proportion Queued	0.64		0.64	
Performance Index	124.0		124.0	
Cost (Total)	1790.48	$/h	1790.48	$/h
Fuel Consumption (Total)	184.5	gal/h		
Carbon Dioxide (Total)	1668.0	kg/h		
Hydrocarbons (Total)	0.168	kg/h		
Carbon Monoxide (Total)	2.771	kg/h		
NOx (Total)	4.510	kg/h		

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Intersection Performance - Annual Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	1,611,789	veh/y	1,934,147	pers/y
Delay	10,152	veh-h/y	12,183	pers-h/y
Effective Stops	970,160	veh/y	1,164,192	pers/y
Travel Distance	1,613,955	veh-mi/y	1,936,746	pers-mi/y
Travel Time	44,889	veh-h/y	53,867	pers-h/y
Cost	859,431	$/y	859,431	$/y
Fuel Consumption	88,576	gal/y		
Carbon Dioxide	800,626	kg/y		
Hydrocarbons	81	kg/y		
Carbon Monoxide	1,330	kg/y		
NOx	2,165	kg/y		

INTERSECTION SUMMARY

Site: SR 70 & Greenbrook

2043 B PM
Roundabout

Intersection Performance - Hourly Values				
Performance Measure	**Vehicles**		**Persons**	
Travel Speed (Average)	37.3	mph	37.3	mph
Travel Distance (Total)	3548.3	veh-mi/h	4258.0	pers-mi/h
Travel Time (Total)	95.1	veh-h/h	114.1	pers-h/h
Demand Flows (Total)	3534	veh/h	4240	pers/h
Percent Heavy Vehicles (Demand)	6.9	%		
Degree of Saturation	0.850			
Practical Spare Capacity	0.0	%		
Effective Intersection Capacity	4159	veh/h		
Control Delay (Total)	18.68	veh-h/h	22.42	pers-h/h
Control Delay (Average)	19.0	sec	19.0	sec
Control Delay (Worst Lane)	28.2	sec		
Control Delay (Worst Movement)	28.2	sec	28.2	sec
Geometric Delay (Average)	0.0	sec		
Stop-Line Delay (Average)	19.0	sec		
Idling Time (Average)	15.5	sec		
Intersection Level of Service (LOS)	LOS C			
95% Back of Queue - Vehicles (Worst Lane)	8.0	veh		
95% Back of Queue - Distance (Worst Lane)	212.1	ft		
Queue Storage Ratio (Worst Lane)	0.08			
Total Effective Stops	1412	veh/h	1694	pers/h
Effective Stop Rate	0.40	per veh	0.40	per pers
Proportion Queued	0.52		0.52	
Performance Index	116.9		116.9	
Cost (Total)	1892.06	$/h	1892.06	$/h
Fuel Consumption (Total)	187.4	gal/h		
Carbon Dioxide (Total)	1692.3	kg/h		
Hydrocarbons (Total)	0.172	kg/h		
Carbon Monoxide (Total)	2.886	kg/h		
NOx (Total)	4.335	kg/h		

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Intersection Performance - Annual Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	1,696,168	veh/y	2,035,402	pers/y
Delay	8,968	veh-h/y	10,761	pers-h/y
Effective Stops	677,528	veh/y	813,033	pers/y
Travel Distance	1,703,197	veh-mi/y	2,043,837	pers-mi/y
Travel Time	45,626	veh-h/y	54,751	pers-h/y
Cost	908,187	$/y	908,187	$/y
Fuel Consumption	89,975	gal/y		
Carbon Dioxide	812,285	kg/y		
Hydrocarbons	83	kg/y		
Carbon Monoxide	1,385	kg/y		
NOx	2,081	kg/y		

INTERSECTION SUMMARY

Site: SR 70 & Del Webb

2043 B PM
Roundabout

Intersection Performance - Hourly Values				
Performance Measure	**Vehicles**		**Persons**	
Travel Speed (Average)	44.5	mph	44.5	mph
Travel Distance (Total)	5778.1	veh-mi/h	6933.7	pers-mi/h
Travel Time (Total)	129.8	veh-h/h	155.8	pers-h/h
Demand Flows (Total)	2940	veh/h	3528	pers/h
Percent Heavy Vehicles (Demand)	6.0	%		
Degree of Saturation	0.785			
Practical Spare Capacity	8.3	%		
Effective Intersection Capacity	3745	veh/h		
Control Delay (Total)	13.66	veh-h/h	16.39	pers-h/h
Control Delay (Average)	16.7	sec	16.7	sec
Control Delay (Worst Lane)	28.4	sec		
Control Delay (Worst Movement)	28.4	sec	28.4	sec
Geometric Delay (Average)	0.0	sec		
Stop-Line Delay (Average)	16.7	sec		
Idling Time (Average)	12.4	sec		
Intersection Level of Service (LOS)	LOS C			
95% Back of Queue - Vehicles (Worst Lane)	5.6	veh		
95% Back of Queue - Distance (Worst Lane)	147.8	ft		
Queue Storage Ratio (Worst Lane)	0.10			
Total Effective Stops	1584	veh/h	1901	pers/h
Effective Stop Rate	0.54	per veh	0.54	per pers
Proportion Queued	0.51		0.51	
Performance Index	144.5		144.5	
Cost (Total)	2248.50	$/h	2248.50	$/h
Fuel Consumption (Total)	267.1	gal/h		
Carbon Dioxide (Total)	2412.3	kg/h		
Hydrocarbons (Total)	0.260	kg/h		
Carbon Monoxide (Total)	4.963	kg/h		
NOx (Total)	5.602	kg/h		

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Intersection Performance - Annual Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	1,411,200	veh/y	1,693,440	pers/y
Delay	6,555	veh-h/y	7,866	pers-h/y
Effective Stops	760,355	veh/y	912,426	pers/y
Travel Distance	2,773,488	veh-mi/y	3,328,185	pers-mi/y
Travel Time	62,308	veh-h/y	74,770	pers-h/y
Cost	1,079,281	$/y	1,079,281	$/y
Fuel Consumption	128,227	gal/y		
Carbon Dioxide	1,157,913	kg/y		
Hydrocarbons	125	kg/y		
Carbon Monoxide	2,382	kg/y		
NOx	2,689	kg/y		

INTERSECTION SUMMARY

Site: SR 70 & Del Webb

2043 B PM
Roundabout

Intersection Performance - Hourly Values				
Performance Measure	**Vehicles**		**Persons**	
Travel Speed (Average)	47.7	mph	47.7	mph
Travel Distance (Total)	5896.1	veh-mi/h	7075.3	pers-mi/h
Travel Time (Total)	123.6	veh-h/h	148.3	pers-h/h
Demand Flows (Total)	2986	veh/h	3584	pers/h
Percent Heavy Vehicles (Demand)	6.2	%		
Degree of Saturation	0.659			
Practical Spare Capacity	29.0	%		
Effective Intersection Capacity	4531	veh/h		
Control Delay (Total)	9.04	veh-h/h	10.85	pers-h/h
Control Delay (Average)	10.9	sec	10.9	sec
Control Delay (Worst Lane)	27.2	sec		
Control Delay (Worst Movement)	27.2	sec	27.2	sec
Geometric Delay (Average)	0.0	sec		
Stop-Line Delay (Average)	10.9	sec		
Idling Time (Average)	8.6	sec		
Intersection Level of Service (LOS)	LOS B			
95% Back of Queue - Vehicles (Worst Lane)	3.3	veh		
95% Back of Queue - Distance (Worst Lane)	86.8	ft		
Queue Storage Ratio (Worst Lane)	0.05			
Total Effective Stops	850	veh/h	1020	pers/h
Effective Stop Rate	0.28	per veh	0.28	per pers
Proportion Queued	0.34		0.34	
Performance Index	127.2		127.2	
Cost (Total)	2470.14	$/h	2470.14	$/h
Fuel Consumption (Total)	273.4	gal/h		
Carbon Dioxide (Total)	2466.1	kg/h		
Hydrocarbons (Total)	0.271	kg/h		
Carbon Monoxide (Total)	5.280	kg/h		
NOx (Total)	5.788	kg/h		

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Intersection Performance - Annual Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	1,433,431	veh/y	1,720,118	pers/y
Delay	4,340	veh-h/y	5,208	pers-h/y
Effective Stops	408,106	veh/y	489,727	pers/y
Travel Distance	2,830,117	veh-mi/y	3,396,140	pers-mi/y
Travel Time	59,331	veh-h/y	71,197	pers-h/y
Cost	1,185,665	$/y	1,185,665	$/y
Fuel Consumption	131,254	gal/y		
Carbon Dioxide	1,183,727	kg/y		
Hydrocarbons	130	kg/y		
Carbon Monoxide	2,534	kg/y		
NOx	2,778	kg/y		

INTERSECTION SUMMARY

Site: SR 70 & CR 675

2043 B PM
Roundabout

Intersection Performance - Hourly Values				
Performance Measure	**Vehicles**		**Persons**	
Travel Speed (Average)	42.9	mph	42.9	mph
Travel Distance (Total)	1946.2	veh-mi/h	2335.4	pers-mi/h
Travel Time (Total)	45.4	veh-h/h	54.5	pers-h/h
Demand Flows (Total)	1702	veh/h	2043	pers/h
Percent Heavy Vehicles (Demand)	7.2	%		
Degree of Saturation	0.372			
Practical Spare Capacity	128.3	%		
Effective Intersection Capacity	4571	veh/h		
Control Delay (Total)	3.57	veh-h/h	4.28	pers-h/h
Control Delay (Average)	7.5	sec	7.5	sec
Control Delay (Worst Lane)	10.1	sec		
Control Delay (Worst Movement)	10.1	sec	10.1	sec
Geometric Delay (Average)	0.0	sec		
Stop-Line Delay (Average)	7.5	sec		
Idling Time (Average)	5.8	sec		
Intersection Level of Service (LOS)	LOS A			
95% Back of Queue - Vehicles (Worst Lane)	1.3	veh		
95% Back of Queue - Distance (Worst Lane)	34.2	ft		
Queue Storage Ratio (Worst Lane)	0.02			
Total Effective Stops	396	veh/h	476	pers/h
Effective Stop Rate	0.23	per veh	0.23	per pers
Proportion Queued	0.30		0.30	
Performance Index	49.4		49.4	
Cost (Total)	923.34	$/h	923.34	$/h
Fuel Consumption (Total)	104.0	gal/h		
Carbon Dioxide (Total)	940.3	kg/h		
Hydrocarbons (Total)	0.095	kg/h		
Carbon Monoxide (Total)	1.681	kg/h		
NOx (Total)	2.596	kg/h		

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Intersection Performance - Annual Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	817,010	veh/y	980,413	pers/y
Delay	1,711	veh-h/y	2,053	pers-h/y
Effective Stops	190,264	veh/y	228,317	pers/y
Travel Distance	934,154	veh-mi/y	1,120,985	pers-mi/y
Travel Time	21,785	veh-h/y	26,142	pers-h/y
Cost	443,205	$/y	443,205	$/y
Fuel Consumption	49,924	gal/y		
Carbon Dioxide	451,352	kg/y		
Hydrocarbons	46	kg/y		
Carbon Monoxide	807	kg/y		
NOx	1,246	kg/y		

INTERSECTION SUMMARY

Site: SR 70 & CR 675

2043 B PM
Roundabout

Intersection Performance - Hourly Values				
Performance Measure	**Vehicles**		**Persons**	
Travel Speed (Average)	43.6	mph	43.6	mph
Travel Distance (Total)	1846.1	veh-mi/h	2215.3	pers-mi/h
Travel Time (Total)	42.4	veh-h/h	50.8	pers-h/h
Demand Flows (Total)	1607	veh/h	1929	pers/h
Percent Heavy Vehicles (Demand)	7.0	%		
Degree of Saturation	0.428			
Practical Spare Capacity	98.8	%		
Effective Intersection Capacity	3759	veh/h		
Control Delay (Total)	3.38	veh-h/h	4.06	pers-h/h
Control Delay (Average)	7.6	sec	7.6	sec
Control Delay (Worst Lane)	8.4	sec		
Control Delay (Worst Movement)	8.4	sec	8.4	sec
Geometric Delay (Average)	0.0	sec		
Stop-Line Delay (Average)	7.6	sec		
Idling Time (Average)	5.9	sec		
Intersection Level of Service (LOS)	LOS A			
95% Back of Queue - Vehicles (Worst Lane)	1.6	veh		
95% Back of Queue - Distance (Worst Lane)	42.2	ft		
Queue Storage Ratio (Worst Lane)	0.02			
Total Effective Stops	337	veh/h	405	pers/h
Effective Stop Rate	0.21	per veh	0.21	per pers
Proportion Queued	0.29		0.29	
Performance Index	45.3		45.3	
Cost (Total)	879.06	$/h	879.06	$/h
Fuel Consumption (Total)	99.2	gal/h		
Carbon Dioxide (Total)	896.8	kg/h		
Hydrocarbons (Total)	0.092	kg/h		
Carbon Monoxide (Total)	1.638	kg/h		
NOx (Total)	2.444	kg/h		

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Intersection Performance - Annual Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	771,537	veh/y	925,844	pers/y
Delay	1,623	veh-h/y	1,948	pers-h/y
Effective Stops	161,985	veh/y	194,382	pers/y
Travel Distance	886,114	veh-mi/y	1,063,337	pers-mi/y
Travel Time	20,338	veh-h/y	24,406	pers-h/y
Cost	421,948	$/y	421,948	$/y
Fuel Consumption	47,640	gal/y		
Carbon Dioxide	430,457	kg/y		
Hydrocarbons	44	kg/y		
Carbon Monoxide	786	kg/y		
NOx	1,173	kg/y		

Appendix V

Existing Accesses along SR 70


Lorraine Rd
SR 70
M.P. 9.476


SR 70
M.P. 9.617
Arbor Green Tr
N


Post Blvd
SR 70
M.P. 10.137
Greenbrook Blvd


Uihlein Rd
M.P. 10.780
SR 70


SR 70
Access Rd 1
M.P. 11.173
Access Rd 1
N


M.P. 11.718
SR 70
Del Webb Blvd


M.P. 12.000
SR 70
Access Rd 2


Access Rd 3
M.P. 12.363
SR 70
N


SR 70
197th St E
M.P. 13.218
Lindrick Ln


Access Rd 4
M.P. 13.537
SR 70


SR 70
M.P. 14.241
213th St E
N

Tree Umph Park
M.P. 14.603
SR 70
N

225th St E
M.P. 15.063
225th St E
SR 70
N


CR 675
M.P. 15.567
Meadow Dove Ln
SR 70

Appendix W

Queue Analysis Spreadsheets

SR 70 Design Traffic Technical Memorandum

Recommended Queue Length of Turn Lanes for Signalized Intersections- Design Year 2043

Turning Movement	Turning Volume (Veh/Hr)	G/C Ratio	Total Cycle Length (Sec)	Number of Turn Lanes	Per Lane Volume (VPHPL)	Percent Trucks	Adjust. Factor	Calc'd Queue Length (ft)	Rec'd Queue Length (ft)
AM Design Hour									
INTERSECTION	**SR 70 & Lorraine Road**								
EB Left	344	0.08	190	2	172	7.0%	1.25	279	300
EB Right	553	0.55	190	2	277	7.0%	1.25	220	**225**
WB Left	177	0.08	190	2	89	7.0%	1.25	144	**150**
WB Right	81	0.38	190	1	81	7.0%	1.25	89	100
SB Left	179	0.32	190	1	179	5.0%	1.25	211	225
NB Left	673	0.15	190	2	337	21.0%	1.25	571	**575**
INTERSECTION	**SR 70 & Greenbrook Blvd/Post Blvd**								
EB Left	42	0.60	95	1	42	7.0%	1.25	15	**100**
EB Right	78	0.60	95	1	78	7.0%	1.25	28	**100**
WB Left	85	0.60	95	1	85	7.0%	1.25	30	**100**
WB Right	16	0.60	95	1	16	7.0%	1.25	6	**100**
SB Left	38	0.31	95	1	38	55.0%	1.25	34	**100**
NB Left	155	0.31	95	1	155	0.0%	1.25	88	**225**
INTERSECTION	**SR 70 & Del Webb Blvd**								
EB Right	317	0.44	95	1	317	7.0%	1.25	157	175
WB Left	108	0.44	95	1	108	7.0%	1.25	53	**100**

Notes:

1. Queue Lengths are calculated based on the following formula: $L = (A)(DHV)(1-G/C)(T+1)(F) / (3600/C) / (N)$

where:

L = Queue length

DHV = design hour volume, in vph

G/C = ratio of green time to cycle length

T = percent of heavy vehicles

F = adjustment factor (1.25 to 2)

C = cycle length

N = # of lanes

A = Assumed 25 feet for automobile

2. Recommended Queue lengths are shown in yellow shade and bold letters.

3. A minimum Queue length of 100 feet is assumed as the recommended length for calculated lengths of less than 100 feet.

SR 70 Design Traffic Technical Memorandum

Recommended Queue Length of Turn Lanes for Signalized Intersections- Design Year 2043

Turning Movement	Turning Volume (Veh/Hr)	G/C Ratio	Total Cycle Length (Sec)	Number of Turn Lanes	Per Lane Volume (VPHPL)	Percent Trucks	Adjust. Factor	Calc'd Queue Length (ft)	Rec'd Queue Length (ft)
PM Design Hour									
INTERSECTION	**SR 70 & Lorraine Road**								
EB Left	491	0.17	200	2	246	7.0%	1.25	379	**400**
EB Right	669	0.68	200	2	335	7.0%	1.25	199	200
WB Left	101	0.04	200	2	51	7.0%	1.25	90	100
WB Right	97	0.34	200	1	97	7.0%	1.25	119	**125**
SB Left	166	0.20	200	1	166	10.0%	1.25	254	**275**
NB Left	661	0.37	200	2	331	1.0%	1.25	365	375
INTERSECTION	**SR 70 & Greenbrook Blvd/Post Blvd**								
EB Left	100	0.64	100	1	100	7.0%	1.25	33	**100**
EB Right	150	0.64	100	1	150	7.0%	1.25	50	**100**
WB Left	25	0.64	100	1	25	7.0%	1.25	8	**100**
WB Right	29	0.64	100	1	29	7.0%	1.25	10	**100**
SB Left	27	0.26	100	1	27	0.0%	1.25	17	**100**
NB Left	129	0.26	100	1	129	0.0%	1.25	83	100
INTERSECTION	**SR 70 & Del Webb Blvd**								
EB Right	485	0.54	95	1	485	7.0%	1.25	197	**200**
WB Left	90	0.54	95	1	90	7.0%	1.25	37	**100**

Notes:

1. Queue Lengths are calculated based on the following formula: $L = (A)\ (DHV)\ (1\text{-}G/C)\ (T+1)\ (F)\ /\ (3600/C)\ /\ (N)$

where:

L = Queue length

DHV = design hour volume, in vph

G/C = ratio of green time to cycle length

F = adjustment factor (1.25 to 2)

C = cycle length

N = # of lanes