## *DRAFT* PRELIMINARY ENGINEERING REPORT

Florida Department of Transportation

District One

## State Road 544 (Lucerne Park Road) from Martin Luther King Boulevard to State Road 17

## **Project Development & Environment Study**

Polk County, Florida

Financial Management Number: 440273-1-22-01

ETDM Number: 5873

January 2025

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by the Florida Department of Transportation (FDOT) pursuant to 23 U.S.C. §327 and a Memorandum of Understanding dated May 26, 2022, and executed by Federal Highway Administration and FDOT.

### CERTIFICATION

AGENCY: Florida Department of Transportation District One 801 North Broadway Avenue Bartow, Florida 33831-1249

I hereby certify that I am a registered professional engineer in the State of Florida and that I have supervised the preparation of, and approved the analysis, findings, opinions, conclusions and technical advice hereby reported for:

REPORT:	SR 544/Old Lucerne Park Road (West End) Intersection Control Evaluation (ICE) - Stage 1
PROJECT:	SR 544 Project Development and Environment (PD&E) Study
LOCATION:	SR 544 from Martin Luther King Boulevard to SR 17 Polk County, Florida
ROADWAY ID:	16140000

MILEPOST No: 5.749

FPID No.: 440273-1-22-01

I acknowledge that the procedures and references used to develop the information contained in this memorandum are standard to the professional practice of transportation engineering as applied through professional judgement and experience.

Engineer in Responsible Charge:	Anastasiya A. Senyushkina	A A SENVILLA	
Professional Registration No.:	82191	No. 82191	Anastasiya A Senyushkina 2023.01.17 14:47:21-05'00'
Date:	1/17/2023	THE STATE OF CONTRACT	14.47.21-03.00

## MEMORANDUM



# AIM Engineering & Surveying, Inc.

Tampa Office 201 E. Kennedy Boulevard, Suite 1800 Tampa, Florida 33602 813-627-4144 www.aimengr.com

Date:	January 17, 2023
То:	David C. Turley, P.E. – FDOT District One DEMO Project Manager Abra Horne – FDOT District One Planning and Environmental Administrator
From:	Greg Root/Anastasiya Senyushkina, P.E.
Subject:	SR 544/Old Lucerne Park Road (west end) Intersection (Polk County) — Stage 1+ Intersection Control Evaluation

## INTRODUCTION/PROJECT BACKGROUND

This memorandum documents the Intersection Control Evaluation (ICE) conducted for the Old Lucerne Park Road (west end) intersection. This analysis was conducted in support of the SR 544 Project Development & Environment (PD&E) Study from Martin Luther King Boulevard to SR 17 in Polk County. The length of this study corridor is approximately 8.1 miles. SR 544 is a two-lane undivided roadway with 12-foot travel lanes both west and east of Old Lucerne Park Road. There is a five-foot paved shoulder and a four-foot sidewalk on the south side of SR 544 both west and east of Lake Smart Estates Drive. There is also a five-foot paved shoulder on the north side of SR 544 west of Old Lucerne Park Road. There is no sidewalk on the north side of this roadway. The proposed SR 544 typical section in this area is a four-lane divided roadway that consists of two 11-foot inside travel lanes, two 12-foot outside travel lanes, a 22-foot raised median, and 10-foot shared use paths on both sides of the road. The design speed and target speed is 45 mph.

This memorandum documents the Stage 1 CAP-X and SPICE analyses, as well as the more detailed traffic operations analyses conducted using the SIDRA software. The opening year (2025) and design year (2045) Average Annual Daily Traffic (AADT) volumes documented in the FDOT approved Project Traffic Analysis Report (PTAR) are provided in **Appendix A** along with the 2045 a.m. and p.m. peak hour volumes documented in this same report.

### **EXISTING INTERSECTION CHARACTERISTICS**

This intersection is a four-legged unsignalized intersection. The western end of Old Lucerne Park Road is the north leg of this intersection and Lake Smart Estates Drive is the southern leg. The south leg provides the only access to the Lake Smart Estates residential community. There are 126 single family dwelling units in this community. Residential development exists in both the southeast and southwest quadrants of the intersection. There are six driveways on the west side of Old Lucerne Park Road within approximately 440 feet of the intersection that provide access to single family homes. There is also one single family home in the northeast quadrant of the intersection that has access on Old Lucerne Park Road. The north and south legs of this intersection are controlled by stop signs. There are also four cross streets on the south side of SR 544 located within 1,000 feet of this intersection. All four of these

cross streets are west of this intersection and provide access to a small mobile home park (i.e., Lucerne Lakeside). An aerial image depicting the Old Lucerne Park Road intersection and the adjacent Lucerne Lakeside residential area is provided in **Figure 1**, which is included in **Appendix A**. The posted speed limit on SR 544 in the vicinity of the intersection is 55 miles per hour (mph) and this changes from 55 mph to 45 mph between Old Lucerne Park Road and Avenue Y. The posted speed limit on Old Lucerne Park Road is 40 mph.

Crash data was provided by District One for the years 2014 through 2019. The data sources were the FDOT's Crash Analysis Reporting System (CARS) and Signal Four Analytics. The crash data is included in **Appendix A**. This intersection has experienced 32 crashes over this six-year period, resulting in 25 injuries and no fatalities. The most prevalent crash types are left-turn/angle crashes (17) and rear-end crashes (14). There were no crashes involving bicyclists or pedestrians.

## INTERSECTION CONTROL EVALUATION

The PD&E study goals are to determine the location and conceptual design of the improvement(s) that satisfy the purpose and need for the project, while also minimizing the impacts to the natural and social environment and satisfying the requirements of the National Environmental Policy Act (NEPA). District One conducted a traffic signal warrant analysis for this intersection in April 2018 and the results of this study indicated that a traffic signal was not warranted. In addition, low average vehicle delays were also observed. These delays ranged from 15 seconds (in the morning) to 24 seconds (in the afternoon) for the northbound left-turn/through lane and from 12 seconds (in the morning) to 10 seconds (in the afternoon) for the southbound approach. This signal warrant analysis is provided in **Appendix B**.

The following alternative intersection control strategies were initially analyzed for this intersection:

- Two-way stop control
- All-way stop control
- Unsignalized Restricted Crossing U-Turn (RCUT)
- Unsignalized Thru-Cut
- Two-lane (SR 544) x one-lane (Old Lucerne Park Road) roundabout
- Two-lane x two-lane roundabout

The results of the 2045 CAP-X and SPICE analyses are summarized in **Table 1**. The CAP-X and SPICE analysis summary sheets for this intersection are provided in **Appendix C**. Based on the high v/c ratios estimated for the stop control intersections, as well as the unsignalized RCUT and Thru-Cut intersections, these alternatives were eliminated from any further consideration. Design year (2045) peak hour SIDRA analyses were conducted for a two-lane roundabout and the results are summarized in **Table 2**. All of the movements are projected to operate under capacity during both peak hours. In addition, the overall average vehicle delays are projected to be less than 15 seconds per vehicle during both peak hours. The design year SIDRA analysis summary sheets are provided in **Appendix D**.

An initial geometric improvement concept was developed for this alternative and is provided in **Appendix E**. This roundabout alternative requires additional right-of-way in three of the four intersection quadrants and results in at least one residential relocation. In addition, the raised splitter island on the north leg of the roundabout would require vehicles entering and exiting several other single family dwelling units to make u-turn movements through the roundabout.

	2045 V/	C Ratios	Life-Cyc	le Crashes	SSI So	cores
					Opening	Design
Intersection Type	AM Peak Hour	PM Peak Hour	Total	Fatal & Injury	Year	Year
Two-Way Stop Control	3.86	9.77	83	31	41	18
All-Way Stop Control	2.02	1.92	71	28	86	77
Unsignalized RCUT	4.25	1.25	n/a	n/a	58	35
Unsignalized Thru-Cut	10.13	97.60	n/a	n/a	63	39
Roundabout (2EW x 1NS)	1.16	0.78	180	34	89	82
Roundabout (2EW x 2NS)	1.10	0.78	180	34	89	82

Red font denotes a v/c ratio > 1.00

Lowest number of crashes of all alternatives analyzed

n/a = No Safety Performance Function (SPF) available

		AI	M Peak Hour			
Intersection	Existing Old	Lucerne Park R	d Alignment	Realigne	d Old Lucerne Pa	ark Road
Approach	Max V/C <sup>(1)</sup>	Avg. Delay	LOS	Max V/C <sup>(1)</sup>	Avg. Delay	LOS
Northbound	0.18	14.3	В	0.22	15.1	С
Southbound	0.69	38.6	E	0.68	36.7	E
Westbound	0.70	13.7	В	0.69	13.4	В
Eastbound	0.62	10.2	В	0.62	10.2	В
Overall	0.70	14.9	В	0.69	14.6	В
		PI	M Peak Hour			
Intersection	Existing Old	Lucerne Park R	d Alignment	Realigne	d Old Lucerne Pa	ark Road
Approach	Max V/C <sup>(1)</sup>	Avg. Delay	LOS	Max V/C <sup>(1)</sup>	Avg. Delay	LOS
Northbound	0.09	14.1	В	0.15	15.0	С
Southbound	0.21	12.9	В	0.22	13.2	В
Westbound	0.72	16.5	С	0.74	17.2	С
Eastbound	0.69	12.1	В	0.69	12.2	В
Overall	0.72	13.9	В	0.74	14.3	В

Highest volume-to-capacity ratio for the individual movements on this approach

Vista del Lago Drive is located approximately 1,325 feet to the east of Old Lucerne Park Road. The SR 544 access management plan that was previously approved by District One provides an unsignalized full median opening at this location. In an attempt to minimize the impacts to the residences in the immediate vicinity of the Old Lucerne Park Road intersection and provide an increased level of safety at the Vista del Lago Drive intersection, a second roundabout concept was developed.

This second concept includes a realignment of the southern end of Old Lucerne Park Road to "lineup" directly across from Vista del Lago Drive. In addition, a cul-de-sac is provided on Old Lucerne Park Road just south of the beginning of the realigned roadway. All property owners located between SR 544 and the cul-de-sac will need to travel on the existing southern end of Old Lucerne Park Road. This revised geometric improvement concept is also provided in Appendix E. No existing peak hour turning movement count data was available for the Vista del Lago Drive intersection, so the design year a.m. and p.m. peak hour volumes were estimated using the Institute of Transportation Engineers Trip

Generation Handbook (11<sup>th</sup> Edition). Vista del Lago Drive serves as the entrance/exit to the Villas at Lake Smart apartment community (a 220-unit apartment complex) and this roadway only connects to SR 544. The a.m. and p.m. peak hour trip generation estimates for this apartment complex are provided in **Appendix F**. The 2045 peak hour inbound and outbound trips estimated for the Villas at Lake Smart were distributed onto eastbound and westbound SR 544 based on a 50%/50% distribution since the AADT volumes on SR 544 east of Old Lucerne Park Road and west of Lucerne Loop Road were equal. Slight adjustments were made to the 2045 peak hour volumes previously estimated for the Old Lucerne Park Road intersection to account for the eastern realignment of this roadway.

Design year (2045) peak hour SIDRA analyses were conducted for this revised two-lane roundabout and the results are also summarized in **Table 2**. All of the movements are projected to operate under capacity during both peak hours. In addition, the overall average vehicle delays are projected to be less than 15 seconds per vehicle during both peak hours. The design year SIDRA analysis summary sheets for this revised concept are also provided in **Appendix D**.

## **RECOMMENDED INTERSECTION CONTROL STRATEGY**

The implementation of a two-lane roundabout is expected to help facilitate speed control in this area. Reduced vehicle speeds should provide additional safety benefits for the older driving population accessing SR 544 from the 55+ Lucerne Lakeside Mobile Home Park, as well as the westbound vehicles approaching the horizontal curve at Lake Rochelle Estates. The roundabout is also projected to have the lowest opening year and design year SSI scores of all the alternatives analyzed and is expected to result in very low design year peak hour vehicle delays. Consequently, the PD&E study is recommending a roundabout for the Old Lucerne Park Road (west end) intersection. The PD&E study is also recommending a realignment of the southern portion of this roadway to connect directly across from Vista del Lago Drive. This realignment will eliminate the need for any residential relocations.

## Appendix A

Existing Geometry, Existing/Future Year Traffic Volumes and Historic Crash Data

## Figure 1: Existing SR 544/Old Lucerne Park Road (West End) Intersection



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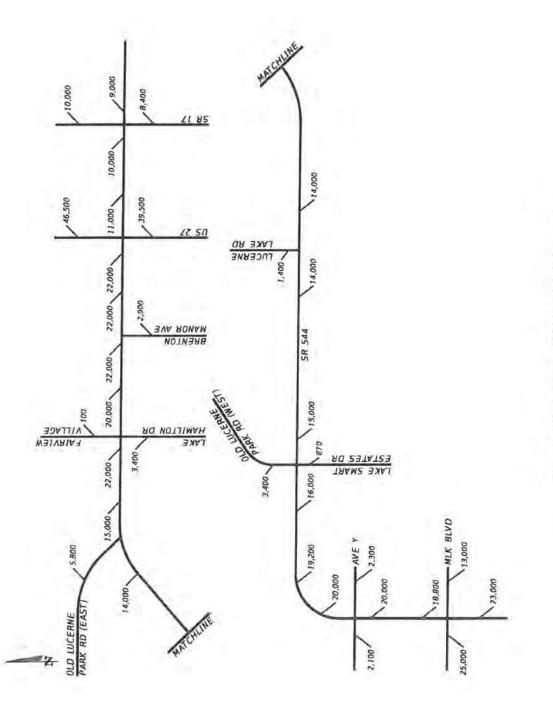


Figure 2-2: Existing (2019) AADT Volumes

Table 2-2: Twenty-Four Hour Volume Counts and Existing (2019) AADT Volumes (SR 544 Mainline)

Location	Date	Count	SF (1)	AF (2)	AADT (3)	Growth	2019 AADT (4)	2019 AADT 2019 AADT 2019 AADT (4) (5) (6)	2019 AADT (6)	Average	Final 2019 AADT
South of M. L. King Boulevard (2)	4/17/2018	21,686	0.96	0.95	19,778	1.0319	20,409	20,000	23,000	21,500	23,000 (8)
North of M. L. King Boulevard (7)	4/17/2018	17,212	0.96	0.95	15,697	1.0319	16,198	16,000	18,800	17,400	18,800 (9)
South of Avenue Y <sup>[7]</sup>	2/16/2016	19.748	0.96	0.97	18,389	1.0988	20,206	20,000	e/u		20.000
North of Avenue Y (2)	2/16/2016	19,936	96.0	0.97	18,564	1.0988	20,399	20,000	n/a		20,000
South of Lake Conine Drive									19.200		19 200
West of Old Lucerne Park Road (west end) (7)	1/9/2018	16,214	1.01	0.94	15,394	1.0577	16,282	16,000	e/u		16.000
East of Old Lucerrie Park Road (west end) (1)	1/9/2018	15,212	1.01	0.94	14,442	1.0543	15,226	15,000	n/a		15.000
West of Lucerne Lake Road	10/1/2019	14,506	1.03	0.94	14,045	1.0000	14,045	14,000	14,000	14,000	14.000
East of Lucerne Lake Road	10/1/2019	14,608	1.03	0.94	14,143	1.0000	14,143	14,000	n/a		14.000
West of Old Lucerne Park Road (east end) 121	1/9/2018	18,070	1.01	0.94	17,156	1.0706	18,367	18,000	14,000	16,000	14,000 (10)
East of Old Lucerne Park Road (east end) (7)	1/9/2018	14,682	1.01	0.94	13,939	1.0706	14,923	15,000	n/a		15,000
West of Lake Hamilton Drive/Fairview Village	10/1/2019	22,630	1.03	0.94	21,910	1.0000	21,910	22,000	n/a		22,000
East of Lake Hamilton Drive/Fairview Village	10/1/2019	20,472	1.03	0.94	19,821	1.0000	19,821	20,000	n/a		20,000
West of Brenton Manor Avenue	10/1/2019	23,035	1.03	0.94	22,302	1.0000	22,302	22,000	n/a		22,000
East of Brenton Manor Avenue	10/1/2019	23,127	1.03	0.94	22,392	1.0000	22,392	22,000	n/a		22,000
West of Hide-A-Way Lane (Hidden Cove Entr)			1						21,000		21.000
West of US 27	10/1/2019	22,701	1.03	0.94	21,979	1.0000	21,979	22,000	e/u		22,000
East of US 27	10/1/2019	10,954	1.03	0.94	10,606	1.0000	10,606	11,000	11,000	11,000	11,000
West of SR 17	10/1/2019	10,500	1.03	0.94	10,166	1,0000	10,166	10,000	n/a		10,000
East of SR 17	10/1/2019	9,534	1.03	0.94	9,231	1.0000	9,231	9,200	8,800	000'6	000'6

<sup>(2)</sup> AF = Axle Adjustment Factor

ADT = Count x SF x AF
 2019 ADT = Count x SF x AF
 2019 ADT (rounded)
 2019 ADT (rounded)
 2019 ADT founded)
 2019 ADT founded)
 2019 ADT count only at this location. The two-way volume website
 Approach count only at this location. The two-way volume was assumed to be equal to twice the approach volume.
 Approach count only at this location. The two-way volume was assumed to be equal to twice the approach volume.
 Approach count only at this location. The two-way volume has been greater than 21,000 vpd for the last five years.
 FDOT count station value was used because the AADT volume has been greater than 16,000 vpd for the last five years.
 FDOT count station value was used because the 2018 AADT volume at this permanent count station was equal to 13,600 vpd.

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Location	Date	Count	SF (1)	AF (2)	AADT (3)	Growth	2019 AADT (4)	2019 AADT <sup>(5)</sup>	and the second second	2019 AADT (8) August	Final 2019
M. L. King Boulevard West of SR 544 m	4/17/2018	26,560	0.96		24 223		24 995		1.0	afipianu	1
M. L. King Boulevard East of SR 544 (7)	4/17/2018	13 587	0.06	1.66	1000		000 01		000'02	ראחיני	000'02
	01071111	200'01	0.30	0.80	12,381	BLC0.1	12,182	13,000	13,500	13,250	13,000
Avenue Y West of SR 544 W	2/16/2016	1,960	0.96	1.00	1,882	1.0988	2,068	2.100	n/a		2 100
Avenue Y East of SR 544 (7)	2/16/2016	2,174	0.96	1.00	2,087	1.0988	2.293	2,300	n/a		0 300
Old Lucerne Park Road (west end) North of SR 544(7)	1/9/2018	3,206	1.01	0.98	3,173	1.0560	3,351	3.400	e/u		3 ADD
Lake Smart Estates Drive South of SR 544 <sup>(7)</sup>	1/9/2018	862	1.01	1.00	871	1.0000	871	870	n/a		870
Lucerne Lake Road North of SR 544	10/1/2019	1,730	1.03	0.81	1,443	1.0000	1.443	1400	elu		1 400
Old Lucerne Park Road (east end) North of SR 544 <sup>(7)</sup>	1/9/2018	5,454	1.01	0.98	5,398	1.0706	5,779	5.800	n/a		5 800
Fairview Village North of SR 544	10/1/2019	96	1.03	1.00	66	1.0000	66	100	n/a		100
Lake Hamilton Drive South of SR 544	10/1/2019	3.344	1.03	1.00	3.444	1.0000	3 444	3 400	ela		
Brenton Manor Avenue South of SR 544	10/1/2019	2,916	1.03	0.98	2.943	1.0000	2 943	UUb C	e/u		0000
US 27 North of SR 544	10/1/2019	45,009	1.04	0.94	44.001	1.0000	44.001	44 000	AG SOO	AE DEN	AE EUN (B)
US 27 South of SR 544	10/1/2019	34,554	1.04	0.94	33.780	1.0000	33.780	34 000	30 500	36 760	30 600 (9)
SR 17 North of SR 544	10/1/2019	10,764	1.03	0.95	10.533	1.0000	10.533	11 000	0 700	10 350	unn nt
SR 17 South of SR 544	10/1/2019	8.680	1.03	0.95	8 493	1 0000	8 402	0 600	0000	0000	000101

Table 2-3: Twenty-Four Hour Volume Counts and Existing (2019) AADT Volumes (SR 544 Cross Streets)

Note: Red fort denotes assumed values used for this study.

SF = Weekly Seasonal Adjustment Factor
 AF = Axle Adjustment Factor
 AF = Axle Adjustment Factor
 AF = AADT × Growth Factor
 2019 AADT (counded)
 2019 AADT (counded)
 2019 AADT obtained from the FDOT Florida Traffic Online website
 2019 AADT obtained from the FDOT Florida Traffic Online website
 2019 AADT obtained from the FDOT Florida Traffic Online website
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 2019 AADT obtained from the FDOT Florida Traffic Online website
 2019 AADT obtained from the FDOT Florida Traffic Online website
 2019 ADT count station value was used because the AADT volume has been greater than 34,000 vpd for for in the last four years.
 8 FDOT count station value was used because the AADT volume has been greater than 34,000 vpd for for in the last fore years.

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#### FLORIDA DEPARTMENT OF TRANSPORTATION TRANSPORTATION STATISTICS OFFICE 2019 HISTORICAL AADT REPORT

#### COUNTY: 16 - POLK

#### SITE: 0096 - SR 544 SOUTH OF CONINE DRIVE, WH

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
YEAR 2019 2018 2017 2016 2015 2014 2013 2012 2011	AADT 19200 C 18100 C 17000 C 15600 C 14400 S 14200 F 14200 S 15100 S	DIRECTION 1 N 9600 N 8500 N 7900 N 7700 N 7100 N 7100 N 7000 N 7000 N 7500	DIRECTION 2 S 9600 S 9100 S 8500 S 8100 S 7900 S 7300 S 7200 S 7200 S 7200 S 7200 S 7200	*K FACTOR 9.00 9.00 9.00 9.00 9.00 9.00 9.00 9.00 9.00	D FACTOR 56.00 54.50 53.30 55.70 55.60 55.90 55.80 55.70	T FACTOR 7.60 7.00 7.00 7.40 7.00 7.50 7.50 7.50 7.50 6.40
2011 2010 2009 2008 2007 2006 2005 2004	15100 F 15300 C 14400 C 15400 C 15900 C 15200 C 144000 C	N 7500 N 7600 N 7100 N 7700 N 7900 N 7600 N 7100	S 7600 S 7700 S 7300 S 7700 S 8000 S 7600 S 6900	9.55 9.36 9.78 9.66 9.62 9.30 9.50	56.07 56.35 55.29 55.30 55.83 54.80 55.70	6.40 6.40 7.70 7.40 8.10 3.80 3.80

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

#### FLORIDA DEPARTMENT OF TRANSPORTATION TRANSPORTATION STATISTICS OFFICE 2019 HISTORICAL AADT REPORT

COUNTY: 1	6 <del>-</del> POLK									
SITE: 000	9 <del>-</del> sr 544 e	OF	WINTER	HAVEN	BOU	LEVARD N O	F LK FA	NNIE		
YEAR	AADT	DIH	RECTION	1	DIR	ECTION 2	*K F	ACTOR	D FACTOR	T FACTOR
2019 2018 2017 2016 2015 2014 2013 2012 2011 2010 2009 2008 2007 2006 2005 2004	14000 C 13800 C 12500 C 12600 C 11500 C 10400 F 10400 F 11100 S 11100 F 11300 C 11300 C 13300 C 13300 C 13500 C		$\begin{array}{c} 7100\\ 7000\\ 6300\\ 5200\\ 5300\\ 5200\\ 5200\\ 5500\\ 5500\\ 5500\\ 5600\\ 5700\\ 6600\\ 5700\\ 6600\\ 5600\\ 6700\\ \end{array}$		 W W W W W W W W W W W W W W W W	$\begin{array}{c} 6900\\ 6800\\ 6200\\ 5900\\ 5300\\ 5200\\ 5200\\ 5600\\ 5600\\ 5600\\ 5600\\ 5600\\ 5600\\ 5600\\ 6700\\ 5900\\ 6800\\ \end{array}$		9.00 9.00 9.00 9.00 9.00 9.00 9.00 9.00	$\begin{array}{c} 56.00\\ 54.50\\ 53.30\\ 55.70\\ 55.90\\ 55.80\\ 55.80\\ 55.80\\ 55.29\\ 55.29\\ 55.29\\ 55.29\\ 55.83\\ 55.83\\ 55.83\\ 55.70\\ 55.83\\ 55.70\\ \end{array}$	8.60 8.60 9.90 9.10 8.40 9.70 9.70 8.20 8.20 8.20 8.20 9.70 9.10 11.90 3.60 3.60

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

		AM P	eak Hour (7:15 - 8:1	15)	PMP	eak Hour (4:45 -5:	45)
Intersection	Movement	Total Volume	Truck Volume	Truck %	Total Volume	Truck Volume	Truck %
	NB LT	269	7	2.6%	299	0	0.0%
	NB TH	275	11	4.0%	413	3	0.7%
	NB RT	119	1	0.8%	139	0	0.0%
	NB APPROACH	663	19	2.9%	851	3	0.4%
	SB LT	17	7	41.2%	23	0	0.0%
	SB TH	436	10	2.3%	353	3	0.8%
	SB RT	115	12	10.4%	180	15	8.3%
and a second second second	SB APPROACH	568	29	5.1%	556	18	3.2%
Martin Luther King Blvd	WBLT	134	5	3.7%	113	2	1.8%
	WB TH	462	10	2.2%	366	6	1.6%
	WB RT	14	2	14.3%	9	0	0.0%
	WB APPROACH	610	17	2.8%	488	8	1.6%
2	EB LT	208	12	5.8%	243	13	5.3%
	EB TH	330	7	2.1%	409	9	2.2%
	EB RT	419	6	1.4%	309	3	1.0%
And and a second se	EB APPROACH	957	25	2.6%	961	25	2.6%
	NB LT	12	0	0.0%	13	0	0.0%
	NB TH	447	39	8.7%	735	17	2.3%
	NB RT	23	1	4.3%	41	0	0.0%
	NB APPROACH	482	40	8.3%	789	17	2.2%
	SBLT	23	0	0.0%	18	0	0.0%
	SB TH	692	36	5.2%	423	24	5.7%
	SB RT	36	2	5.6%	18	0	0.0%
(1)	SB APPROACH	751	38	5.1%	459	24	5.2%
Avenue Y (1)	WBLT	17	0	0.0%	13	0	0.0%
100-00	WB TH	15	0	0.0%	17	0	0.0%
	WB RT	25	1	4.0%	34	1	2.9%
	WB APPROACH	57	1	1.8%	64	1	1.6%
	EBLT	19	2	10.5%	36	2	5.6%
	EB TH	10	1	10.0%	14	0	0.0%
	EBRT	8	0	0.0%	28	0	0.0%
	EB APPROACH	37	3	8.1%	78	2	2.6%
	NBLT	32	0	0.0%	N/A	N/A	N/A
	NB TH	0	0	0.0%	N/A	N/A	N/A
	NB RT	14	0	0.0%	N/A	N/A	N/A
	NB APPROACH	46	0	0.0%	N/A	N/A	N/A
	SBLT	3	0	0.0%	N/A	N/A	N/A
	SB TH	1	0	0.0%	N/A	N/A	N/A
	SB RT	149	4	2.7%	N/A	N/A	N/A
Old Lucerne Park Rd	SB APPROACH	153	4	2.6%	N/A	N/A	N/A
(West End)	WBLT	4	0	0.0%	N/A	N/A	N/A
,,	WB TH	576	30	5.2%	N/A	N/A	N/A
	WB RT	4	0	0.0%	N/A	N/A	N/A
	WB APPROACH	584	30	5.1%	N/A	N/A	N/A
	EBLT	51	4	7.8%	N/A	N/A	N/A
	EB TH	448	26	5.8%	N/A	N/A	N/A
	EBRT	14	0	0.0%	N/A	N/A	N/A
	EB APPROACH	513	30	5.8%	N/A	N/A	N/A

## Table 2-7: Existing (2019) A.M. and P.M. Peak Hour Truck Volumes and Percentages

A review of the existing a.m. and p.m. peak hour truck volumes indicates that, with one exception, the a.m. peak hour volumes are higher than the p.m. peak hour volumes. The ratio of the a.m. and p.m. peak hour truck volume was calculated for each location and then the overall average ratio for the study corridor was calculated. The average overall ratio was equal to 1.50. A revised estimate of the 2025 and 2045 a.m. peak hour truck volumes was obtained by multiplying the initial estimate of the 2025 and 2045 a.m. peak hour truck volumes by 1.50. The revised 2025 and 2045 a.m. peak hour truck volumes by 1.50. The revised 2025 and 2045 a.m. peak hour truck volumes and percentages are provided in **Table 3-10**. The final recommended 2045 and 2025 peak hour truck volumes and percentages are provided in **Table 3-11** and **Table 3-12**, respectively. Based on these assumptions, the following SR 544 mainline peak hour truck percentages (i.e., T<sub>PKHP</sub>-factors) are recommended for use in the SR 544 PD&E study:

### Opening Year (2025) - AM Peak Hour

- 5.6% from Martin Luther King Boulevard to US 27
- 9.6% from US 27 to SR 17

### Opening Year (2025) - PM Peak Hour

- 3.7% from Martin Luther King Boulevard to US 27
- 6.4% from US 27 to SR 17

### Design Year (2045) - AM Peak Hour

- 4.5% from Martin Luther King Boulevard to US 27
- 8.1 % from US 27 to SR 17

### Design Year (2045) - PM Peak Hour

- 3.0% from Martin Luther King Boulevard to US 27
- 5.4 % from US 27 to SR 17

Project Traffic Analysis Report FPID: 440273-1-22-01

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SR 544 from Martin Luther King Boulevard to SR 17 January 2021

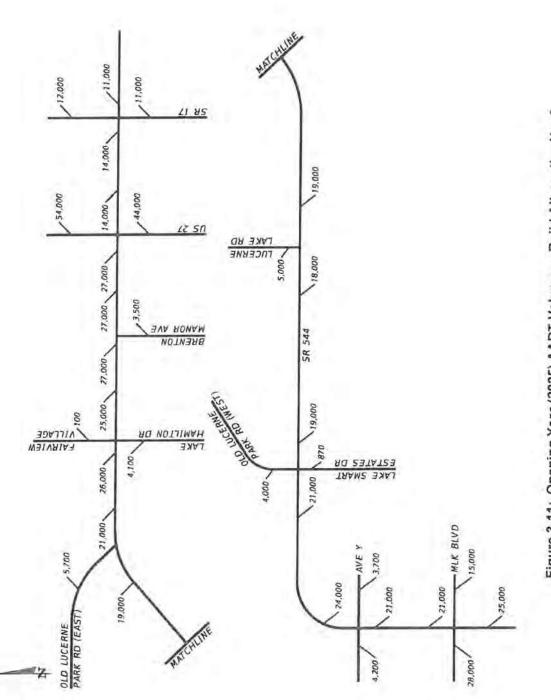


Figure 3-11: Opening Year (2025) AADT Volumes -Build Alternative No. 2

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SR 544 from Martin Luther King Boulevard to SR 17 January 2021

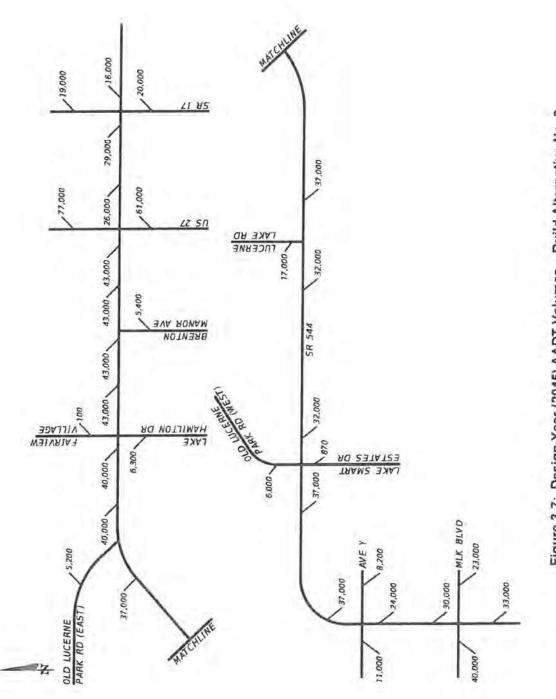
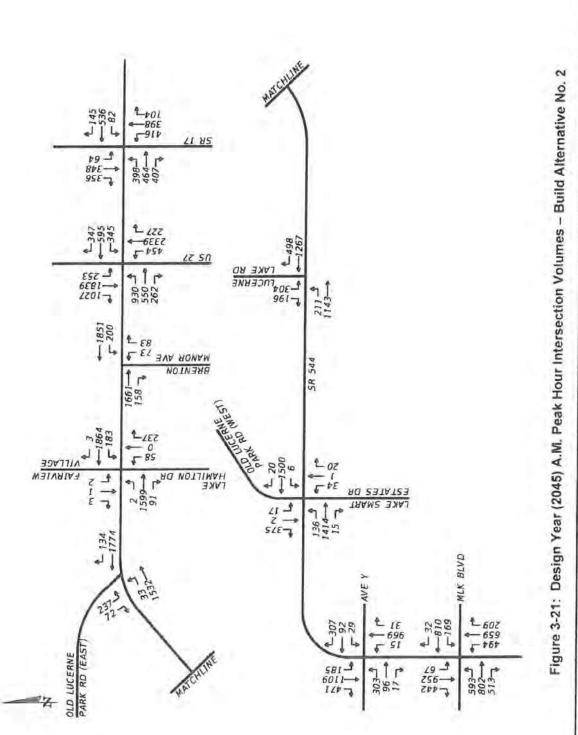


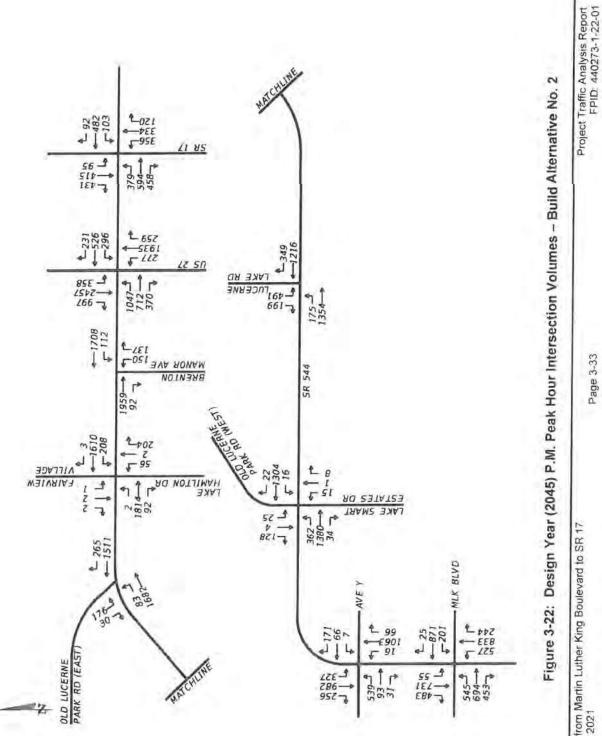
Figure 3-7: Design Year (2045) AADT Volumes - Build Alternative No. 2



SR 544 from Martin Luther King Boulevard to SR 17 January 2021

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Project Traffic Analysis Report FPID: 440273-1-22-01



SR 544 from Martin Luther King Boulevard to SR 17 January 2021

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			AN	И РЕАК НО	UR				
EB	i LT	EB	TH	EB	RT	E	B APPROAC	Н	
Vol.	Truck %	Vol.	Truck %	Vol.	Truck %	Vol.	Truck Vol.	Truck %	
136	0.03	1414	0.05	15	0.00	1565	74.78	4.8%	
WE	3 LT	WE	3 TH	WE	3 RT	W	/B APPROAG	CH	
Vol.	Truck %	Vol.	Truck %	Vol.	Truck %	Vol.	Truck Vol.	Truck %	
6	0.00	1500	0.05	20	0.03	1526	75.6	5.0%	
			PN	и реак но	UR				
EB	s LT	EB	TH	EB	RT	EB APPROACH			
Vol.	Truck %	Vol.	Truck %	Vol.	Truck %	Vol.	Truck Vol.	Truck %	
362	0.03	1380	0.03	34	0.00	1776	52.26	2.9%	
WE	3 LT	WE	3 TH	WE	3 RT	W	/B APPROAG	СН	
Vol.	Truck %	Vol.	Truck %	Vol.	Truck %	Vol.	Truck Vol.	Truck %	
16	0.00	1304	0.03	22	0.03	1342	39.78	3.0%	

### OLD LUCERNE PARK ROAD (WEST END) INTERSECTION DESIGN YEAR (2045) PEAK HOUR APPROACH TRUCK PERCENTAGES

HSMV Reg Agency Re Reporting Form Type Crash Date Crash	Tim City County	Crash Street	Intersecting Street	Offset Dis Offset Di	Crach Tun Vahi	clos Non M	otorict Estalit	ios Injurios	Alcohol	R/ Dictroc	tion Drug F	Relai Estimated
	PM Winter HavPolk		SR 544 LUCERNE PARK RD	0 nset_bis onset_bis	Rear End	2			1 N	_ne Distrac	N	\$200
• • •	AM Unincorpo Polk	SR544 (LUCERNE PARK RD)	OLD LUCERNE PARK RD(WEST)*	0	Left Turn	2	0		2 N	N	N	\$10,000
о , , ,	AM Winter HavPolk	SR 544	OLD LUCERNE PARK RD(WEST)*	50 East	Rear End	2	0		0 N	N	N	\$7,000
	PM Winter HavPolk	SR 544	OLD LUCERNE PARK RD(WEST)*	100 West	Rear End	2	0		ON	N	N	\$1,000
	AM Winter HavPolk		SR 544	0	Rear End	2	0		1 N	N	N	\$3,500
	PM Winter HavPolk	SR 544	OLD LUCERNE PARK RD(WEST)*	0	Rear End	2	0		0 N	N	N	\$3,500
	PM Winter HavPolk	OLD LUCERNE PARK RD(WEST)*	. ,	0	Rear End	2	0	-	0 N	v	N	\$3,000
• • •	PM Winter HavPolk	OLD LUCERNE PARK RD(WEST)*		0	Rear End	2	0		0 N	N	N	\$2,000
	PM Unincorpo Polk	OLD LUCERNE PARK ROAD(WEST)		0	Other	2	0	·	1 N	N	N	\$2,000
• • •	PM Winter HavPolk	SR 544	OLD LUCERNE PARK RD(WEST)*	0	Left Turn	2	0		2 N	N	N	\$20,000
<b>o</b> , ,	PM Winter HavPolk		LUCERNE PARK RD	0	Rear End	2	0		0 N	N	N	\$400
	PM Winter HavPolk	LUCERNE PARK RD	OLD LUCERNE PARK RD(WEST)*	92 West	Rear End	2	0		0 N	N	N	\$3,000
	AM Winter HavPolk	LUCERNE PARK RD	OLD LUCERNE PARK RD(WEST)*	0 J2 West	Other	2	0	-	ON	N	N	\$8,000
• • • •	PM Winter HavPolk	OLD LUCERNE PARK RD (WEST)*		21 North	Other	2	0	0	1 N	N	N	\$7,000
<b>o</b> , ,	AM Winter HavPolk	SR 544	OLD LUCERNE PARK RD(WEST)*	122 West	Left Turn	2	0		2 N	N	N	\$8,000
	AM Winter HavPolk		LUCERNE PARK RD	122 West	Left Turn	2	0		0 N	N	N	\$5,000
<b>o</b> , ,	AM Winter HavPolk	LUCERNE PARK RD	OLD LUCERNE PARK RD(WEST)*	0	Left Turn	2	0	-	0 N	N	N	\$10,000
	PM Winter HavPolk	OLD LUCERNE PARK RD (WEST)*		5 North	Rear End	2	0	-	ON	v	N	\$1,100
	AM Winter HavPolk		LUCERNE PARK RD	0	Left Turn	3	0	-	3 N	N	N	\$12,000
	AM Winter HavPolk		LUCERNE PARK RD	0	Rear End	2	0		0 N	N	N	\$2,000
	PM Winter HavPolk	LUCERNE PARK RD	OLD LUCERNE PARK RD(WEST)*	163 West	Left Turn	2	0	-	ON	IN N	N	\$2,000
	PM Winter HavPolk	OLD LUCERNE PARK RD (WEST)*		103 West	Angle	2	0		2 N	N	N	\$5,000
• · ·	AM Winter HavPolk		LUCERNE PARK RD	0	Other	2	0	-	0 N	N	N	\$7,000
	PM Winter HavPolk	LUCERNE PARK RD	OLD LUCERNE PARK RD (WEST)*	0	Left Turn	2	0		3 N	IN N	N	\$18,000
• • •	PM Winter HavPolk	OLD LUCERNE PARK RD (WEST)*		5 North	Rear End	2	0	-	0 N	N N	N	\$4,800
	AM Winter HavPolk	LUCERNE PARK RD (WEST)	LUCERNE PARK RD (WEST)*	75 North	Rear End	2	0	-	1 N	T N	N	\$1,000
• • •	PM Winter HavPolk		LUCERNE PARK RD (WEST)*	75 North	Left Turn	2	0		2 N	N	N	
о , , ,	PM Winter HavPolk	OLD LUCERNE PARK RD(WEST)	LUCERNE PARK RD (WEST)*	0		2	0		1 N	N	N	\$20,000 \$3,000
• • •				0	Angle	2	0			IN N		
0	PM Winter HavPolk AM Winter HavPolk	LUCERNE PARK RD LUCERNE PARK RD	OLD LUCERNE PARK RD (WEST)*	0	Left Turn Left Turn	2	0		1 N 2 N	N	N	\$11,000
	AM Winter HavPolk AM Winter HavPolk		OLD LUCERNE PARK RD (WEST)*	0		2	0		0 N	IN N	N	\$10,000
		LUCERNE PARK ROAD	OLD LUCERNE PARK ROAD (WEST		Left Turn	2	0			IN N	N	\$10,000
89339701 2019-0798 Winter HayLong 12/7/2019 6:52	PM Winter HavPolk	LUCERNE PARK RD	OLD LUCERNE PARK RD (WEST)*	0	Angle	2	U	0	0 N	N	N	\$2,000

Weather_	Light_Conc Street_Nu	I Crash_Type_D Crash_T	yp Crash_Sev(Within_C	it Manner_of_0	CFirst_Harmful_First_HE_Locat	ti First_HE_Rela1First_HE_	V Type_of_Inter Road_Sys	_Type_of_S	Road_Surf	Contrib_Ci Contrib_Ci Contrib_C	i Contrib_Ci Contrib_Ci Contrib_C	i School_Bu	Work_Zon
Clear	Daylight	Rear End S	Injury Y	Front to Rear	Motor Vehicle On Roadway	Intersection N	T-Intersection Local	Unpaved	Dry	None	None	N	N
Clear	Daylight	Left Entering E	Injury N	Angle	Motor Vehicle On Roadway	Intersection Y	T-Intersection State	Paved	Dry	None	None	N	N
Clear	Daylight	Rear End W	Property D Y	Front to Rear	Motor Vehicle On Roadway	Non-Junction N	T-Intersection State	Unpaved	Dry	None	None	N	N
Clear	Daylight	Rear End	Property D Y	Front to Rear	Motor Vehicle On Roadway	N	T-Intersection State	Unpaved	Dry			N	N
Clear	Daylight	Rear End W	Injury Y	Front to Rear	Other Non-Fix On Roadway	Non-Junction N	T-Intersection Local	Unpaved	Dry	None	None	N	N
Clear	Daylight	Rear End	Property D Y	Front to Rear	Motor Vehicle On Roadway	Y	T-Intersection State	Unpaved	Dry			N	N
Clear	Daylight	Rear End S	Property D Y	Front to Rear	Other Non-Fix On Roadway	Non-Junction N	T-Intersection Local	Unpaved	Dry	None	None	N	N
Clear	Daylight	Rear End E	Property D Y	Front to Rear	Motor Vehicle On Roadway	Non-Junction N	T-Intersection Local	Unpaved	Dry			N	N
Clear	Dark - Lighted	Single Vehicle	Injury N	Other	Motor Vehicle On Roadway	Intersection N	Y-Intersection County	Unpaved	Dry	None	None	N	N
Clear	Daylight	Left Entering E	Injury Y	Angle	Motor Vehicle On Roadway	Non-Junction Y	T-Intersection State	Paved	Dry	None	None	N	N
Clear	Daylight	Rear End S	Property D Y	Front to Rear	Motor Vehicle On Roadway	Intersection-R N	T-Intersection Local	Unpaved	Dry	None	None	N	N
Clear	Daylight	Rear End	Property D Y	Front to Rear	Motor Vehicle On Roadway	Non-Junction N	Not at Interse Local	Curb	Dry	None	None	N	N
Clear	Dark - Not Lighted	Other E	Property D Y	Angle	Motor Vehicle On Roadway	Intersection-R N	T-Intersection Local	Unpaved	Dry	Unknown	Unknown	N	N
Rain	Daylight	Other E	Injury Y	Angle	Other Non-Fix On Roadway	Intersection-R Y	Y-Intersection Local	Paved	Wet	None	None	N	N
Clear	Dark - Unknown Light	ti Left Entering E	Injury Y	Angle	Motor Vehicle On Roadway	Non-Junction N	Not at Interse State	Unpaved	Dry	None	None	N	N
Clear	Dawn	Left Entering S	Property D Y	Angle	Other Non-Fix On Roadway	Non-Junction N	T-Intersection Local	Unpaved	Dry	None	None	N	N
Clear	Daylight	Left Leaving	Property D Y	Angle	Motor Vehicle On Roadway	Non-Junction N	T-Intersection State	Paved	Dry	None	None	N	N
Clear	Daylight	Rear End	Property D Y	Angle	Motor Vehicle On Roadway	Non-Junction N	Not at Interse Local	Curb	Dry	None	None	N	N
Clear	Daylight	Left Leaving	Injury Y	Angle	Motor Vehicle On Roadway	Non-Junction Y	T-Intersection Local	Unpaved	Dry	None	None	N	N
Clear	Daylight	Rear End	Property D Y	Front to Rear	Motor Vehicle On Roadway	Non-Junction N	T-Intersection Local	Curb	Dry	None	None	N	N
Clear	Daylight	Left Rear	Property D Y	Angle	Motor Vehicle On Roadway	Non-Junction N	Other State	Paved	Dry	None	None	N	N
Clear	Dark - Not Lighted	Right Angle SW	Injury Y	Angle	Motor Vehicle On Roadway	Non-Junction N	T-Intersection Local	Unpaved	Dry	None	None	N	N
Clear	Daylight	Other S	Property D Y	Front to Rear	Motor Vehicle On Roadway	Non-Junction N	T-Intersection Local	Unpaved	Dry	None	Glare	N	N
Clear	Daylight	Left Leaving S	Injury Y	Angle	Motor Vehicle On Roadway	Non-Junction N	T-Intersection State	Unpaved	Dry	None	None	N	N
Clear	Daylight	Rear End S	Property D Y	Front to Rear	Motor Vehicle On Roadway	Non-Junction N	Not at Interse Local	Curb	Dry	None	None	N	N
Clear	Daylight	Rear End S	Injury Y	Front to Rear	Motor Vehicle On Roadway	Through Road N	Not at Interse Local	Paved	Dry	None	None	N	N
Clear	Daylight	Left Entering N	Injury Y	Angle	Motor Vehicle On Roadway	Non-Junction N	Other Local	Unpaved	Dry	None	None	N	N
Clear	Daylight	Right Angle SE	Injury Y	Angle	Motor Vehicle On Roadway	Non-Junction N	T-Intersection State	Unpaved	Dry	None	None	N	N
Rain	Daylight	Left Entering E	Injury Y	Angle	Motor Vehicle On Roadway	Intersection N	T-Intersection Local	Paved	Wet	None	Other	Y	N
Clear	Daylight	Left Entering S	Injury Y	Other	Motor Vehicle On Roadway	Non-Junction N	T-Intersection State	Paved	Dry	None	None	N	N
Clear	Daylight	Left Entering S	Property D Y	Angle	Motor Vehicle On Roadway	Non-Junction N	T-Intersection Local	Unpaved	Dry	None	None	N	N
Clear	Dark - Not Lighted	Right Angle SE	Property D Y	Angle	Motor Vehicle On Roadway	Non-Junction N	T-Intersection Interstate	Paved	Dry	None	None	N	N

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Appendix B

FDOT Traffic Signal Warrant Study



RICK SCOTT GOVERNOR

801 North Broadway Avenue Bartow, FL 33830 MIKE DEW SECRETARY

## **MEMORANDUM**

April 19, 2018
Nathan Kautz, P.E., Traffic Services Engineer III
Lorraine Edwards, Traffic Specialist IV
Tanya King, P.E., Traffic Services Engineer II
Signal Warrant Analysis for SR 544 at Old Lucerne Park Road/Lake Smart Estates Drive Roadway Section: 16140-000, M.P. 5.749

Upon receiving a request from a citizen, the Traffic Operations Office conducted a signal warrant analysis at the intersection of SR 544 and Old Lucerne Park Road/Lake Smart Estates Drive. Traffic count data and delay studies were conducted at this intersection on February 5, 2018 and February 8, 2018 respectively.

A signal warrant analysis was performed using the procedure outlined in the Manual on Uniform Traffic Control Devices (MUTCD). The 8-hour traffic volumes were analyzed (see attached) for all nine warrants. However, the analysis shows that the 105 volume threshold for Warrant 1A was not met. The eight-hour volumes ranged from 33 vehicles between 7 AM and 8 AM to 8 vehicles between 12 PM and 1 PM. Warrant 1B was also considered, which accounts for delay at the intersection. The department considers excessive delay to be greater than or equal to 60 seconds. The delay at this intersection ranged from 15 seconds in the morning to 24 seconds in the afternoon for the northbound left/through approach and from 12 seconds in the morning to 10 seconds in the afternoon for the southbound approach, therefore Warrant 1B is not met.

Crashes were also evaluated at this intersection for the past three years (2015-2018). The only crashes that are considered correctable by a signal are angle crashes. There has to be five angle crashes per year for a signal to be considered at this intersection. In the past three years, 3 angle crashes occurred at this intersection.

Based on the analysis, the SR 544 at Old Lucerne Park Road/Lake Smart Estates Drive does not meet warrants for a signal.

## Summary of Signal Warrant Analysis

	Warrant	Applicable	Satisfied	Comments
1A	Minimum Vehicular Volume	Yes	No	The side street traffic volumes do not meet the requirements of this warrant.
1 <b>B</b>	Interruption of Continuous Traffic	No	No	The side street traffic does not suffer excessive delay. Therefore, this Warrant is not applicable.
2	Four Hour Vehicular Volume	Yes	No	The side street traffic volumes meet the requirements of this warrant.
3	Peak Hour	No	No	This warrant is not applicable. It is intended to be <i>applied only in unusual cases, such as office complexes, manufacturing plants, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time.</i>
4	Pedestrian Volume	No	No	There were no observed pedestrians crossing SR 544 during the study period.
5	School Crossing	No	No	This warrant is not applicable.
6	Coordinated Signal System	No	No	This warrant is not applicable.
7	Crash Experience	Yes	No	Three correctable (angle) crashes were reported during the required 12-month period, which falls below the 5-crash minimum. Therefore, this warrant is not satisfied.
8	Roadway Network	No	No	This warrant is not applicable.
9	Grade Crossing	No	No	This warrant is not applicable.

None of the standard warrants for signalization are met.

TR		a Department of Tran	•		Form 750-020-( C ENGINEERING - 11/ <sup>-</sup>
City:Winter HeCounty:16 – PeDistrict:One	olk	Er	ngineer: Date:	LE April 17, 2018	
Major Street: Minor Street:Lake	SR 544 Smart Estates Dr		nes: <u>1</u> nes: <u>1</u>	Major Approach Spee Minor Approach Spee	
CONCLUSIONS Remarks: None of the warrants fo	or signalization are	met.			
WARRANTS SATISFIED:	Warrant 1 Warrant 2 Warrant 3 Warrant 4 Warrant 5 Warrant 6 Warrant 7 Warrant 8 Warrant 9	Not Applicable			

•								Eng	-		LE		
County: District:		1	6 – Poll One	k					Date:		April 17, 20	018	
				SD 544				1.00	001 1	Mai	or Approach	Speed	
Minor Street:			Lake S			r							
TCD Electro	TRAFFIC SIGNAL WA         Stret:       Winter Heaven ounty:       16 - Polk istrict:         Strett:       SR 544         Strett:       Lake Smart Estates Dr         Electronic Reference to Chapter 4:       http://mutcd.fhwa.dot.         evel Criteria       the posted speed or 85th-percentile of major street > 40 m the intersection in a built-up area of an isolated communit.         " volume level may be used if Question 1 or 2 above is an WAT 1 - EIGHT-HOUR VEHICULAR VOLUME Warrant 1 is satisfied if Condition A or Condition B Warrant 1 is also satisfied if both Condition A a         Warrant 1 is also satisfied if both Condition A a         Warrant 1 is also satisfied if both Condition A a         Warrant 1 is also satisfied if both Condition A a         Warrant 1 is also satisfied if both Condition A a         Warrant 1 is also satisfied if both Condition A a         Warrant 1 is also satisfied if both Condition A a         Warrant 1 is also satisfied if both Condition A a         Warrant 1 is also satisfied if both Condition A a         Major       100%a         Major       100%a         Major       100%a         Major       100%a         1       500         2 or more       2 or more         2 or more       2 or more         1       600         1						.dot.go	//pdfs/2009	)r1r2/part4	.pdf			
								·					
		ed or 85	th-perce	entile of r	naior st	reet > 4	40 mph	(70 km/h)?	>		⊡ Yes	□No	
-	-		-		-		-			000?	 □ Yes	 	
			-				-						
"70%" volun	ne level i	<b>may</b> be ι	used if C	Question	1 <b>or</b> 2 a	above i	s answ	ered "Yes"			☑ 70%	100%	
ARRANT 1	- EIGH	T-HOU	R VEH	IICULA	R VOL	UME							
	County:       16 - Polk       Date:       April 17, 2018         District:       One       Date:       April 17, 2018         ajor Street:       Isko Smart Estates Dr       Lanes:       1       Major Approach Speed:       55         ador       CD Electronic Reference to Chapter 4:       http://mutcd.fhwa.dot.aov/pdfs/2009r1/2/part4.ndf       Minor Approach Speed:       40         CD Electronic Reference to Chapter 4:       http://mutcd.fhwa.dot.aov/pdfs/2009r1/2/part4.ndf       Is the posted speed or 85th-percentile of major street > 40 mph (70 km/h)?       Ives No         21. Is the posted speed or 85th-percentile of major street > 40 mph (70 km/h)?       Ives No       No         70% 'volume level may be used if Question 1 or 2 above is answered "Yes"       I00%       100%         70% 'volume level may be used if Question 1 or 2 above is answered "Yes"       I00%       Satisfied.       Yes       No         RRANT 1 - EIGHT-HOUR VEHICULAR VOLUME       Warrant 1 is satisfied if both Condition A and Condition B are "80%" satisfied.       Yes       No         Condition A is intended for application at locations where a large volume of theresecting traffic is the principal reason to consider installing a traffic control a0%. Satisfied:       Yes       No       N/A         Number of Lanes for moving traffic is 0 both approach       Yes       No       N/A        1       500       400												
	Wai	rant 1 is	also sa	tisfied if l	both Co	ndition	A and	Condition E	3 are "80%	" satisfied	I. 🗌 Yes	⊡ No	
	A A.I!			Val									
Condition A	A - Minir	num Ver	nicular	Volume					1000				
			•				0						
-	traffic is	the princ	cipal rea	ison to co	onsider	installi	ng a tra	ffic control	80%	6 Satisfied	d: 🗌 Yes	🗹 No	
sianal													
signal.									70%	6 Satisfied	d: 🗌 Yes	🗹 No	[
signal.									70%	6 Satisfied	d: □Yes	⊡ No	1
	l anes :	for movi	ng V		-		-	Vehicles			7	⊡ No	[
Number of			ng	stree	t (total	of bot	-		per hour	on minor	7	⊡ No	1
Number of traffic or		pproach	ng 1	stree ar	t (total oproach	of bot nes)	h	street (c	per hour one direct	on minor ion only)	7	⊡ No	1
Number of traffic or Major		pproach Minor	ng 1	stree <sup>°</sup> ar 100% <sup>a</sup>	t (total oproach 80%	of bot nes)	h 70% <sup>c</sup>	street (c 100% <sup>a</sup>	per hour one direct 80% <sup>b</sup>	on minor ion only) 70% <sup>c</sup>	7	. No	I
Number of traffic or Major 1 2 or more	e each a	ipproach Minor 1	ng 1	stree ap 100% <sup>a</sup> 500 600	t (total proact 80% 400 480	of both nes)	<b>70%<sup>c</sup></b> 350 420	<b>street (c</b> <b>100%</b> <sup>a</sup> 150 150	per hour one direct 80% <sup>b</sup> 120 120	on minor ion only) 70% <sup>c</sup> 105 105	7	√ No	I
Number of traffic or Major 1 2 or more	e 2	Minor 1 1 2 or more		stree ap 100% <sup>a</sup> 500 600 600	t (total proach 80% 400 480 480	of bot nes)	<b>70%<sup>c</sup></b> 350 420 420	<b>street (c</b> <b>100%</b> <sup>a</sup> 150 150 200	<b>per hour</b> <b>80%</b> <sup>b</sup> 120 120 160	on minor ion only) 70% <sup>c</sup> 105 105 140	7	√ No	I
Number of traffic or Major 1 2 or more 2 or more 1	e 2	Minor 1 1 2 or more 2 or more		stree ap 100% <sup>a</sup> 500 600 600	t (total proach 80% 400 480 480	of bot nes)	<b>70%<sup>c</sup></b> 350 420 420	<b>street (c</b> <b>100%</b> <sup>a</sup> 150 150 200	<b>per hour</b> <b>80%</b> <sup>b</sup> 120 120 160	on minor ion only) 70% <sup>c</sup> 105 105 140	7	√ No	I
Number of traffic or Major 1 2 or more 2 or more 1 ° Basic Minim	e 2 num hourly	Minor 1 1 2 or more 2 or more y volume	ng 1	stree ap 100% <sup>a</sup> 500 600 600 500	t (total pproach 80% 400 480 480 480	of both nes)	<b>70%<sup>c</sup></b> 350 420 420 350	street (c 100% <sup>a</sup> 150 150 200 200	per hour one direct 80% <sup>b</sup> 120 120 160 160	on minor ion only) 70% <sup>c</sup> 105 105 140	7		1
Number of traffic or Major 1 2 or more 2 or more 1 <sup>a</sup> Basic Minim <sup>b</sup> Used for cor	e 2 ium hourly mbination	Minor 1 2 or more 2 or more y volume of Condit	ng 1 	stree ap 500 600 500 500	t (total pproach pproach 80% 400 480 480 480 480 480 480 480 480 480	of both nes)	<b>70%<sup>c</sup></b> 350 420 350 350	street (c 100% <sup>a</sup> 150 150 200 200 emedial mea	<b>per hour</b> <b>80%</b> <sup>b</sup> 120 120 160 160	on minor ion only) 70% <sup>c</sup> 105 105 140 140			
Number of traffic or Major 1 2 or more 2 or more 1 <sup>a</sup> Basic Minim <sup>b</sup> Used for cor	e 2 ium hourly mbination	Minor 1 2 or more 2 or more y volume of Condit	ng 1 	stree ap 500 600 500 500	t (total pproach pproach 80% 400 480 480 480 480 480 480 480 480 480	of both nes)	<b>70%<sup>c</sup></b> 350 420 350 350	street (c 100% <sup>a</sup> 150 150 200 200 emedial mea	<b>per hour</b> <b>80%</b> <sup>b</sup> 120 120 160 160	on minor ion only) 70% <sup>c</sup> 105 105 140 140			
Number of traffic or Major 1 2 or more 2 or more 1 <sup>a</sup> Basic Minim <sup>b</sup> Used for cor <sup>c</sup> May be used	e e 2 e 2 num hourly mbination d when th	Minor 1 2 or more 2 or more y volume of Condit e major-sl	ng n 	<b>stree</b> ap 100% <sup>a</sup> 500 600 500 500 md B after ed exceed	t (total pproach 80% 400 480 480 480 480 480 480 480 480 480	of both nes)	n 70% <sup>c</sup> 350 420 350 f other r an isola	street (c 100% <sup>a</sup> 150 200 200 emedial mea aed commun	per hour one direct 80% <sup>b</sup> 120 120 160 160 asures ity with a po	on minor ion only) 70% <sup>c</sup> 105 105 140 140 140	less than 10		
Number of traffic or Major 1 2 or more 2 or more 1 <sup>a</sup> Basic Minim <sup>b</sup> Used for cor <sup>c</sup> May be used	e e 2 e 2 num hourly mbination d when th	Minor 1 2 or more 2 or more y volume of Condit e major-sl	ng n 	stree ap 100% <sup>a</sup> 500 600 500 500 nd B after ed exceed	t (total pproach 80% 400 480 480 480 480 480 480 480 480 480	of both nes)	n 70% <sup>c</sup> 350 420 350 f other r an isola	street (c 100% <sup>a</sup> 150 200 200 emedial mea aed commun	per hour one direct 80% <sup>b</sup> 120 120 160 160 asures ity with a po	on minor ion only) 70% <sup>c</sup> 105 105 140 140 140	less than 10		1
Number of traffic or Major 1 2 or more 2 or more 1 <sup>a</sup> Basic Minim <sup>b</sup> Used for cor <sup>c</sup> May be used	e e 2 e 2 num hourly mbination d when th	Minor 1 2 or more 2 or more y volume of Condit e major-sl	ng n 	stree ap 100% <sup>a</sup> 500 600 500 500 nd B after ed exceed	t (total pproach 80% 400 480 480 480 480 480 480 480 480 480	of both nes)	n 70% <sup>c</sup> 350 420 350 f other r an isola	street (c 100% <sup>a</sup> 150 200 200 emedial mea aed commun	per hour one direct 80% <sup>b</sup> 120 120 160 160 asures ity with a po	on minor ion only) 70% <sup>c</sup> 105 105 140 140 140	less than 10		
Number of traffic or Major 1 2 or more 2 or more 1 <sup>a</sup> Basic Minim <sup>b</sup> Used for cor <sup>c</sup> May be used <i>Record 8 high</i>	e 2 e 2 num hourty mbination d when th	Minor 1 2 or more 2 or more y volume of Condit e major-st s and the	ng n 	stree ap 100% <sup>a</sup> 500 600 500 500 nd B after ed exceed onding map nt Highes	t (total pproach 80% 400 480 480 480 480 480 400 adequal ds 40 mp jor-street st Hour	of both nes)	n 70% <sup>c</sup> 350 420 420 350 f other r an isola <i>inor-stre</i>	street (c           100% <sup>a</sup> 150           200           200           200           200           emedial mea           ted commun           et volumes i	per hour one direct 80% <sup>b</sup> 120 120 160 160 asures ity with a po	on minor ion only) 70% <sup>c</sup> 105 105 140 140 140	less than 10		
Number of traffic or Major 1 2 or more 2 or more 1 <sup>a</sup> Basic Minim <sup>b</sup> Used for cor <sup>c</sup> May be used <i>Record 8 high</i>	e 2 e 2 num hourty mbination d when th	Minor 1 2 or more 2 or more y volume of Condit e major-st s and the	ng n 	stree ap 100% <sup>a</sup> 500 600 500 500 nd B after ed exceed onding map nt Highes	t (total pproach 80% 400 480 480 480 480 480 400 adequal ds 40 mp jor-street st Hour	of both nes)	n 70% <sup>c</sup> 350 420 420 350 f other r an isola <i>inor-stre</i>	street (c           100% <sup>a</sup> 150           200           200           200           200           emedial mea           ted commun           et volumes i	per hour one direct 80% <sup>b</sup> 120 120 160 160 asures ity with a po	on minor ion only) 70% <sup>c</sup> 105 105 140 140 140	less than 10		
Number of traffic or Major 1 2 or more 2 or more 1 <sup>a</sup> Basic Minim <sup>b</sup> Used for cor <sup>c</sup> May be used <i>Record 8 high</i>	e 2 e 2 num hourty mbination d when th	Minor 1 2 or more 2 or more y volume of Condit e major-st s and the	ng n 	stree ap 100% <sup>a</sup> 500 600 500 500 nd B after ed exceed onding map nt Highes	t (total pproach 80% 400 480 480 480 480 480 400 adequal ds 40 mp jor-street st Hour	of both nes)	n 70% <sup>c</sup> 350 420 420 350 f other r an isola <i>inor-stre</i>	street (c           100% <sup>a</sup> 150           200           200           200           200           emedial mea           ted commun           et volumes i	per hour one direct 80% <sup>b</sup> 120 120 160 160 asures ity with a po	on minor ion only) 70% <sup>c</sup> 105 105 140 140 140	less than 10		
Number of traffic or Major 1 2 or more 2 or more 1 <sup>a</sup> Basic Minim <sup>b</sup> Used for cor <sup>c</sup> May be used <i>Record 8 high</i> Street	e 2 e 2 num hourly nbination d when th hest hours	Minor 1 1 2 or more y volume of Condit e major-st s and the	ions A au treet spe correspo Eigh	stree ap 100% <sup>a</sup> 500 600 500 500 nd B after ed exceed anding ma t Higher	t (total pproach 80% 400 480 480 480 480 480 480 480	of both nes)	n 70% <sup>c</sup> 350 420 350 of other r an isola <i>inor-stree</i>	street (c 100% <sup>a</sup> 150 200 200 200 emedial mea ted commun et volumes i 1,136	per hour one direct 80% <sup>b</sup> 120 120 160 160 asures ity with a po	on minor ion only) 70% <sup>c</sup> 105 105 140 140 140	less than 10		
Number of traffic or Major 1 2 or more 2 or more 1 <sup>a</sup> Basic Minim <sup>b</sup> Used for cor <sup>c</sup> May be used <i>Record 8 high</i> Street	e 2 e 2 num hourly nbination d when th hest hours	Minor 1 1 2 or more y volume of Condit e major-st s and the	ions A au treet spe correspo Eigh	stree ap 100% <sup>a</sup> 500 600 500 500 nd B after ed exceed anding ma t Higher	t (total pproach 80% 400 480 480 480 480 480 480 480	of both nes)	n 70% <sup>c</sup> 350 420 350 of other r an isola <i>inor-stree</i>	street (c 100% <sup>a</sup> 150 200 200 200 emedial mea ted commun et volumes i 1,136	per hour one direct 80% <sup>b</sup> 120 120 160 160 asures ity with a po	on minor ion only) 70% <sup>c</sup> 105 105 140 140 140	less than 10		

# State of Florida Department of Transportation TRAFFIC SIGNAL WARRANT SUMMARY

#### Condition B - Interruption of Continuous Traffic

Condition B is intended for application where Condition A is not satisfied and the traffic volume on a major street is so heavy that traffic on the minor intersecting street suffers excessive delay or conflict in entering or crossing the major street.

Applicable:	□Yes	🗹 No	
100% Satisfied:	Yes	🗹 No	
80% Satisfied:	Yes	√No	
70% Satisfied:	Yes	No	

	nes for moving ch approach		per hour o t (total of b proaches	ooth	Vehicles per hour on minor- street (one direction only)				
Major	Minor	100% <sup>a</sup>	80% <sup>b</sup>	70%°	100% <sup>a</sup>	80% <sup>b</sup>	70% <sup>°</sup>		
1	1	750	600	525	75	60	53		
2 or more	1	900	720	630	75	60	53		
2 or more	2 or more	900	720	630	100	80	70		
1	2 or more	750	600	525	100	80	70		

<sup>a</sup> Basic Minimum hourly volume

<sup>b</sup> Used for combination of Conditions A and B after adequate trial of other remedial measures

<sup>c</sup> May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Record 8 highest hours and the corresponding major-street and minor-street volumes in the Instructions Sheet.

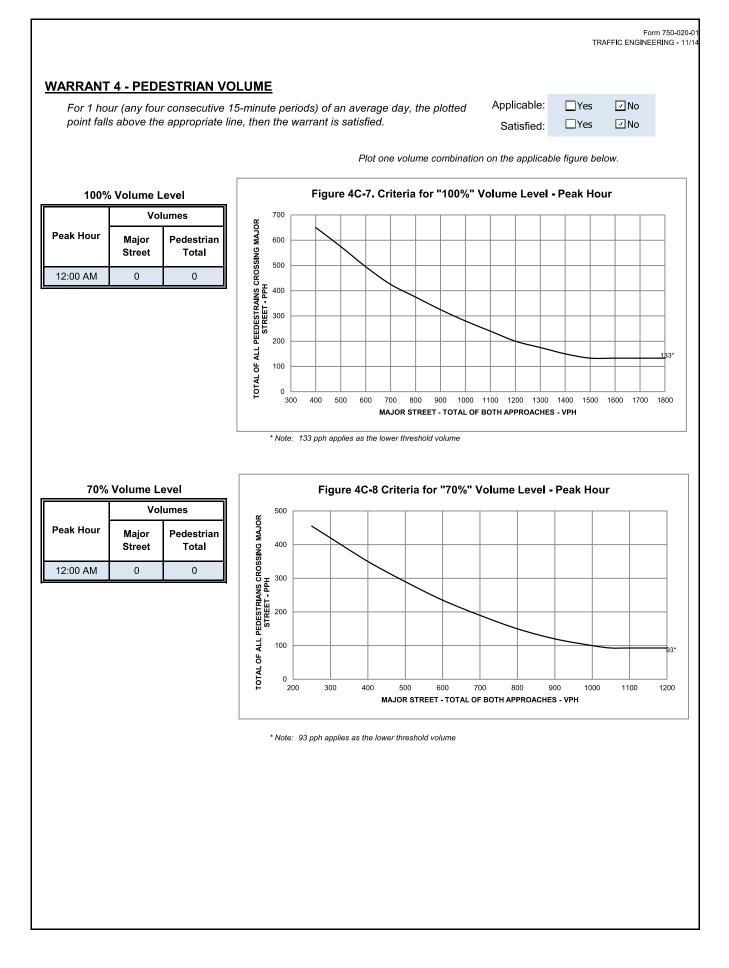
		Eiç	ght High	est Hou	rs			
Street	7-8	8-9	10-11	11-12	13-14	14-15	15-16	16-17
Major	1,057	942	871	893	918	946	1,034	1,136
Minor	33	18	7	9	10	8	13	20

**Existing Volumes** 

	ity:	Winter H					E	Engine				LE		
Cour Distr		16 – P One						Da	ate:		A	oril 17, 20	)18	
			SR 544	4					4		Major	Approach	Speed	
Major Stre Minor Stre		Lake	e Smart Es		r		-	anes: anes:	1 1	_		Approach Approach	-	
IUTCD Elect	ronic Refe	rence to Cha	nter 4:	http://m	utcd.fhw	a dot ac	– v/ndfs	/2009	r1r2/n	- art4 no	łf		-	
				<u></u>		uluoligi	<u>, mpulo</u>	12000			<u></u>			
olume Leve		eed or 85th-p	orcontilo of	major	troot > /	10 mnh	(70 km	v/h\2				🗹 Yes	No	
		n in a built-up		-					ion < 1	0 000	?	Ves	⊡ No	
						-				0,000				
"70%" vo	lume level	may be used	l if Questio	n 1 <b>or</b> 2	above i	s answe	red "Y	es"				🗹 Yes	🗌 No	
VARRANT	2 - FOUI	R-HOUR VI	EHICULA		UME									
						ront is a	otiofia	d		Applic	cable:	🗹 Yes	🗌 No	
n an ioui	points lie	above the ap	propriate il	ne, men	line war	rant is s	สแรกย	u.		Sati	sfied:	☐ Yes	🗹 No	
			1		Plot four	volume	combin	ations	on the		NO-SAN	re below.		
												ne Level		
100%	Volume Le			500							Volui	IIE Level		]
Four Highest		imes	HdA	400			20	OR MORE	LANES & 2		LANES			-
Hours	Major Street	Minor Street	ACH -	200		$\checkmark$	$\left  \times \right $							
7-8	1057	33	MINOR STREET MINOR STREET	300		$\langle \rangle$	$\searrow$				ELANES &	1 LANE		1
8-9	942	18		200					$\left[ \right]$	$\geq$	1 LANE &			
13-14	918	13		100 -					$\geq$					
14-15	946	20	위											*1'
				0 L 300	400	500 6						1200 1200	1300 14	400
			* Note: 1	15 vph app								h two or more	e lanes and	
			8	0 vph appli	es as the lo	ower thresh	old volun	ne thres	hold for a	minor s	treet appi	roach with on	e lane.	
					51		40-2.	Critor	ia for	"70%	" Volu	me Level		
70% \	/olume Le	vel										mph) on Majo		
Four		imes		<sup>400</sup> н										
Highest	Major	Minor		2 5 300		X	2 01		ANES & 2 (	DR MORE I		_		
Hours	Street	Street		PROA			$\searrow$	20	R MORE L	ANES & 1	LANE			
7-8	1057	33		HIGH VOLUME APPROACH - VPH			$\ltimes$	$\geq$	$ \downarrow $					ł
8-9	942	18		VOLU				$\uparrow$	$\neg$	_	1 LANE 8	1 LANE		ĺ
13-14	918	13		100 ·				+	$\rightarrow$			$\geq$		*8
14-15	946	20		_										*6
				0 L 20	0 30	00 4	00	500	600	7	00	800 9	900 10	000

	TRAFI		Department of T	ransportation	RY	Form TRAFFIC ENGINEER	n 750-0 RING -
City: County: District:	16 – Po			Engineer: Date:	April	LE 17, 2018	
Major Street: Minor Street:		SR 544 Smart Estates		Lanes: 1 Lanes: 1	Minor App	proach Speed: proach Speed:	55 40
Volume Level Critt 1. Is the poste 2. Is the inters "70%" volume	<b>eria</b> ed speed or 85th-pero section in a built-up a level <b>may</b> be used if	centile of major s rea of an isolate	street > 40 mph ( d community with	70 km/h)? n a population < 10,	,000?	✓ Yes No Yes ✓ No ✓ 70% 100%	
WARRANT 3 - F	eria are fulfilled <u>or</u> th ant is satisfied. justifying use of	e plotted point li		propriate line,	Satisfied:	Yes INO Yes INO	
Peak Hour 7 Time Maj 12:00 AM	riteria are fulfilled ig delay or volume rovided. 0% Volume or Vol. Minor Vol.	600 MINOR STREET HICH VOLUME APPROACH - VPH 100 0 400 - Vote: 150 vph ar	500 600 700 E MAJOR STR		CR MORE LANES	ILANE & 1 LANE	*150 *100
1. Delay on Min *(vehicle Approach Lanes Delay Criteria* Delay* Fulfilled?: 2. Volume on M One-Direction *(ve Approach Lanes Volume Criteria* Volume*	hor Approach hours) 1 2 4.0 5.0 1.5 Yes No inor Approach		FIGURE 4	Shold volume threshold for a	o%" Volume	Ach with one lane.	*100
3. Total Interse Volume *(vehic No. of Approaches Volume Criteria* Volume* Fulfilled?:	• 1	0	MAJOR STREE	00 700 800 ET - TOTAL OF BOTH APPRO shold volume for a minor strr hold volume threshold for a i	DACHES - VPH eet approach with tv	1100 1200 1300 vo or more lanes and	*75

Cit Count		Winter He 16 – Po						Engine	eer: ate:		۸n	LE ril 17, 20	10	
Distrie		One	лк					Da	ate.		Ар	111 17,20	10	_
Major Stree		Laka	SR 54 Smart E				_	Lanes:	1			Approach Speed: Approach Speed:		
Minor Stree								Lanes:	1	-	anor A	Approach	Speed:	4
JTCD Electr	onic Refe	rence to Chapt	er 4: <u>ht</u>	tp://mutc	d.thwa.d	ot.gov/p	odts/2	009r1r2	2/part4	.pdf				
lume Level														
		eed or 85th-per n in a built-up a		-				-	n < 10	0002		⊡Yes □Yes	□ No ☑ No	
						-		-		,000.				
"70%" voli	ume level	may be used if	Question	n 1 or 2 :	above is	answer	ed "Y	es"				☑ 70%	<b>☑</b> 100%	
ARRANT	4 - PEDE	ESTRIAN VO	LUME											
		ours of an aver		the plott	ed points	s lie abo	ove th	е		Applica	ble:	Yes	🗹 No	
appropriat	te line, the	en the warrant i	s satisfied	d.						Satist	fied:	Yes	No	
					DL.(									
100%	Volume L	.evel	[									gure belov	<i>N.</i>	
		umes			Fig	ure 4C-	5. Cri	iteria fo	or "100	)%" Vol	ume l	Level		
ur Highest Hours	Major	Pedestrian		00										
	Street	Total		00										_
7-8 8-9	1057	0	ROSSII	00										
13-14	942 918	0	AINS C											
14-15	946	0	DESTR DESTR	00										
		·	AL OF ALL PEEDESTRAINS CROSSING MAJOR 11 STREET - PPH 12 75 15	00							<u> </u>			<u>1</u> 0;
			OF AL	0										
			TOTAL	000	400 50					900 10 <b>OTH APPRO</b>		1100 120 • VPH	00 1300	140
				lata: 107 p	ph applies a									
			,	vole. 107 p	pri applies a	s the lowe	i unesn		,					
70% ۱	/olume L	evel			Fie	aure 40	-6 Cr	iteria fe	or "70°	%" Volu	ıme L	evel		
ur Highest		umes	40	00										_
Hours	Major Street	Pedestrian Total	ONISSO											
7-8	1057	0	NS CRC	00				_						
8-9	942	0	STRIAN SEET - I	00		$\rightarrow$	_							_
13-14	918	0	- ALL PEDESTRIANS CROSSING MAJOR STREET - PPH 11 12 12 12 12 12 12 12 12 12 12 12 12					+	$\square$					
14-15	946	0		00					$\neg$					
														[



State of Flor TRAFFIC SIGI	rida Department of <sup>-</sup>				TRAFFIC EN	Form 750-020 GINEERING - 1
City: Winter Heaven County: 16 – Polk		Engineer: Date:		LE April 17,	2018	
District: One Major Street: SR 544 Minor Street: Lake Smart Estates Du	r	Lanes: 1 Lanes: 1			ch Speed: ch Speed:	55 40
MUTCD Electronic Reference to Chapter 4: <u>http://mu</u>	itcd.fhwa.dot.gov/pd	lfs/2009r1r2/pa	art4.pdf			
WARRANT 5 - SCHOOL CROSSING Record hours where criteria are fulfilled and the co frequency in the boxes provided. The warrant is sa criteria are fulfilled.			Applicable: Satisfied:	Yes Yes	✓ No ✓ No	
Cri	iteria				Fulfi	lled?
There are a minimum of 20 students crossing the r 1. the highest crossing hour.		Students: 0	Ho	ur:	Yes	No X
There are fewer adequate gaps in the major street 2. when the children are using the established schoo minutes in the same period.		g the period	Minutes:	Gaps:		x
The nearest traffic signal along the major street is 3. signal is within 300 ft. (90 m) but the proposed traf traffic.						x

City: County: District:	Winter Heaven 16 – Polk One	Engineer: Date:	LE April 17, 2	018	
Major Street: Minor Street: //UTCD Electi	SR 544 Lake Smart Estates Dr onic Reference to Chapter 4: <u>http://mutcd.fhwa.dot.gov/p</u>	Lanes: 1 Lanes: 1 odfs/2009r1r2/	Major Approach Minor Approach part4.pdf		55 40
Indicate if if either cri	6 - COORDINATED SIGNAL SYSTEM he criteria are fulfilled in the boxes provided. The warrant rerion is fulfilled. This warrant should not be applied when gnal spacing would be less than 300 m (1,000 ft.).		Applicable: □Ye Satisfied: □Ye		
	Criteria			Fulfi	lled?
				Yes	No
	vay street or a street that has traffic predominately in one at they do not provide the necessary degree of vehicle pla		adjacent signals are sc		х
	ay street, adjacent signals do not provide the necessary of and adjacent signals will collectively provide a progressive		ooning, and the		х

District:       One         nor Street:       Image:	City:			Engineer:										
ijor Street: SR 544 Lanes: 1 Major Approach Speed: 55 hor Street: Lake Smart Estates Dr Lanes: 1 Major Approach Speed: 40 TCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf RRANT 7 - CRASH EXPERIENCE Record hours where criteria are fulfilled, the corresponding volume, and other information in the boxes provided. The warrant is satisfied if all three of the criteria are fulfilled. Criteria Move Satisfied Move Satisfied Move Satisfied Move Satisfied: Yes No Satisfied: Yes No Satisfied: Yes No Major Minor Yes No Warrant 1, Condition A (80% satisfied) A Satisfied Satisfied Satisfied Warrant 1, Condition B (80% satisfied) A Satisfied Satisfied Satisfied Warrant 1, Condition B (80% satisfied) A Satisfied Satisfi			_					Date:		Apr	il 17,∶	2018		
Interview Int	District.		_											
TCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf         RRCANT 7 - CRASH EXPERIENCE         Record hours where criteria are fulfilled, the corresponding volume, and other information in the boxes provided. The warrant is satisfied if all three of the criteria are fulfilled.       Applicable:       Yes       No         Satisfied:       Yes       No         Vector of fulfilled.         Warrant 1, Condition A (80% satisfied)       Hour       Volume       Met?       Fulfilled?         Warrant 1, Condition A (80% satisfied)       Auge       X       X         Warrant 1, Condition B (80% satisfied)       Auge       X       X         Warrant 1, Condition B (80% satisfied)       Auge       X       X         Warrant 4, Pedestrian Volume at 80% of volume requirements: # ped/hr for four (4) hours or # ped/hr for one (1) hour.       Measure tried:       No         Adequate trial of other remedial measure has failed to reduce crash frequency.       Measure tried:       Number of crashes of types susceptible to correction by signal, have occurred within a 12-       Chash Angle       Number of crashes of crashes of types susceptible to correction by signal, have occurred within a 12-       Chash Angle       Number of crashes of crashes of types susceptible to criteria       Manuple not crashes of crashes of types susceptible to crash	ajor Street:													
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Criteria       Hour       Volume       Met?       Fulfilled?         Major       Minor       Yes       No       Yes       No         One of the warrant 1, Condition A (80% satisfied)       Maior       X       X       X       X         Warrant 1, Condition B (80% satisfied)       Maior       X       X       X       X       X         Warrant 4, Pedestrian Volume at 80% of volume requirements: # ped/hr for four (4) hours or # ped/hr for one (1) hour.       Measure tried:       X       X       X       X         Adequate trial of other remedial measure has failed to reduce crash frequency.       Measure tried:       No       No       No       No         Five or more reported crashes, of types susceptible to correction by signal, have occurred within a 12-       Observed Crash       Angle       Number of crashes and a solution of crashes and a solution of the presence of the presence of trashes and a solution of the presence of th									Э					
Criteria       Hour       Major       Minor       Yes       No         One of the warrant 1, Condition A (80% satisfied)       Warrant 1, Condition B (80% satisfied)       X       X       X       X         Warrant 1, Condition B (80% satisfied)       Warrant 4, Pedestrian Volume at 80% of volume requirements: # ped/hr for four (4) hours or # ped/hr for one (1) hour.       K       X	are fulfille	d.								Satisfi	ed:	∐Yes	s <u>⊡</u> No	)
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Criteria       Hour       Major       Minor       Yes       No         One of the warrant 1, Condition A (80% satisfied)       Warrant 1, Condition B (80% satisfied)       X       X       X       X         Warrant 1, Condition B (80% satisfied)       Warrant 4, Pedestrian Volume at 80% of volume requirements: # ped/hr for four (4) hours or # ped/hr for one (1) hour.       K       X									Val			o+2	E.J.F.	642
One of the warrant 1, Condition B (80% satisfied)       X       X         warrants to the right is met.       Warrant 4, Pedestrian Volume at 80% of volume requirements: # ped/hr for four (4) hours or # ped/hr for one (1) hour.       X       X         Adequate trial of other remedial measure has failed to reduce crash frequency.       Measure tried:       No         Five or more reported crashes, of types susceptible to correction by signal, have occurred within a 12-       Observed Crash       Angle       Number of crashes of the remedial signal for the remedial signa		Criteria				Но	ur							No
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No         No         Warrant 4, Pedestrian Volume at 80% of volume requirements: # ped/hr for four (4) hours or # ped/hr for one (1) hour.         Adequate trial of other remedial measure has failed to reduce crash frequency.         Five or more reported crashes, of types susceptible to correction by signal, have occurred within a 12-         Observed Crash         Angle         Number of crashes per 12 months:         3	the warrants				<u> </u>							^		
right is met. volume requirements: # ped/hr for four (4) hours or # ped/hr for one (1) hour. x Adequate trial of other remedial measure has failed to reduce crash frequency. x Five or more reported crashes, of types susceptible to correction by signal, have occurred within a 12- Crash Angle Number of crashes per 12 months: 3 No	to the	Warrant 4, Pedestrian Volume at 80%	of											Х
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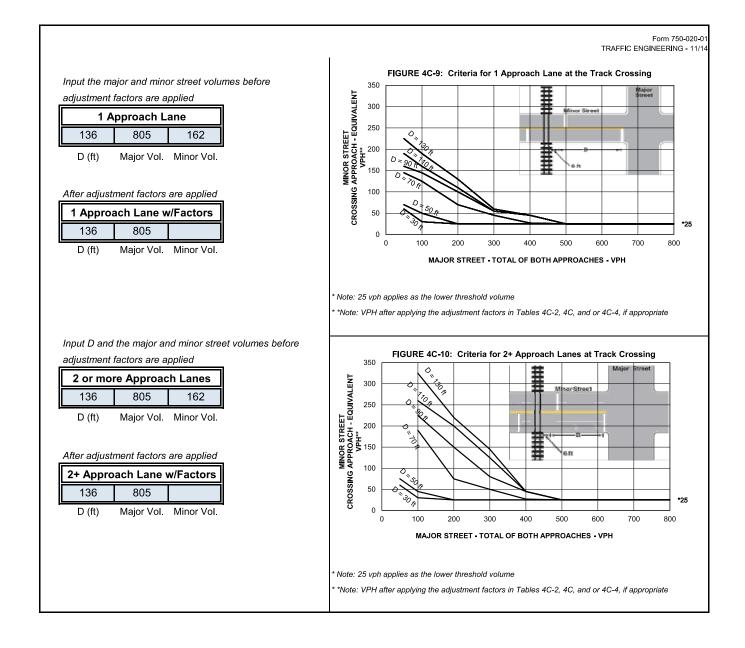
	TRAF	State of Florid FIC SIGN	•		•		RY		т	RAFFIC EN	Form 75 IGINEERIN
City: County: District:	Winter Heave 16 – Polk One	n			Engin D	eer: ate:			LE 17, 20 <sup>-</sup>	18	
Major Street: Minor Street: MUTCD Electr		SR 544 hart Estates D r 4: <u>http://m</u>		a.dot.gov/pdf	Lanes: Lanes: s/2009r	1 1 1r2/part4	Mir	ajor App nor App			55 40
Record hou	8 - ROADWAY NETW urs where criteria are fulfil in the boxes provided. T and if all intersecting route. tics listed.	led, and the co	satisfied if	f at least one	of the c	riteria		licable: itisfied:	□Y	ïes ☑	No
		Criteria						Me Yes	et? No	Fulfi Yes	No
Both of the	a. Total entering volume typical weekday peak		)00 veh/hr	<sup>-</sup> during a	Ente	ring Volı	ume:				Y
<ul> <li>criteria to the right</li> </ul>	b. Five-year projected vo	plumes that sa	atisfy one	Warrant:	1	2	3				Х
are met.	or more of Warrants 1	, 2, or 3.		Satisfied?:							
veh/hr for e	ing volume at least 1,000 each of any 5 hrs of a							← Ho	our		x
non-norma Sun.)	l business day (Sat. or							←Vol	ume		
	Charac	teristics of M	laior Rout	tes				Me	et?	Fulfi	led?
	onarao							Yes	No	Yes	No
	street or highway system • through traffic flow.	that serves as	s the princ	ipal roadway		Major Minor					
						Major					
2. Rural or su	burban highway outside o	f, entering, or	traversing	a city.		wajor	Street:				x

Major Street:

Minor Street:

3. Appears as a major route on an official plan.

City:	Winter Heaven		Engineer:		LE	
County:	16 – Polk		Date:	A	pril 17, 201	8
District:	One					
Major Street:	SR 544		Lanes:	1 Major	Approach S	Speed: 55
Minor Street:	Lake Smart Estates I	Dr	Lanes:	1 Minor	Approach S	Speed: 40
/UTCD Electronic	Reference to Chapter 4: <u>http://n</u>	nutcd.fhwa.d	dot.gov/pdfs/2009r1r2	/part4.pdf		
Approach Lane C		,	-			
-	approach lanes are there at the tra	•				2 or mo
If there is 1 lan	e. use Figure 4C-9 and if there are	e 2 or more.	use Figure 4C-10.		Fig 4C-9	€ Fig 4C-1
	INTERSECTION NEAR A GR					
	varrant should be applied only afte I of an alternative has failed to alle			-		
Indicate if both	criteria are fulfilled in the boxes p	rovided. The	e warrant is	Applicable:	Yes	✓ No
	n criteria are met.			Satisfied:	Yes	✓ No
						Fulfilled?
		Criteria				Yes No
	g exists on an approach controlled by a ithin 140 feet of the stop line or yield lin			of the track nea	rest to the	
• •	est traffic volume hour during which the for the existing combination of approa					
,	g tables (4C-2, 4C-3, and 4C-4 to appr	ropriatelv adju	st the minor-street app	roach volume).		
-		opriacory any.				
nputs				• • • • • • • • • • • • • • •	- · · · · ·	
<b>6 – – –</b>				Adjustment	Factors from	n Tables
						n Tables
% of High Occupanc	traffic per day y Buses on Minor-Street Approach	0%			Factors from	n Tables
% of High Occupanc <u>y</u> Inter D (feet)	y Buses on Minor-Street Approach	136	3	1.	00	n Tables
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6 of High Occupancy Enter D (feet) 6 of Tractor-Trailer T	ry Buses on Minor-Street Approach Trucks on Minor-Street Approach nent Factor for Daily Frequency of	136 2.00%	% Table 4C-3. Adjustme	1. 0. nt Factor for Pe	00 50	
6 of High Occupanc <u>:</u> Inter D (feet) 6 of Tractor-Trailer T T <b>able 4C-2. Adjustn</b>	y Buses on Minor-Street Approach Trucks on Minor-Street Approach nent Factor for Daily Frequency of Rail Traffic	136 2.009	% Table 4C-3. Adjustme Occ	1. 0. nt Factor for Pe cupancy Buses	00 50	
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6 of High Occupancy Inter D (feet) 6 of Tractor-Trailer T Fable 4C-2. Adjustn Rail Traffic per I 1	ry Buses on Minor-Street Approach Trucks on Minor-Street Approach nent Factor for Daily Frequency of Rail Traffic Day Adjustment Factor 0.67	136 2.009	Table 4C-3. Adjustme Occ % of High-Occupancy Minor Street App	1. 1. 0. nt Factor for Pe cupancy Buses Buses* on	00 50 rcentage of H djustment Fa	High-
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% of High Occupancy Enter D (feet) % of Tractor-Trailer 1 <b>Table 4C-2. Adjustn</b> <b>Rail Traffic per I</b> 1 2 3 to 5 6 to 8 9 to 11	y Buses on Minor-Street Approach Trucks on Minor-Street Approach nent Factor for Daily Frequency of Rail Traffic Day Adjustment Factor 0.67 0.91 1 1.18 1.25 1.33 Table 4C-4. Adjustment % of Tractor-Trailer Trucks Street Approach 0% to 2.5% 2.6% to 7.5% 7.6% to 12.5%	136 2.009	Table 4C-3. Adjustme         Occ         % of High-Occupancy         Minor Street Appr         0%         2%         4%         6% or more         A high-occupancy bus i         r Percentage of Tractor         Adjustme         D less than 70 feet         0.50         0.75         1.00	Trailer Trucks on Factor for Pe cupancy Buses Buses* on A roach A s defined as a bus or-Trailer Trucks on Factor D of 70 feet on 0.50 0.75 1.00	00 50 rcentage of H djustment Fa 1.09 1.19 1.32 us occupied b	High- actor
Enter D (feet) % of Tractor-Trailer 1 Table 4C-2. Adjustn Rail Traffic per I 1 2 3 to 5 6 to 8 9 to 11	y Buses on Minor-Street Approach Trucks on Minor-Street Approach ment Factor for Daily Frequency of Rail Traffic Day Adjustment Factor 0.67 0.91 1 1.18 1.25 1.33 Table 4C-4. Adjustment % of Tractor-Trailer Trucks Street Approach 0% to 2.5% 2.6% to 7.5% 7.6% to 12.5% 12.6% to 17.5%	136 2.009	Table 4C-3. Adjustme Occ % of High-Occupancy Minor Street App 0% 2% 4% 6% or more A high-occupancy bus i r Percentage of Tracto Adjustme D less than 70 feet 0.50 0.75 1.00 2.30	I. Traiter Trucks a defined as a bus bus defined as a bus bus defined as a bus bus defined as a bus contrailer Trucks bus for 70 feet of 0.50 0.75 1.00 1.15	00 50 rcentage of H djustment Fa 1.09 1.19 1.32 us occupied b	High- actor
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Appendix C

CAP-X and SPICE Analysis Summary Sheets

Summary Report - Page 1 of 2

Project Name:	SR 544 PD&E Study from MLK Boulevard to SR 17
Project Number:	FPID No. 440273-1-22-01
Location:	SR 544/Old Lucerne Park Road (West End)
Date:	Design Year (2045) AM Peak Hour
Number of Intersection Legs:	4
Major Street Direction	East-West

	Traffic Volume Demand											
		Volu	ume (Veh/hr)			Perce	ent (%)					
	U-Turn	Left	Thru	Right	Heavy ∖	/ehic <b>l</b> es	Volume Growth					
	•											
Eastbound	0	136	1414	15	3.0	0%	0.00%					
Westbound	0	6	1500	20	3.0	0%	0.00%					
Southbound	0	17	2	375	3.0	0%	0.00%					
Northbound	0	34	1	20	0.0	0%	0.00%					
Adjustment Factor	0.80	0.95		0.85								
Suggested	0.80	0.95		0.85								
	Truck to	PCE Factor		Suggested =	2.00		2.00					
FDC	OT Context Zone		C	3R-Suburban R	esidentia	al						
		2-	-phase signal	Suggested =	1800		1800					
	Lane Volume hreshold	3-	-phase signal	Suggested =	1750		1750					
		4-	-phase signal	Suggested =	1700							

# **Capacity Analysis for Planning of Junctions**

Summary Report - Page 2 of 2

TYPE OF INTERSECTION	Overall v/c Ratio	V/C Ranking	Multimodal Score	Pedestrian Accommodation s	Bicycle Accommodation s	Transit Accommodatio ns
2 X 2	1.10	1	5.6	Fair	Good	Good
1NS X 2EW	1.16	2	5.6	Fair	Good	Good
All-Way Stop Control	2.02	3	6.7	Good	Good	Good
Two-Way Stop Control E-W	3.86	4	3.7	Poor	Fair	Good
Unsignalized Restricted Crossing U- Turn E-W	4.25	5	4.4	Fair	Fair	Fair
Unsignalized ThruCut E-W	10.13	6	3.3	Poor	Fair	Fair

Detailed Report - Page 1 of 4

Project Name:	SR 544 PD&E Study from MLK Boulevard to SR 17
Project Number:	FPID No. 440273-1-22-01
Location:	SR 544/Old Lucerne Park Road (West End)
Date:	Design Year (2045) AM Peak Hour
Number of Intersection Legs:	4
Major Street Direction:	East-West

	Traffic Volume Demand												
		1	Volume	(Veh/hr)			Perce	nt (%)					
	U-Turn	Le	eft	Thru	Right								
	ฦ	<b>+</b>	1	Î		Heavy \	/ehicles	Volume Growth					
Eastbound	0	13	36	1414	15	3.0	0%	0.00%					
Westbound	0	6	6	1500	20	3.0	0%	0.00%					
Southbound	0	1	7	2	375	3.0	0%	0.00%					
Northbound	0	3	4	1	20	0.0	0%	0.00%					
Adjustment Factor	0.80	0.9	95		0.85								
Suggested	0.80	0.9	95		0.85								
	Truck to	PCE Fa	ctor		Suggested =	2.00		2.00					
FDC	OT Context Zone			С	3R-Suburban R	esidenti	al						
			2-pha	se signal	Suggested =	1800		1800					
	Lane Volume		3-pha	se signal	Suggested =	1750	1750						
			4-pha	se signal	Suggested =	1700		1700					

## Capacity Analysis for Planning of Junctions

Detailed Report - Page 2 of 4

Number o	of Lanes	for	No	n-re	oun	Idal	oou	t In	ters	sec	tior	IS					
TYPE OF INTERSECTION	Sheet	N	orth	bou	nd	Sc	buth	bou	nd	E	astb	oun	d	W	estk	oour	۱d
TTPE OF INTERSECTION	Sheet	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Two-Way Stop Control	E-W	$\checkmark$	1	1	0	$\checkmark$	1	1	1	$\nearrow$	1	2	0		1	2	0
All-Way Stop Control	FULL	$\checkmark$	1	1	0	$\checkmark$	1	1	1	$\nearrow$	1	2	0		1	2	0
Turp	<u>E-W</u>	$\checkmark$	$\sim$	$\sim$	1	$\checkmark$	/	$\ /$	1	1	1	2	0	1	1	2	0
Unsignalized ThruCut	E-W	$\mathbf{>}$	1	$\setminus$	1	$\setminus$	1	$\setminus$	1		1	2	0	$\setminus$	1	2	0
N	Number	of L	.an	es f	or	nte	rch	ang	es								
TYPE OF INTERCHANGE	Sheet	N	orth	bou	nd	Sc	buth	bou	nd	Ш	astb	oun	d	¥	estk	noo	nd
TTPE OF INTERCHANGE	Sneet	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	Ĺ	Т	R

#### Capacity Analysis for Planning of Junctions

Detailed Report - Page 3 of 4

	R	lesul	ts for	Non	-roun	Idabo	out In	terse	ctior	IS					
TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall v/c Ratio	Pedestrian ccommodations	Bicycle ccommodations	Transit ccommodations
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		A	٩	×
Two-Way Stop Control	<u>E-W</u>	/	$\mathbf{V}$	$\bigvee$					/	***	<u>3.86</u>	3.86	Poor	Fair	Good
All-Way Stop Control	FULL	$\geq$				$\geq$	$\geq$	$\geq$		3644	2.02	2.02	Good	Good	Good
Unsignalized Restricted Crossing U-Turn	<u>E-W</u>	1590	4.25	1483	<u>0.47</u>	1572	<u>0.11</u>	1611	<u>0.06</u>			4.25	Fair	Fair	Fair
Unsignalized ThruCut	<u>E-W</u>	$\sim$	$\sim$	$\geq$	$\geq$	$\nearrow$	$\nearrow$	$\angle$			<u>10.13</u>	10.13	Poor	Fair	Fair

**Capacity Analysis for Planning of Junctions** 

Detailed Report - Page 4 of 4

	Results for Roundabouts															
TYPE OF ROUNDABOUT	Zone 1 (North)			z	one 3 (Eas	it)	Zo	ne 2 (Sou	th)	Zc	one 4 (Wes	st)	Overall v/c Ratio	Pedestrian commodations	Bicycle commodations	Transit commodations
	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3		Ac	¥	Ă
<u>1NS X 2EW</u>	<u>1.16</u>			<u>0.60</u>	<u>0.65</u>		<u>0.16</u>			<u>0.68</u>	<u>0.72</u>		1.16	Fair	Good	Good
<u>2 X 2</u>	0.07	1.10	<u>0.68</u> <u>0.72</u>				<u>0.12</u>	0.06		<u>0.60</u>	<u>0.65</u>		1.10	Fair	Good	Good

		Results for Interchanges														_	
TYPE OF INTERCHANGE	Sheet	Zone 1 Mr		Zone 2 Mi	! (Lt rg)	Zor (Ctı		Zor (Ctr		Zone 5 Mr	•	Zone 6 Mi	(Rt rg)	Overall v/c Ratio	Pedestrian commodations	Bicycle commodations	Transit commodations
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		Ac	Ac	Ac

Summary Report - Page 1 of 2

Project Name:	SR 544 PD&E Study from MLK Boulevard to SR 17
Project Number:	FPID No. 440273-1-22-01
Location:	SR 544/Old Lucerne Park Road (West End)
Date:	Design Year (2045) PM Peak Hour
Number of Intersection Legs:	4
Major Street Direction	East-West

		٦	Traffic Volume D	emand				
		Volu	me (Veh/hr)			Perce	ent (%)	
	U-Turn	Left	Thru	Right				
	S	1	1		Heavy ∖	/ehicles	Volume Growth	
Eastbound	0	362	1380	34	5.0	0%	0.00%	
Westbound	0	16	1304	22	5.0	0%	0.00%	
Southbound	0	25	4	128	3.0	0%	0.00%	
Northbound	0	15	1	8	0.0	0%	0.00%	
Adjustment Factor	0.80	0.95		0.85				
Suggested	0.80	0.95		0.85				
	Truck to	PCE Factor		Suggested =	2.00		2.00	
FDC	OT Context Zone		C	3R-Suburban R	esidentia	al		
		2-	ohase signal	Suggested =	1800		1800	
	Lane Volume	3-1	ohase signal	Suggested =	1750	1750		
		4-	ohase signal	Suggested =	1700	1700		

# **Capacity Analysis for Planning of Junctions**

Summary Report - Page 2 of 2

TYPE OF INTERSECTION	Overall v/c Ratio	V/C Ranking	Multimodal Score	Pedestrian Accommodation s	Bicycle Accommodation s	Transit Accommodatio ns
1NS X 2EW	0.78	1	5.6	Fair	Good	Good
2 X 2	0.78	1	5.6	Fair	Good	Good
Unsignalized Restricted Crossing U- Turn E-W	1.25	3	4.4	Fair	Fair	Fair
All-Way Stop Control	1.92	4	6.7	Good	Good	Good
Two-Way Stop Control E-W	9.77	5	3.7	Poor	Fair	Good
Unsignalized ThruCut E-W	97.60	6	3.3	Poor	Fair	Fair
		-				
	==		==			

Detailed Report - Page 1 of 4

Project Name:	SR 544 PD&E Study from MLK Boulevard to SR 17
Project Number:	FPID No. 440273-1-22-01
Location:	SR 544/Old Lucerne Park Road (West End)
Date:	Design Year (2045) PM Peak Hour
Number of Intersection Legs:	4
Major Street Direction:	East-West

			Tra	ffic Volume D	emand				
		١	Volume	(Veh/hr)			Perce	nt (%)	
	U-Turn	Le	eft	Thru	Right				
	ฦ	4	]	Î	ſ	Heavy \	/ehicles	Volume Growth	
Eastbound	0	36	62	1380	34	5.0	0%	0.00%	
Westbound	0	1	6	1304	22	5.0	0%	0.00%	
Southbound	0	25		4	128	3.0	0%	0.00%	
Northbound	0	1	5	1	8	0.0	0%	0.00%	
Adjustment Factor	0.80	0.9	95		0.85				
Suggested	0.80	0.9	95		0.85				
	Truck to	PCE Fa	ctor		Suggested =	2.00		2.00	
FDC	OT Context Zone			С	3R-Suburban R	esidenti	al		
			2-pha	se signal	Suggested =	1800		1800	
	Lane Volume		3-phase signal		Suggested =	1750		1750	
			4-pha	se signal	Suggested =	1700	1700		

## Capacity Analysis for Planning of Junctions

Detailed Report - Page 2 of 4

Number o	of Lanes	for	No	n-re	oun	Idal	oou	t In	ters	sec	tior	IS					
TYPE OF INTERSECTION	Sheet	N	orth	bou	nd	Sc	outh	bou	nd	E	astb	our	ıd	W	estk	oour	۱d
TTPE OF INTERSECTION	Sheet	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Two-Way Stop Control	E-W	$\checkmark$	1	1	0		1	1	1	$\nearrow$	1	2	0		1	2	0
All-Way Stop Control	FULL	$\checkmark$	1	1	0		1	1	1	$\nearrow$	1	2	0		1	2	0
Turp	<u>E-W</u>	$\checkmark$	$\geq$	/	1		/	$\ /$	1	1	1	2	0	1	1	2	0
Unsignalized ThruCut	<u>E-W</u>	$\checkmark$	1		1		1	$\langle$	1	$\ /$	1	2	0		1	2	0
	Number of Lanes for Interchanges																
TYPE OF INTERCHANGE	Sheet	Sheet Northbou			nd	Sc	outh	bou	nd	Е	astb	our	ıd	W	estk	oour	۱d
TTPE OF INTERCHANGE		U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R

#### Capacity Analysis for Planning of Junctions

Detailed Report - Page 3 of 4

	R	lesul	ts for	Non	-roun	Idabo	out In	terse	ctior	IS					
TYPE OF INTERSECTION	Sheet		ne 1 orth)	Zor (So	ne 2 uth)	Zone 3	e (East)	Zor (We			ne 5 nter)	Overall v/c Ratio	Pedestrian ccommodations	Bicycle ccommodations	Transit ccommodations
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		A	¥	A
Two-Way Stop Control	<u>E-W</u>	/	1/	1					/	**	<u>9.77</u>	9.77	Poor	Fair	Good
All-Way Stop Control	FULL	$\geq$				$\geq$		$\geq$		3460	<u>1.92</u>	1.92	Good	Good	Good
Unsignalized Restricted Crossing U-Turn	<u>E-W</u>	1396	<u>1.25</u>	1495	0.21	1409	<u>0.04</u>	1865	<u>0.12</u>			1.25	Fair	Fair	Fair
Unsignalized ThruCut	<u>E-W</u>	$\sim$	$\sim$	$\geq$	$\geq$	$\nearrow$	$\nearrow$	$\angle$	/	-	<u>97.60</u>	97.60	Poor	Fair	Fair

**Capacity Analysis for Planning of Junctions** 

Detailed Report - Page 4 of 4

						Re	sults f	or Rou	ndabo	uts						
TYPE OF OUNDABOUT	Zo	one 1 (Nor	th)	Zone 3 (East)			Zone 2 (South)			Zo	one 4 (Wes	st)	Overall v/c Ratio	Pedestrian commodations	Bicycle ccommodations	Transit ccommodations
	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3		Ă	Ă	Ă
<u>1NS X 2EW</u>	<u>0.40</u>		/	<u>0.71</u>	<u>0.76</u>	/	0.09			0.74	0.78	/	0.78	Fair	Good	Good
<u>2 X 2</u>	<u>0.08</u>	<u>0.32</u>		0.74	0.78	/	0.06	<u>0.03</u>		0.71	0.76	/	0.78	Fair	Good	Good

					Re	sults	for l	nterc	hang	ges							
TYPE OF INTERCHANGE	Sheet	Zone 1 (Rt Zone 2 (Lt Zone Mrg) Mrg) (Ctr.						Zor (Cti		Zone 5 Mi	5 (Lt rg)	Zone 6 M	i (Rt rg)	Overall v/c Ratio	Pedestrian commodations	Bicycle commodations	Transit commodations
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		Ac	Ř	Ac

					Iministration (FHWA)					
			5	afety Performance for Inters	ection Control Evaluation sults	n Tool				
				Summary of crash prediction		hue				
					formation	we				
Project Name:	CR E44 DDRE Study f	rom MLK Blvd to SR 17		Intersection Type	normation			r	At Gra	de Intersections
Intersection:		Park Road (West End)		Opening Year					ALGIA	2025
	FDOT District One	rank noau (west chu)		Design Year						2025
Project Reference:	FPID No.: 440273-1-2	2-01		Facility Type				c	n Urban a	nd Suburban Arterial
City:	Polk County			Number of Legs						4-leg
State:	Florida			2-way Ir	tersecting 2-way					
Date:	12/12/2022					5 or fewer				
Analyst:	AIM Engineering & S	urveying, Inc.		Major Street Approach Speed					Less	than 55 mph
				Crash Predic	tion Summary					
		Crack Tuno Declary Your Declary Your Tetal Brolest Life Cycle Crack Bradiation Band					SSI Score			
Control Strategy	Crash Type	Opening Year	Design Year	Total Project Life Cycle	Crash Prediction Rank	Range?	Source of Prediction	Open Year	Design Year	Rank
Minor Road Stop	Total	2.97	4.93	82.89	2	Yes	Calibrated SPF w/ EB	41	18	5
Willion Road Stop	Fatal & Injury	1.07	1.89	30.96	2	Tes	Calibrated SFF W/ LB	<u>41</u>	10	5
All Way Stop	Total	2.53	4.27	71.26	1	N/A	N/A	<u>86</u>	77	2
	Fatal & Injury	0.95	1.74	28.08	-		,	00	<u></u>	4
2-lane Roundabout	Total	6.07	11.14	180.01	3	No	Uncalibrated SPF	89	82	1
	Fatal & Injury	1.10	2.15	33.83	,					
Unsignalized RCUT	Total	No SPF	No SPF	No SPF		Yes	Uncalibrated SPF	<u>58</u>	<u>35</u>	4
	Fatal & Injury Total	No SPF	No SPF	No SPF						
Unsignalized Thru-Cut	Fatal & Injury	No SPF No SPF	No SPF No SPF	No SPF No SPF		N/A	N/A	<u>63</u>	<u>39</u>	3
	Fatal & Injury Total	NO SPF	NO SPF	NO SPF						
Other 1*	Fatal & Injury	No SPF	No SPF	No SPF		N/A	CMF			
	Total	No SPF	No SPF	No SPF						
Other 2*	Fatal & Injury	No SPF	No SPF	No SPF		N/A	CMF			

Appendix D

SIDRA Analysis Summary Sheets

			/I Peak Hour				
		Existing Old	Lucerne Park I	Rd Alignment	Realigned	l Old Lucerne l	Park Road
Intersection	Movement	V/C	Avg. Delay	LOS	V/C	Avg. Delay	LOS
	NB LT	0.18	14.3	В	0.22	15.1	С
	NB TH	0.18	14.3	В	0.22	15.1	С
	NB RT	0.18	14.3	В	0.22	15.1	С
	NB Approach	n/a	14.3	В	n/a	15.1	С
	SB LT	0.69	41.5	E	0.68	39.5	E
	SB TH	0.69	41.2	E	0.68	39.1	E
	SB RT	0.69	38.4	E	0.68	36.5	E
Old Lucerne Park Rd	SB Approach	n/a	38.6	E	n/a	36.7	E
(west end)	WB LT	0.70	13.6	В	0.69	13.2	В
(west end)	WB TH	0.70	13.7	В	0.69	13.4	В
	WB RT	0.70	13.6	В	0.69	13.3	В
	WB Approach	n/a	13.7	В	n/a	13.4	В
	EB LT	0.62	10.2	В	0.62	10.1	В
	EB TH	0.62	10.2	В	0.62	10.2	В
	EB RT	0.62	10.1	В	0.62	10.1	В
	EB Approach	n/a	10.2	В	n/a	10.2	В
	ALL	n/a	14.9	В	n/a	14.6	В
		PN	/I Peak Hour				
			Lucerne Park I	Rd Alignment	Realigned	l Old Lucerne l	Park Road
Intersection	Movement	V/C	Avg. Delay	LOS	V/C	Avg. Delay	LOS
	NB LT	0.09	14.1	В	0.15	15.0	С
	NB TH	0.09	14.1	В	0.15	15.0	С
	NB RT	0.09	14.1	В	0.15	15.0	С
	NB Approach	n/a	14.1	В	n/a	15.0	С
	SB LT	0.21	13.8	В	0.22	14.2	В
	SB TH	0.21	13.5	В	0.22	13.9	В
	SB RT	0.21	12.7	В	0.22	13.0	В
Old Lucerne Park Rd	SB Approach	n/a	12.9	В	n/a	13.2	В
(west end)	WB LT	0.72	16.4	С	0.74	17.1	С
(west end)	WB TH	0.72	16.5	С	0.74	17.2	С
	WB RT	0.72	16.5	С	0.74	17.2	С
	WB Approach	n/a	16.5	С	n/a	17.2	С
	EB LT	0.69	12.1	В	0.69	12.2	В
	EB TH	0.69	12.1	В	0.69	12.2	В
	EB RT	0.69	12.0	В	0.69	12.1	В
	EB Approach	n/a	12.1	В	n/a	12.2	В
	ALL	n/a	13.9	В	n/a	14.3	В

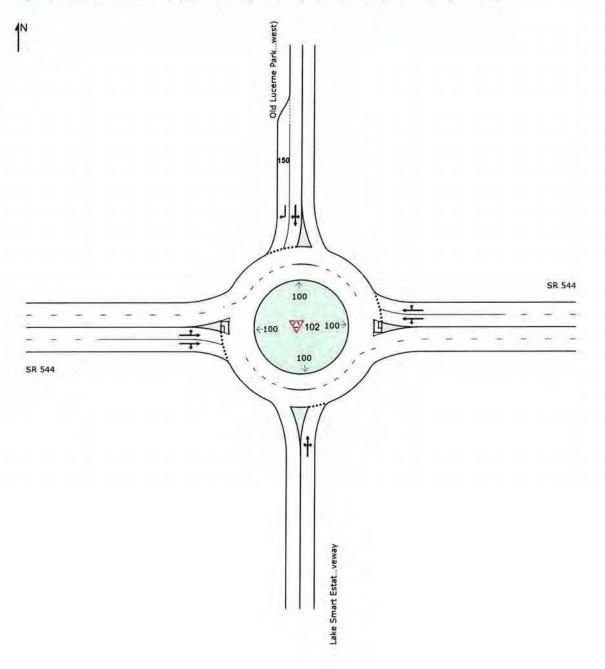
Table 2: Design Year (2045) Peak Hour Operational Analysis Summary - Old Lucerne Park Road (West) Intersection

### SITE LAYOUT

V Site: 102 [SR 544/Old Lucerne Park Rd (west end) Intersection (Site Folder: General)]

Design Year (2045) AM Peak Hour - Build Alt Site Category: (None) Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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#### MOVEMENT SUMMARY

# W Site: 102 [SR 544/Old Lucerne Park Rd (west end) Intersection (Site Folder: General)]

Design Year (2045) AM Peak Hour - Build Alt Site Category: (None) Roundabout

	Tum	INP		DEM		Deg	Aver	Level of		ACK OF	Prop.	Effective	Aver.	Aver
ID		VOLU [ Total	HV I	FLC   Total	HV ]	Satn	Delay	Service	QL [Veh	IEUE Dist ]	Que	Stop Rate	No. Cycles	Speed
-		veh/h	%	veh/h	%	v/c	sec	100	veh	fl	-		N. Mariana	mph
South	h: Lake	Smart E	states D	riveway										
3	L2	34	0.0	36	0.0	0.177	14.3	LOS B	0.6	14.0	0.80	0.80	0.80	25.8
8	T1	1	0.0	1	0.0	0.177	14.3	LOS B	0.6	14.0	0.80	0.80	0.80	25.6
18	R2	20	0.0	21	0.0	0.177	14.3	LOS B	0.6	14.0	0.80	0.80	0.80	24.6
Appro	oach	55	0.0	58	0.0	0.177	14.3	LOS B	0.6	14.0	0.80	0.80	0.80	25.3
East:	SR 54	4												
1	L2	6	0.0	6	0.0	0.702	13.6	LOS B	9.0	234.9	0.64	0.56	0.82	24.8
6	T1	1500	5.0	1579	5.0	0.702	13.7	LOS B	9.0	234.9	0.64	0.56	0.82	31.1
16	R2	20	3.0	21	3.0	0.702	13.6	LOS B	9.0	234.9	0.64	0.56	0.82	30.2
Appro	bach	1526	5.0	1606	5.0	0.702	13.7	LOS B	9.0	234.9	0.64	0.56	0.82	31.0
North	: Old L	ucerne P	ark Rd (	west)										
7	L2	17	3.0	18	3.0	0.692	41.5	LOS E	3.4	86.2	0.92	1.15	1.82	22.3
4	T1	2	0.0	2	0.0	0.692	41.2	LOS E	3.4	86.2	0.92	1.15	1.82	15.9
14	R2	375	3.0	395	3.0	0.692	38.4	LOS E	3.5	89.6	0.91	1.14	1.82	22.5
Appro	bach	394	3.0	415	3.0	0.692	38.6	LOS E	3.5	89.6	0.91	1.14	1.82	22.4
West	SR 54	4												
5	L2	136	3.0	143	3.0	0.623	10.2	LOS B	5.5	141.5	0.22	0.07	0.22	32.3
2	T1	1414	5.0	1488	5.0	0.623	10.2	LOS B	5.5	141.5	0.22	0.07	0.22	32.4
12	R2	15	0.0	16	0.0	0.623	10.1	LOS B	5.4	140.9	0.22	0.07	0.22	26.9
Appro	bach	1565	4.8	1647	4.8	0.623	10.2	LOS B	5.5	141.5	0.22	0.07	0.22	32.4
	hicles	3540	4.6	3726	4.6	0.702	14.9	LOS B	9.0	234.9	0.49	0.41	0.67	30.3

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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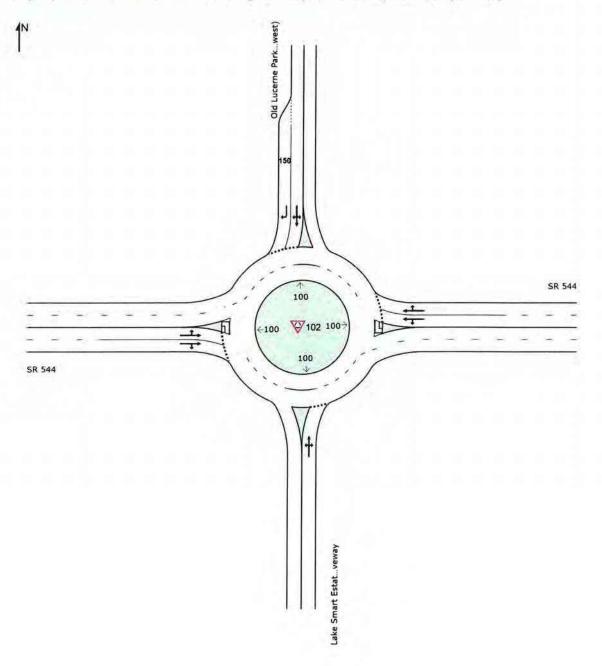
Organisation: AIM ENGINEERING AND SURVEYING | Licence: NETWORK / 1PC | Processed: Friday, November 4, 2022 12:45:25 PM Project: T:\PROJECTS\2 - DISTRICT 1\D1\_SR 544\Traffic\Roundabouts\Design Year 2045\AM Pk Hr\SR 544\_OLP Rd\_West\_2045 AM Pk Hr\_Build Alt.sip9

#### SITE LAYOUT

V Site: 102 [SR 544/Old Lucerne Park Rd (west end) Intersection (Site Folder: General)]

Design Year (2045) PM Peak Hour - Build Alt Site Category: (None) Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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#### MOVEMENT SUMMARY

# V Site: 102 [SR 544/Old Lucerne Park Rd (west end) Intersection (Site Folder: General)]

Design Year (2045) PM Peak Hour - Build Alt Site Category: (None) Roundabout

Mov ID	Turn	INF VOLU		DEM FLO		Deg		Level of		ACK OF	Prop Oue	Effective	Aver	Ave
		( Total veh/h	HV]	[ Total veh/h	HV ] %	Satn v/c	sec	Service	( Veh veh	Dist] ft	Que	Stop Rate	No. Cycles	Speer
Sout	h: Lake	Smart E	states D	riveway										-
3	L2	15	0.0	15	0.0	0.086	14.1	LOS B	0.3	6,5	0.81	0.81	0.81	25,
3	T1	1	0.0	1	0.0	0.086	14.1	LOS B	0.3	6.5	0.81	0.81	0.81	25.
18	R2	8	0.0	8	0.0	0.086	14.1	LOS B	0.3	6.5	0.81	0.81	0.81	24.
Appr	oach	24	0.0	25	0.0	0.086	14.1	LOS B	0.3	6.5	0.81	0.81	0.81	25.4
East	SR 54	4												
1	L2	16	0.0	16	0.0	0.722	16.4	LOS C	10.5	268.6	0.81	1.07	1.54	23.
5	T1	1304	3.0	1344	3.0	0.722	16.5	LOS C	10.5	268.6	0.81	1.07	1.54	29.
6	R2	22	3.0	23	3.0	0.722	16.5	LOS C	10.5	268.6	0.81	1.07	1.54	29.
Appro	oach	1342	3.0	1384	3.0	0.722	16.5	LOS C	10.5	268.6	0.81	1.07	1.54	29.9
North	: Old L	ucerne P	ark Rd (	west)										
,	L2	25	3.0	26	3.0	0.210	13.8	LOS B	0.7	17.5	0.77	0.77	0.77	30.3
1	T1	4	0.0	4	0.0	0.210	13.5	LOS B	0.7	17.5	0.77	0.77	0.77	24.
14	R2	128	3.0	132	3.0	0.210	12.7	LOS B	0.7	17.5	0.75	0.75	0.75	30.
Appro	oach	157	2.9	162	2.9	0.210	12.9	LOS B	0.7	17.5	0.76	0.76	0.76	30,
Vest	SR 54	4												
5	L2	362	3.0	373	3.0	0.693	12.1	LOS B	7.3	185.7	0.36	0.15	0.36	31.0
2	T1	1380	3.0	1423	3.0	0.693	12.1	LOS B	7.3	186.1	0.36	0.15	0.36	31.4
2	R2	34	0.0	35	0.0	0.693	12.0	LOS B	7.3	186.1	0.36	0.15	0.36	25.9
ppro	bach	1776	2.9	1831	2.9	0.693	12.1	LOS B	7.3	186.1	0.36	0.15	0.36	31.3
	hicles	3299	2.9	3401	2.9	0.722	13.9	LOS B	10.5	268.6	0.57	0.56	0.86	30.0

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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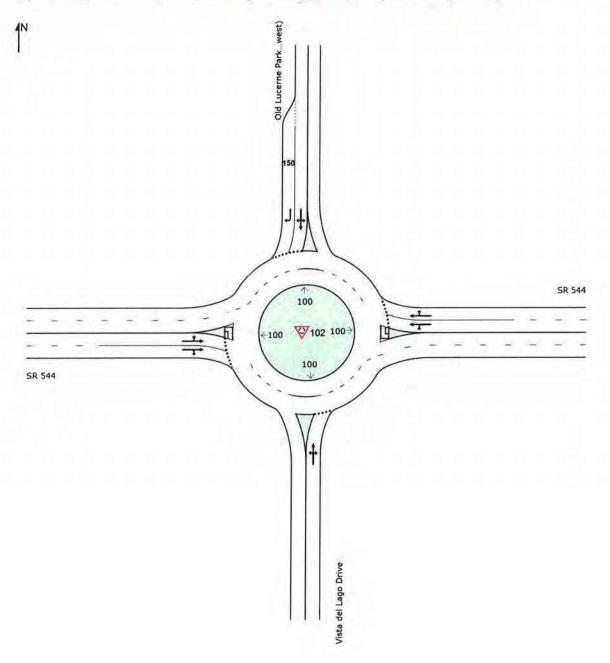
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#### SITE LAYOUT

V Site: 102 [SR 544/Realigned Old Lucerne Park Rd (west end) Intersection (Site Folder: General)]

Design Year (2045) AM Peak Hour - Build Alt 2 Site Category: (None) Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings



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#### MOVEMENT SUMMARY

#### V Site: 102 [SR 544/Realigned Old Lucerne Park Rd (west end) Intersection (Site Folder: General)]

Design Year (2045) AM Peak Hour - Build Alt 2 Site Category: (None) Roundabout

Mov Turn ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay			95% BACK OF QUEUE		Effective Stop	Aver. No	Aver. Speed
		(Total veh/h	HV]	[ Total veh/h	HV ]	vic	sec	Gervice	( Veh. veh	Dist ]	Que	Rate	Cycles	mph
Sout	h: Vista	del Lago		COM IN			000		- Cont		-	-		10.54
3	L2	35	0.0	37	0.0	0.223	15.1	LOS C	0.7	18.0	0.81	0.82	0.83	25.5
8	T1	1	0.0	1	0.0	0.223	15.1	LOS C	0.7	18.0	0.81	0.82	0.83	25.4
18	R2	34	0.0	36	0.0	0.223	15.1	LOS C	0.7	18.0	0.81	0.82	0.83	24.4
Appr	oach	70	0.0	74	0.0	0.223	15.1	LOS C	0.7	18.0	0.81	0.82	0.83	25.0
East:	SR 54	4												
1	L2	11	0.0	12	0.0	0.692	13.2	LOS B	8.4	218.9	0.63	0.54	0.79	25.0
6	T1	1471	5.0	1548	5.0	0.692	13.4	LOS B	8.4	218.9	0.63	0.54	0.79	31.2
16	R2	20	3.0	21	3.0	0.692	13.3	LOS B	8.4	218.8	0.63	0.54	0.79	30.3
Appro	oach	1502	4.9	1581	4.9	0.692	13.4	LOS B	8.4	218.9	0.63	0.54	0.79	31.2
North	: Old L	ucerne P	ark Rd (	west)										
7	L2	17	3.0	18	3.0	0.678	39.5	LOS E	3.3	83.8	0.91	1.13	1.78	22.7
4	T1	1	0.0	1	0.0	0.678	39.1	LOS E	3.3	83.8	0.91	1.13	1.78	16.3
14	R2	377	3.0	397	3.0	0.678	36.5	LOS E	3.4	87.0	0.91	1.13	1.77	22.9
Appro	oach	395	3.0	416	3.0	0.678	36.7	LOS E	3.4	87.0	0.91	1.13	1.77	22.9
West	: SR 54	14												
5	L2	137	3.0	144	3.0	0.620	10.1	LOS B	5.4	139.0	0.24	0.08	0.24	32.3
2	T1	1403	5.0	1477	5.0	0.620	10.2	LOS B	5.4	139.0	0.24	0.08	0.24	32.4
12	R2	11	0.0	12	0.0	0.620	10.1	LOS B	5.3	138.4	0.24	0.08	0.24	27.0
Appro	bach	1551	4.8	1633	4.8	0.620	10.2	LOS B	5.4	139.0	0.24	0.08	0.24	32.4
	hicles	3518	4.6	3703	4.6	0.692	14.6	LOS B	8.4	218.9	0.49	0.41	0.66	30.4

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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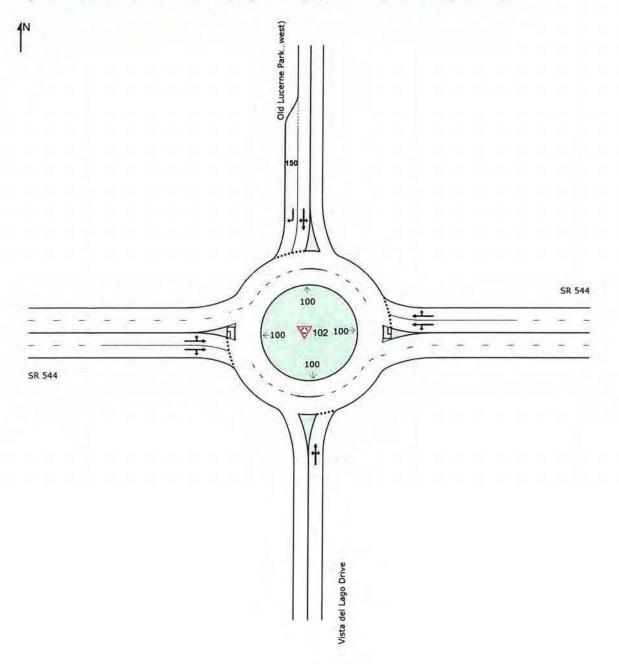
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### SITE LAYOUT

V Site: 102 [SR 544/Realigned Old Lucerne Park Rd (west end) Intersection (Site Folder: General)]

Design Year (2045) PM Peak Hour - Build Alt 2 Site Category: (None) Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings



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#### MOVEMENT SUMMARY

#### V Site: 102 [SR 544/Realigned Old Lucerne Park Rd (west end) Intersection (Site Folder: General)]

Design Year (2045) PM Peak Hour - Build Alt 2 Site Category: (None) Roundabout

Mov Turn ID	Tum	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver Level of Delay Service		95% BACK OF QUEUE		Prop Que	Effective	Aver	Aver
		Total ven/h	HV]	[ Total veh/h	HV ] %	v/c	sec	Service	[ Veh veh	Dist ] ft	GUG	Stop Rate	No Cycles	Speed
Sout	h: Vista	del Lago	Drive	- A State And				2	and an all				÷	and the second second
3	L2	22	0.0	23	0.0	0.153	15.0	LOS C	0.5	11.8	0.82	0.82	0.82	25.6
8	T1	1	0.0	1	0.0	0.153	15.0	LOS C	0.5	11.8	0.82	0.82	0.82	25.5
18	R2	21	0.0	22	0.0	0.153	15.0	LOS C	0.5	11.8	0.82	0.82	0.82	24.5
Appr	oach	44	0.0	45	0.0	0.153	15.0	LOS C	0.5	11.8	0.82	0.82	0.82	25.1
East	SR 54	4												
1	L2	36	0.0	37	0.0	0.735	17.1	LOS C	11.1	282.6	0.83	1.12	1.61	23.2
6	T1	1298	3.0	1338	3.0	0.735	17.2	LOS C	11.1	282.6	0.83	1.12	1.61	29.6
16	R2	22	3.0	23	3.0	0.735	17.2	LOS C	11.0	282.4	0.83	1.12	1.61	28.9
Appr	oach	1356	2.9	1398	2.9	0.735	17.2	LOS C	11.1	282.6	0.83	1.12	1.61	29.5
North	: Old L	ucerne P	ark Rd (v	west)										
7	L2	25	3.0	26	3.0	0.216	14.2	LOS B	0.7	17.9	0.78	0.78	0.78	30.1
4	T1	1	0.0	1	0.0	0.216	13.9	LOS B	0.7	17.9	0.78	0.78	0.78	24.0
14	R2	132	3.0	136	3.0	0.216	13.0	LOS B	0.7	17.9	0.76	0.76	0.76	30.1
Appro	oach	158	3.0	163	3.0	0.216	13.2	LOS B	0.7	17.9	0.76	0.76	0.76	30.0
Nest	SR 54	4												
5	L2	363	3.0	374	3.0	0.691	12.2	LOS B	7.0	178.8	0.42	0.20	0.42	30.9
2	T1	1344	3.0	1386	3.0	0.691	12.2	LOS B	7.0	179.2	0.42	0.20	0.42	31.4
12	R2	36	0.0	37	0.0	0.691	12.1	LOS B	7.0	179.2	0.42	0.20	0.42	25.9
Appro	oach	1743	2.9	1797	2.9	0.691	12.2	LOS B	7.0	179.2	0.42	0.20	0.42	31.2
	hicles	3301	2.9	3403	2.9	0.735	14.3	LOS B	11.1	282.6	0.61	0.61	0.93	30.4

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Preliminary Roundabout Geometric Concepts



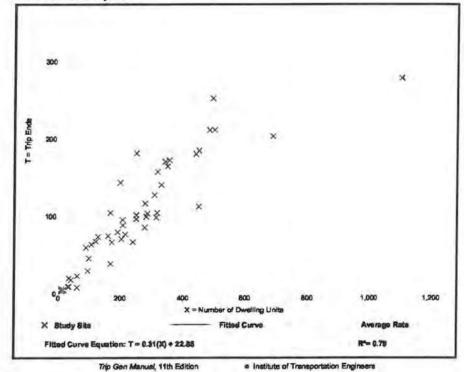


Appendix F

Villas at Lake Smart Trip Generation Estimates

		using (Lo tail Transit			
Vehicle 1	Mp Ends vs: On a:		djacent Street Traffic, reen 7 and 9 a.m.		
	ng/Location:				
Avg. Num. of D	er of Studies: welling Units: I Distribution:	49 249 24% entering, 7	6% exiting		
Vehicle Trip Generation per l	Dwelling Ur	hit			
Average Rate	Range of	Rates	Standard Deviation		
0.40	0.13-0	0.73	0 12		

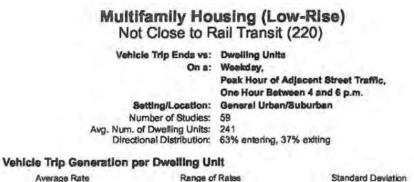
**Data Plot and Equation** 



have been all most to a site in the line of the second second

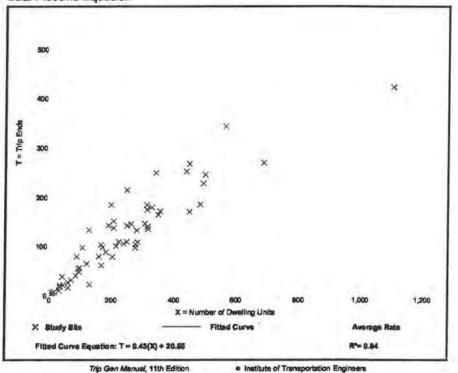
 $T = 0.31(220) + 22.85 \cong 91 \text{ trips}$ T(inbound) = 0.24(91) = 22 T(outbound) = 0.76(91) = 69

https://tatripgen.org/PrintGraph.htm?code=220&Webs/=UNITS220&Umsperiod=TASIDE&x=&edition=63



Average Rate Range of Rates 0.51 0.08 - 1.04 0.15

Data Plot and Equation



Trip Gen Manual, 11th Edition

https://latripgen.org/PrintGraph.htm?code=220&iviabe=UNITS220&timeperiod=TPSIDE&x=&editor=839&locationCode=General Urban/Suburban&c... 1/1

$$T = 0.43(220) + 20.55 = 115 \text{ trips}$$
  

$$T(\text{inbound}) = 0.63(115) = 72$$
  

$$T(\text{outbound}) = 0.37(115) = 43$$

#### CERTIFICATION

AGENCY: Florida Department of Transportation District One 801 North Broadway Avenue Bartow, Florida 33831-1249

I hereby certify that I am a registered professional engineer in the State of Florida and that I have supervised the preparation of, and approved the analysis, findings, opinions, conclusions and technical advice hereby reported for:

REPORT:	SR 544/Avenue Y Intersection Control Evaluation (ICE) - Stage 1					
PROJECT:	SR 544 Project Development and Environment (PD&E) Study					
LOCATION:	SR 544 from Martin Luther King Boulevard to SR 17 Polk County, Florida					
ROADWAY ID: 16140000						

MILEPOST No: 4.169

FPID No.: 440273-1-22-01

I acknowledge that the procedures and references used to develop the information contained in this memorandum are standard to the professional practice of transportation engineering as applied through professional judgement and experience.

Engineer in Responsible Charge:	Anastasiya A. Senyushkina	A A. SEN	
Professional Registration No.:	82191	No. 82191	Anastasiya A Senyushkina 2023.01.17 14 <mark>:4</mark> 6:48-05'00'
Date:	1/17/2023	- STATE OF CONTINUES	





# AIM Engineering & Surveying, Inc.

Tampa Office 201 E. Kennedy Boulevard, Suite 1800 Tampa, Florida 33602 813-627-4144 www.aimengr.com

Date:	January 17, 2023
То:	David C. Turley, P.E. – FDOT District One DEMO Project Manager Abra Horne – FDOT District One Planning and Environmental Administrator
From:	Greg Root/Anastasiya Senyushkina, P.E.
Subject:	SR 544/Avenue Y Intersection (Polk County) – Revised Stage 1+ Intersection Control Evaluation

#### INTRODUCTION/PROJECT BACKGROUND

This memorandum documents the Intersection Control Evaluation (ICE) conducted for the Avenue Y intersection. This analysis was conducted in support of the SR 544 Project Development & Environment (PD&E) Study from Martin Luther King Boulevard to SR 17 in Polk County. The length of this study corridor is approximately 8.1 miles. SR 544 is a two-lane undivided roadway with 12-foot travel lanes both south and north of Avenue Y. South of Avenue Y, the roadway includes four-foot paved shoulders, curb and gutter and sidewalks on both sides of the road. North of Avenue Y, the roadway includes four-foot paved shoulders, curb and gutter or sidewalks. There are no paved shoulders, curb and gutter or sidewalks on Avenue Y.

To minimize the impacts to this lower income historic residential community, the PD&E study is recommending a three-lane typical section for the portion of SR 544 south of Avenue Y. This typical section provides one 12-foot travel lane in each direction, a 12-foot two-way center left-turn lane, curb and gutter, and eight-foot sidewalks on both sides of the road. Eight-foot raised medians are also provided for pedestrian crossing refuge at strategic locations within the Florence Villa neighborhood. The design speed and target speed for this typical section is 35 mph. North of Avenue Y, the proposed four-lane divided typical section consists of two 11-foot inside travel lanes, two 12-foot outside travel lanes, a 22-foot raised median, curb and gutter, and 10-foot shared use paths on both sides of the roadway. The design speed and target speed north of Avenue Y is 45 mph.

This memorandum documents the Stage 1 CAP-X and SPICE analyses, as well as the more detailed traffic operations analyses conducted using the SYNCHRO and SIDRA software. The opening year (2025) and design year (2045) Average Annual Daily Traffic (AADT) volumes documented in the FDOT approved Project Traffic Analysis Report (PTAR) are provided in **Appendix A**, along with the 2045 a.m. and p.m. peak hour volumes documented in this same report.

#### EXISTING INTERSECTION CHARACTERISTICS

This intersection is a four-legged unsignalized intersection. Avenue Y is the east and west leg of this intersection and is controlled by stop signs. There are churches in the northeast and northwest

quadrants of the intersection. There is also a lawn mower repair business in the southeast quadrant along with three residential dwelling units that are currently unoccupied/abandoned. The land in the southwest quadrant is currently vacant. There are three cross street intersections located in close proximity to the Avenue Y intersection. The Bishop James Cochran Way intersection is on the north side of Avenue Y approximately 110 feet west of SR 544 and the 5<sup>th</sup> Street NE intersection is on the south side of Avenue Y approximately 200 feet east of SR 544. The 4<sup>th</sup> Street NE intersection is located on the east side of SR 544 approximately 180 feet south of Avenue Y. An aerial image of the Avenue Y intersection is provided in **Figure 1** in **Appendix A**. The posted speed limits on the south and north legs of the intersection are 35 miles per hour (mph) and 45 mph, respectively. The posted speed limit on the east and west legs of the intersection is 20 mph.

Crash data was provided by District One for the years 2014 through 2019. The data sources were FDOT's Crash Analysis Reporting System (CARS) and Signal Four Analytics. This crash data is included in **Appendix A**. The intersection has experienced 45 crashes over this six-year period, resulting in 29 injuries and no fatalities. The most prevalent crash types are left-turn/angle crashes (26) and rear-end crashes (13). Although there were no crashes involving bicyclists or pedestrians, there is pedestrian and bicycle activity in the vicinity of the intersection. During a 12-hour time period in 2017, 62 pedestrian crossings and 32 bicycle crossings were observed on the four legs of this intersection. In addition, there were 35 pedestrians and 17 bicyclists crossing SR 544 at 4<sup>th</sup> Street NE during an eighthour time period in 2019. The bicycle and pedestrian crossing data is also provided in **Appendix A**.

#### INTERSECTION CONTROL EVALUATION

The PD&E study goals are to determine the location and conceptual design of the improvement(s) that satisfy the purpose and need for the project, while also minimizing the impacts to the natural and social environment and satisfying the requirements of the National Environmental Policy Act (NEPA). Although the 2045 traffic volumes support the need for four lanes throughout the entire PD&E study corridor, the two-lane undivided portion of SR 544 between Martin Luther King Boulevard and Avenue Y bisects the historic Florence Villa residential community. The existing land use on either side of SR 544 throughout this portion of the study corridor is primarily lower income residential with dozens of homes having direct driveway access onto SR 544. There are also several churches and convenience stores located adjacent to the roadway. The existing right-of-way width through Florence Villa varies from 50 feet to 84 feet.

Based on the existing churches in the vicinity of the intersection, as well as the lower income residential dwelling units to the south and west of this intersection, the ability to provide significant capacity improvements at this intersection, while at the same time avoiding negative economic impacts to the Florence Villa community, is extremely limited. District One conducted a traffic signal warrant study for the Avenue Y intersection in 2016 and a signal was not proven to be warranted. An additional analysis of this intersection was conducted by FDOT in March 2021 to assess the growth in traffic volumes that has occurred both on SR 544 (2015 – 2019 AADT volumes) and on Avenue Y (2004, 2006, 2009, 2012 and 2016 hourly volumes). The results of this assessment indicated that vehicular volumes on the eastbound and westbound Avenue Y approaches have not seen significant changes since the first traffic study was conducted back in 2004. In addition, the surrounding land uses have also remained constant over time. Based on this, FDOT concluded that if another traffic signal warrant study was to be conducted at this time it would yield results similar to the 2016 study results and a signal would still not be warranted. The March 19, 2021 Historical Traffic Volume Data Analysis memorandum provided by FDOT is included in **Appendix B**. Although a traffic signal is not currently warranted at this location, the design year traffic projections indicate there is a strong likelihood that a signal could be warranted in the future. The 2045 AADT volumes on SR 544 north of Avenue Y and

on Avenue Y west of SR 544 are projected to be 37,000 vehicles per day (vpd) and 11,000 vpd, respectively. In addition, the 2045 peak hour volumes for the eastbound and southbound left-turn movements are projected to exceed 300 vehicles per hour. These high traffic volumes are due to the large amounts of future growth in residential and non-residential land use projected to occur north of Avenue Y.

The following alternative intersection control strategies were initially analyzed for this intersection:

- Two-way stop control
- All-way stop control
- Conventional traffic signal
- Unsignalized Restricted Crossing U-Turn (RCUT)
- Signalized RCUT
- Unsignalized Thru-Cut
- Signalized Thru-Cut
- Median U-Turn (MUT)
- One-lane x one-lane roundabout
- Two-lane (SR 544) x one-lane (Avenue Y) roundabout
- Two-lane x two-lane roundabout

The results of the 2045 CAP-X and SPICE analyses are summarized in **Table 1**. The CAP-X and SPICE analysis summary sheets for this intersection are provided in **Appendix C**. Based on the high v/c ratios estimated for the stop control intersections and the unsignalized RCUT and Thru-Cut intersections, these alternatives were eliminated from any further consideration. The signalized RCUT, signalized Thru-Cut and MUT intersections were also eliminated because they would require additional right-of-way south of 4<sup>th</sup> Street NE to provide a u-turn lane on SR 544.

Table 1: Stage 1 ICE Analysis Summary - Avenue Y Intersection									
2045 V/	C Ratios	Life-Cyc	cle Crashes	SSI Scores					
AM Peak	PM Peak			Opening	Design				
Hour	Hour	Total	Fatal & Injury	Year	Year				
12.35	23.28	156	58	69	53				
2.09	2.07	93	36	91	83				
0.88	0.82	191	67	81	67				
3.34	3.22	n/a	n/a	83	74				
1.11	1.01	384	97	90	85				
258.26	406.41	n/a	n/a	83	72				
1.15	0.97	n/a	n/a	89	81				
1.05	1.11	162	47	92	86				
1.57	2.39	70	12	93	89				
1.07	1.67	206	33	87	81				
0.90	1.57	206	33	87	81				
	2045 V/ AM Peak Hour 12.35 2.09 0.88 3.34 1.11 258.26 1.15 1.05 1.57 1.07	2045 V/C Ratios           AM Peak         PM Peak           Hour         Hour           12.35         23.28           2.09         2.07           0.88         0.82           3.34         3.22           1.11         1.01           258.26         406.41           1.15         0.97           1.05         1.11           1.57         2.39           1.07         1.67	2045 V/C Ratios         Life-Cyc           AM Peak         PM Peak           Hour         Hour           12.35         23.28           2.09         2.07           93         0.88           0.88         0.82           1.11         1.01           3.34         3.22           1.11         1.01           384           258.26         406.41           1.05         1.11           1.67         206	2045 V/C Ratios         Life-Cycle Crashes           AM Peak         PM Peak         Total         Fatal & Injury           12.35         23.28         156         58           2.09         2.07         93         36           0.88         0.82         191         67           3.34         3.22         n/a         n/a           1.11         1.01         384         97           258.26         406.41         n/a         n/a           1.05         1.11         162         47           1.57         2.39         70         12           1.07         1.67         206         33	2045 V/C Ratios         Life-Cycle Crashes         SSI Stress           AM Peak         PM Peak         Opening         Opening           Hour         Hour         Total         Fatal & Injury         Year           12.35         23.28         156         58         69           2.09         2.07         93         36         91           0.88         0.82         191         67         81           3.34         3.22         n/a         n/a         83           1.11         1.01         384         97         90           258.26         406.41         n/a         n/a         83           1.15         0.97         n/a         n/a         89           1.05         1.11         162         47         92           1.57         2.39         70         12         93           1.07         1.67         206         33         87				

Red font denotes a v/c ratio > 1.00

Lowest number of crashes of all alternatives analyzed

n/a = No Safety Performance Function (SPF) available

Design year peak hour SYNCHRO and SIDRA analyses were conducted for the conventional signalized intersection and the two-lane x two-lane roundabout, and a tabular summary of the results is provided in **Table 2.** The conventional signalized intersection is projected to operate with lower overall average delays during both peak hours. In addition, none of the individual movements at the

conventional signalized intersection are projected to operate over capacity. Multiple movements are projected to operate over capacity with the two-lane x two-lane roundabout. The design year SYNCHRO and SIDRA analysis summary sheets are also provided in **Appendix D**.

Table 2: Design Year (2045) Peak Hour Operational Analysis Summary									
Signalized Intersection									
Intersection	AM Pea	ak Hour	PM Peak Hour						
Approach	Avg. Delay	LOS	Avg. Delay	LOS					
Northbound	25.6	С	42.2	D					
Southbound	34.7	С	38.0	D					
Westbound	52.0	D	39.8	D					
Eastbound	93.5	F	69.3	E					
Overall	41.0	D	45.2	D					
	Two-La	ne Roundabo	ut						
Intersection	AM Pea	ak Hour	PM Peak Hour						
Approach	Avg. Delay	LOS	Avg. Delay	LOS					
Northbound	17.9	С	81.6	F					
Southbound	66.8	F	52.1	F					
Westbound	98.2	F	38.9	E					
Eastbound	19.5	С	42.6	E					
Overall	51.4	F	58.8	F					

Geometric improvement concepts were developed for these two alternatives and are included in **Appendix E**. The original roundabout concept took into consideration the constrained nature of SR 544 south of Avenue Y. This roundabout provided only one southbound departure lane. The single northbound lane on SR 544 south of 4th Street NE was widened to provide a two-lane approach at the roundabout to facilitate the transition from a two-lane typical section (south of Avenue Y) to a four-lane typical section (north of Avenue Y) and to reduce the delays and vehicle queues on northbound SR 544. Both alternatives result in significant right-of-way impacts to the Florence Villa neighborhood including residential relocations and impacts to the Friendship Missionary Baptist Church. In addition, the two-lane roundabout concept also results in significant right-of-way impacts to the St. Paul Holiness Church. To reduce the overall impacts to the Florence Villa community, additional signalized intersection and roundabout concepts were developed. These additional concepts provide less laneage on the intersection approaches and result in smaller right-of-way footprints. The "minimized" signalized intersection concept and the one-lane roundabout concept are also provided in **Appendix E**.

Although the revised concepts would reduce the total right-of-way impacts to the northern end of the Florence Villa neighborhood, they would still result in residential impacts, as well as impacts to the Friendship Missionary Baptist Church and impacts to existing local street access. In addition, the onelane roundabout would also result in significant right-of-way impacts to the St. Paul Holiness Church. Consequently, a one-lane mini-roundabout improvement concept was subsequently developed. This mini-roundabout concept has a 90-foot inscribed circle diameter (ICD) and is also included in **Appendix E**. The National Cooperative Highway Research Program (NCHRP) Report 672 states that "mini-roundabout ICD should generally not exceed 90 feet". A mini-roundabout is often considered as an alternative to a larger one-lane roundabout when right-of-way impact minimization is of paramount importance. As indicated in the improvement concept graphic, the right-of-way impacts associated with a mini-roundabout are limited to four parcels. In addition, there are no right-of-way impacts to the Friendship Missionary Baptist Church and minimal impacts to the St. Paul Holiness Church.

Since this alternative provides less capacity than the previous alternatives, it cannot accommodate the projected 2045 peak hour traffic volumes. Interim year SIDRA analyses were conducted to determine the approximate year when the capacity of the mini-roundabout would be reached. Prior to conducting these analyses, adjustments were made to the a.m. and p.m. peak hour volumes on the northbound SR 544 intersection approach. The northbound approach volumes documented in the approved PTAR assume that 100 percent of the design year peak hour traffic volumes can be processed through the signalized SR 544/Martin Luther King Boulevard intersection. To minimize right-of-way impacts to the existing commercial land uses located in the vicinity of the Martin Luther King Boulevard intersection, as well as to the existing residential land uses located further north and east of this intersection. No additional lanes will be provided on the south, west and east legs of this intersection. Consequently, the total design year peak hour volumes that can be processed through the Martin Luther King Boulevard intersection are significantly lower than the peak volumes documented in the PTAR.

Additional signalized intersection analyses were conducted for the Martin Luther King Boulevard intersection using the SYNCHRO software to estimate the maximum a.m. and p.m. peak hour volumes that could be accommodated at this intersection (and the maximum a.m. and p.m. peak hour northbound departure volumes that could be expected to occur). The constrained northbound departure volumes at the Martin Luther King Boulevard intersection were incorporated into the interim year Avenue Y mini-roundabout analyses. The interim year peak hour mini-roundabout traffic operations are summarized in **Table 3**. The southbound approach is projected to reach capacity by the year 2029, while the northbound approach is projected to have an average delay greater than 50 seconds/vehicle (also resulting in Level of Service F) by the year 2031. The interim year SIDRA analysis summary sheets are also provided in **Appendix D**.

Table 3: Interim Year Peak Hour Operational Analysis Summary - Mini-Roundabout									
Year 2029									
Intersection		AM Peak Hou	r		PM Peak Hou	r			
Approach	V/C Ratio	Avg. Delay	LOS	V/C Ratio	Avg. Delay	LOS			
Northbound	0.60	11.8	В	0.92	36.3	E			
Southbound	1.01	46.5	F	0.79	16.4	С			
Westbound	0.09	0.0	А	0.06	0.0	А			
Eastbound	0.34	11.6	В	0.51	13.9	В			
Overall	n/a	29.8	D	n/a	21.8	С			
		Y	ear 2031						
Intersection		AM Peak Hou	r	PM Peak Hour					
Approach	V/C Ratio	Avg. Delay	LOS	V/C Ratio	Avg. Delay	LOS			
Northbound	0.62	12.8	В	0.99	51.5	F			
Southbound	1.08	68.5	F	0.85	20.9	С			
Westbound	0.10	0.0	А	0.06	0.0	А			
Eastbound	0.39	12.4	В	0.62	18.1	С			
Overall	n/a	42.1	E	n/a	29.0	D			

#### **RECOMMENDED INTERSECTION CONTROL STRATEGY**

The implementation of a roundabout at this intersection will help vehicles transition from the 45 mph design speed/target speed proposed for SR 544 north of Avenue Y to the 35 mph design speed/target speed proposed for SR 544 south of Avenue Y. This speed control measure should increase the safety of the pedestrians and bicyclists that are crossing SR 544 at this location. A one-lane roundabout is projected to have the lowest number of fatal and injury crashes and the highest opening year and design year Safe System for Intersections (SSI) scores of all the alternatives evaluated. Given the large number of pedestrians and bicyclists utilizing the portion of SR 544 south of Avenue Y, improving the overall safety of this area for all users (vehicles, bicyclists and pedestrians) is extremely important. Other important considerations are maintaining the integrity of the Florence Villa community and avoiding any potential Environmental Justice (EJ) issues by minimizing the impacts to this lower income minority neighborhood. Consequently, a 90-foot ICD mini-roundabout is recommended for the Avenue Y intersection.

# Appendix A

Existing Geometry, Existing/Future Year Traffic Volumes and Historic Crash Data



Figure 1: Existing SR 544/Avenue Y Intersection

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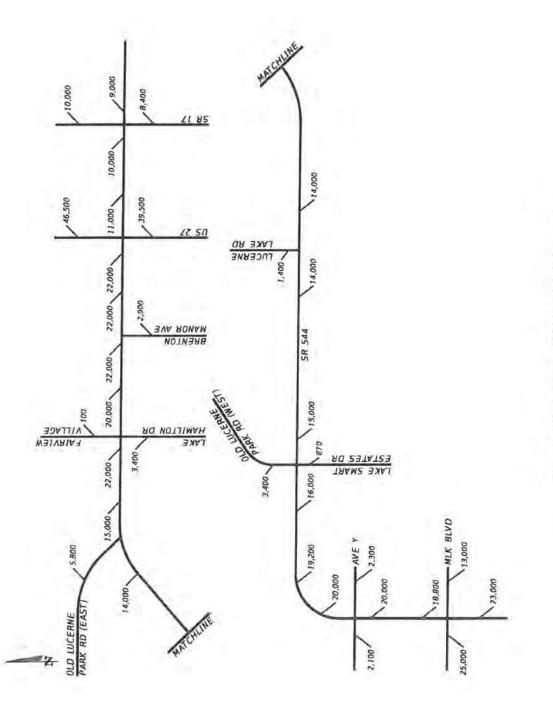


Figure 2-2: Existing (2019) AADT Volumes

Table 2-2: Twenty-Four Hour Volume Counts and Existing (2019) AADT Volumes (SR 544 Mainline)

Location	Date	Count	SF (1)	AF (2)	AADT (3)	Growth	2019 AADT (4)	2019 AADT 2019 AADT 2019 AADT (4) (5) (6)	2019 AADT (6)	Average	Final 2019 AADT
South of M. L. King Boulevard (2)	4/17/2018	21,686	0.96	0.95	19,778	1.0319	20,409	20,000	23,000	21,500	23,000 (8)
North of M. L. King Boulevard (7)	4/17/2018	17,212	0.96	0.95	15,697	1.0319	16,198	16,000	18,800	17,400	18,800 (9)
South of Avenue Y <sup>[7]</sup>	2/16/2016	19.748	0.96	0.97	18,389	1.0988	20,206	20,000	e/u		20.000
North of Avenue Y (2)	2/16/2016	19,936	96.0	0.97	18,564	1.0988	20,399	20,000	n/a		20,000
South of Lake Conine Drive									19.200		19 200
West of Old Lucerne Park Road (west end) (7)	1/9/2018	16,214	1.01	0.94	15,394	1.0577	16,282	16,000	e/u		16.000
East of Old Lucerrie Park Road (west end) (2)	1/9/2018	15,212	1.01	0.94	14,442	1.0543	15,226	15,000	n/a		15.000
West of Lucerne Lake Road	10/1/2019	14,506	1.03	0.94	14,045	1.0000	14,045	14,000	14,000	14,000	14.000
East of Lucerne Lake Road	10/1/2019	14,608	1.03	0.94	14,143	1.0000	14,143	14,000	n/a		14.000
West of Old Lucerne Park Road (east end) 121	1/9/2018	18,070	1.01	0.94	17,156	1.0706	18,367	18,000	14,000	16,000	14,000 (10)
East of Old Lucerne Park Road (east end) (7)	1/9/2018	14,682	1.01	0.94	13,939	1.0706	14,923	15,000	n/a		15,000
West of Lake Hamilton Drive/Fairview Village	10/1/2019	22,630	1.03	0.94	21,910	1.0000	21,910	22,000	n/a		22,000
East of Lake Hamilton Drive/Fairview Village	10/1/2019	20,472	1.03	0.94	19,821	1.0000	19,821	20,000	n/a		20,000
West of Brenton Manor Avenue	10/1/2019	23,035	1.03	0.94	22,302	1.0000	22,302	22,000	n/a		22,000
East of Brenton Manor Avenue	10/1/2019	23,127	1.03	0.94	22,392	1.0000	22,392	22,000	n/a		22,000
West of Hide-A-Way Lane (Hidden Cove Entr)			1						21,000		21.000
West of US 27	10/1/2019	22,701	1.03	0.94	21,979	1.0000	21,979	22,000	e/u		22,000
East of US 27	10/1/2019	10,954	1.03	0.94	10,606	1.0000	10,606	11,000	11,000	11,000	11,000
West of SR 17	10/1/2019	10,500	1.03	0.94	10,166	1,0000	10,166	10,000	n/a		10,000
East of SR 17	10/1/2019	9,534	1.03	0.94	9,231	1.0000	9,231	9,200	8,800	000'6	000'6

N SF = Weekly Seasonal Adjustment Factor

<sup>(2)</sup> AF = Axle Adjustment Factor

ADT = Count x SF x AF
 2019 ADT = Count x SF x AF
 2019 ADT (rounded)
 2019 ADT (rounded)
 2019 ADT founded)
 2019 ADT founded)
 2019 ADT count only at this location. The two-way volume website
 Approach count only at this location. The two-way volume was assumed to be equal to twice the approach volume.
 Approach count only at this location. The two-way volume was assumed to be equal to twice the approach volume.
 Approach count only at this location. The two-way volume has been greater than 21,000 vpd for the last five years.
 FDOT count station value was used because the AADT volume has been greater than 16,000 vpd for the last five years.
 FDOT count station value was used because the 2018 AADT volume at this permanent count station was equal to 13,600 vpd.

SR 544 from Martin Luther King Boulevard to SR 17 January 2021

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M. L. King Boulevard West of SR 544 <sup>(7)</sup> 4 M. L. King Boulevard East of SR 544 <sup>(7)</sup> 4	Date	Count	SF (1)	AF (2)	AADT (3)	Growth	2019 AADT (4)	2019 AADT (5)	2019 AANT (6)		ii.
	4/17/2018	26.560	0.96	0.95	54 223	a	24 005		DE DOD	41	
	1471040	10 100		AGE			1000'12	20,000	000.62	000.62	000'92
	81021114	13,582	0.96	0.85	12,387	1.0319	12,782	13,000	13,500	13.250	13.000
	2/16/2016	1,960	0.96	1.00	1,882	1.0988	2,068	2,100	n/a		2.100
Avenue Y East of SR 544 (7) 2	2/16/2016	2,174	0.96	1.00	2,087	1.0988	2.293	2,300	n/a		2 300
Old Lucerne Park Road (west end) North of SR 544 <sup>(7)</sup>	1/9/2018	3,206	1.01	0.98	3,173	1.0560	3.351	3 400	elu		2 400
Lake Smart Estates Drive South of SR 544 <sup>(7)</sup>	1/9/2018	862	1.01	1.00	871	1.0000	871	870	n/a		870
Lucerne Lake Road North of SR 544	10/1/2019	1,730	1.03	0.81	1,443	1.0000	1.443	1 400	elo		1 400
Old Lucerne Park Road (east end) North of SR 544 <sup>(7)</sup>	1/9/2018	5,454	1.01	0.98	5,398	1.0706	5.779	5,800	n/a		5 800
Fairview Village North of SR 544	10/1/2019	96	1.03	1.00	66	1.0000	66	100	elu		100
Lake Hamilton Drive South of SR 544	10/1/2019	3,344	1.03	1.00	3.444	1.0000	3 444	3 400	elu	1	2 400
Brenton Manor Avenue South of SR 544	10/1/2019	2,916	1.03	0.98	2.943	1.0000	2 943	2 900	ela		000 C
US 27 North of SR 544	10/1/2019	45,009	1.04	0.94	44,001	1.0000	44.001	44 000	AG SOO	AE DEA	AE EDD (8)
US 27 South of SR 544	10/1/2019	34,554	1.04	0.94	33.780	1.0000	33.780	34 000	30 500	36 760	30 600 (9)
SR 17 North of SR 544	10/1/2019	10,764	1.03	0.95	10.533	1.0000	10.533	11 000	002.60	10 350	00004
SR 17 South of SR 544	10/1/2019	8,680	1.03	0.95	8,493	1.0000	8.493	8 500	8 300	B ADD	0 400

Table 2-3: Twenty-Four Hour Volume Counts and Existing (2019) AADT Volumes (SR 544 Cross Streets)

Note: Red font denotes assumed values used for this study.

SF = Weekly Seasonal Adjustment Factor
 AF = Axle Adjustment Factor
 AF = Axle Adjustment Factor
 ADT = Count's SF x AF
 2019 AADT = AADT x Growth Factor
 2019 AADT founded)
 2019 AADT obtained from the FDOT Florida Traffic Online website
 2019 AADT obtained from the FDOT Florida Traffic Online website
 2019 AADT obtained from the FDOT Florida Traffic Online website
 2019 AADT obtained from the FDOT Florida Traffic Online website
 2019 AADT obtained from the FDOT Florida Traffic Online website
 2019 Count station value was used because the AADT volume has been greater than 34,000 vpd for the last four years.
 FDOT count station value was used because the AADT volume has been greater than 34,000 vpd for for it last four years.

SR 544 from Martin Luther King Boulevard to SR 17 January 2021

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## FLORIDA DEPARTMENT OF TRANSPORTATION TRANSPORTATION STATISTICS OFFICE 2019 HISTORICAL AADT REPORT

COUNTY: 16 - POLK

WINTER HAVEN SITE: 5153 - SR 544/1ST ST/LUCERNE PK RD, NE OF AVE U NW

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9.00	9.00	8700 9.00	S 8700 9.00	S 8700 9.00	0	8600 S 8700 9.00	0	0	C N 8600 S	C N 8600 S
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9.00	9.00	7800 9.00	S 7800 9.00	S 7800 9.00	S 1	S 1	S 1	S 1	S 1	S 1
9.00	9.00	7700 9.00	S 7700 9.00	S 7700 9.00	S	S	S	S	0 C N 7300 S	0 C N 7300 S
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AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN \*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES \*K FACTOR:

# FLORIDA DEPARTMENT OF TRANSPORTATION TRANSPORTATION STATISTICS OFFICE 2019 HISTORICAL AADT REPORT

COUNTY: 16 - POLK

SITE: 0096 - SR 544 SOUTH OF CONINE DRIVE, WH

T FACTOR	Secondary.	7.60	7.00	7.00	7.40	7.00	7.50	7.50	7.50	6.40	6.40	6.40	01.70	7.40	8.10	3.80	3.80	
D FACTOR		56.00	54.50	54.50	53.30	55.70	55.60	55.90	55.80	55.70	56.07	56.35	55.29	55.30	55.83	54.80	55.70	
*K FACTOR		9.00	9.00	9.00	9.00	9.00	9.00	9.00	9,00	9.00	9.55	9.36	9.78	9.66	9.62	9.30	9.50	
DIRECTION 2		S 9600	S 9100	S 8500	S 8100	S 7900	S 7300	S 7200	S 7200	S 7600	S 7600	S 7700	S 7300	S 7700	S 8000	S 7600	S 6900	
IRECTION 1		9600	0006	8500	7900	7700	7100	7000	7000	7500	7500	7600	7100	7700	0064	7600	7100	
Δ	1	Z	Z	4	N	4	Z	A	2	A	4	N	Z	4	A	N	2	
AADT		19200 0	18100 6	17000 0	16000 C	15600 0	14400 5	14200 F	14200 C	15100 5	15100 F	15300 0	14400 0	15400 0	15900 0	15200 0	14000 0	
YEAR		2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	

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

		AM P	eak Hour (7:15 - 8:1	15)	PMP	eak Hour (4:45 -5:	45)
Intersection	Movement	Total Volume	Truck Volume	Truck %	Total Volume	Truck Volume	Truck %
	NB LT	269	7	2.6%	299	0	0.0%
	NB TH	275	11	4.0%	413	3	0.7%
	NB RT	119	1	0.8%	139	0	0.0%
	NB APPROACH	663	19	2.9%	851	3	0.4%
	SB LT	17	7	41.2%	23	0	0.0%
	SB TH	436	10	2.3%	353	3	0.8%
	SB RT	115	12	10.4%	180	15	8.3%
and a second second second	SB APPROACH	568	29	5.1%	556	18	3.2%
Martin Luther King Blvd	WBLT	134	5	3.7%	113	2	1.8%
	WB TH	462	10	2.2%	366	6	1.6%
	WB RT	14	2	14.3%	9	0	0.0%
	WB APPROACH	610	17	2.8%	488	8	1.6%
2	EB LT	208	12	5.8%	243	13	5.3%
	EB TH	330	7	2.1%	409	9	2.2%
	EB RT	419	6	1.4%	309	3	1.0%
And and a second se	EB APPROACH	957	25	2.6%	961	25	2.6%
	NB LT	12	0	0.0%	13	0	0.0%
	NB TH	447	39	8.7%	735	17	2.3%
	NB RT	23	1	4.3%	41	0	0.0%
	NB APPROACH	482	40	8.3%	789	17	2.2%
	SBLT	23	0	0.0%	18	0	0.0%
	SB TH	692	36	5.2%	423	24	5.7%
	SB RT	36	2	5.6%	18	0	0.0%
(1)	SB APPROACH	751	38	5.1%	459	24	5.2%
Avenue Y (1)	WBLT	17	0	0.0%	13	0	0.0%
100-00	WB TH	15	0	0.0%	17	0	0.0%
	WB RT	25	1	4.0%	34	1	2.9%
	WB APPROACH	57	1	1.8%	64	1	1.6%
	EBLT	19	2	10.5%	36	2	5.6%
	EB TH	10	1	10.0%	14	0	0.0%
	EBRT	8	0	0.0%	28	0	0.0%
	EB APPROACH	37	3	8.1%	78	2	2.6%
	NBLT	32	0	0.0%	N/A	N/A	N/A
	NB TH	0	0	0.0%	N/A	N/A	N/A
	NB RT	14	0	0.0%	N/A	N/A	N/A
	NB APPROACH	46	0	0.0%	N/A	N/A	N/A
	SBLT	3	0	0.0%	N/A	N/A	N/A
	SB TH	1	0	0.0%	N/A	N/A	N/A
	SB RT	149	4	2.7%	N/A	N/A	N/A
Old Lucerne Park Rd	SB APPROACH	153	4	2.6%	N/A	N/A	N/A
(West End)	WBLT	4	0	0.0%	N/A	N/A	N/A
,,	WB TH	576	30	5.2%	N/A	N/A	N/A
	WB RT	4	0	0.0%	N/A	N/A	N/A
	WB APPROACH	584	30	5.1%	N/A	N/A	N/A
	EBLT	51	4	7.8%	N/A	N/A	N/A
	EB TH	448	26	5.8%	N/A	N/A	N/A
	EBRT	14	0	0.0%	N/A	N/A	N/A
	EB APPROACH	513	30	5.8%	N/A	N/A	N/A

## Table 2-7: Existing (2019) A.M. and P.M. Peak Hour Truck Volumes and Percentages

A review of the existing a.m. and p.m. peak hour truck volumes indicates that, with one exception, the a.m. peak hour volumes are higher than the p.m. peak hour volumes. The ratio of the a.m. and p.m. peak hour truck volume was calculated for each location and then the overall average ratio for the study corridor was calculated. The average overall ratio was equal to 1.50. A revised estimate of the 2025 and 2045 a.m. peak hour truck volumes was obtained by multiplying the initial estimate of the 2025 and 2045 a.m. peak hour truck volumes by 1.50. The revised 2025 and 2045 a.m. peak hour truck volumes are also provided in **Table 3-9** and Table 3-10. The final recommended 2045 and 2025 peak hour truck volumes and percentages are provided in **Table 3-11** and **Table 3-12**, respectively. Based on these assumptions, the following SR 544 mainline peak hour truck percentages (i.e., T<sub>PKHP</sub>-factors) are recommended for use in the SR 544 PD&E study:

#### Opening Year (2025) - AM Peak Hour

- 5.6% from Martin Luther King Boulevard to US 27
- 9.6% from US 27 to SR 17

#### Opening Year (2025) - PM Peak Hour

- 3.7% from Martin Luther King Boulevard to US 27
- 6.4% from US 27 to SR 17

#### Design Year (2045) - AM Peak Hour

- 4.5% from Martin Luther King Boulevard to US 27
- 8.1 % from US 27 to SR 17

#### Design Year (2045) - PM Peak Hour

- 3.0% from Martin Luther King Boulevard to US 27
- 5.4 % from US 27 to SR 17

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SR 544 from Martin Luther King Boulevard to SR 17 January 2021

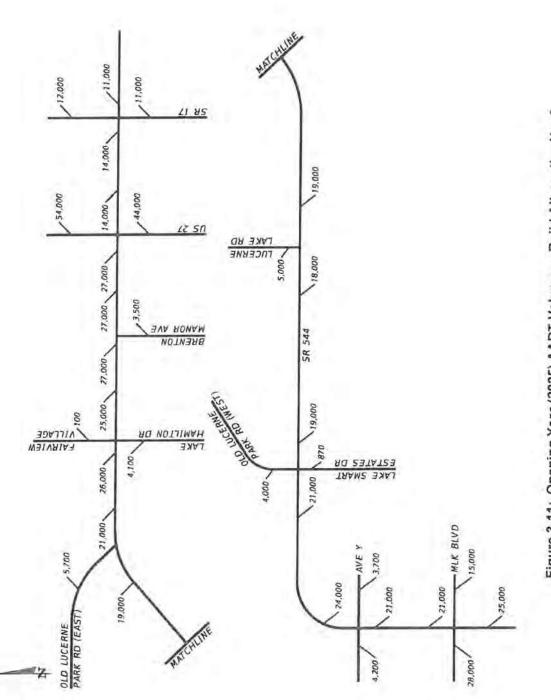


Figure 3-11: Opening Year (2025) AADT Volumes -Build Alternative No. 2

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SR 544 from Martin Luther King Boulevard to SR 17 January 2021

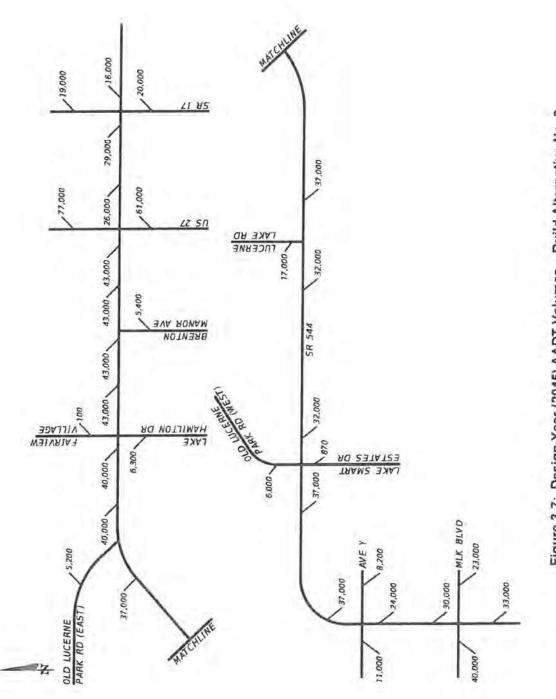
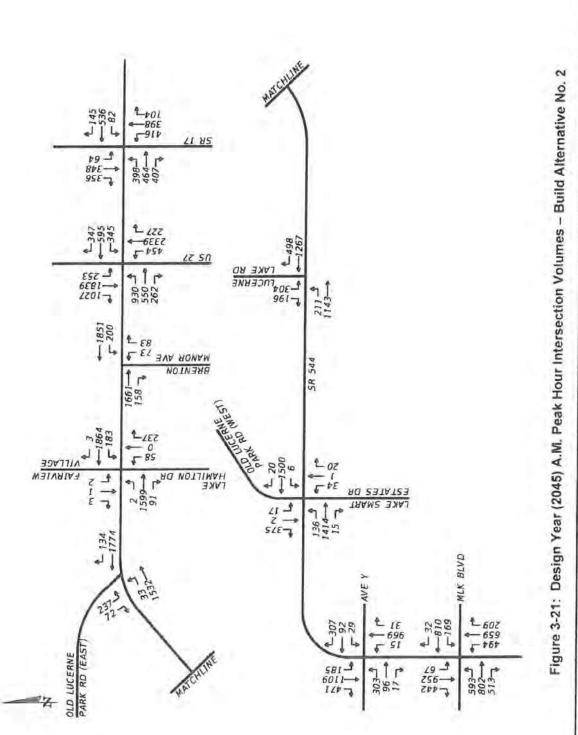


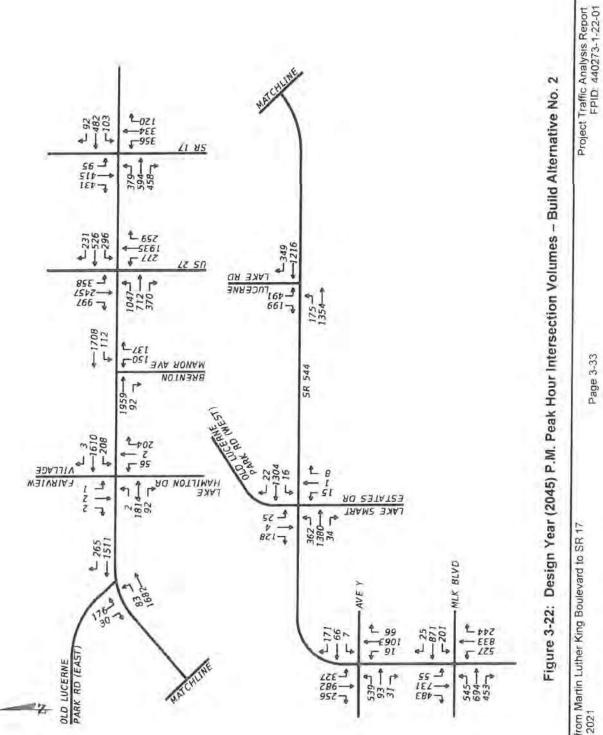
Figure 3-7: Design Year (2045) AADT Volumes - Build Alternative No. 2



SR 544 from Martin Luther King Boulevard to SR 17 January 2021

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SR 544 from Martin Luther King Boulevard to SR 17 January 2021

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			AN	1 PEAK HC	DUR			
S	B LT	SE	3 TH	S	B RT		SB APPROAC	Н
Vol.	Truck %	Vol.	Truck %	Vol.	Truck %	Vol.	Truck Vol.	Truck %
185	0.02	1109	0.05	471	0.03	1765	73.28	4.2%
N	BLT	N	B TH	N	BRT	1.000	NB APPROAC	н
Vol.	Truck %	Vol.	Truck %	Vol.	Truck %	Vol.	Truck Vol.	Truck %
15	0.03	969	0.05	31	0.02	1015	49.52	4.9%
			PN	РЕАК НС	DUR		· · · · · · · · ·	
S	B LT	SE	3 TH	SI	BRT		SB APPROAC	Н
Vol.	Truck %	Vol.	Truck %	Vol.	Truck %	Vol.	Truck Vol.	Truck %
327	0.02	982	0.03	256	0.03	1565	43.68	2.8%
N	BLT	N	3 TH	N	B RT	1	NB APPROAC	н
Vol.	Truck %	Vol.	Truck %	Vol.	Truck %	Vol.	Truck Vol.	Truck %
16	0.03	1063	0.03	66	0.02	1145	33.69	2.9%

AVENUE Y INTERSECTION DESIGN YEAR (2045) PEAK HOUR APPROACH TRUCK PERCENTAGES

HSMV_Rep Agency_Re Reporting_ Form_	Type Crash_Date	Crash_TimeCity Count	y Crash_Street	Intersecting_Street	Offset_Dist
84292649 2016-0578 Polk Co SO Long	12/24/2016	6:29 PM Unincorpor Polk	S.R. 544	AVENUE Y NE	0
84292663 2016-0563 Polk Co SO Long	12/15/2016	5:00 PM Unincorpor Polk	SR 544 (LUCERNE PARK RD)	AVE Y NE	0
84623715 2014-0261 Polk Co SO Long	6/14/2014	5:24 PM Unincorpor Polk	LUCERNE PARK RD	AVENUE Y NE	0
84624080 2014-0261 Polk Co SO Long	6/14/2014	5:25 PM Winter Hav Polk	SR 544	AVY Y NE	30
84625090 2014-0352 Polk Co SO Short	8/14/2014	8:30 AM Unincorpor Polk	SR 544 (LUCERNE PARK RD)	AVE Y NE	50
84625325 2014-0451 Polk Co SO Short	10/17/2014	11:25 AM Unincorpor Polk	CR 544 (LUCERNE PARK RD)	AVENUE Y NE	0
84626321 2014-0483 Polk Co SO Long	11/7/2014	7:25 AM Unincorpor Polk	LUCERNE PARK ROAD	AVE Y	0
84876278 FHPC15OFI FHP Long	9/9/2015	7:26 AM Winter Hav Polk	SR-544	AVENUE Y NE	0
84997634 2015-0340 Winter Hav Short	6/8/2015	10:05 AM Winter Hav Polk	SR 544	AVE Y NE	0
84998122 2015-0585 Winter Hav Long	9/30/2015	8:43 PM Winter Hav Polk	AVENUE Y NE	SR 544	0
85687388 2015-0116 Polk Co SO Long	3/14/2015	10:10 PM Unincorpor Polk	LUCERNE PARK ROAD	AVENUE Y NE	0
86083167 2015-0393 Polk Co SO Long	9/5/2015	4:55 PM Unincorpor Polk	SR 544 (LUCERNE PARK RD)	AVENUE Y NE	0
86084748 2015-0543 Polk Co SO Long	12/12/2015	3:24 PM Unincorpor Polk	LUCERNE PARK RD	AVE Y NE	0
86312457 2015-0532 Polk Co SO Long	12/6/2015	12:55 AM Unincorpor Polk	STATE ROAD 544	AVE Y NE	0
86312584 2015-0558 Polk Co SO Long	12/21/2015	3:52 PM Unincorpor Polk	S.R. 544 (LUCERNE PARK RD)	AVENUE Y NE	0
86312913 2016-0003 Polk Co SO Long	1/4/2016	11:30 AM Unincorpor Polk	SR 544	AVE Y NE	0
86440338 2016-0209 Winter Hav Long	4/1/2016	4:59 PM Winter Hav Polk	SR 544	AVENUE Y NE	0
86440489 2016-0265 Winter Hav Long	4/22/2016	6:19 PM Winter Hav Polk	AVENUE Y NE	SR 544	0
86440512 2016-0287 Winter Hav Long	5/1/2016	6:48 PM Winter Hav Polk	SR 544	AVENUE Y NE	300
86440627 2016-0347 Winter Hav Long	5/26/2016	9:54 AM Winter Hav Polk	SR 544	AVE Y NE	0
86440733 2016-0390 Winter Hav Long	6/14/2016	8:59 PM Winter Hav Polk	SR 544	AVE Y NE	0
86441582 2016-0818 Winter Hav Long	12/19/2016	4:56 PM Winter Hav Polk	SR 544	AVENUE Y NE	50
86441829 2017-0096 Winter Hav Short	2/12/2017	9:43 PM Winter Hav Polk	SR 544	AVENUE Y NE	0
86443050 2016-0219 Polk Co SO Short	5/13/2016	11:20 PM Unincorpor Polk	SR 544	AVE Y NE	0
86443709 2016-0299 Polk Co SO Long	7/1/2016	5:36 PM Unincorpor Polk	LUCERNE PARK RD	AVENUE Y NE	0
86938166 2017-0079 Polk Co SO Long	2/12/2017	9:31 PM Winter Hav Polk	LUCERNE PARK ROAD	AVE Y	10
86994843 2017-0438 Polk Co SO Long	9/26/2017	3:44 PM Unincorpor Polk	LUCERNE PARK RD	AVENUE Y NE	0
87549566 2017-0845 Winter Hav Long	12/31/2017	5:15 PM Winter Hav Polk	LUCERNE PARK RD	AVENUE Y NE	133
87550936 2018-0628 Winter Hav Long	9/28/2018	2:57 PM Winter Hav Polk	LUCERNE PARK RD	AVENUE Y NE	0
87666903 2018-0306 Polk Co SO Long	6/29/2018	8:35 PM Unincorpor Polk	STATE ROAD 544	AVENUE Y NE	0
88751223 2018-0491 Polk Co SO Long	10/18/2018	5:41 PM Unincorpor Polk	LUCERNE PARK RD	AVE Y NE	0
88753315 2019-3223 Polk Co SO Short	7/10/2019	5:16 PM Unincorpor Polk	LUCERNE PARK RD	AVE Y NE	0
89008841 2019-0213 Polk Co SO Long	5/5/2019	1:15 PM Unincorpor Polk	LUCERNE PARK ROAD	AVE Y NE	0
89009066 2019-0116 Polk Co SO Long	3/8/2019	7:53 AM Unincorpor Polk	LUCERNE PARK RD (NB)	AVENUE Y NE	0
89009507 2019-0136 Polk Co SO Long	3/20/2019	11:07 PM Unincorpor Polk	SR 544 (LUCERNE PARK RD)	AVENUE Y NE	0
89010358 2019-0163 Polk Co SO Long	4/7/2019	1:15 AM Unincorpor Polk	LUCERNE PARK RD	AVENUE Y NE	100
89010667 2019-0289 Polk Co SO Long	6/19/2019	•	LUCERNE PARK ROAD	AVENUE Y NE	0
89011448 2019-0254 Polk Co SO Long	5/29/2019		STATE ROAD 544 (LUCERNE PA	R AVENUE Y NE	0
89012973 2019-0368 Polk Co SO Long	8/5/2019	1:21 PM Unincorpor Polk	LUCERNE PARK RD	AVENUE Y NE	0
89119601 2019-0276 Winter Hav Long	4/27/2019	1:05 PM Winter Hav Polk	LUCERNE PARK RD	AVENUE Y NE	16

89370302 2019-0435 Polk Co SO Short	9/19/2019	6:59 AM Unincorpor Polk	LUCERNE PARK RD	AVE Y NE	0
89370306 2019-0426 Polk Co SO Long	9/12/2019	8:27 PM Unincorpor Polk	LUCERNE PARK RD	AVE Y NE	10
89372140 2019-0542 Polk Co SO Short	11/20/2019	3:22 PM Unincorpor Polk	LUCERNE PARK RD	AVE Y NE	0

Offset_Di	re Crash_Type	Vehicles Non_	Motorist <mark> Fata</mark>	lities Injuries	Alcol	hol_Re Distra	action_Drug_F	elat Estimated_	Weather	_C Light_Cond Street_	Nur Crash_Type_D	Crash_Type
	Angle	2	0	0	0 N	Ν	Ν	\$1,500	Clear	Dark - Lighted	Right Angle	NE
	Unknown	2	0	0	<b>1</b> N	Ν	N	\$1,001	Clear	Daylight	Unknown	
	Left Turn	2	0	0	<b>2</b> N	Y	Ν	\$510	Rain	Daylight	Left Rear	W
North	Rear End	2	0	0	<b>1</b> N	Ν	N	\$4,000	Rain	Daylight	Rear End	S
South	Rear End	2	0	0	0 N	Ν	N	\$1,000	Clear	Daylight	Rear End	S
	Angle	2	0	0	0 N	Ν	N	\$2,000	Clear	Daylight	<b>Right Angle</b>	SE
South	Rear End	3	0	0	1 N	Y	Ν	\$12,500	Cloudy	Daylight	Rear End	S
	Angle	3	0	0	0 N	Ν	Ν	\$7,300	Clear	Daylight	Right Angle	NE
	Unknown	2	0	0	0 N	Ν	N	\$3,000	Clear	Daylight	Unknown	_
	Other	2	0	0	0 N	Ν	Ν	\$300	Clear	Dark - Lighted	Backed Into	
	Unknown	2	0	0	0 N	Ν	N	\$1,500	Clear	Dark - Lighted	Unknown	
	Rear End	2	0	0	<b>1</b> N	Ν	N	\$0	Rain	Daylight	Rear End	N
South	Angle	2	0	0	0 N	Ν	N	\$1,500	Clear	Daylight	Right Angle	SW
	Angle	2	0	0	0 N	Ν	Ν	\$17,000	Clear	Dark - Lighted	Right Angle	SW
	Angle	2	0	0	<b>1</b> N	Ν	N	\$7,500	Clear	Daylight	Right Angle	NW
	Angle	3	0	0	<mark>2</mark> N	Ν	N	\$6,500	Clear	Daylight	Right Angle	NE
	Angle	2	0	0	<b>4</b> N	Ν	Ν	\$5,000	Clear	Daylight	Right Angle	SW
	Angle	2	0	0	0 N	Ν	Ν	\$5,000	Clear	Daylight	Right Angle	NE
North	Other	1	0	0	<b>1</b> N	Ν	N	\$20,000	Clear	Daylight	Single Vehicle	W
	Angle	2	0	0	0 N	Ν	Ν	\$6,000	Clear	Daylight	Right Angle	NE
	Left Turn	2	0	0	0 N	Ν	Ν	\$3,000	Clear	Dark - Lighted	Left Rear	E
South	Rear End	3	0	0	<b>1</b> N	Ν	N	\$3,500	Clear	Daylight	Rear End	S
	Rear End	2	0	0	0 N	Ν	N	\$2,000	Clear	Dark - Lighted	Rear End	
	Rear End	2	0	0	0 N	Ν	N	\$1,000		Dark - Lighted	Rear End	S
North	Angle	2	0	0	<b>1</b> N	Ν	N	\$4,000	Clear	Daylight	Right Angle	NW
North	Left Turn	2	0	0	<b>1</b> N	Ν	Ν	\$2,500		Dark - Lighted	Left Rear	E
	Angle	2	0	0	<b>1</b> N	Ν	N	\$8,000	Clear	Daylight	<b>Right Angle</b>	SW
North	Rear End	2	0	0	<b>1</b> N	Ν	Ν	\$500		Daylight	Rear End	S
	Rear End	2	0	0	0 N	Ν	N	\$1,000		Daylight	Rear End	E
	Angle	2	0	0	0 N	Ν	Ν	\$8,500		Dark - Lighted	Right Angle	SW
	Left Turn	2	0	0	<b>1</b> N	Ν	N	\$3,000		Daylight	Left Entering	
	Right Turn	2	0	0	0 N	Ν	N	\$1,000		Daylight	Right/Through	
North	Rear End	2	0	0	<b>1</b> N	N	Ν	\$2,000		Daylight	Rear End	N
	Left Turn	2	0	0	<b>1</b> N	Y	Ν	\$5,000		Daylight	Left Rear	E
	Sideswipe	2	0	0	0 N	Ν	Ν	\$4,000		Dark - Lighted	Same Directio	
South	Rear End	2	0	0	0 N	Ν	Ν	\$2,000		Dark - Lighted	Rear End	S
North	Angle	2	0	0	0 N	Ν	Ν		Clear	Daylight	Right Angle	NE
	Other	2	0	0	2 N	N	Ν	\$10,000		Daylight	Other	N
	Rear End	2	0	0	0 N	N	Ν	\$4,800		Daylight	Rear End	N
South	Angle	2	0	0	0 N	N	N	\$2,000	Clear	Daylight	Right Angle	NW

	Sideswipe	2	0	0	<mark>0</mark> N	Ν	Ν	\$700 Clear	Dawn	Same Direction S	3
West	Angle	2	0	0	<b>1</b> N	Ν	Ν	\$2,000 Clear	Dawn	Right Angle N	NE
	Left Turn	2	0	0	0 N	Ν	Ν	\$1,000 Clear	Daylight	Left Entering E	Ξ

Crash_Seve	Within_Cit	Manner_of_Co	First_Harmful_
Property D	N	Angle	Motor Vehicle
Injury	N	Angle	Motor Vehicle
Injury	Ν	Angle	Motor Vehicle
Injury	Υ	Front to Rear	Motor Vehicle
Property D	N	Front to Rear	Motor Vehicle
Property D	N	Angle	Motor Vehicle
Injury	Ν	Front to Rear	Motor Vehicle
Property D	N	Angle	Motor Vehicle
Property D	Y	Angle	Motor Vehicle
Property D	Y	Front to Rear	Motor Vehicle
Property D	N	Angle	Motor Vehicle
Injury	Ν	Front to Rear	Motor Vehicle
Property D	N	Sideswipe, Op	Motor Vehicle
Property D	N	Angle	Motor Vehicle
Injury	Ν	Angle	Motor Vehicle
Injury	Ν	Angle	Motor Vehicle
Injury	Υ	Angle	Motor Vehicle
Property D	Y	Front to Rear	Motor Vehicle
Injury	Υ	Other	Ran Off Roadw
Property D	Y	Angle	Motor Vehicle
Property D	Y	Angle	Motor Vehicle
Injury	Υ	Front to Rear	Motor Vehicle
Property D	N	Front to Rear	Motor Vehicle
Property D	N	Front to Rear	Motor Vehicle
Injury	Ν	Other	Motor Vehicle
Injury	Υ	Angle	Motor Vehicle
Injury	Ν	Front to Front	Motor Vehicle
Injury	Υ	Front to Rear	Motor Vehicle
Property D	Y	Angle	Motor Vehicle
Property D	N	Angle	Motor Vehicle
Injury	Ν	Angle	Motor Vehicle
Property D	N	Angle	Motor Vehicle
Injury	Ν	Front to Rear	Motor Vehicle
Injury	Ν	Angle	Motor Vehicle
Property D	N	Sideswipe, Sar	Motor Vehicle
Property D	N	Front to Rear	Motor Vehicle
Property D	N	Angle	Motor Vehicle
Injury	Ν	Other	Motor Vehicle
Property D	N	Front to Rear	Motor Vehicle
Property D	Y	Angle	Motor Vehicle

 Property D: N
 Sideswipe, Sar Motor Vehicle

 Injury
 N
 Angle
 Motor Vehicle

 Property D: N
 Angle
 Motor Vehicle

Crash Number	Location Mile Post	Roadway Id	Crash Date	Crash Year	On Road	Intersecting Road	First Harmful Event	Manner Of Collision	Light Condition	Weather Condition
849981220	4.169	16140000	9/30/2015	2015	AVE Y NE	SR 544	Motor Vehicle In Transport	Front To Rear	Dark-Lighted	Clear
864403380	4.169	16140000	4/1/2016	2016	SR 544	AVE Y NE	Motor Vehicle In Transport	Angle	Daylight	Clear

Surface Condition Junction Dry Dry Dry

Non-Junction Non-Junction Site Location Influenced By Intersection At Intersection

No No

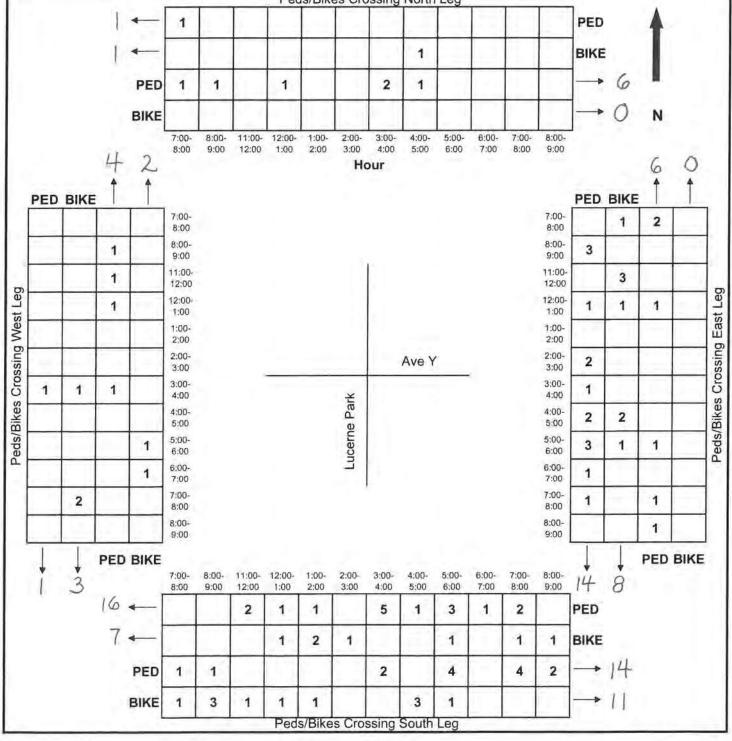
Alcohol Drugs Involvement Number of Fatalities Number of Injured

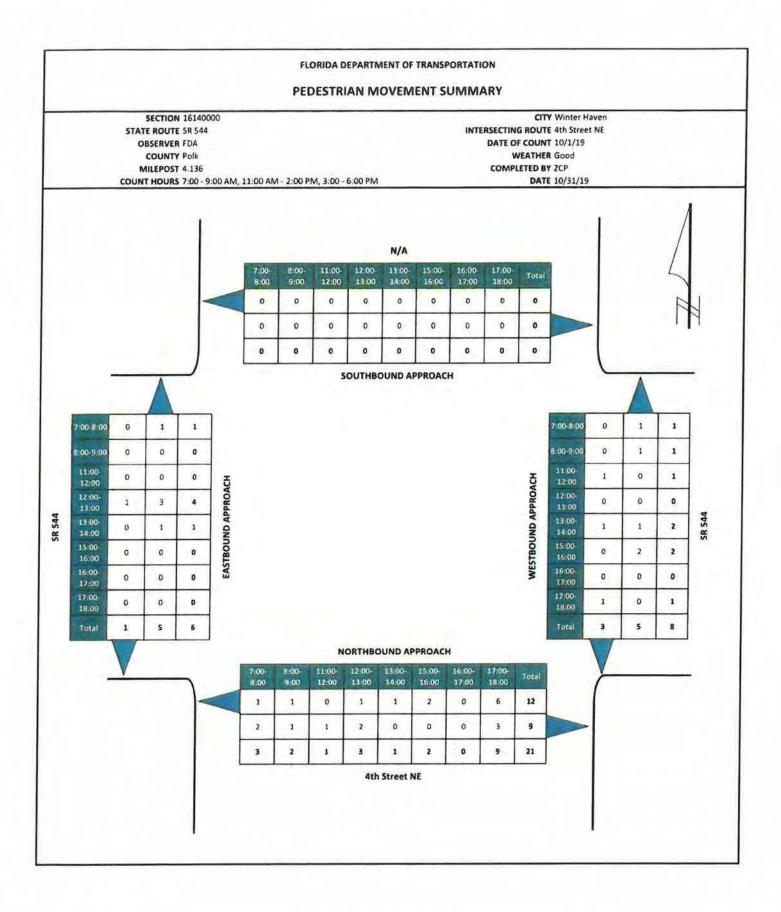
4

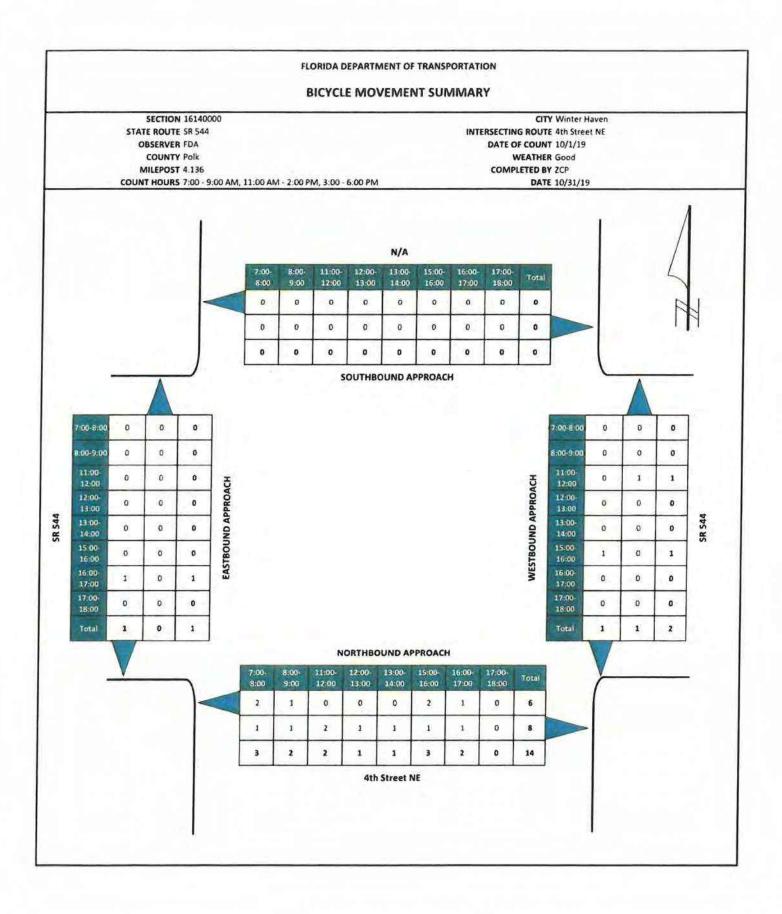
Total Crash Damage Amount 300

#### Intersection Pedestrian & Bicycle Count

Date:	12/12/2017	Day: Tuesday
Count Times:	7-9am & 11am-9pm	Weather: Clear
Intersection:	Lucerne Park Road (SR 544) at Ave Y NE	
Comments:		
	Peds/Bikes Crossing Nort	h Leg







#### SR 544 Ped-Bicycle Counts FPID 436417-2-32-01, TWO 4

#### SR 544 at Avenue X NE/Cedie Street

Street Name	5		vestbo Cedie			ich	S	outhe	astbo Avenu		and the second second	ch		Nort	hbour Driv	id App eway	roach			Wes	tboun SR	d App 544	roach			East	bound SR	l Appr 544	oach	
Direction	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Tota
Туре	Ped	Ped	Ped	Bike	Bike	Bike	Ped	Ped	Ped	Bike	Bike	Bike	Ped	Ped	Ped	Bike	Bike	Bike	Ped	Ped	Ped	Bike	Bike	Bike	Ped	Ped	Ped	Bike	Bike	Bike
7:00 - 8:00	2	0	2	0	0	0	2	3	5	0	0	0	1	0	1	0	1	1	1	1	2	0	0	0	0	0	0	0	0	0
8:00 - 9:00	1	1	2	0	0	0	0	0	0	0	2	2	2	1	3	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
11:00 - 12:00	2	0	2	0	0	0	0	0	0	2	1	3	0	1	1	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0
12:00 - 13:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00 - 14:00	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	1	1	0	1	0	1	1	0	1	1	0	0	0
15:00 - 16:00	1	1	2	0	0	0	0	0	0	0	0	0	3	0	3	0	1	1	1	0	1	0	0	0	0	0	0	0	0	0
16:00 - 17:00	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00 - 18:00	0	0	0	0	0	0	2	4	6	0	0	0	1	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	6	3	9	0	0	0	4	8	12	2	3	5	8	6	14	2	2	4	4	1	5	0	1	1	1	1	2	0	0	0

\*Although one crosswalk covers both the Avenue X NE and Cedie Street approaches, the pedestrian and bicycle movements were separated as pedestrians and bicyclists were observed leaving the crosswalk to travel on their desired approach.

#### SR 544 at 4<sup>th</sup> Street NE

Street Name			hboun 4th Str					Wes	tboun SR	d Appi 544	roach			East	tbound SR	l Appr 544	oach	
Direction	EB	WB	Total	EB	WB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total
Туре	Ped	Ped	Ped	Bike	Bike	Bike	Ped	Ped	Ped	Bike	Bike	Bike	Ped	Ped	Ped	Bike	Bike	Bike
7:00 - 8:00	2	1	3	1	2	3	1	0	1	0	0	0	1	0	1	0	0	0
8:00 - 9:00	1	1	2	1	1	2	1	0	1	0	0	0	0	0	0	0	0	0
11:00 - 12:00	1	0	1	2	0	2	0	1	1	1	0	1	0	0	0	0	0	0
12:00 - 13:00	2	1	3	1	0	1	0	0	0	0	0	0	3	1	4	0	0	0
13:00 - 14:00	0	1	1	1	0	1	1	1	2	0	0	0	1	0	1	0	0	0
15:00 - 16:00	0	2	2	1	2	3	2	0	2	0	1	1	0	0	0	0	0	0
16:00 - 17:00	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	1	1
17:00 - 18:00	3	6	9	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
Total	9	12	21	8	6	14	5	3	8	1	1	2	5	1	6	0	1	1

#### SR 544 at Lake Fannie Park Entrance

Street Name			hboun annie l	× 191.0		e		Wes	tboun SR	d Appi 544	roach			East	bound SR	l Appr 544	oach	
Direction	EB	WB	Total	EB	WB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Tota
Туре	Ped	Ped	Ped	Bike	Bike	Bike	Ped	Ped	Ped	Bike	Bike	Bike	Ped	Ped	Ped	Bike	Bike	Bike
7:00 - 8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 - 9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00 - 14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00 - 16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00 - 17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00 - 18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix B

FDOT Historical Traffic Volume Data Analysis Memorandum

#### **Review of Request for Traffic Signal**

#### SR 544 (Lucerne Park Road) at Avenue Y NE Winter Haven, Polk County, FL Roadway ID: 16140000 MP: 4.161

The subject intersection, SR 544 (Lucerne Park Road) and Avenue Y NE is a 4-legged intersection with existing 2-way Stop Control on the Avenue Y NE approaches. The roadway characteristics are as follows:

#### <u>SR 544</u>

- East-west roadway, running north-south at the subject intersection. (Directions will be referenced as northbound and southbound),
- 2-lane urban minor arterial,
- Access class: 07,
- Context classification: subject intersection is a transition from C4 (Urban General) to the south and C3C (Suburban Commercial) to the north,
- Posted Speed Limit: 35 MPH (transitions to 45 MPH approximately 500' north of the intersection),
- Turn lanes are not present on the northbound or southbound approaches,
- 5-feet-wide shoulders are present, with curb and gutter to the south and open drainage to the north.

#### Avenue Y NE

- 2-lane local street serving mostly residential land uses,
- The eastbound approach is a single-lane (shared left/through/right) and is stop-controlled,
- The westbound approach is a stop-controlled shared left/through with a channelized free flow right turn lane.

#### **Historical Data Review**

The subject intersection has been studied no fewer than 5 times between 2004 and 2016. These studies include the following:

- Composite Study Traffic Counts (TEI Engineers & Planners, 2004)
- Composite Study Counts & Delay (HNTB, 2006)
- Signal Warrant Analysis (Vanus, 2009)
- Intersection Delay Study (ICON, 2012)
- Signal Warrant Analysis (ICON, 2016)

SR 544 has historical Average Annual Daily Traffic (AADT) volumes as shown in **Table 1** below.

		0			
	Annual	Annual		Annual	Annual
South Log	Compound	Compound	North Log	Compound	Compound
0	Growth	Growth	0	Growth	Growth
[vpu]	Rate	Rate	լտրայ	Rate	Rate
	2015-2019	2016-2019		2015-2019	2016-2019
16,500			15,600		
17,300			16,000		
17,300	3.32%	2 8 1 0 /	17,000	5.33%	6 270/
17,800		2.01%	18,100		6.27%
18,800			19,200		
	17,300 17,300 17,800	South Leg [vpd]         Compound Growth Rate 2015-2019           16,500	South Leg [vpd]         Compound Growth Rate         Compound Growth           16,500         2015-2019         2016-2019           16,500         2016-2019         2016-2019           17,300         3.32%         2.81%	South Leg [vpd]         Compound Growth Rate         Compound Growth Rate         North Leg [vpd]           16,500         2015-2019         2016-2019         15,600           17,300         3.32%         16,000         17,000           17,800         18,100         18,100	South Leg [vpd]         Compound Growth Rate         Compound Growth Rate         North Leg [vpd]         Compound Growth Rate           2015-2019         2016-2019         1         2015-2019         2015-2019           16,500         15,600         115,600         5.33%           17,300         3.32%         2.81%         16,000           17,800         18,100         5.33%

Table 1 – Annual Average Daily Traffic (SR 544)

Data source: Florida Traffic Online (Computations by FDOT staff)

Side street approach volumes were taken from the turning movement counts in the previously referenced studies and sorted highest to lowest (1 through 8), without the inclusion of right turning movements. The maximum hourly volumes from either the eastbound approach or westbound approach were selected from each ranked hour to create a composite 8-hour analysis period. This composite analysis satisfies 2 of 8 required hours for Warrant 1- Condition B (Interruption of Continuous Traffic) at the 70% threshold. (Application of the 70% threshold assumes that operating speeds are 40 MPH or greater due to the speed limit transition north of the intersection.) A side street annual (2016 to 2021) compound growth rate of 10.6% would be required to achieve the 70% volume thresholds in Warrant 1 – Condition B for the required 8 hours.

To assess the side street volumes for year-over-year stability, the difference between the maximum and minimum in each analysis hour was determined. The differences range from 7 vehicles per hour (vph) to 11 vph with an average difference of 9.25 vph. These are shown in **Table 2** below.

	l l		v
Hour	Maximum	Minimum	Delta
	[vph]	[vph]	
1	61	50	11
2	54	47	7
3	50	41	9
4	45	37	8
5	43	32	11
6	40	31	9
7	36	27	9
8	32	22	10

 Table 2 – Hourly Volume Sensitivity

The 24-hour approach counts, as taken from the referenced studies, for the side street approaches (all movements) were assessed for annual compound growth rates. All possible points of comparison were considered. The average annual compound growth rates are as follow:

- Eastbound: -0.39%
- Westbound: -0.91%

Historical Data Analysis March 19, 2021

#### **Crash History**

CARS and Signal Four were searched for crashes at the subject intersection for the period January 1, 2016 to March 2021. The associated crash reports were reviewed to determine correctable crashes and to review for fatalities. 22 correctable crashes and 1 fatal crash were identified through the review of crash reports.

The fatal crash (2 fatalities) occurred November 29, 2020. The circumstances of this crash, as indicated in the crash report, are a DUI lane departure head-on crash  $500^{2}$  south of the intersection. The DUI motorist (a fatality) was proceeding southbound and had already cleared the intersection. This crash is not included in the count of correctable crashes.

The correctable crashes have a yearly distribution as follows:

2016: 8 2017: 2 2018: 2 2019: 7 2020: 2 2021: 1 (through March 12)

The subject intersection is within the project limits of FPID: 440273-2, a project to widen SR 544 to a 4-lane section which would be anticipated to improve the operational safety of this intersection.

#### **Adjacent Development**

A review of aerial imagery from Google Earth (2004 to 2016) indicates that no significant new development has occurred on either leg of Avenue Y NE. This imagery further reveals that additional development is unlikely without a large-scale redevelopment project as the adjacent land is effectively built out.

#### **Conclusion and Recommendation**

The intersection of SR 544 (Lucerne Park Road) and Avenue Y NE in Winter Haven, Polk County, FL has been studied extensively for signalization. The data suggest that vehicular volumes on the Avenue Y NE approaches to SR 544 have not seen significant changes since the first available study was accomplished in 2004. The surrounding land uses have also remained constant over that time. All evidence suggests that a study at this time would yield results similar to the previous studies and a signal would not be warranted.

## It is NOT recommended that the subject intersection be evaluated for possible signalization at this time.

R. Scott Leary, EI, RSP<sub>1</sub> March 19, 2021 Appendix C

CAP-X and SPICE Analysis Summary Sheets

Summary Report - Page 1 of 2

Project Name:	SR 544 PD&E Study from MLK Boulevard to SR 17
Project Number:	FPID No. 440273-1-22-01
Location:	SR 544/Avenue Y
Date:	Design Year (2045) AM Peak Hour
Number of Intersection Legs:	4
Major Street Direction	North-South

		Ti	affic Volume D	emand			
		Volum	ne (Veh/hr)			Perce	ent (%)
	U-Turn	Left	Thru	Right			
	Ŋ	1	Î		Heavy ∖	/ehicles	Volume Growth
Eastbound	0	303	96	17	3.0	0%	0.00%
Westbound	0	29	92	307	2.0	0%	0.00%
Southbound	0	185	1109	471	4.0	0%	0.00%
Northbound	0	15	969	31	5.0	0%	0.00%
Adjustment Factor	0.80	0.95		0.85		$\sim$	
Suggested	0.80	0.95		0.85			
	Truck to	PCE Factor		Suggested =	2.00		2.00
FDC	OT Context Zone		C4	-General Urban	Residen	tial	
		2-pł	nase signal	Suggested =	1800		1800
	Lane Volume	3-pł	nase signal	Suggested =	1750		1750
		4-pł	nase signal	Suggested =	1700		1700

## **Capacity Analysis for Planning of Junctions**

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TYPE OF INTERSECTION	Overall v/c Ratio	V/C Ranking	Multimodal Score	Pedestrian Accommodation s	Bicycle Accommodation s	Transit Accommodatio ns
Traffic Signal	0.88	1	2.4	Poor	Poor	Fair
2 X 2	0.90	2	2.8	Poor	Fair	Fair
Median U-Turn N-S	1.05	3	3.1	Fair	Fair	Poor
2NS X 1EW	1.07	4	2.8	Poor	Fair	Fair
Signalized Restricted Crossing U-Turn N-S	1.11	5	3.1	Fair	Fair	Poor
Signalized ThruCut N-S	1.15	6	2.6	Poor	Fair	Poor
1 X 1	1.57	7	3.3	Fair	Fair	Fair
All-Way Stop Control	2.09	8	3.3	Fair	Fair	Fair
Unsignalized Restricted Crossing U- Turn N-S	3.34	9	2.2	Poor	Poor	Poor
Two-Way Stop Control N-S	12.35	10	1.9	Poor	Poor	Fair

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Project Name:	SR 544 PD&E Study from MLK Boulevard to SR 17
Project Number:	FPID No. 440273-1-22-01
Location:	SR 544/Avenue Y
Date:	Design Year (2045) AM Peak Hour
Number of Intersection Legs:	4
Major Street Direction:	North-South

			Tra	ffic Volume D	emand			
		۷	olume	(Veh/hr)			Perce	ent (%)
	U-Turn	Lef	ťt	Thru	Right			
	Ŋ	<b>(</b>		Î	ſ	Heavy \	/ehicles	Volume Growth
Eastbound	0	30	3	96	17	3.0	0%	0.00%
Westbound	0	29	)	92	307	2.0	0%	0.00%
Southbound	0	18	5	1109	471	4.0	0%	0.00%
Northbound	0	15		969	31	5.0	0%	0.00%
Adjustment Factor	0.80	0.9	5		0.85			
Suggested	0.80	0.9	5		0.85			
	Truck to	PCE Fac	tor		Suggested =	= 2.00		2.00
FDC	OT Context Zone			C4	-General Urban	Residen	tial	
			2-pha	se signal	Suggested =	1800		1800
	Lane Volume		3-pha	se signal	Suggested =	1750		1750
			4-pha	se signal	Suggested =	1700		1700

## Capacity Analysis for Planning of Junctions

Detailed Report - Page 2 of 4

Number of Lanes for Non-roundabout Intersections																	
TYPE OF INTERSECTION	Sheet	N	orthl	bou	nd	Sc	outh	bou	nd	E	astb	our	nd	W	est	oour	۱d
	oneer	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Traffic Signal	FULL	$\geq$	1	2	0	$\geq$	1	1	1	$\setminus$	2	1	0	$\geq$	1	1	1
Two-Way Stop Control	<u>N-S</u>	$\geq$	1	2	0	$\geq$	1	1	1		1	1	0	$\geq$	1	1	1
All-Way Stop Control	FULL	$\geq$	1	2	0	$\geq$	1	1	1		1	1	0	$\geq$	1	1	1
Signalized Restricted Crossing U-Turn	<u>N-S</u>	1	1	2	0	1	1	1	1		/	$\setminus$	1	$\geq$	$\setminus$	$\geq$	1
Turn	<u>N-S</u>	1	1	2	0	1	1	1	1		/	/	1	$\checkmark$	/		1
Median U-Turn	<u>N-S</u>	1	$\setminus$	2	0	1		1	1		/	1	0		$\setminus$	1	1
Signalized ThruCut	<u>N-S</u>	$\geq$	1	2	0	$\geq$	1	1	1		2	$\setminus$	1	$\geq$	1		1
Unsignalized ThruCut	<u>N-S</u>	$\checkmark$	1	2	0	$\checkmark$	1	1	1	$\checkmark$	1	$\nearrow$	1	$\checkmark$	1	$\checkmark$	1
	lumber	of L	.ane	es f	or I	nte	rch	ang	es								
TYPE OF INTERCHANGE	Sheet	No U	orthl	oou T	nd R	Sc U	uth L	bou T	nd R	E	astb L	our T	nd R	W U	esti L	oour T	nd R

### Capacity Analysis for Planning of Junctions

Detailed Report - Page 3 of 4

	R	lesult	ts for	Non	-roun	Idabo	out In	terse	ctior	IS					
TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zor (So	ne 2 uth)	Zone 3	l (East)	Zor (We		Zor (Cei	ne 5 nter)	Overall v/c Ratio	Pedestrian commodations	Bicycle commodations	Transit ccommodations
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		Ac	Ac	Ac
Traffic Signal	FULL		$\langle$			$\checkmark$			/	1501	<u>0.88</u>	0.88	Poor	Peer	Fair
Two-Way Stop Control	<u>N-S</u>			$\geq$				$\geq$	/		12.35	12.35	Poor	Peer	Fair
All-Way Stop Control	FULL	$\geq$		$\geq$	$\triangleright$				/	3767	<u>2.09</u>	2.09	Fair	Fair	Fair
Signalized Restricted Crossing U-Turn	<u>N-S</u>	1990	<u>1.11</u>	1047	<u>0.58</u>	1179	<u>0.65</u>	1688	<u>0.94</u>	/		1.11	Fair	Fair	Poor
Unsignalized Restricted Crossing U-Turn	<u>N-S</u>	1835	0.48	1066	<u>0.79</u>	1395	3.34	1183	<u>1.87</u>	/	/	3.34	Poor	Poor	Peer

Median U-Turn	<u>N-S</u>	1893	<u>1.05</u>	1163	<u>0.65</u>	$\checkmark$	$\checkmark$		1749	<u>0.97</u>	1.05	Fair	Fair	Peer
Signalized ThruCut	<u>N-S</u>	$\langle$				$\checkmark$	$\geq$	$\geq$	1582	<u>1.15</u>	1.15	Poor	Fair	Peer
Unsignalized ThruCut	<u>N-S</u>	$\geq$		$\geq$	$\geq$	$\searrow$	$\geq$	$\geq$	 Ξ.	258.26	258.26	Poor	Peer	Peer

Detailed Report - Page 4 of 4

						Re	sults f	or Rou	ndabo	uts						
TYPE OF ROUNDABOUT	Zo	ne 1 (Nor	th)	z	one 3 (Eas	it)	Zo	ne 2 (Sou	th)	Zo	one 4 (Wes	st)	Overall v/c Ratio	Pedestrian commodations	Bicycle commodations	Transit commodations
	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3		Ac	Ac	Ac
<u>1 X 1</u>	<u>1.57</u>	/	/	<u>1.29</u>			<u>1.46</u>	/		<u>1.27</u>		/	1.57	Fair	Fair	Fair
2NS X 1EW	<u>0.80</u>	0.85		<u>1.07</u>			<u>0.71</u>	<u>0.73</u>		<u>1.06</u>			1.07	Poor	Fair	Fair
<u>2 X 2</u>	0.80	0.85		<u>0.35</u>	<u>0.76</u>		<u>0.71</u>	<u>0.73</u>		<u>0.90</u>	<u>0.29</u>		0.90	Poor	Fair	Fair

				1	Re	sults	for I	nterc	hang	ges							
TYPE OF INTERCHANGE	Sheet	Zone 1 Mi	(Rt rg)	Zone 2 Mi	! (Lt rg)	Zor (Ctr		Zor (Cti		Zone 5 M	i (Lt rg)	Zone 6 M	ð (Rt rg)	Overall v/c Ratio	Pedestrian commodations	Bicycle commodations	Transit ccommodations
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		Ac	Ϋ́	Ac

Summary Report - Page 1 of 2

Project Name:	SR 544 PD&E Study from MLK Boulevard to SR 17
Project Number:	FPID No. 440273-1-22-01
Location:	SR 544/Avenue Y
Date:	Design Year (2045) PM Peak Hour
Number of Intersection Legs:	4
Major Street Direction	North-South

	_	Т	raffic Volume D	emand			
		Volur	ne (Veh/hr)			Perce	ent (%)
	U-Turn	Left	Thru	Right			
	ŋ	1	1	ſ	Heavy ∖	/ehicles	Volume Growth
Eastbound	0	539	93	31	3.0	0%	0.00%
Westbound	0	7	66	171	2.0	0%	0.00%
Southbound	0	327	982	256	3.0	0%	0.00%
Northbound	0	16	1063	66	3.0	0%	0.00%
Adjustment Factor	0.80	0.95		0.85		$\sim$	
Suggested	0.80	0.95		0.85			
	Truck to	PCE Factor		Suggested =	2.00		2.00
FDC	OT Context Zone		C4	-General Urban	Residen	tial	
		2-р	hase signal	Suggested =	1800		1800
	Lane Volume hreshold	3-р	hase signal	Suggested =	1750		1750
		4-р		1700			

## **Capacity Analysis for Planning of Junctions**

Summary Report - Page 2 of 2

TYPE OF INTERSECTION	Overall v/c Ratio	V/C Ranking	Multimodal Score	Pedestrian Accommodation s	Bicycle Accommodation s	Transit Accommodatio ns
Traffic Signal	0.82	1	2.4	Poor	Poor	Fair
Signalized ThruCut N-S	0.97	2	2.6	Poor	Fair	Poor
Signalized Restricted Crossing U-Turn N-S	1.01	3	3.1	Fair	Fair	Poor
Median U-Turn N-S	1.11	4	3.1	Fair	Fair	Poor
2 X 2	1.57	5	2.8	Poor	Fair	Fair
2NS X 1EW	1.67	6	2.8	Poor	Fair	Fair
All-Way Stop Control	2.07	7	3.3	Fair	Fair	Fair
1 X 1	2.39	8	3.3	Fair	Fair	Fair
Unsignalized Restricted Crossing U- Turn N-S	3.22	9	2.2	Poor	Poor	Poor
Two-Way Stop Control N-S	23.28	10	1.9	Poor	Poor	Fair

Detailed Report - Page 1 of 4

Project Name:	SR 544 PD&E Study from MLK Boulevard to SR 17
Project Number:	FPID No. 440273-1-22-01
Location:	SR 544/Avenue Y
Date:	Design Year (2045) PM Peak Hour
Number of Intersection Legs:	4
Major Street Direction:	North-South

			Tra	ffic Volume D	emand			
		۷	olume	(Veh/hr)			Perce	ent (%)
	U-Turn	Lef	t	Thru	Right			
	ŋ			Î		Heavy \	/ehicles	Volume Growth
Eastbound	0	539	Ð	93	31	3.0	0%	0.00%
Westbound	0	7		66	171	2.0	0%	0.00%
Southbound	0	327	7	982	256	3.0	0%	0.00%
Northbound	0	16		1063	66	3.0	0%	0.00%
Adjustment Factor	0.80	0.9	5		0.85			
Suggested	0.80	0.9	5		0.85			
	Truck to	PCE Fac	tor		Suggested =	2.00		2.00
FDC	OT Context Zone			C4-	General Urban	Residen	itial	
				se signal	Suggested =	1800		1800
	Lane Volume		3-pha	se signal	Suggested =	1750		1750
			4-pha	se signal	Suggested =	1700		1700

## Capacity Analysis for Planning of Junctions

Detailed Report - Page 2 of 4

Number o	of Lanes	Number of Lanes for Non-roundabout Intersections															
TYPE OF INTERSECTION	Sheet	N	orthl	bou	nd	Sc	outh	bou	nd	E	astb	our	nd	W	est	oour	۱d
	oneer	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Traffic Signal	FULL	$\geq$	1	2	0	$\geq$	1	1	1	$\setminus$	2	1	0	$\geq$	1	1	1
Two-Way Stop Control	<u>N-S</u>	$\geq$	1	2	0	$\geq$	1	1	1		1	1	0	$\geq$	1	1	1
All-Way Stop Control	FULL	$\geq$	1	2	0	$\geq$	1	1	1		1	1	0	$\geq$	1	1	1
Signalized Restricted Crossing U-Turn	<u>N-S</u>	1	1	2	0	1	1	1	1		/	$\setminus$	1	$\geq$	$\setminus$	$\geq$	1
Turn	<u>N-S</u>	1	1	2	0	1	1	1	1		/	/	1	$\checkmark$	/		1
Median U-Turn	<u>N-S</u>	1	$\setminus$	2	0	1		1	1		/	1	0		$\setminus$	1	1
Signalized ThruCut	<u>N-S</u>	$\geq$	1	2	0	$\geq$	1	1	1		2	$\setminus$	1	$\geq$	1	$\langle$	1
Unsignalized ThruCut	<u>N-S</u>	$\checkmark$	1	2	0	$\checkmark$	1	1	1	$\checkmark$	1	$\nearrow$	1	$\checkmark$	1	$\checkmark$	1
	lumber	of L	.ane	es f	or l	nte	rch	ang	es								
TYPE OF INTERCHANGE	Sheet	No U	orthl	oou T	nd R	Sc U	uth L	bou T	nd R	E	astb L	our T	nd R	W U	esti L	oour T	nd R

### Capacity Analysis for Planning of Junctions

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	R	lesuli	ts for	Non	-roun	Idabo	out In	terse	ctior	IS					
TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zor (So	ne 2 uth)	Zone 3	i (East)	Zor (We		Zor (Cer		Overall v/c Ratio	Pedestrian commodations	Bicycle commodations	Transit ccommodations
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		Ac	Ac	Ac
Traffic Signal	FULL	/	$\langle$			$\checkmark$				1388	<u>0.82</u>	0.82	Poor	Peer	Fair
Two-Way Stop Control	<u>N-S</u>	$\geq$		$\geq$				$\geq$	/	- E.	23.28	23.28	Poor	Peer	Fair
All-Way Stop Control	FULL	$\geq$							/	3722	2.07	2.07	Fair	Fair	Fair
Signalized Restricted Crossing U-Turn	<u>N-S</u>	1705	<u>0.95</u>	1403	<u>0.78</u>	1180	<u>0.66</u>	1822	<u>1.01</u>	/		1.01	Fair	Fair	Peer
Unsignalized Restricted Crossing U-Turn	<u>N-S</u>	1612	0.23	1179	<u>1.37</u>	1732	3.22	1018	2.38			3.22	Poor	Poor	Peer

Median U-Turn	<u>N-S</u>	1641	<u>0.91</u>	1705	<u>0.95</u>	/	/	/	2001	1.11	1.11	Fair	Fair	Peer
Signalized ThruCut	<u>N-S</u>					$\geq$			1345	<u>0.97</u>	0.97	Poor	Fair	Poor
Unsignalized ThruCut	<u>N-S</u>	$\geq$	$\sim$	$\geq$	$\geq$	$\geq$	$\geq$	$\geq$	÷	<u>406.41</u>	406.41	Poor	Peer	Peer

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						Re	sults f	or Rou	ndabo	uts						
TYPE OF ROUNDABOUT	Zone 1 (North)		th)	Zone 3 (East)			Zone 2 (South)			Zone 4 (West)			Overall v/c Ratio	Pedestrian commodations	Bicycle commodations	Transit commodations
	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3		Ac	Ac	Ac
<u>1 X 1</u>	<u>1.31</u>	/		2.01			<u>2.39</u>	/		<u>1.00</u>		/	2.39	Fair	Fair	Fair
2NS X 1EW	<u>0.67</u>	<u>0.71</u>		<u>1.67</u>			<u>1.12</u>	<u>1.12</u>		<u>0.79</u>			1.67	Poor	Fair	Fair
<u>2 X 2</u>	<u>0.67</u>	<u>0.71</u>		0.28	<u>0.55</u>		<u>1.12</u>	<u>1.12</u>		<u>1.57</u>	<u>0.31</u>	$\sim$	1.57	Poor	Fair	Fair

Results for Interchanges																	
TYPE OF INTERCHANGE	Sheet	Zone 1 Mi	(Rt rg)	Zone 2 M	? (Lt rg)	Zor (Ctr		Zor (Ctr		Zone 5 Mi	s (Lt rg)	Zone 6 M	ð (Rt rg)	Overall v/c Ratio	Pedestrian :commodations	Bicycle commodations	Transit commodations
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		Ac	Ac	Ac

Intersection: SR 544/A Agency: FDOT Dis	Avenue Y istrict One .: 440273-1-22-	m MLK Blvd to SR 17	2	Summary of crash prediction Project In Intersection Type	sults							
Intersection: SR 544/A Agency: FDOT Dis Project Reference: FPID No City: Polk Cou	Avenue Y istrict One .: 440273-1-22-	m MLK Blvd to SR 17		Summary of crash prediction Project In Intersection Type	n results for each alternati	ve						
Intersection: SR 544/A Agency: FDOT Dis Project Reference: FPID No City: Polk Cou	Avenue Y istrict One .: 440273-1-22-	m MLK Blvd to SR 17		Project In Intersection Type		ve						
Intersection: SR 544/A Agency: FDOT Dis Project Reference: FPID No City: Polk Cou	Avenue Y istrict One .: 440273-1-22-	m MLK Blvd to SR 17		Intersection Type	formation							
Intersection: SR 544/A Agency: FDOT Dis Project Reference: FPID No City: Polk Cou	Avenue Y istrict One .: 440273-1-22-	m MLK Bivd to SR 17										
Agency: FDOT Dis Project Reference: FPID No.: City: Polk Cou	istrict One .: 440273-1-22-								At-Gra	de Intersections		
Project Reference: FPID No.: City: Polk Cou	.: 440273-1-22-			Opening Year			2025					
City: Polk Cou				Design Year		2045						
		-01		Facility Type			On Urban and Suburban Arterial					
State: Florida	unty			Number of Legs				4-leg				
				1-Way/2-Way				2-way Intersecting 2-way				
Date: 11/23/20				# of Major Street Lanes (both				5 or fewer				
Analyst: AIM Engi	gineering & Sur	veying, Inc.		Major Street Approach Speed					Less	than 55 mph		
				Crash Predic	tion Summary					CC1 C		
Control Strategy Cras	ish Type	Opening Year	Design Year	Total Project Life Cycle	Crash Prediction Rank	AADT Within SPF Prediction	Source of Prediction	-		SSI Score		
Control Strategy Cras	ish Type	Opening Year	Design Year	Total Project Life Cycle	Crash Prediction Rank	Range?	Source of Prediction	Year	Design Year	Rank		
	Total	6.77	11.41	190.92	6	Yes	Calibrated SPF	81	67	9		
- Fatal	l & Injury	2.36	4.04	67.18	0	105	calibrated of f	01	<u></u>			
Minor Road Ston	Total	5.72	9.07	155.82	5	No	Calibrated SPF w/ EB	69	53	10		
Fatal	l & Injury	2.07	3.45	58.10	,			100	<u><u> </u></u>	10		
	Total	3.25	5.54	92.70	3	N/A	N/A	91	<u>83</u> 4	4		
Fatal	l & Injury	1.23	2.16	35.65	,	14,73	14,73	<u> </u>	00	-		
	Total	2.83	3.85	70.35	1	No	Uncalibrated SPF	93	89	1		
	l & Injury	0.45	0.66	11.76						-		
2-lane Koundapout	Total	7.53	12.16	206.24	2	No	Uncalibrated SPF	B         69         53         1           91         83         1           93         89         1           87         81         1           92         86         1	6			
	l & Injury	1.16	1.97	32.61	-				-			
Median U-Turn (MUT)	Total	5.75	9.70	162.28	4	N/A	CMF	92	86	2		
Fatal	l & Injury	1.66	2.83	47.02	*			l,		-		
Signalized RCLIT	Total	12.05	24.77	384.32	7	Yes	Uncalibrated SPF	90	85	3		
	l & Injury	2.81	6.55 No SPF	97.20				_		-		
	Total I & Injury	No SPF No SPF	No SPF No SPF	No SPF No SPF		Yes	Uncalibrated SPF	83	74	7		
т	Total	NO SPF	NO SPF	NO SPF								
Signalized Thru-Cut	l & Injury	No SPF	No SPF	No SPF		N/A	N/A	<u>89</u>	<u>81</u>	5		
т	Total	No SPF	No SPF	No SPF								
	l & Injury	No SPF	No SPF	No SPF		N/A	N/A	<u>83</u>	<u>72</u>	8		
т	Total	No SPF	No SPF	No SPF		N1/A	01.45					
Other 1*	l & Injury	No SPF	No SPF	No SPF		N/A	CMF					
т	Total	No SPF	No SPF	No SPF		N. (A	01.45					
Other 2*	l & Injury	No SPF	No SPF	No SPF		N/A	CMF					

Appendix D

SYNCHRO and SIDRA Analysis Summary Sheets

04/14/2021

	٨	+	>	1	+	*	1	1	P	4	ŧ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻሻ	ĵ,		5	1	1	٦	1		Ĭ	1	7
Traffic Volume (vph)	303	96	17	29	92	307	15	969	31	185	1109	471
Future Volume (vph)	303	96	17	29	92	307	15	969	31	185	1109	471
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		0	250		250	250	25020000	0	250	. NATIONAL CONTINUES	0
Storage Lanes	2		0	1		1	1		0	1		1
Taper Length (ft)	25			25			25		0.50	25		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt		0.977				0.850		0.995				0.850
Fit Protected	0.950			0.950			0.950	-	1.54	0.950		
Satd. Flow (prot)	3335	1797	0	1719	1863	1538	1752	3424	0	1770	1810	1568
Flt Permitted	0.950			0.681		1000	0.055	0121		0.168		1000
Satd. Flow (perm)	3335	1797	0	1232	1863	1538	101	3424	0	313	1810	1568
Right Turn on Red	0000	1101	Yes	TEVE	1000	Yes			Yes	010		Yes
Satd. Flow (RTOR)		5	100			65		3	100			312
Link Speed (mph)		30			30	00		30			30	UTL
Link Distance (ft)		1362			1498			698			839	
Travel Time (s)		31.0		-	34.0			15.9		-	19.1	1.000
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
Heavy Vehicles (%)	5%	3%	5%	5%	2%	5%	3%	5%	2%	2%	5%	3%
Adj. Flow (vph)	319	101	18	31	97	323	16	1020	33	195	1167	496
	515	101	10	51	51	525	10	1020	55	190	1107	430
Shared Lane Traffic (%)	319	119	0	31	97	323	16	1053	0	195	1167	496
Lane Group Flow (vph)	Prot	NA	0		NA	pm+ov	111-	NA	0		NA	
Turn Type Protected Phases	7	4		pm+pt 3	8	1	pm+pt 5	2		pm+pt	6	pm+ov 7
Permitted Phases	1	4		8	0	8	2	2		1	0	6
Detector Phase	7	4		3	8	1	5	2		1	6	7
Switch Phase	1	4		3	0	1	5	2		1	0	- 1
State in the second	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Initial (s)	5.0							24.0				
Minimum Split (s)	11.0	24.0		11.0	24.0	24.0	24.0			24.0	24.0	11.0
Total Split (s)	19.0	24.0		19.0	24.0	32.0	24.0	75.0	-	32.0	83.0	19.0
Total Split (%)	12.7%	16.0%		12.7%	16.0%	21.3%	16.0%	50.0%		21.3%	55.3%	12.7%
Yellow Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
All-Red Time (s)	1.5	1.5		1.5	1.5	1.5	1.5	1.5		1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Max		None	Max	None
Act Effct Green (s)	13.1	23.0		19.6	12.2	34.3	75.2	69.3		91.3	86.7	105.8
Actuated g/C Ratio	0.10	0.17		0.15	0.09	0.25	0.56	0.51		0.68	0.64	0.79
v/c Ratio	0.99	0.38		0.15	0.57	0.73	0.12	0.60		0.51	1.00	0.38
Control Delay	107.8	55.1		43.8	73.4	46.4	11.9	25.9		12.9	51.9	2.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	107.8	55.1		43.8	73.4	46.4	11.9	25.9		12.9	51.9	2.9
LOS	F	E		D	E	D	В	С		В	D	A
Approach Delay		93.5			52.0			25.6			34.7	-
Approach LOS		F			D			С			C	
Stops (vph)	258	95		25	84	221	7	682		63	835	53

Build Alt. 2 2045 AM Peak

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Lane Group Fuel Used(gal) CO Emissions (g/hr) NOx Emissions (g/hr) VOC Emissions (g/hr) Dilemma Vehicles (#) Queue Length 50th (ft) Queue Length 95th (ft)	EBL 11 789 154 183 0 144	EBT 3 209 41 48 0	EBR	WBL 1 51 10	WBT 3 204	WBR 8 539	NBL 0	NBT 14	NBR	SBL 2	SBT 24	SBF
CO Emissions (g/hr) NOx Emissions (g/hr) VOC Emissions (g/hr) Dilemma Vehicles (#) Queue Length 50th (ft)	789 154 183 0	209 41 48		51 10	204					2	24	
CO Emissions (g/hr) NOx Emissions (g/hr) VOC Emissions (g/hr) Dilemma Vehicles (#) Queue Length 50th (ft)	154 183 0	41 48		10		539	1.444					
NOx Emissions (g/hr) VOC Emissions (g/hr) Dilemma Vehicles (#) Queue Length 50th (ft)	183 0	48			40	000	11	1012		143	1648	255
VOC Emissions (g/hr) Dilemma Vehicles (#) Queue Length 50th (ft)	0				40	105	2	197		28	321	50
Queue Length 50th (ft)	100	0		12	47	125	3	235		33	382	59
	144			0	0	0	0	0		0	0	C
		93		21	82	210	4	325		56	846	26
	#281	171		52	151	316	13	487		98	#1546	102
Internal Link Dist (ft)		1282			1418	_		618			759	
Turn Bay Length (ft)	250			250		250	250			250		
Base Capacity (vph)	323	311		278	249	549	286	1762		494	1165	1298
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
	0.99	0.38		0.11	0.39	0.59	0.06	0.60		0.39	1.00	0.38
Intersection Summary					-							31
Area Type: Othe	r											
Cycle Length: 150												
Actuated Cycle Length: 134.7												
Natural Cycle: 145												
Control Type: Actuated-Uncoordi	nated											
Maximum v/c Ratio: 1.00												
Intersection Signal Delay: 41.0				Int	tersection	LOS: D						
Intersection Capacity Utilization 9	2.8%			IC	U Level o	f Service	F					
Analysis Period (min) 15												
# 95th percentile volume excee	ds cap	acity, que	eue may l	be longer								
Queue shown is maximum aft	er two	cycles.										

Se1	<b>↑</b> ø₂	<b>√</b> Ø3	<b>→</b> Ø4
2.8	75.5	19 \$	245
05	<b>↓</b> Ø6	<b>\$</b> 07	Ø8
5	33 s	19 s	245

04/14/2021

	۶	+	>	1	+	*	1	1	P	1	ŧ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻሻ	P		٦	1	1	ľ,	<b>A</b>		٢	1	1
Traffic Volume (vph)	539	93	31	7	66	171	16	1063	66	327	982	256
Future Volume (vph)	539	93	31	7	66	171	16	1063	66	327	982	256
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		0	250		250	250		0	250		0
Storage Lanes	2		0	1		1	1		0	1		1
Taper Length (ft)	25		102	25		_	25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt		0.962		_		0.850		0.991			_	0.850
Fit Protected	0.950	-		0.950			0.950			0.950		1.1
Satd. Flow (prot)	3400	1775	0	1752	1863	1568	1752	3475	0	1770	1845	1568
Flt Permitted	0.950			0.675	1		0.065			0.082	1	- 2
Satd. Flow (perm)	3400	1775	0	1245	1863	1568	120	3475	0	153	1845	1568
Right Turn on Red		-	Yes			Yes	1.1.1.1.1.1		Yes			Yes
Satd. Flow (RTOR)		9				65		5	1.00.000.000			191
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1362			1498			698			839	
Travel Time (s)		31.0			34.0			15.9			19.1	0.0
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
Heavy Vehicles (%)	3%	3%	3%	3%	2%	3%	3%	3%	2%	2%	3%	3%
Adj. Flow (vph)	556	96	32	7	68	176	16	1096	68	337	1012	264
Shared Lane Traffic (%)										Carlo II.		
Lane Group Flow (vph)	556	128	0	7	68	176	16	1164	0	337	1012	264
Turn Type	Prot	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2		1	6	7
Permitted Phases				8		8	2			6		6
Detector Phase	7	4		3	8	1	5	2		1	6	7
Switch Phase							200	-				
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	11.0	24.0		11.0	24.0	24.0	24.0	24.0		24.0	24.0	11.0
Total Split (s)	31.0	24.0		31.0	24.0	32.0	24.0	63.0	_	32.0	71.0	31.0
Total Split (%)	20.7%	16.0%		20.7%	16.0%	21.3%	16.0%	42.0%		21.3%	47.3%	20.7%
Yellow Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
All-Red Time (s)	1.5	1.5		1.5	1.5	1.5	1.5	1.5		1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0
Lead/Lag	Lead	Lag	_	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Max		None	Max	None
Act Effct Green (s)	25.1	36.2		15.0	10.4	38.4	63.3	57.3		88.2	83.4	115.9
Actuated g/C Ratio	0.18	0.26		0.11	0.07	0.28	0.46	0.41		0.63	0.60	0.83
v/c Ratio	0.91	0.27		0.04	0.49	0.37	0.13	0.81		0.87	0.91	0.20
Control Delay	75.9	40.5		38.1	74.9	26.3	16.1	42.6		59.9	40.1	1.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	75.9	40.5		38.1	74.9	26.3	16.1	42.6		59.9	40.1	1.7
LOS	Е	D		D	E	С	В	D		Е	D	A
Approach Delay		69.3			39.8			42.2		24.2	38.0	(AVIP
Approach LOS		E			D			D			D	
Stops (vph)	484	89		7	62	82	10	967		227	721	19

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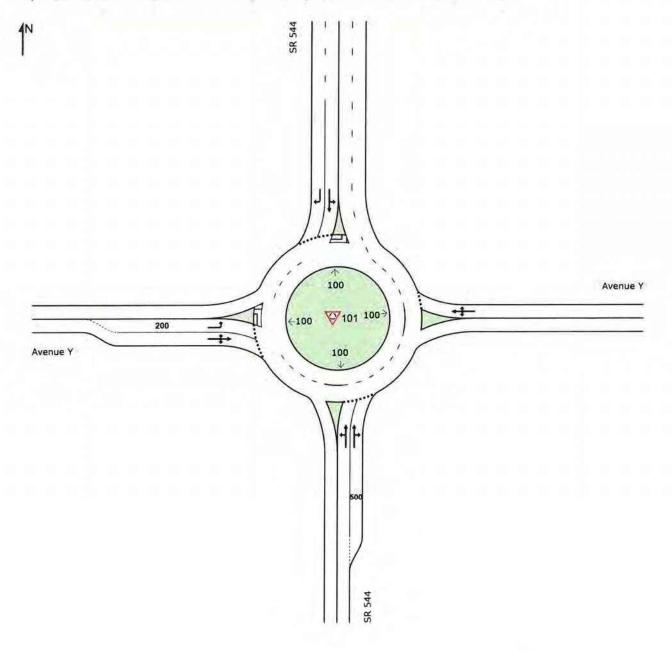
	٨	-	7	1	-	~	1	1	r	1	ŧ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Fuel Used(gal)	17	3		0	2	3	0	21		7	18	1
CO Emissions (g/hr)	1170	198		12	148	235	14	1487		516	1289	131
NOx Emissions (g/hr)	228	39		2	29	46	3	289		100	251	25
VOC Emissions (g/hr)	271	46		3	34	55	3	345		120	299	30
Dilemma Vehicles (#)	0	0		0	0	0	0	0		0	0	(
Queue Length 50th (ft)	265	84		5	62	79	5	506		237	739	ę
Queue Length 95th (ft)	#391	159		17	114	146	16	631		#427	#1318	43
Internal Link Dist (ft)		1282			1418			618			759	
Turn Bay Length (ft)	250			250		250	250			250		
Base Capacity (vph)	615	469		397	242	494	277	1436		401	1107	1326
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	C
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	C
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.90	0.27		0.02	0.28	0.36	0.06	0.81		0.84	0.91	0.20
Intersection Summary											-	
Area Type:	Other											
Cycle Length: 150												
Actuated Cycle Length: 138	3.9											
Natural Cycle: 145												
Control Type: Actuated-Und	coordinated											
Maximum v/c Ratio: 0.91												
Intersection Signal Delay: 4	5.2			Int	ersection	LOS: D						
Intersection Capacity Utiliza	ation 92.9%			IC	U Level o	f Service	F					
Analysis Period (min) 15												
# 95th percentile volume e	exceeds cap	acity, que	eue may b	be longer.								
of bour percentate retained												

Se 1	<b>↑</b> ø2	<b>1</b> 03	
32.5	63.5	31 s	24 5
<b>1</b> Ø5		<b>\$</b> 07	Ø8
4 5	715	31 5	24 5

W Site: 101 [SR 544/Avenue Y Intersection (Site Folder: General)]

Design Year (2045) AM Peak Hour - Build Alt 2 Site Category: (None) Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings



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### MOVEMENT SUMMARY

#### V Site: 101 [SR 544/Avenue Y Intersection (Site Folder: General)]

Design Year (2045) AM Peak Hour - Build Alt 2 Site Category: (None) Roundabout

Mov	Turn	INP VOLL		DEM FLO		Deg Satn	Aver	Level of Service	and the second second second second	ACK OF	Prop. Que	Effective Stop	Aver No	Aver Speed
ID		[ Total	HV]	[ Total	HV ]		Delay	Service	[ Veh.	Dist ]	Que	Rate	Cycles	
		veh/h	%	veh/h	%	v/c	SEC		veh	ft	-			mph
Sout	h: SR 5													
3	L2	15	3.0	16	3.0	0.693	18.5	LOS C	6.8	176.2	0.80	1.08	1.59	29.2
8	T1	969	5.0	1020	5.0	0.693	18.0	LOS C	7.0	181.5	0.79	1.07	1.58	29.3
18	R2	31	2.0	33	2.0	0.693	17.2	LOS C	7.0	181.5	0.79	1.07	1.57	28.8
Appr	oach	1015	4.9	1068	4.9	0.693	17.9	LOS C	7.0	181,5	0.79	1.07	1.58	29.3
East	Avenu	eΥ												
1	L2	29	2.0	31	2.0	1.078	98.2	LOS F	22.0	558.2	1.00	2.31	5.87	14.3
6	T1	92	2.0	97	2.0	1.078	98.2	LOS F	22.0	558.2	1.00	2.31	5.87	14.3
16	R2	307	2.0	323	2.0	1.078	98.2	LOS F	22.0	558.2	1.00	2.31	5.87	14.1
Appr	oach	428	2.0	451	2.0	1.078	98.2	LOS F	22.0	558.2	1.00	2.31	5.87	14.2
North	h: SR 54	44												
7	L2	185	2.0	195	2.0	1.137	88.5	LOS F	128.4	3327.3	1.00	2.35	3.68	15.4
4	T1	1109	5.0	1167	5.0	1.137	88.6	LOS F	128.4	3327.3	1.00	2.35	3.68	15.3
14	R2	471	3.0	496	3.0	0.408	7.0	LOSA	2.3	59.1	0.36	0.22	0.36	33.0
Appr	oach	1765	4.2	1858	4.2	1.137	66.8	LOS F	128.4	3327.3	0.83	1.78	2.80	17.8
West	t: Avenu	ie Y												
5	L2	303	3.0	319	3.0	0.514	19.5	LOS C	2.4	62.4	0.81	0.95	1.29	27.4
2	T1	96	3.0	101	3.0	0.514	19.5	LOS C	2.4	62.4	0.81	0.95	1.29	28.0
12	R2	17	3.0	18	3.0	0.514	19.5	LOS C	2.4	62.4	0.81	0.95	1.29	27.3
Appr	oach	416	3.0	438	3.0	0.514	19.5	LOS C	2.4	62.4	0.81	0.95	1.29	27.5
AII 14	ehicles	3624	4.0	3815	4.0	1,137	51.4	LOS F	128.4	3327.3	0.84	1.55	2.65	20.3

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6). Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

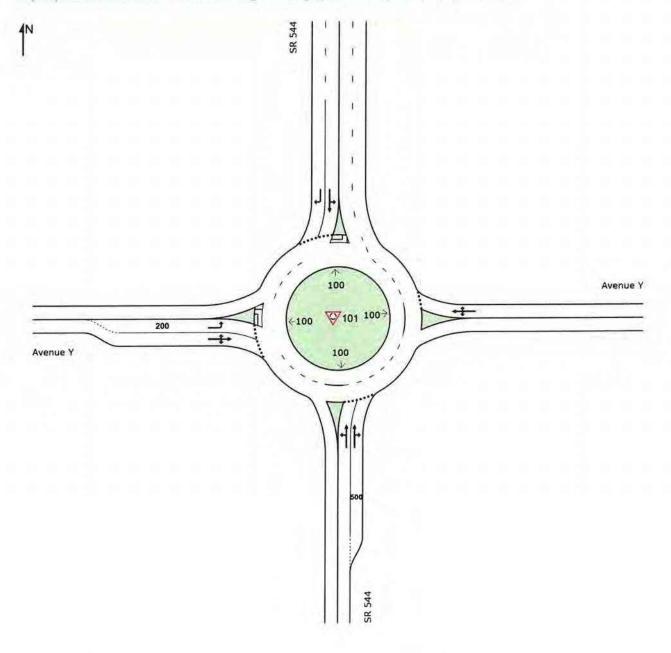
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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W Site: 101 [SR 544/Avenue Y Intersection (Site Folder: General)]

Design Year (2045) PM Peak Hour - Build Alt 2 Site Category: (None) Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings



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### MOVEMENT SUMMARY

#### W Site: 101 [SR 544/Avenue Y Intersection (Site Folder: General)]

Design Year (2045) PM Peak Hour - Build Alt 2 Site Category: (None) Roundabout

	Tum	INP		DEM		Deg.	Aver.	Level of		ACK OF	Prop.	Effective	Aver	Aver
ID		VOLL ( Total	HV J	FLO [ Total	HV ]	Satn	Delay	Service	[Veh	IEUE Dist ]	Que	Stop Rate	No Cycles	Speed
0	OD 5	veh/h	%	veh/h	%	v/c	sec		veh	ft	-			mph
24.02	h: SR 5													
3	L2	16	3.0	16	3.0	1.059	83.8	LOS F	25.9	661.9	1.00	2.35	5.57	15.9
8	T1	1063	3.0	1096	3.0	1.059	81.7	LOS F	28.3	724.1	1.00	2.40	5.70	16.1
18	R2	66	2.0	68	2.0	1.059	79.7	LOS F	28.3	724.1	1.00	2.45	5.82	16.1
Appr	oach	1145	2.9	1180	2.9	1.059	81.6	LOS F	28.3	724.1	1.00	2.40	5.71	16.1
East	Avenu	eΥ												
1	L2	7	2.0	7	2.0	0.739	38.9	LOS E	4.1	104.8	0.92	1.19	1.97	23.0
6	T1	66	2.0	68	2.0	0.739	38.9	LOS E	4.1	104.8	0.92	1.19	1.97	23.0
16	R2	171	2.0	176	2.0	0.739	38.9	LOS E	4.1	104.8	0.92	1.19	1.97	22.5
Appr	oach	244	2.0	252	2.0	0.739	38.9	LOS E	4.1	104.8	0.92	1.19	1.97	22.7
North	n: SR 54	44												
7	L2	327	2.0	337	2.0	1.063	61.3	LOS F	109.5	2797.1	1.00	1.31	2.18	18.8
4	T1	982	3.0	1012	3.0	1.063	61.3	LOS F	109.5	2797.1	1.00	1.31	2.18	18.7
14	R2	256	3.0	264	3.0	0.208	4.6	LOSA	0.9	24.3	0.23	0.11	0.23	34.2
Appro	oach	1565	2.8	1613	2.8	1.063	52.1	LOS F	109.5	2797.1	0.87	1.12	1.86	20.2
West	Avenu	ie Y												
5	L2	539	3.0	556	3.0	0.825	42.6	LOS E	6.6	168.3	0.92	1.33	2.41	21.6
2	T1	93	3.0	96	3.0	0.825	42.6	LOS E	6.6	168.3	0.92	1.33	2.41	21.7
12	R2	31	3.0	32	3.0	0.825	42.6	LOS E	6.6	168.3	0.92	1.33	2.41	21.3
Appro	oach	663	3.0	684	3.0	0.825	42.6	LOS E	6.6	168.3	0.92	1.33	2.41	21.6
	ehicles	3617	2.8	3729	2.8	1.063	58.8	LOS F	109.5	2797.1	0.93	1.57	3.19	19.0

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6). Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

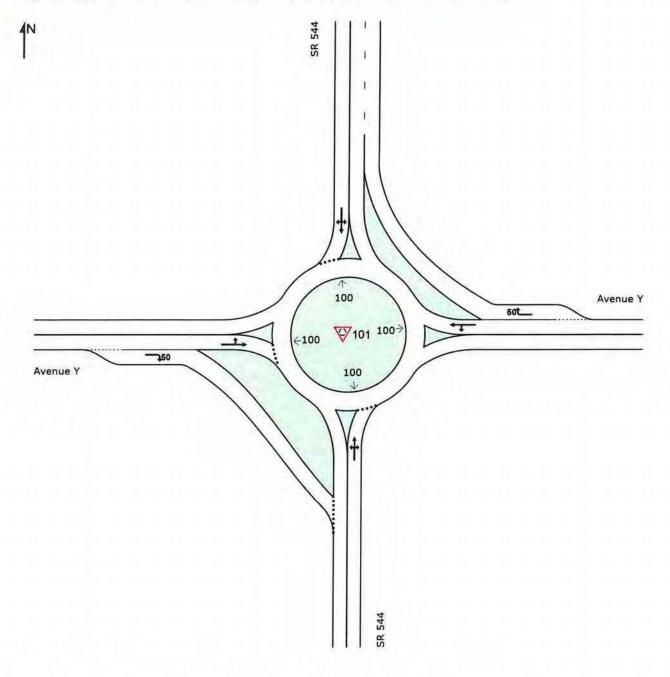
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V Site: 101 [SR 544/Avenue Y Intersection (Site Folder: General)]

Interim Year (2029) AM Peak Hour - Mini-Roundabout Site Category: (None) Roundabout

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# Constrained NB Volumes

## MOVEMENT SUMMARY

V Site: 101 [SR 544/Avenue Y Intersection (Site Folder: General)]

Interim Year (2029) AM Peak Hour - Mini-Roundabout Site Category: (None) Roundabout

Mov ID	Tum	INF VOLL		DEM FLO		Deg. Satn		Level of Service		BACK OF	Prop. Que	Effective Stop	Aver No	Aver
		( Total veh/h	HV] %	[ Total veh/h	HV ] %	v/c	sec	Controls	[ Veh veh	Dist.) ft	auc	Rate	Cycles	mph
Sout	h: SR 5	44												
3	L2	14	3.0	15	3.0	0.595	11.7	LOS B	5.8	149.8	0.66	0.65	0.88	31.9
8	T1	519	5.0	546	5.0	0.595	11.8	LOS B	5.8	149.8	0.66	0.65	0.88	31.8
18	R2	27	2.0	28	2.0	0.595	11.7	LOS B	5.8	149.8	0.66	0.65	0.88	31.0
Appr	oach	560	4.8	589	4.8	0.595	11.8	LOS B	5.8	149.8	0.66	0.65	0.88	31.8
East	Avenu	e Y												
1	L2	22	2.0	23	2.0	0.037	0.0	LOSA	0.0	0.0	0.00	0.00	0.00	37.1
6	T1	45	2.0	47	2.0	0.037	0.0	LOSA	0.0	0.0	0.00	0.00	0.00	37.1
16	R2	134	2.0	141	2.0	0.086	0.0	LOSA	0.0	0.0	0.00	0.00	0.00	37.1
Appr	oach	201	2.0	212	2.0	0.086	0.0	LOSA	0.0	0.0	0.00	0.00	0.00	37.1
North	n: SR 54	44												
7	L2	86	2.0	91	2.0	1.008	46.4	LOS F	80.5	2083.8	1.00	0.97	1.63	21.3
4	T1	843	5.0	887	5.0	1.008	46.5	LOS F	80.5	2083.8	1.00	0.97	1.63	21.3
14	R2	229	3.0	241	3.0	1.008	46.4	LOS F	80.5	2083.8	1.00	0.97	1.63	20.9
Appr	oach	1158	4.4	1219	4.4	1.008	46.5	LOS E	80.5	2083.8	1.00	0.97	1.63	21.2
West	: Avenu	e Y												
5	L2	129	3.0	136	3.0	0.340	11.9	LOS B	1.4	36.0	0.70	0.75	0.86	30.1
2	T1	43	3.0	45	3.0	0.340	11.9	LOS B	1.4	36.0	0.70	0.75	0.86	30.1
12	R2	11	3.0	12	3.0	0.020	6.5	LOSA	0.1	1.7	0.60	0.53	0.60	33.3
Appro	oach	183	3.0	193	3.0	0.340	11.6	LOS B	1.4	36.0	0.70	0.74	0.84	30.3
	ehicles	2102	4.1	2213	4.1	1.008	29.8	LOS D	80.5	2083.8	0.79	0.77	1.20	25.2

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6). Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

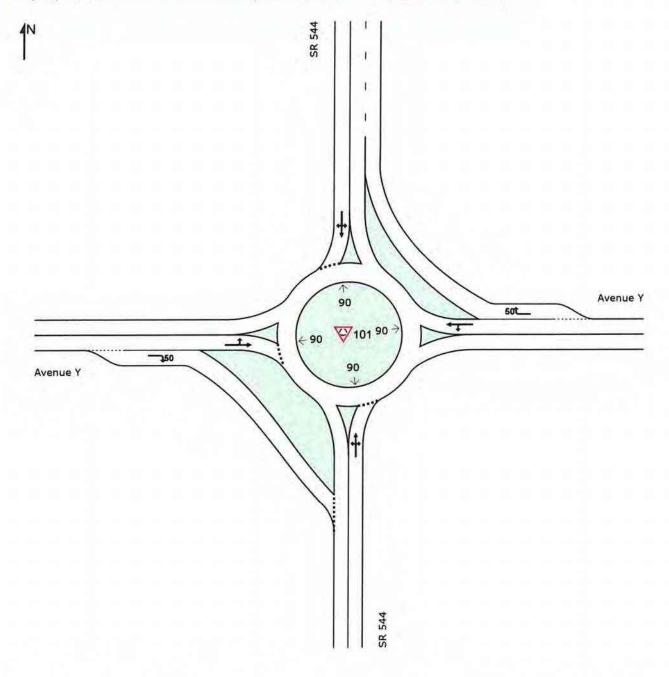
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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V Site: 101 [SR 544/Avenue Y Intersection (Site Folder: General)]

Interim Year (2029) PM Peak Hour - Mini-Roundabout Site Category: (None) Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings



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# Constrained NB Volumes

### MOVEMENT SUMMARY

#### W Site: 101 [SR 544/Avenue Y Intersection (Site Folder: General)]

Interim Year (2029) PM Peak Hour - Mini-Roundabout Site Category: (None) Roundabout

	Turn	INF	UT JMES	DEM FLO		Deg. Satn	Aver. Delav	Level of Service		ACK OF	Prop. Que	Effective Stop	Aver No.	Aver Speed
ID		[ Total veh/h	HV ] %	( Total veh/h	HV   %	v/c.	sec	Service	(Veh veh	Dist   ft	Que	Rate	Cycles	mpt
Sout	h: SR 5	44						1. 1. 1.			-			
3	L2	14	3.0	14	3.0	0.917	36.3	LOS E	24.4	623,4	1.00	1.78	3.03	23.5
8	T1	687	3.0	708	3.0	0.917	36.3	LOS E	24.4	623.4	1.00	1.78	3.03	23.5
18	R2	43	2.0	44	2.0	0.917	36.3	LOS E	24.4	623.4	1.00	1.78	3.03	23.1
Appr	oach	744	2.9	767	2.9	0.917	36.3	LOS E	24.4	623.4	1.00	1.78	3.03	23.5
East	Avenu	еY												
1	L2	11	2.0	11	2.0	0.025	0.0	LOSA	0.0	0.0	0.00	0.00	0.00	37.1
6	T1	36	2.0	37	2.0	0.025	0.0	LOSA	0.0	0.0	0.00	0.00	0.00	37.1
16	R2	87	2.0	90	2.0	0.055	0.0	LOSA	0.0	0.0	0.00	0.00	0.00	37.0
Appr	oach	134	2.0	138	2.0	0.055	0.0	LOSA	0.0	0.0	0.00	0.00	0.00	37.0
North	: SR 5	44												
7	L2	137	2.0	141	2.0	0.786	16.3	LOS C	11.2	285.8	0.60	0.29	0.60	29.4
4	T1	711	3.0	733	3.0	0.786	16.4	LOS C	11.2	285.8	0.60	0.29	0.60	29.4
14	R2	110	3.0	113	3.0	0.786	16.4	LOS C	11.2	285.8	0.60	0.29	0.60	28.8
Appr	oach	958	2.9	988	2.9	0.786	16.4	LOS C	11.2	285.8	0.60	0.29	0.60	29.4
West	Avenu	ie Y												
5	L2	255	3.0	263	3.0	0.514	14.7	LOS B	2.9	74.8	0.75	0.88	1.18	28.7
2	T1	45	3.0	46	3.0	0.514	14.7	LOS B	2.9	74.8	0.75	0.88	1.18	28.7
12	R2	30	3.0	31	3.0	0.045	5.7	LOSA	0.2	4.0	0.56	0.51	0.56	33.5
Appro	bach	330	3.0	340	3.0	0.514	13.9	LOS B	2.9	74.8	0.73	0.85	1.12	29.1
All Ve	hicles	2166	2.9	2233	2.9	0.917	21.8	LOS C	24.4	623.4	0.72	0.87	1.48	27.3
100 N 10.00	and a second	100 110 10	Construction of the	Contraction of the	and a second sec	oracles and	Second Color	and the second second						

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6). Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

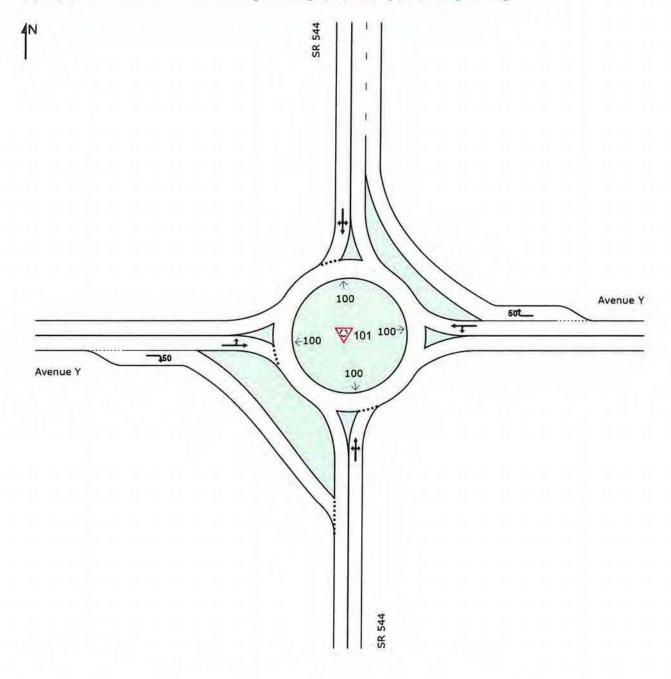
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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W Site: 101 [SR 544/Avenue Y Intersection (Site Folder: General)]

Interim Year (2031) AM Peak Hour - Mini-Roundabout Site Category: (None) Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings



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# Constrained NB Volumes

## MOVEMENT SUMMARY

Site: 101 [SR 544/Avenue Y Intersection (Site Folder: General)]

Interim Year (2031) AM Peak Hour - Mini-Roundabout Site Category: (None) Roundabout

Mov ID	Turn	INF VOLU		DEM FLO		Deg Satn	Aver. Delay	Level of Service	and the second second	ACK OF	Prop. Oue	Effective Stop	Aver. No.	Aver
		Total veh/h	HV]	[ Total veh/h	HV ] %	v/c	sec	Service	Veh.	Dist ]	Que	Rate	Cycles	Speed
Sout	h: SR 5	- Albertante	70	venin			900		VCII	-				100/5/3
3	L2	14	3.0	15	3.0	0.618	12.7	LOS B	6.6	172.6	0.71	0.76	1.04	31.4
8	T1	519	5.0	546	5.0	0.618	12.8	LOS B	6.6	172.6	0.71	0.76	1.04	31.4
18	R2	27	2.0	28	2.0	0.618	12.7	LOS B	6.6	172.6	0.71	0.76	1.04	30.6
Appr	oach	560	4.8	589	4.8	0.618	12.8	LOS B	6.6	172.6	0.71	0.76	1.04	31.4
East	Avenu	еY												
1	L2	23	2.0	24	2.0	0.041	0.0	LOSA	0.0	0.0	0.00	0.00	0.00	37.2
6	T1	51	2.0	54	2.0	0.041	0.0	LOSA	0.0	0.0	0.00	0.00	0.00	37.1
16	R2	156	2.0	164	2.0	0.100	0.0	LOSA	0.0	0.0	0.00	0.00	0.00	37.1
Appr	oach	230	2.0	242	2.0	0.100	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	37.1
North	n: SR 54	44												
7	L2	98	2.0	103	2.0	1.081	68.4	LOS F	115.3	2981.9	1.00	1.50	2.42	17.7
4	T1	876	5.0	922	5.0	1.081	68.5	LOS F	115.3	2981.9	1.00	1.50	2.42	17.7
14	R2	259	3.0	273	3.0	1.081	68.4	LOS F	115.3	2981.9	1.00	1.50	2.42	17.4
Appro	oach	1233	4.3	1298	4.3	1.081	68.5	LOS F	115.3	2981.9	1.00	1.50	2.42	17.6
West	Avenu	e Y												
5	L2	151	3.0	159	3.0	0.391	12.8	LOS B	1.7	44.6	0.71	0.79	0.96	29.8
2	T1	50	3.0	53	3.0	0.391	12.8	LOS B	1.7	44.6	0.71	0.79	0.96	29.8
12	R2	12	3.0	13	3.0	0.021	6.3	LOSA	0.1	1.8	0.59	0.52	0.59	33.4
Appro	oach	213	3.0	224	3.0	0.391	12.4	LOS B	1.7	44.6	0.71	0.77	0.94	30.0
	hicles	2236	4.1	2354	4.1	1.081	42.1	LOS E	115.3	2981.9	0.80	1.09	1.68	22.1

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6). Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

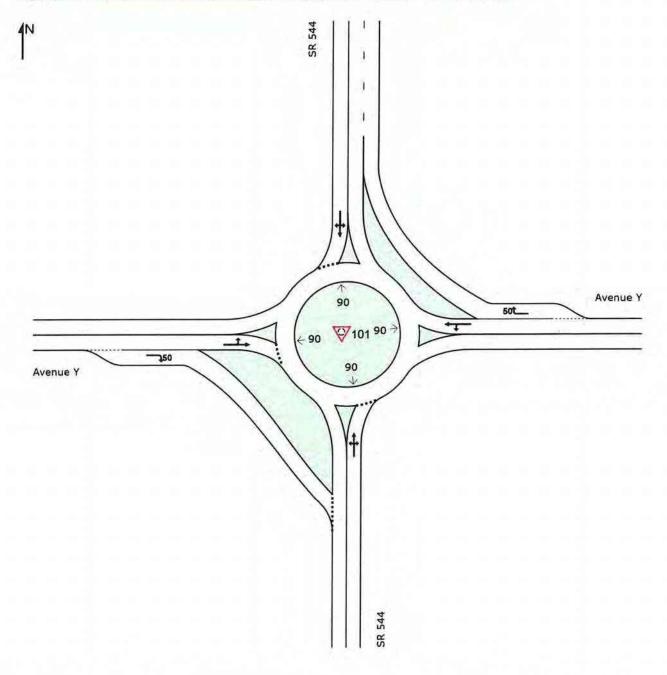
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W Site: 101 [SR 544/Avenue Y Intersection (Site Folder: General)]

Interim Year (2031) PM Peak Hour - Mini-Roundabout Site Category: (None) Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings



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# Construined NB volumes

## MOVEMENT SUMMARY

🗑 Site: 101 [SR 544/Avenue Y Intersection (Site Folder: General)]

Interim Year (2031) PM Peak Hour - Mini-Roundabout Site Category: (None) Roundabout

Mov	Turn	INF VOLU		DEM FLO		Deg. Satn	Aver. Delay	Level of Service		ACK OF	Prop. Que	Effective Stop	Aver No.	Ave
(2)		( Tota)	HV ]	( Total	HV]	Sam	Delay	Dervice	( Veh	Dist 1	que	Rate	Cycles	opeer
-	-	veh/h	%	veh/h	%	v/c	SEC	2000 Cont	veh	ft	1.00	Tomas	all and	mpl
Sout	h: SR 5	44												
3	L2	14	3.0	14	3.0	0.985	51.5	LOS F	30.7	785.4	1.00	2.09	3.97	20.
в	T1	687	3.0	708	3.0	0.985	51.5	LOS F	30.7	785.4	1.00	2.09	3.97	20.3
18	R2	43	2.0	44	2.0	0.985	51.5	LOS F	30.7	785.4	1.00	2.09	3.97	20.0
Appr	oach	744	2.9	767	2.9	0.985	51,5	LOS F	30.7	785.4	1.00	2.09	3.97	20.3
East	Avenu	e Y												
1	L2	11	2.0	11	2.0	0.027	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	37.3
3	T1	40	2.0	41	2.0	0.027	0.0	LOSA	0.0	0.0	0.00	0.00	0.00	37.
16	R2	98	2.0	101	2.0	0.062	0.0	LOSA	0.0	0.0	0.00	0.00	0.00	37.0
Appr	oach	149	2.0	154	2.0	0.062	0.0	LOSA	0.0	0.0	0.00	0.00	0.00	37.
North	n: SR 54	44												
7	L2	161	2.0	166	2.0	0.852	20.8	LOS C	15.1	386.8	0.78	0.39	0.78	27.8
4	T1	745	3.0	768	3.0	0.852	20.9	LOS C	15.1	386.8	0.78	0.39	0.78	27.8
14	R2	128	3.0	132	3.0	0.852	20.9	LOS C	15.1	386.8	0.78	0.39	0.78	27.2
Appro	oach	1034	2.8	1066	2.8	0.852	20.9	LOS C	15.1	386.8	0.78	0.39	0.78	27.7
Nest	Avenu	e Y												
5	L2	291	3.0	300	3.0	0.619	19.2	LOS C	4.1	104.0	0.80	1.00	1.45	27.2
2	T1	51	3.0	53	3.0	0.619	19.2	LOS C	4.1	104.0	0.80	1.00	1.45	27.2
12	R2	30	3.0	31	3.0	0.047	5.9	LOS A	0.2	4.2	0.57	0.52	0.57	33.4
Appro	oach	372	3.0	384	3.0	0.619	18.1	LOS C	4.1	104.0	0.78	0.96	1.38	27.6
	hicles	2299	2.8	2370	2.8	0.985	29.0	LOS D	30.7	785.4	0.80	1.01	1.86	25.1

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6). Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

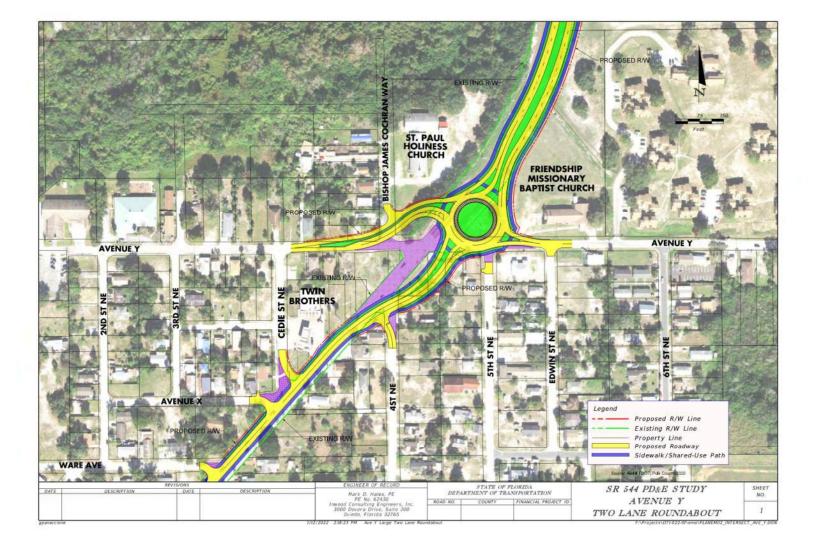
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

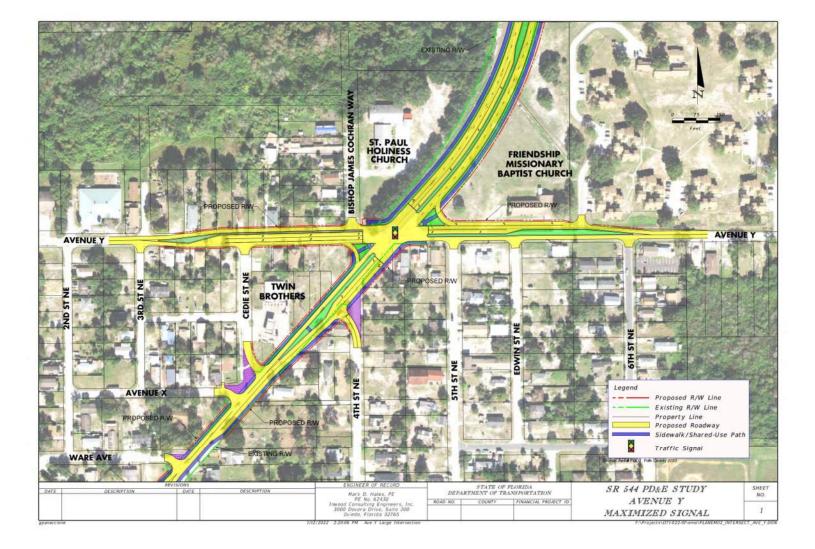
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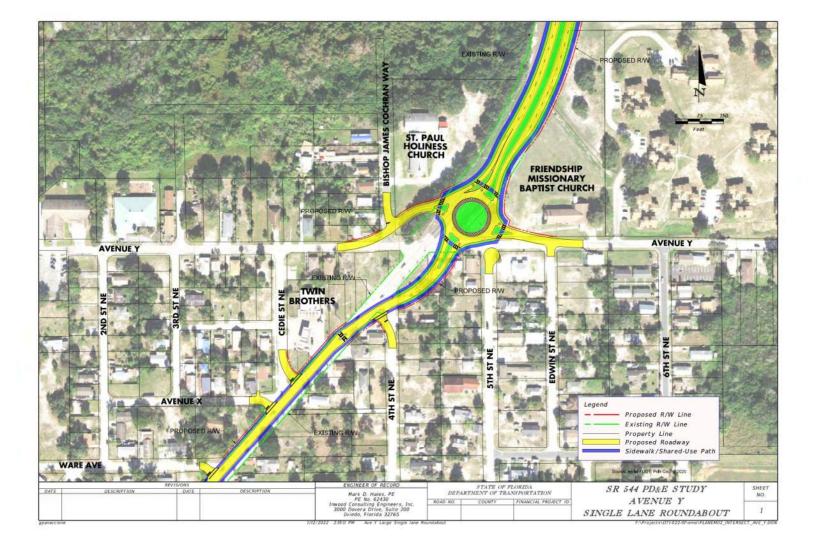
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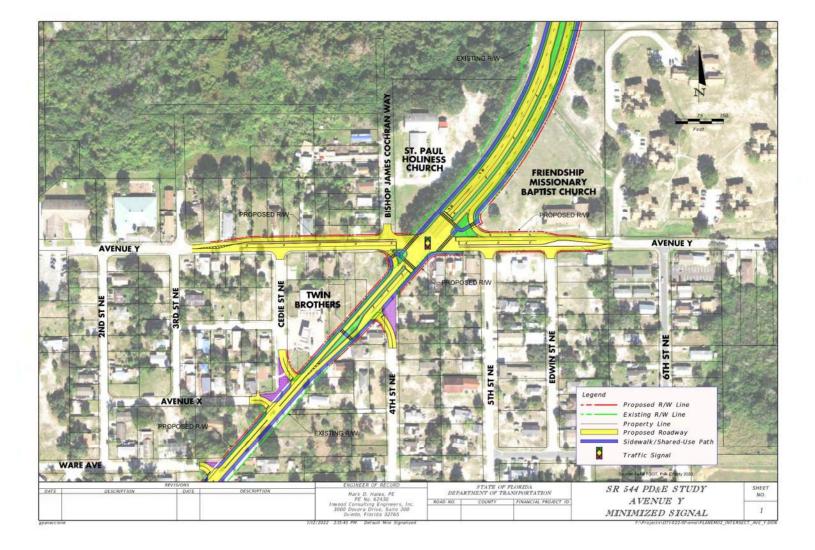
# Appendix E

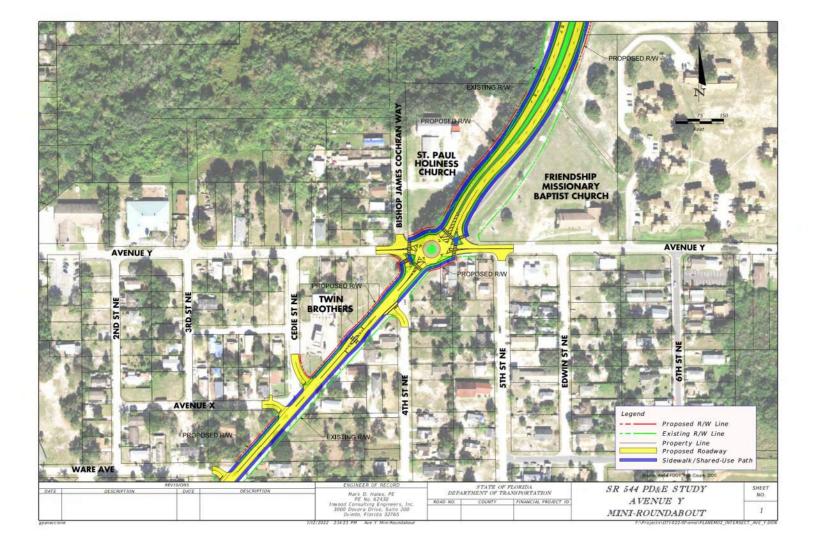
Preliminary Geometric Concepts











### CERTIFICATION

AGENCY: Florida Department of Transportation District One 801 North Broadway Avenue Bartow, Florida 33831-1249

I hereby certify that I am a registered professional engineer in the State of Florida and that I have supervised the preparation of, and approved the analysis, findings, opinions, conclusions and technical advice hereby reported for:

REPORT:	SR 544/Lake Hamilton Drive Intersection Control Evaluation (ICE) - Stage 1
PROJECT:	SR 544 Project Development and Environment (PD&E) Study
LOCATION:	SR 544 from Martin Luther King Boulevard to SR 17 Polk County, Florida
ROADWAY ID:	16140000

MILEPOST No: 9.156

FPID No.: 440273-1-22-01

I acknowledge that the procedures and references used to develop the information contained in this memorandum are standard to the professional practice of transportation engineering as applied through professional judgement and experience.

Engineer in Responsible Charge:	Anastasiya A. Senyushkina	ICENS ST	
Professional Registration No.:	82191	No. 82191	Anastasiya A Senyushkina 2022.12.13 16:29:05-05'00'
Date:	12/13/2022	- CORIDACINI	

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AIM Engineering & Surveying, Inc.

Tampa Office 201 E. Kennedy Boulevard, Suite 1800 Tampa, Florida 33602 813-627-4144 www.aimengr.com

Date:	December 13, 2022
То:	David C. Turley, P.E. – FDOT District One DEMO Project Manager Abra Horne – FDOT District One Planning and Environmental Administrator
From:	Greg Root/Anastasiya Senyushkina, P.E.
Subject:	SR 544/Lake Hamilton Drive Intersection (Polk County) — Stage 1+ Intersection Control Evaluation

### INTRODUCTION/PROJECT BACKGROUND

This memorandum documents the Intersection Control Evaluation (ICE) conducted for the Lake Hamilton Drive intersection. This analysis was conducted in support of the SR 544 Project Development & Environment (PD&E) Study from Martin Luther King Boulevard to SR 17 in Polk County. The length of this study corridor is approximately 8.1 miles. This memorandum documents the Stage 1 CAP-X and SPICE analyses, as well as the more detailed traffic operations analyses conducted using the SYNCHRO software. The opening year (2025) and design year (2045) Average Annual Daily Traffic (AADT) volumes documented in the FDOT approved Project Traffic Analysis Report (PTAR) are provided in **Appendix A**, along with the 2045 a.m. and p.m. peak hour volumes documented in this same report.

### **EXISTING INTERSECTION CHARACTERISTICS**

This intersection is a four-legged two-way stop control intersection and Lake Hamilton Drive is the southern leg. Lake Hamilton Drive extends from Country Club Drive to SR 544, a distance of approximately 2.8 miles and provides access to single family homes. There is a commercial strip center (i.e., Park Place) located in the southwest guadrant of the intersection and a trucking company (i.e., Moeller Trucking) located in the southeast quadrant. Park Place has driveways on both SR 544 and Lake Hamilton Drive. The only access to/from Moeller Trucking is via Lake Hamilton Drive. This roadway also provides access to several other light industrial businesses. The northern leg of this intersection is East Street and provides the only access to Fairview Village, a small mobile home community. Two-way circulation currently exists within Fairview Village. The Lake Hamilton Drive intersection is located approximately 110 feet west of Sunrise Drive/Sunset Drive, which provides the only access to/from Lakeside Ranch, a slightly larger mobile home community located on the north side of SR 544. One-way (counterclockwise) circulation currently exists within Lakeside Ranch. There are no connections between Fairview Village and Lakeside Ranch. Lake Hamilton Drive, East Street and Sunrise Drive/Sunset Drive all intersect SR 544 at 90-degree angles; however, there is a horizontal curve on SR 544 approximately 400 feet to the west of Lake Hamilton Drive. An aerial image depicting the Lake Hamilton Drive intersection is provided in **Figure 1**, while **Figure 2** provides an aerial of the surrounding area. Both of these aerials are included in Appendix A.

The posted speed limit on SR 544 in the vicinity of the intersection is 50 miles per hour (mph). The posted speed limit on Lake Hamilton Drive is 45 mph. The posted speed limit within the mobile home communities is 15 mph. SR 544 is a two-lane undivided roadway with 12-foot travel lanes and 5-foot paved shoulders on the west side of Lake Hamilton Drive. There are no paved shoulders on the east side of Lake Hamilton Drive. There are no sidewalks in the immediate vicinity of the intersection.

Crash data was provided by District One for the years 2014 through 2019. The data sources were the FDOT's Crash Analysis Reporting System (CARS) and Signal Four Analytics. The crash data is included in **Appendix A**. This intersection has experienced 16 crashes over this period, resulting in six injuries and no fatalities. Five of these crashes were left-turn/angle crashes. There were no bicycle or pedestrian crashes.

### INTERSECTION CONTROL EVALUATION

The PD&E study goals are to determine the location and conceptual design of the improvement(s) that satisfy the purpose and need for the project, while also minimizing the impacts to the natural and social environment and satisfying the requirements of the National Environmental Policy Act (NEPA). The proposed SR 544 typical section in this area is a four-lane divided roadway that consists of two 11-foot inside travel lanes, two 12-foot outside travel lanes, a 22-foot raised median and 10-foot shared use paths on both sides of the road. The design speed and target speed is 45 mph.

An evaluation was conducted using the October 2019 traffic count data provided by District One to determine whether these volumes satisfy Traffic Signal Warrant No. 1 of the Manual on Uniform Traffic Control Devices. The results indicated the eight highest hourly volumes did satisfy Condition B (Interruption of Continuous Traffic) of Warrant No. 1. This evaluation is provided in **Appendix B**.

The following alternative intersection control strategies were initially analyzed for this intersection:

- Two-way stop control
- All-way stop control
- Conventional traffic signal
- Unsignalized Restricted Crossing U-Turn (RCUT) intersection
- Signalized RCUT intersection
- Median U-Turn (MUT) intersection
- Unsignalized Thru-Cut
- Signalized Thru-Cut
- Two-lane (SR 544) x one-lane (East Street) roundabout
- Two-lane x two-lane roundabout

The results of the CAP-X and SPICE analyses are summarized in **Table 1**. The CAP-X and SPICE analysis summary sheets for this intersection are provided in **Appendix C**. Based on the high v/c ratios estimated for the two-way stop control, all-way stop control, unsignalized RCUT, and unsignalized thrucut intersections, these alternatives were eliminated from any further consideration. The roundabout alternatives were also eliminated from further consideration due to right-of-way impacts. The implementation of this type of improvement would result in right-of-way impacts to either the Park Place and Moeller Trucking parking lots (on the south side of SR 544) or Fairview Village (on the north side of SR 544).

Table 1: Stage	1 ICE Analys	is Summary	- Lake Ham	ilton Drive I	ntersection	
	2045 V/	C Ratios	Life-Cycl	e Crashes	SSI S	cores
	AM Peak	PM Peak		Fatal &	Opening	Design
Intersection Type	Hour	Hour	Total	Injury	Year	Year
Two-Way Stop Control	263.37	337.95	107	46	47	27
All-Way Stop Control	2.83	2.74	80	33	86	78
Traffic Signal	0.79	0.84	212	76	66	47
Unsignalized RCUT	4.04	4.85	n/a	n/a	61	43
Signalized RCUT	0.67	0.70	381	77	77	64
Median U-Turn	0.73	0.70	180	53	85	75
Unsignalized Thru-Cut	212.55	305.71	n/a	n/a	68	50
Signalized Thru-Cut	0.86	0.92	n/a	n/a	80	65
Roundabout (2EW x 1NS)	0.95	0.99	218	42	86	79
Roundabout (2 x 2)	0.89	0.93	218	42	86	79
Red font denotes a v/c rat	io > 1.00					
Lowest number of crashes of	of all alterna	tives analyze	ed			

n/a = No Safety Performance Function (SPF) available

Design year peak hour SYNCHRO analyses were conducted for the four signalized alternatives. These results are summarized in **Table 2**. All four alternatives are projected to operate at Level of Service C overall during the a.m. peak hour. In the p.m. peak hour, three of the four alternatives are also projected to operate at Level of Service C overall during the p.m. peak hour. The conventional traffic signal (i.e., signalized full median opening) is projected to operate at Level of Service D overall. The design year SYNCHRO analysis summary sheets are provided in **Appendix D**.

					AM	Peak Hour						
Intersection	Si	ignalized FM	0	Si	gnalized RCL	ΙT	Sigr	halized Thru-	Cut	S	ignalized MU <sup>-</sup>	r
Approach	Max V/C (1)	Avg. Delay	LOS	Max V/C (1)	Avg. Delay	LOS	Max V/C (1)	Avg. Delay	LOS	Max V/C (1)	Avg. Delay	LOS
Northbound	0.65	21.3	С	0.67	33.0	С	0.59	23.5	С	0.85	54.9	D
Southbound	0.06	41.8	D	0.01	0.0	А	0.03	0.2	А	0.02	19.5	В
Westbound	0.85	22.0	С	0.96	30.1	С	0.85	23.4	С	0.98	32.3	С
Eastbound	0.98	42.7	D	0.89	23.0	С	0.96	38.2	D	0.88	20.3	С
Overall	0.87	30.7	С	0.75	27.3	С	0.81	29.6	С	0.87	28.6	С
					PM	Peak Hour						
Intersection	Si	ignalized FM	0	Si	gnalized RCL	Т	Sigr	halized Thru-	Cut	S	ignalized MU⁻	r
Approach	Max V/C (1)	Avg. Delay	LOS	Max V/C (1)	Avg. Delay	LOS	Max V/C (1)	Avg. Delay	LOS	Max V/C (1)	Avg. Delay	LOS
Northbound	0.66	25.5	С	0.58	29.2	С	0.53	28.1	С	0.83	53.8	D
Southbound	0.05	44.6	D	0.01	0.0	А	0.03	0.2	А	0.01	22.0	С
Westbound	0.99	22.8	С	0.79	18.7	В	0.88	19.1	В	0.82	15.1	В
Eastbound	1.01	48.8	D	0.97	32.3	С	0.97	40.5	D	0.94	24.1	С
Overall	0.92	35.4	D	0.79	25.8	С	0.89	29.9	С	0.86	22.0	С

<sup>(1)</sup> Highest volume-to-capacity ratio for the individual movements on this approach

The signalized RCUT, Thru-Cut and MUT intersections all require u-turn movements to be made on SR 544. These u-turn movements would be made at the Old Lucerne Park Road intersection (west of Lake Hamilton Drive) and the Hide-A-Way Lane intersection (east of Lake Hamilton Drive). Most of these alternatives would result in u-turn volumes less than or equal to 60 vehicles during both peak hours; however, the u-turn volumes at the Old Lucerne Park Road intersection are projected to be equal to 185 vehicles (in the a.m. peak hour) and 209 vehicles (in the p.m. peak hour) with the signalized MUT intersection. Although the design year eastbound-to-westbound u-turn volumes for the RCUT

alternative are approximately 60 vehicles during each peak hour, some of these vehicles are trucks. These trucks would be required to make u-turns at the Hide-A-Way Lane intersection. Hide-A-Way Lane provides the only access to the Hidden Cove retirement community. The mix of older drivers and trucks at this intersection was viewed as a potential safety issue that should be avoided (if another alternative was available). Also, it appears that additional right-of-way would need to be acquired from the WEL Companies property located in the northwest quadrant of this intersection, to accommodate the truck u-turn movements.

### **RECOMMENDED INTERSECTION CONTROL STRATEGY**

The signalized Thru-Cut intersection is recommended for the SR 544/Lake Hamilton Drive intersection for the PD&E phase only. This intersection control strategy eliminates the north/south through movements across the intersection, eliminates the need for trucks to make u-turn movements east and west of the intersection, avoids the situation where truck u-turn movements would be co-located with outbound left-turn movements made from the Hidden Cove 55+ residential community, and minimizes the total u-turn volumes. This control strategy also eliminates the need to acquire right-of-way in the northwest quadrant of the Hide-A-Way Lane intersection and has the second highest SSI scores of the four signalized alternatives. It should be noted that a Benefit/Cost (B/C) analysis and a Net Present Value (NPV) analysis will be conducted during the Stage 2 final design ICE analysis. This analysis will be conducted for a conventional signalized intersection, a signalized Thru-Cut intersection and a signalized RCUT intersection.

A geometric improvement concept was developed for the recommended PD&E control strategy, and this is provided in **Appendix E**. The recommended PD&E improvement concept also includes a reconfiguration of the inbound and outbound access for the Fairview Village and Lakeside Ranch mobile home communities. The two separate entrance/exit roadways providing access to these residential communities are combined to provide one single entrance/exit. This single access point eliminates the two existing access points that are separated by a distance of approximately 110 feet. This will eliminate the need for eastbound SR 544 vehicles and northbound Lake Hamilton Drive vehicles that are destined for Lakeside Ranch to travel approximately 0.25 miles to the east of Lake Hamilton Drive and make a u-turn. This will also eliminate the need for southbound vehicles exiting Lakeside Ranch to cross two lanes on westbound SR 544 in approximately 50 feet to turn left onto Lake Hamilton Drive or make a u-turn to head east on SR 544.

## Appendix A

Existing Geometry, Existing/Future Year Traffic Volumes and Historic Crash Data



Figure 1: Existing SR 544 / Lake Hamilton Drive Intersection

## Figure 2: Surrounding Land Uses



Project Traffic Analysis Report FPID: 440273-1-22-01

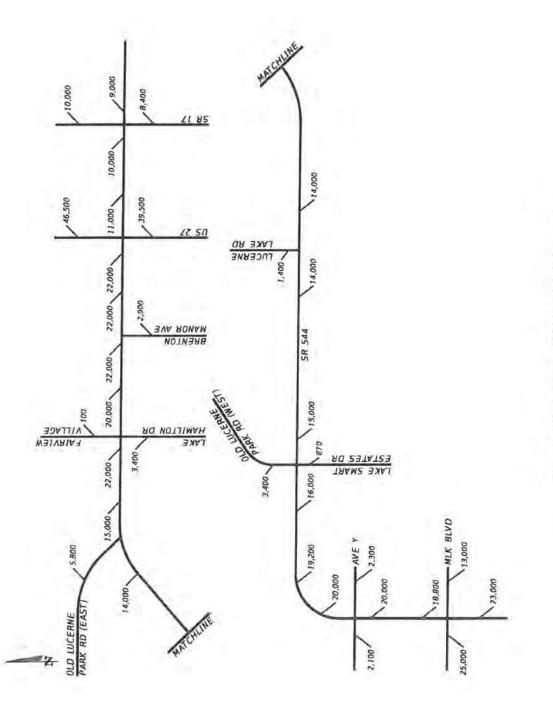


Figure 2-2: Existing (2019) AADT Volumes

Table 2-2: Twenty-Four Hour Volume Counts and Existing (2019) AADT Volumes (SR 544 Mainline)

Location	Date	Count	SF (1)	AF (2)	AADT (3)	Growth Factor	2019 AADT (4)	2019 AADT 2019 AADT 2019 AADT (4) (5) (6)	2019 AADT (6)	Average	Final 2019 AADT
South of M. L. King Boulevard (2)	4/17/2018	21,686	0.96	0.95	19,778	1.0319	20,409	20,000	23,000	21,500	23,000 (8)
North of M. L. King Boulevard (7)	4/17/2018	17,212	0.96	0.95	15,697	1.0319	16,198	16,000	18,800	17,400	18,800 (9)
South of Avenue Y <sup>[7]</sup>	2/16/2016	19.748	0.96	0.97	18,389	1.0988	20,206	20,000	e/u		20.000
North of Avenue Y (2)	2/16/2016	19,936	96.0	0.97	18,564	1.0988	20,399	20,000	n/a		20,000
South of Lake Conine Drive									19.200		19 200
West of Old Lucerne Park Road (west end) (7)	1/9/2018	16,214	1.01	0.94	15,394	1.0577	16,282	16,000	e/u		16.000
East of Old Lucerrie Park Road (west end) (2)	1/9/2018	15,212	1.01	0.94	14,442	1.0543	15,226	15,000	n/a		15.000
West of Lucerne Lake Road	10/1/2019	14,506	1.03	0.94	14,045	1.0000	14,045	14,000	14,000	14,000	14.000
East of Lucerne Lake Road	10/1/2019	14,608	1.03	0.94	14,143	1.0000	14,143	14,000	n/a		14.000
West of Old Lucerne Park Road (east end) 121	1/9/2018	18,070	1.01	0.94	17,156	1.0706	18,367	18,000	14,000	16,000	14,000 (10)
East of Old Lucerne Park Road (east end) (7)	1/9/2018	14,682	1.01	0.94	13,939	1.0706	14,923	15,000	n/a		15,000
West of Lake Hamilton Drive/Fairview Village	10/1/2019	22,630	1.03	0.94	21,910	1.0000	21,910	22,000	n/a		22,000
East of Lake Hamilton Drive/Fairview Village	10/1/2019	20,472	1.03	0.94	19,821	1.0000	19,821	20,000	n/a		20,000
West of Brenton Manor Avenue	10/1/2019	23,035	1.03	0.94	22,302	1.0000	22,302	22,000	n/a		22,000
East of Brenton Manor Avenue	10/1/2019	23,127	1.03	0.94	22,392	1.0000	22,392	22,000	n/a		22,000
West of Hide-A-Way Lane (Hidden Cove Entr)			1						21,000		21.000
West of US 27	10/1/2019	22,701	1.03	0.94	21,979	1.0000	21,979	22,000	e/u		22,000
East of US 27	10/1/2019	10,954	1.03	0.94	10,606	1.0000	10,606	11,000	11,000	11,000	11,000
West of SR 17	10/1/2019	10,500	1.03	0.94	10,166	1,0000	10,166	10,000	n/a		10,000
East of SR 17	10/1/2019	9,534	1.03	0.94	9,231	1.0000	9,231	9,200	8,800	000'6	000'6

" SF = Weekly Seasonal Adjustment Factor

<sup>(2)</sup> AF = Axle Adjustment Factor

ADT = Count x SF x AF
 2019 ADT = Count x SF x AF
 2019 ADT (rounded)
 2019 ADT (rounded)
 2019 ADT founded)
 2019 ADT founded)
 2019 ADT count only at this location. The two-way volume website
 Approach count only at this location. The two-way volume was assumed to be equal to twice the approach volume.
 Approach count only at this location. The two-way volume was assumed to be equal to twice the approach volume.
 Approach count only at this location. The two-way volume has been greater than 21,000 vpd for the last five years.
 FDOT count station value was used because the AADT volume has been greater than 16,000 vpd for the last five years.
 FDOT count station value was used because the 2018 AADT volume at this permanent count station was equal to 13,600 vpd.

SR 544 from Martin Luther King Boulevard to SR 17 January 2021

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24.223         1.0319         24.995         25.000         73.250         73.250         3.250         3.250         3.250         3.250         3.250         3.250         3.250         3.250         3.250         3.250         3.250         3.2750         3.770         3.770         3.770         3.770         3.770         3.770         3.770         3.770         3.700         1.0	Location	Date	Count	SF (1)	AF (2)	AADT (3)	Growth	2019 AADT (4)	2019 AADT (5)	2019 AADT (6)		i.
4/17/2018         13,582         0.96         0.85         12,387         1.0319         27,000         25,000         25,000         25,000         25,000         25,000         13,550         13,256         13,266         13,266         13,266<	M. L. King Boulevard West of SR 544 (7)	4/17/2018	26.560	0.96	0.95	24 223	a	24 005		DE DOD	afipianu	
41/1/2016         1.3.592         0.95         12.387         1.0319         12.782         13,000         13,500         13,250         13,250           2116/2016         1.960         0.96         1.00         1.882         1.0988         2.068         2.100 $n/a$ 2116/2016         2.174         0.96         1.00         2.087         1.0988         2.293         2.300 $n/a$ 44 <sup>(1)</sup> 1/9/2018         3.206         1.01         0.96         3,173         1.0560         3,351         3.400 $n/a$ 667         1.09/2018         3.206         1.01         0.98         1.0500         871         870 $n/a$ 6787 544 <sup>(1)</sup> 1/9/2019         1.730         1.03         0.81         1.443         1.000 $n/a$ $n/a$ 6787 544 <sup>(1)</sup> 1/9/2019         5.454         1.01         1.900         3.444         1.400 $n/a$ 10/1/2019         96         1.03         0.81         1.443         1.400 $n/a$ 10/1/2019         3.344         1.001         3.444         1.000         3.444         3.400 $n/a$	M 1 Kinn Routevard East of CD 544 (7)	ALATION D			AGE		2.222	000123	20,000	000.62	000.02	000'07
Z/16/Z016         1.960         0.96         1.00         1.882         1.0988         Z/06 $1/6$ $1/6$ Z/15/Z016         2.174         0.96         1.00         2.087         1.0988         2.203         2.300 $n/a$ $2/16/Z016$ 2.174         0.96         1.00         2.087         1.0988         2.203         2.300 $n/a$ $4^{4/0}$ 1/9/Z018         3.206         1.01         0.96         3.173         1.0560         3.351         3.400 $n/a$ $4^{4/0}$ 1/9/Z019         1.730         1.01         0.96         3.173         1.0500         871         870 $n/a$ $0'5         1/9/Z019         5.454         1.01         0.96         1.000         871         1.0000         n/a n/a 0'5         7.01         0.91         1.443         1.0000         3.444         3.400         n/a 0'5         8.01         3.344         1.000         3.444         3.400         n/a 0'1/2019         3.344         1.0000         2.943         1.0000         n/a n/a 10/1/2019$	m ming bourdrain cast of on 344	4/1/1/2018	13,582	0.96	0.85	12,387	1.0319	12,782	13,000	13,500	13.250	13.000
$2/16/2016$ $2.174$ $0.96$ $1.00$ $2.087$ $1.0988$ $2.293$ $2.300$ $n/a$ $n/a$ $44^{(1)}$ $1/9/2018$ $3.206$ $1.01$ $0.96$ $3.173$ $1.0560$ $3.351$ $3.400$ $n/a$ $n/a$ $44^{(1)}$ $1/9/2018$ $862$ $1.01$ $1.00$ $871$ $1.0000$ $871$ $870$ $n/a$ $n/a$ $10/1/2019$ $1.730$ $1.03$ $0.81$ $1.443$ $1.0000$ $871$ $870$ $n/a$ $n/a$ $0/588544^{(1)}$ $1/9/2019$ $5.454$ $1.01$ $0.98$ $1.0000$ $871$ $870$ $n/a$ $n/a$ $0/588544^{(1)}$ $1/9/2019$ $5.454$ $1.01$ $0.98$ $1.0000$ $99$ $1.000$ $n/a$ $n/a$ $0/58754^{(1)}$ $1/9/2019$ $5.454$ $1.01$ $0.99$ $1.0000$ $99$ $1.00$ $n/a$ $n/a$ $10/1/2019$ $3.454$ $1.03$ $0.94$	Avenue Y West of SR 544 (/)	2/16/2016	1,960	0.96	1.00	1,882	1.0988	2,068	2,100	n/a		2.100
Iof SR 54 <sup>(1)</sup> 1/9/2018         3.206         1.01         0.96         3,173         1.0560         3,351         3,400         n/a         n/a           44 <sup>(1)</sup> 1/9/2018         862         1.01         100         871         1.0000         871         870         n/a         n/a           of SR 544 <sup>(1)</sup> 1/9/2019         1.730         1.03         0.81         1,443         1.0000         871         870         n/a         n/a           of SR 544 <sup>(1)</sup> 1/9/2019         5.454         1.01         0.98         5.398         1.0000         99         1.000         n/a         n/a           of SR 544 <sup>(1)</sup> 1/9/2019         5.454         1.01         0.98         5.739         1.400         n/a         n/a           of SR 544 <sup>(1)</sup> 1/9/2019         5.454         1.01         0.98         5.398         1.0000         39         1.400         n/a         n/a           of SR 54 <sup>(1)</sup> 1/9/2019         3.45         1.01         0.99         1.0000         3.444         3.400         n/a         n/a           10/1/2019         3.344         1.0000         2.943         1.00000         2.943         3.400	Avenue Y East of SR 544 (7)	2/16/2016	-	0.96	1.00	2,087	1.0988	2.293	2.300	n/a		0 300
44 <sup>(7)</sup> 1/9/2018         862         1.01         1.00         871         1.0000         871         870 $n/a$ $n/a$ of SR 544 <sup>(7)</sup> 1/9/2018         5,454         1.01         0.91         1,443         1,0000         8,719         8,700 $n/a$ $n/a$ of SR 544 <sup>(7)</sup> 1/9/2018         5,454         1.01         0.98         5,398         1,0706         5,779         5,800 $n/a$ $n/a$ of SR 544 <sup>(7)</sup> 1/9/2019         96         1.01         0.98         5,090 $1/a$ $n/a$ $n/a$ 10/1/2019         96         1.03         0.98         5,394         1.0000         3,444         3,400 $n/a$ $n/a$ 10/1/2019         2.916         1.03         0.98         2.943         1.0000         2943         2900 $n/a$ $n/a$ 10/1/2019         2.916         1.03         0.98         2.943         1.0000         2943         2900 $n/a$ $n/a$ 10/1/2019         2.916         1.03         0.94         33.780         1.0000         34,000         35.00 $n/a$	Old Lucerne Park Road (west end) North of SR 544 <sup>(7)</sup>	1/9/2018	3,206	1.01	0.98	3,173	1.0560	3.351	3 400	elu		3 400
or SR 544 <sup>(7)</sup> 10/12019         1,730         1.03         0.81         1,443         1.0000         1,443         1,400         n/a         m/a           or SR 544 <sup>(7)</sup> 1/9/2018         5,454         1.01         D.98         5,398         1.0706         5,779         5,800         n/a         n/a           10/12019         96         1.03         1.00         99         1.0706         5,474         3,400         n/a         n/a           10/1/2019         3.344         1.03         1.00         3.444         3,400         n/a         n/a           10/1/2019         2.916         1.03         1.00         3.444         1.000         3.443         3,400         n/a           10/1/2019         2.916         1.03         0.98         2.943         1.0000         2.943         2.900         n/a           10/1/2019         2.916         1.03         0.98         2.943         1.0000         3.4,000         n/a         1.7           10/1/2019         2.916         1.03         0.94         33.780         1.0000         3.4,000         3.6,00         3.6,00         3.6,00           10/1/2019         3.456         1.04         0.090	Lake Smart Estates Drive South of SR 544 <sup>(7)</sup>	1/9/2018	862	1.01	1.00	871	1.0000	871	870	n/a		870
of SR 544 <sup>(7)</sup> 1/9/2018         5,454         1.01         D.948         5,338         1.0706         5,779         5,800         n/a         a           10/1/2019         96         1.03         1.00         99         1.0000         99         100         n/a         n/a           10/1/2019         3.344         1.03         1.00         3.444         1.000         3.444         3.400         n/a           10/1/2019         2.916         1.03         0.98         2.943         1.0000         2.444         3.400         n/a           10/1/2019         2.916         1.03         0.98         2.943         1.0000         2.943         2.900         n/a           10/1/2019         45.009         1.04         0.94         3.780         1.0000         2.943         1.000         45.500         45.250           10/1/2019         34.554         1.04         0.94         33.780         1.0000         34,000         35.500         36.750           10/1/2019         10.764         1.03         0.95         1.0000         10.533         11,000         9.700         35.700           10/1/2019         8.680         1.03         0.053         1.0000	m	10/1/2019	1,730	1.03	0.81	1,443	1.0000	1.443	1 400	elo		1 400
10/1/2019         96         1.03         1.00         99         1.00 $n/a$ $n/a$ 10/1/2019         3.344         1.03         1.00         3.444         1.0000         3.444         3.400 $n/a$ $n/a$ 10/1/2019         2.916         1.03         1.00         3.444         1.0000         2.943         2.900 $n/a$ 10/1/2019         2.916         1.03         0.94         44.001         1.0000         2.943         2.900 $n/a$ 10/1/2019         45.009         1.04         0.94         44.001         1.0000         45.500         45.250           10/1/2019         34.554         1.04         0.94         33.780         1.0000         33.780         34.000         35.500         36.750           10/1/2019         10.764         1.03         0.95         1.0000         10.533         11.000         9.700         10.350           10/1/2019         8.680         1.03         0.95         8.493         1.0000         8.493         8.000         8.400         8.400	Old Lucerne Park Road (east end) North of SR 544 <sup>(7)</sup>	1/9/2018	5,454	1.01	0.98	5,398	1.0706	5,779	5,800	n/a		5 800
10/1/2019         3.344         1.00         3.444         1.0000         3.444         3.400         n/a           10/1/2019         2.916         1.03         0.98         2.943         1.0000         2.943         2.900         n/a           10/1/2019         2.916         1.03         0.98         2.943         1.0000         2.943         2.900         n/a           10/1/2019         45.009         1.04         0.94         44.001         1.0000         46.000         45.500         45.250           10/1/2019         34.554         1.04         0.94         33.780         1.0000         33.780         39.500         36.750           10/1/2019         10.764         1.03         0.95         10.000         10.533         11.000         9.700         10.350           10/1/2019         8.680         1.03         0.95         8.493         1.0000         8.493         8.600         8.300         8.400	Fairview Village North of SR 544	10/1/2019	96	1.03	1.00	66	1.0000	66	100	ela		100
10/1/2019         2.916         1.03         0.918         2.943         1.0000         2.943         2.900         n/a           10/1/2019         45.009         1.04         0.94         44,001         1.0000         44,000         45,500         45,500         45,250           10/1/2019         34,564         1.04         0.94         44,001         1.0000         33,780         39,500         35,500         36,750           10/1/2019         34,554         1.03         0.94         33,780         1.0000         33,700         39,500         36,750           10/1/2019         10,764         1.03         0.95         10,533         11,000         9,700         10,350           10/1/2019         8,680         1.03         0.95         8,493         1,0000         8,493         8,000         8,300         8,400	Lake Hamilton Drive South of SR 544	10/1/2019	3,344	1.03	1.00	3,444	1.0000	3 444	3 400	elu	Y	a Ann
10/1/2019         45.009         1.04         0.94         44.001         1.0000         44.001         44.000         45.500         45.250           10/1/2019         34.554         1.04         0.94         33.780         1.0000         34.000         45.500         45.250         35.750           10/1/2019         34.554         1.04         0.94         33.780         1.0000         33,700         39.500         35.750         36.750           10/1/2019         10.764         1.03         0.95         10.533         11,000         9.700         10.350           10/1/2019         8.680         1.03         0.95         8.493         1.0000         8.493         8.700         8.300         8.400	Brenton Manor Avenue South of SR 544	10/1/2019	2,916	1.03	0.98	2.943	1.0000	2.943	0 ann	e/c		0000
10/1/2019         34.554         1.04         0.94         33.780         1.0000         33.780         34.000         39.500         36.750         36.750           10/1/2019         10.764         1.03         0.95         10.533         1.0000         10.533         11.000         9.700         10.350           10/1/2019         8,680         1.03         0.95         8.493         1.0000         8.493         8.500         8.300         8.400	US 27 North of SR 544	10/1/2019	45,009	1.04	0.94	44,001	1.0000	44.001	44 000	AG SOO	AE DEA	AE END (B)
10/1/2019         10.764         1.03         0.95         10.533         1.0000         10.503         17.000         9.700         10.735           10/1/2019         8,680         1.03         0.95         8,493         1.0000         8,493         8,500         8,300         8,400	US 27 South of SR 544	10/1/2019	34,554	1.04	0.94	33.780	1.0000	33 780	34 000	30 600	36 760	20 EAD (9)
10/1/2019 8,680 1.03 0.95 8.493 1.0000 8.493 8.500 8.300 8.400	SR 17 North of SR 544	10/1/2019		1.03	0.95	10.533	1.0000	10.533	11 000	002.60	10 350	1000
	SR 17 South of SR 544	10/1/2019		1.03	0.95	8,493	1.0000	8.493	8 500	8 300	B ADD	DUN,UT

Table 2-3: Twenty-Four Hour Volume Counts and Existing (2019) AADT Volumes (SR 544 Cross Streets)

Note: Red font denotes assumed values used for this study.

SF = Weekly Seasonal Adjustment Factor
 AF = Axle Adjustment Factor
 AF = Axle Adjustment Factor
 ADT = Count x SF x AF
 2019 ADT (nunded)
 2019 ADT (nunded)
 2019 ADT obtained from the FDOT Florida Traffic Online website
 2019 ADT obtained from the FDOT Florida Traffic Online website
 2019 ADT count only at this location. The two-way volume was assumed to be equal to twice the approach volume.
 FDOT count station value was used because the ADT volume has been greater than 34,000 vpd for the last four years.
 FDOT count station value was used because the ADT volume has been greater than 34,000 vpd for for ithe last four years.

SR 544 from Martin Luther King Boulevard to SR 17 January 2021

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#### FLORIDA DEPARTMENT OF TRANSPORTATION TRANSPORTATION STATISTICS OFFICE 2021 HISTORICAL AADT REPORT

COUNTY: 16 - POLK					
SITE: 3106 - SR 544	W OF HIDDEN COVE,	0.5 MI W OF SR	25/US 27		
YEAR AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2021         25000         C           2020         19900         C           2019         21000         C           2018         21000         C           2017         19500         C           2016         16900         C           2015         16100         C           2013         14800         F           2012         14800         C           2011         15900         S           2010         16100         F           2009         16300         C           2008         14800         C           2007         16300         C           2006         16500         C	$\begin{array}{cccc} & 12500\\ E & 10000\\ E & 10500\\ E & 9800\\ E & 8400\\ E & 7900\\ E & 7500\\ E & 7400\\ E & 8100\\ E & 8100\\ E & 8100\\ E & 8200\\ E & 8300\\ \end{array}$	W 12500 W 9900 W 10500 W 9700 W 8500 W 8200 W 7400 W 7400 W 7400 W 7400 W 7400 W 7400 W 8000 W 8100 W 8200 W 8100 W 8100 W 8100	$\begin{array}{c} 9.00\\ 9.00\\ 9.00\\ 9.00\\ 9.00\\ 9.00\\ 9.00\\ 9.00\\ 9.00\\ 9.00\\ 9.00\\ 9.00\\ 9.00\\ 9.00\\ 9.00\\ 9.00\\ 9.00\\ 9.66\\ 9.62\\ 9.62\\ \end{array}$	$\begin{array}{c} 55.30\\ 53.40\\ 56.00\\ 54.50\\ 53.30\\ 55.70\\ 55.60\\ 55.80\\ 55.80\\ 55.70\\ 56.07\\ 56.35\\ 55.29\\ 55.30\\ 55.30\\ 55.83\end{array}$	$\begin{array}{c} 10.00\\ 8.40\\ 7.60\\ 9.40\\ 8.80\\ 10.70\\ 9.30\\ 9.50\\ 9.50\\ 9.50\\ 9.10\\ 9.20\\ 9.20\\ 10.40\\ 10.30\\ 9.70\\ \end{array}$

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

			ak Hour (7:15 -			eak Hour (4:45 -			2025/20
Intersection	Movement	Total Volume	Truck Volume	Truck %	Total Volume	Truck Volume	Truck %	Avg. Truck %	Truck !
	NBLT	269	7	2.6%	299	0	0.0%	1	-
	NB TH	275	11	4.0%	413	3	0.7%		
	NB RT	119	1	0.8%	139	0	0.0%	1	
	NB APPROACH	663	19	2,9%	851	3	0.4%	1.6%	2.0%
	WBLT	134	5	3.7%	113	2	1.8%		
	W8 TH	462	10	2.2%	366	6	1.6%		
Martin Luther King Blvd	WBRT	14	2	14.3%	9	0	0.0%		
	WB APPROACH	610	17	2.8%	488	8	1.6%	2.2%	2.0%
	EBLT	208	12	5.8%	243	13	5.3%		
	EB TH	330	7	2.1%	409	9	2.2%		
	EBRT	419	6	1.4%	309	3	1.0%	1	
	EB APPROACH	957	25	2.6%	961	25	2.6%	2.6%	3.0%
	WBLT	17	0	0.0%	13	0	0.0%		1
	WBTH	15	o	0.0%	17	0	0.0%		
	WBRT	25	1	4.0%	34	1	2.9%		
	WB APPROACH	57	1	1.8%	64	1	1.6%	1.7%	2.0%
Avenue Y(1)	EBLT	19	2	10.5%	36	2	5.6%		
	EBTH	10	1	10.0%	14	ō	0.0%		
	EB RT	8	0	0.0%	28	0	0.0%		
	EB APPROACH	37	3	8.1%	78	2	2.6%	2.6% (2)	3.0%
1-1	NB TH	0	0	0.0%	N/A	N/A	N/A		5.07
	NB RT	14	0	0.0%	N/A N/A	N/A N/A	N/A		
			0					0.0% (3)	0.001
Old Lucerne Park Rd	NB APPROACH	14		0.0%	N/A	N/A	N/A	0.0%	0.0%
(West End)	S8 LT	3	0	0.0%	N/A	N/A	N/A		
A CONTRACTOR OF A	SBTH	1	0	0.0%	N/A	N/A	N/A		
Lucerne Lake Rd	SBRT	149	4	2.7%	N/A	N/A	N/A		
-	SB APPROACH	153	4	2.6%	N/A	N/A	N/A	2.6% 11	3.0%
	SB LT	16	11	68.8%	17	8	47.1%		
Lucerne Lake Rd	SB RT	25	9	36.0%	24	8	33,3%		
	SB APPROACH	41	20	48.8%	41	16	39.0%	43,9%	44.0%
Old Lucerne Park Rd	SB LT	174	13	7.5%	126	8	6.3%		
(Eest End) (4)	SB RT	4	0	0.0%	4	0	0.0%	Contract of the	
(cest chu)	5B APPROACH	178	13	7.3%	130	8	6.2%	6.7%	7.0%
	NBLT	14	1	7.1%	19	1	5.3%		
	NB TH	D	0	0.0%	1	0	0.0%		
	NB RT	134	6	4.5%	105	2	1.9%		-
Lake Hamilton Dr	NB APPROACH	148	7	4.7%	125	3	2.4%	3.6%	4.0%
Lake Hallincon Di	SB LT	0	0	0.0%	1	0	0.0%		
	SB TH	0	0	0.0%	0	D	0.0%		
	SB RT	2	0	0.0%	1	0	0.0%		
	SB APPROACH	2	0	0.0%	2	0	0.0%	0,0%	0.0%
and the second second	NB LT	58	5	8.6%	65	2	3.1%		
Brenton Manor Ave	NB RT	75	5	6.7%	42	0	0.0%		-
	NB APPROACH	133	10	7.5%	107	2	1.9%	4.7%	5.0%
in the second	NBLT	238	5	2.1%	165	8	4.8%		
	NB TH	1,075	80	7.4%	1,060	78	7.4%		
	NB RT	76	6	7.9%	110	1	0.9%		
10000	NB APPROACH	1,389	91	6.6%	1,335	87	6.5%	6.5%	(5)
US 27	SBLT	79	13	16.5%	138	10	7.2%		
	SB TH	762	88	11.5%	1,157	62	5.4%		
and the second sec	SB RT	500	31	6.2%	541	25	4.6%		
	SB APPROACH	1,341	132	9.8%	1,836	97	5.3%	7.6%	[5]
	NBLT	79		9.8%	and the second se	6	9.8%	7.0%	232
			9	101201000	61	10 million (10 mil			
	NB TH	244	6	2,5%	180	5	2.8%		
1.1.1	NB RT	57	2	3.5%	76	3	3.9%		10.0
SR 17	NB APPROACH	380	17	4.5%	317	14	4.4%	4.4%	15)
20.41	SB LT	55	5	9.1%	77	0	0.0%		
	SB TH	217	10	4.6%	251	6	2.4%		
	S8 RT	92	14	15.2%	141	6	4.3%	1	-
	SB APPROACH	364	29	8.0%	469	12	2.6%	5.3%	(5)

#### Table 3-17: SR 544 Cross Streets Existing and Future Year Peak Hour Truck Percentages

<sup>(1)</sup> Turning movement count data was not available for the 7:15 to 8:15 a.m. time period. The 8:00 to 9:00 a.m. time period was used for this lacation.
<sup>(2)</sup> Average peak hour truck percentage not calculated due to disparity in peak hour approach volumes. P.M. peak hour percentage recommended for use.

<sup>13</sup> A.M. peak hour percentages only.

(4) Turning movement count data was not available for the 4:45 to 5:45 p.m. time period. The 4:00 to 5:00 p.m. time period was used for this location.

<sup>(5)</sup> Alternate methodologies were used to derve the recommended a.m. and p.m. peak hour truck percentages for US 27 and SR 17.

A review of the existing a.m. and p.m. peak hour truck volumes indicates that, with one exception, the a.m. peak hour volumes are higher than the p.m. peak hour volumes. The ratio of the a.m. and p.m. peak hour truck volume was calculated for each location and then the overall average ratio for the study corridor was calculated. The average overall ratio was equal to 1.50. A revised estimate of the 2025 and 2045 a.m. peak hour truck volumes was obtained by multiplying the initial estimate of the 2025 and 2045 a.m. peak hour truck volumes by 1.50. The revised 2025 and 2045 a.m. peak hour truck volumes are also provided in **Table 3-9** and Table 3-10. The final recommended 2045 and 2025 peak hour truck volumes and percentages are provided in **Table 3-11** and **Table 3-12**, respectively. Based on these assumptions, the following SR 544 mainline peak hour truck percentages (i.e., T<sub>PKHP</sub>-factors) are recommended for use in the SR 544 PD&E study:

#### Opening Year (2025) - AM Peak Hour

- 5.6% from Martin Luther King Boulevard to US 27
- 9.6% from US 27 to SR 17

#### Opening Year (2025) - PM Peak Hour

- 3.7% from Martin Luther King Boulevard to US 27
- 6.4% from US 27 to SR 17

#### Design Year (2045) - AM Peak Hour

- 4.5% from Martin Luther King Boulevard to US 27
- 8.1 % from US 27 to SR 17

#### Design Year (2045) - PM Peak Hour

- 3.0% from Martin Luther King Boulevard to US 27
- 5.4 % from US 27 to SR 17

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SR 544 from Martin Luther King Boulevard to SR 17 January 2021

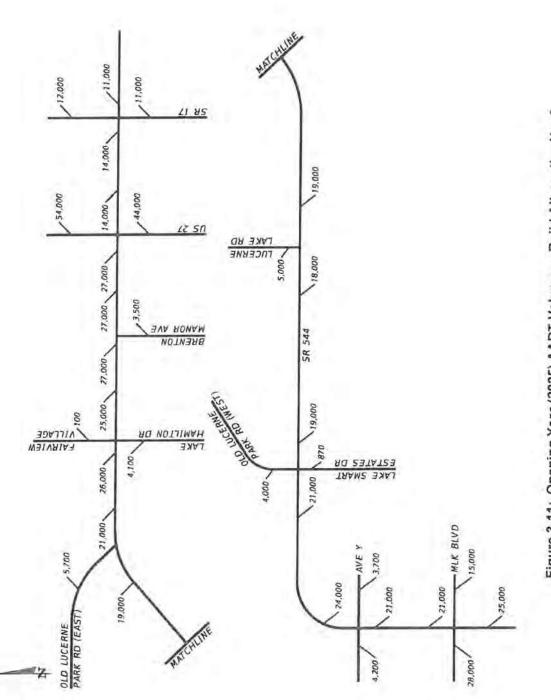


Figure 3-11: Opening Year (2025) AADT Volumes -Build Alternative No. 2

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SR 544 from Martin Luther King Boulevard to SR 17 January 2021

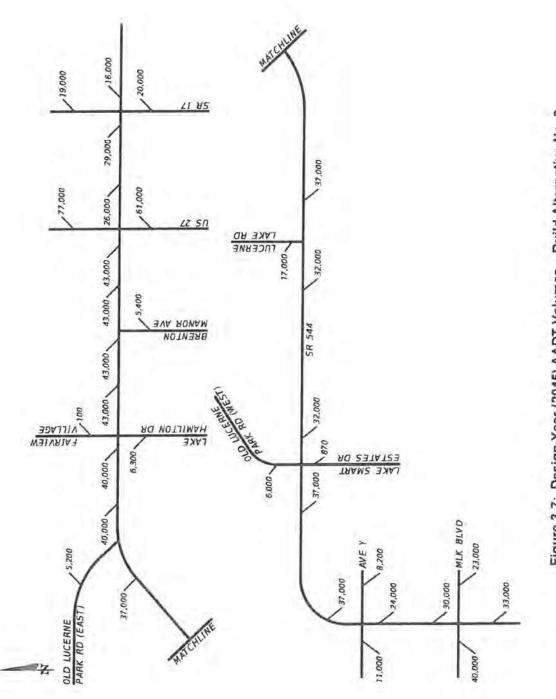
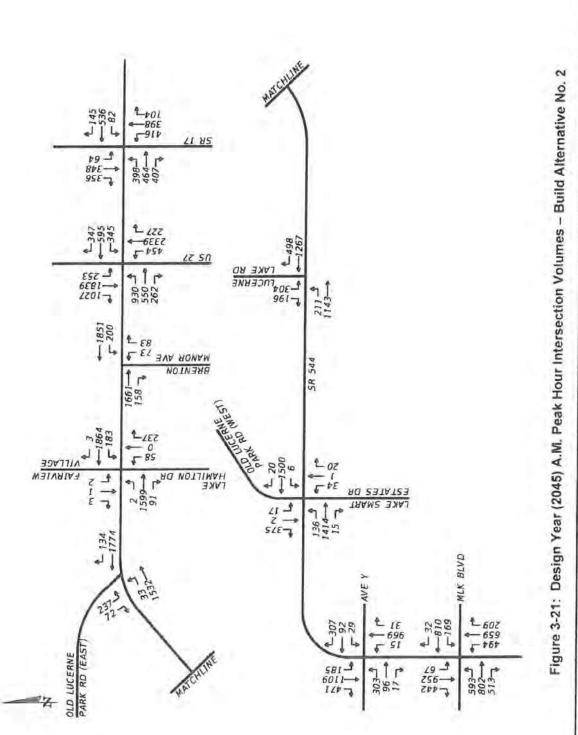


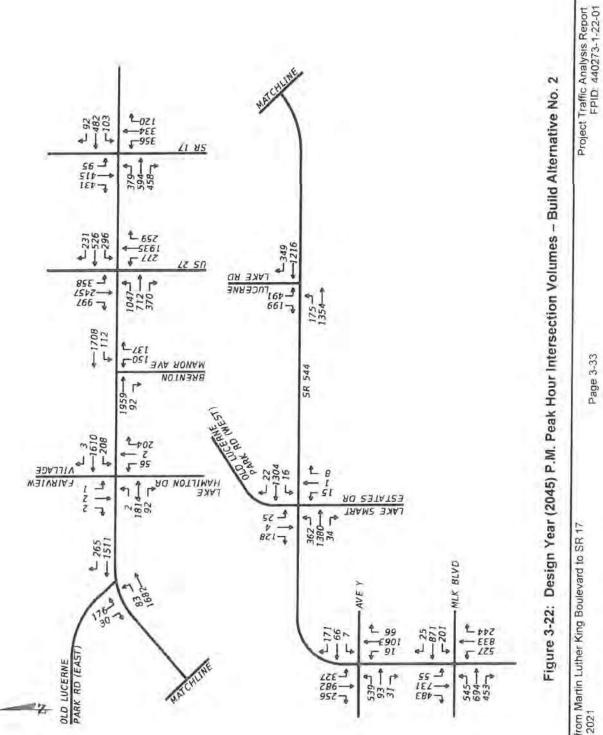
Figure 3-7: Design Year (2045) AADT Volumes - Build Alternative No. 2



SR 544 from Martin Luther King Boulevard to SR 17 January 2021

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Project Traffic Analysis Report FPID: 440273-1-22-01



SR 544 from Martin Luther King Boulevard to SR 17 January 2021

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	0 2010					CR FERCENTAGES					
			AN	И РЕАК НО	UR						
EB	LT	EB	TH	EB	RT	E	B APPROAC	H			
Vol.	Truck %	Vol.	Truck %	Vol.	Truck %	Vol.	Truck Vol.	Truck %			
2	0.00	1599	0.05	91	0.04	1692	83.59	4.9%			
WE	3 LT	WB	3 TH	WE	3 RT	V	WB APPROACH				
Vol.	Truck %	Vol.	Truck %	Vol.	Truck %	Vol.	Truck Vol.	Truck %			
183	0.04	1864	0.05	3	0.00	2050	100.52	4.9%			
NE	B LT	NB	TH	NB	RT	Ν	IB APPROAC	Ή			
Vol.	Truck %	Vol.	Truck %	Vol.	Truck %	Vol.	Truck Vol.	Truck %			
58	0.04	0	0.00	237	0.04	295	11.8	4.0%			
			PN	A PEAK HO	UR						
EB	LT	EB	TH	EB	RT	E	B APPROAC	Ή			
Vol.	Truck %	Vol.	Truck %	Vol.	Truck %	Vol.	Truck Vol.	Truck %			
2	0.00	1814	0.03	92	0.04	1908	58.1	3.0%			
WE	3 LT	WB	3 TH	WE	B RT	V	VB APPROA	CH			
Vol.	Truck %	Vol.	Truck %	Vol.	Truck %	Vol.	Truck Vol.	Truck %			
208	0.04	1610	0.03	3	0.00	1821	56.62	3.1%			
NE	B LT	NB	TH	NB	RT	Ν	NB APPROACH				
Vol.	Truck %	Vol.	Truck %	Vol.	Truck %	Vol. Truck Vol. Truck %					
56	0.04	2	0.00	204	0.04	262	10.4	4.0%			

#### LAKE HAMILTON DRIVE INTERSECTION DESIGN YEAR (2045) PEAK HOUR APPROACH TRUCK PERCENTAGES

HSMV_Ret Agency_Re Repo	ting_Form_Typ∈Crash_Date	Crash_Tim City	County	Crash_Street	Intersecting_Street	Offset_Disi Offset_Di	r Crash_Typ	Vehicles N	lon_Motorist Fa	talities Injuries	Alcoh	ol_R∈Distrac	tion Drug_F	Rela1Estimated_
84998054 2015-0555 Winte	er Hav Long 9/18/2015	2:45 PM Winter I	Hav Polk	SR544	LAKE HAMILTON DR W	0	Left Turn	3	0	0	0 N	N	N	\$6,500
85386994 FHPC16OF FHP	Long 12/22/2016	5:48 PM Auburne	dal-Polk	STATE ROAD 544 (LUCERNE PA	RW LAKE HAMILTON DRIVE	25 East	Rear End	2	0	0	0 N	Y	N	\$4,000
86443202 2016-0215 Polk	to SO Long 5/11/2016	5:19 PM Unincor	po Polk	LAKE HAMLITON DR	LUCERNE PARK RD	0 North	Left Turn	2	0	0	0 N	N	N	\$3,000
86444167 2016-0413 Polk	Co SO Long 9/6/2016	10:12 PM Winter	Hav Polk	LUCERN PARK RD	LAKE HAMILTON RD	0 East	Other	2	0	0	0 N	N	N	\$2,000
86445048 2016-0418 Polk	to SO Long 9/10/2016	3:35 PM Unincor	po Polk	LAKE HAMILTON DRIVE WEST	LUCERNE PARK RD	0 North	Other	1	0	0	0 N	N	N	\$20,000
86938244 2017-0187 Polk	to SO Long 4/22/2017	11:45 AM Unincor	po Polk	LUCERNE PARK RD	LAKE HAMILTON DR W	0	Other	2	0	0	1 N	N	N	\$7,000
86938443 2017-0317 Polk	to SO Long 7/12/2017	2:10 PM Unincor	po Polk	LAKE HAMILTON DR W	SR 544 (LUCERNE PARK RD)	10 South	Rear End	2	0	0	1 N	N	N	\$1,100
87333319 2017-0530 Polk	Co SO Long 11/21/2017	12:07 PM Unincor	po Polk	SR544 (LUCERNE PARK RD)	LAKE HAMILTON DR W	10 North	Left Turn	2	0	0	0 N	N	N	\$9,000
87549903 2018-0166 Winte	er Hav Long 3/13/2018	8:48 AM Unincor	po Polk	LUCERNE PARK RD	W LAKE HAMILTON DR	0	Other	2	0	0	0 N	N	N	\$6,000
87870507 2018-0335 Polk	Co SO Short 7/12/2018	11:20 AM Unincor	po Polk	LAKE HAMILTON DR WEST	SR 544 (LUCERNE PARK RD)	0	Other	2	0	0	0 N	N	N	\$1,000
88751911 2018-0537 Polk	Co SO Long 11/17/2018	9:35 AM Unincor	po Polk	LUCERNE PARK RD	W. LAKE HAMILTON DR.	100 East	Rear End	3	0	0	2 N	N	N	\$17,000
88752107 2018-0540 Polk	Co SO Long 11/19/2018	3:30 PM Unincor	po Polk	LUCERNE PARK RD	W LAKE HAMILTON DR	20	Unknown	2	0	0	0 N	N	N	\$1,000
88752523 2018-0597 Polk	Co SO Long 12/21/2018	12:39 PM Unincor	po Polk	LAKE HAMILTON DR W	SR544 (LUCERNE PARK RD)	15 South	Rear End	2	0	0	2 N	N	N	\$650
89009685 2019-0233 Polk	Co SO Long 5/17/2019	11:15 AM Unincor	po Polk	LUCERNE PARK RD	W. LAKE HAMILTON DR	0	<b>Right Turn</b>	2	0	0	0 N	N	N	\$6,000
89010153 2019-0170 Polk	Co SO Long 4/11/2019	4:54 PM Unincor	po Polk	LAKE HAMILTON DRIVE	LUCERNE PARK RD	0 North	Head On	3	0	0	0 N	N	N	\$600
89372733 2019-0571 Polk	to SO Short 12/11/2019	1:50 PM Unincor	po Polk	SR-544	LAKE HAMILTON DR	0	<b>Right Turn</b>	2	0	0	0 N	N	N	\$600

Weather	_( Light_Conc Street_N	uı Crash_Type_D Crash_T	yp Crash_Sev Within	_Cit Manner_of_C <first_harmful_first_he_loca< th=""><th>ti First_HE_Rela1First_HE</th><th>_V Type_of_Inter Road_Sys</th><th>_Type_of_S</th><th>6 Road_Su</th><th>rf<sub>.</sub> Contrib_Ci Contrib_Ci Cor</th><th>trib_Ci Contrib_Ci Contrib_</th><th>Ci Contrib_Ci School_</th><th>Bu: Work_Z</th></first_harmful_first_he_loca<>	ti First_HE_Rela1First_HE	_V Type_of_Inter Road_Sys	_Type_of_S	6 Road_Su	rf <sub>.</sub> Contrib_Ci Contrib_Ci Cor	trib_Ci Contrib_Ci Contrib_	Ci Contrib_Ci School_	Bu: Work_Z
Clear	Daylight	Left Leaving N	Property D Y	Front to Rear Motor Vehicle On Roadway	Intersection-R Y	T-Intersection State	Unpaved	Dry	None	None	N	N
Clear	Dusk	Rear End W	Property D N	Front to Rear Motor Vehicle On Roadway	Non-Junction N	Not at Interse State	Paved	Dry	None	None	N	N
Clear	Daylight	Left Entering S	Property D N	Angle Motor Vehicle On Roadway	Intersection N	T-Intersection Local	Paved	Dry	None	None	N	N
Clear	Dark - Lighted	Parked Vehicle E	Property D N	Sideswipe, Op Motor Vehicle Off Roadway	Non-Junction N	Not at Interse State	Unpaved	Dry	None	None	N	N
Clear	Daylight	Single Vehicle N	Property D N	Unknown Motor Vehicle On Roadway	Non-Junction N	Not at Interse Local	Paved	Dry	None	None	N	N
Clear	Daylight	Other N	Injury N	Angle Motor Vehicle On Roadway	Intersection-R N	Four-Way Inte County	Paved	Dry	None	None	N	N
Clear	Daylight	Rear End N	Injury N	Front to Rear Motor Vehicle On Roadway	Intersection-R N	T-Intersection Local	Unpaved	Dry	None	None	N	N
Rain	Daylight	Left Entering N	Property D N	Angle Motor Vehicle On Roadway	Intersection N	Y-Intersection State	Unpaved	Wet	None	None	N	N
Clear	Daylight	Other	Property D Y	Angle Motor Vehicle On Roadway	Intersection N	T-Intersection Local	Unpaved	Dry	None	None	N	N
Clear	Daylight	Backed Into N	Property D N	Front to Rear Motor Vehicle On Roadway	Non-Junction N	T-Intersection Local	Paved	Dry	None	None	N	N
Clear	Daylight	Rear End W	Injury N	Front to Rear Motor Vehicle On Roadway	Non-Junction N	Not at Interse Local	Unpaved	Dry	None	None	N	N
Clear	Daylight	Unknown S	Property D N	Front to Rear Motor Vehicle On Roadway	Non-Junction N	T-Intersection Local	Paved	Dry	None	None	N	N
Rain	Daylight	Rear End N	Injury N	Front to Rear Motor Vehicle On Roadway	Non-Junction N	Not at Interse Local	Unpaved	Wet	None	None	N	N
Clear	Daylight	Right/Through N	Property D N	Angle Motor Vehicle On Roadway	Intersection N	T-Intersection Local	Unpaved	Dry	None	None	N	N
Clear	Daylight	Head On NS	Property D N	Front to Front Motor Vehicle On Roadway	Non-Junction N	Four-Way Inte County	Paved	Dry	None	None	N	N
Cloudy	Daylight	Right/Through N	Property D N	Angle Motor Vehicle On Roadway	Intersection N	T-Intersection Local	Unpaved	Dry	None	None	N	N

# Type\_of\_V Loc\_in\_Wc Workers\_ii Law\_Enfor Mopeds Motorcyclk Passenger Bicyclists Pedestrian: Fatalities\_Linjuries\_Ui 0

## Appendix B

Traffic Signal Warrant No. 1 Evaluation

op Time	24:00
	op Time

Location : SR 544, West of Lake Hamilton Drive

15         28         19         21         31         31         67         127         195         185         147         143         17           30         14         16         17         17         24         74         186         183         140         153         140         153         140         153         140         153         140         153         140         153         140         153         140         153         140         153         140         153         140         153         140         153         140         153         140         153         140         153         140         153         140         153         140         153         140         153         141         151         16         17         18         19         20         21         22         22         23         151         170         174         206         168         249         142         104         144         28         445         177         132         176         146         149         144         22         123         144         151         16         17         186         143         144	1-Oct-19					Eas	ibound voi	ume for La	ner				
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	End Time	00	01	02	03	04	05	06	07	08	09	10	11
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	15	28	19	21	31	31	67	127	195	185	147	143	173
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	30	14	16	17	17	24	74	186	231	163	140	158	173
Hr Total         78         67         78         109         137         361         665         893         701         568         600         665           End Time         12         13         14         15         16         17         18         19         20         21         22         22         23           15         189         174         176         174         176         171         222         160         111         94         69         48         43           30         151         170         174         126         166         131         130         64         61         37         70         48         44         28           45         177         176         201         186         186         131         130         64         61         37         335         278         177         133           Hour Total         11.314         A         PM Reak Volume         893         AM Peak Hour Factor $= 0.8$ 0.8         9         10         11         15         17         183         144         144         144         144         144         144         144 <td>45</td> <td>16</td> <td>14</td> <td>23</td> <td>29</td> <td>42</td> <td>102</td> <td>164</td> <td>245</td> <td>170</td> <td>160</td> <td>171</td> <td>163</td>	45	16	14	23	29	42	102	164	245	170	160	171	163
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	00	20	18	17	32	40	118	188	222	183	121	128	154
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Hr Total	78	67	78	109	137	361	665	893	701	568	600	663
$\begin{array}{c c c c c c c c c c c c c c c c c c c $													
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	End Time	12	13	14	15	16	17	18			and the second se		23
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	15	189	174	176	172	171	222	160	111	94	69	48	42
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	30	151	170	174	206	168	249	149	124	104	78	44	28
Hr Total         669         715         702         743         721         868         582         471         335         276         177         133           Hour Total         :         11.314         A         AM Peak Hour begins         :         0.9           I-Oct-19         Wethbound Volume for Lane 2         M         Peak Hour Factor         :         0.9           I-Oct-19         Wethbound Volume for Lane 2         0.9         10         11           30         31         21         11         21         19         28         89         183         224         137         147         166           30         36         22         19         31         27         50         115         187         186         146         149         177           00         19         12         15         37         45         77         146         173         136         139         125         177         181         18         19         20         21         22         23 <th< td=""><td>45</td><td>177</td><td>192</td><td>176</td><td>164</td><td>196</td><td>211</td><td>142</td><td>106</td><td>73</td><td>70</td><td>48</td><td>32</td></th<>	45	177	192	176	164	196	211	142	106	73	70	48	32
Hour Total         11.314         AM Peak Hour Begins         7.00         AM Peak Volume         893         AM Peak Hour Factor         0.93           Hour begins         16.45         PM Peak Volume         1868         PM Peak Hour Factor         0.8           Hour begins         16.45         PM Peak Volume         1868         PM Peak Hour Factor         0.8           Hour Total         11         21         19         28         89         183         224         137         147         164           130         36         22         19         31         27         50         115         187         186         146         148         144         144         144         144         144         144         144         144         144         144         144         144         144         144         144         144         15         110         120         113         145         177         146         173         136         139         122         177           HT Total         11         15         16         17         18         19         20         21         22         22         164         139         125         177         1	00	152	179	176	201	186	186	131	130	64	61	37	31
Af Peak Hour begins       7:00 A Peak Hour begins       7:00 I6:45       AM Peak Volume       :       893 PM Peak Volume       AM Peak Hour Factor       :       0.9 PM Peak Volume       :       <	Hr Total	669	715	702	743	721	868	582	471	335	278	177	133
End Time       00       01       02       03       04       05       06       07       08       09       10       11         15       31       21       11       21       19       28       89       183       224       137       147       163         30       36       22       19       31       27       50       115       187       186       1446       148       144         45       30       19       23       40       39       57       110       200       197       163       149       125       177         00       19       12       15       37       45       77       146       173       136       139       125       177         Hr Total       116       74       68       129       130       212       460       743       743       585       569       666         End Time       12       13       14       15       16       17       18       19       20       21       22       23       15       150       127       126       186       128       125       149       15       107       97 </th <th>4 Peak Hou 4 Peak Hour</th> <th>r begins</th> <th>7:00</th> <th></th> <th></th> <th>PM Peak</th> <th>Volume</th> <th>; 868</th> <th>ne 2</th> <th></th> <th>5 (1997) (1978) (1978) (1978)</th> <th></th> <th>0.91</th>	4 Peak Hou 4 Peak Hour	r begins	7:00			PM Peak	Volume	; 868	ne 2		5 (1997) (1978) (1978) (1978)		0.91
15         31         21         11         21         19         28         89         183         224         137         147         166           30         36         22         19         31         27         50         115         187         186         146         148         144           45         30         19         23         40         39         57         110         200         197         163         149         147           00         19         12         15         37         45         77         146         173         136         139         125         177           Hr Total         116         74         68         129         130         212         460         743         743         585         569         666           End Time         12         13         14         15         16         17         18         19         20         21         22         23           30         179         158         172         185         184         217         123         10         82         48         335         224         135	1-0(1-13												-
30         36         22         19         31         27         50         115         187         186         146         148         144           45         30         19         23         40         39         57         110         200         197         163         149         177           Hr Total         116         74         68         129         130         212         460         743         743         585         569         669           End Time         12         13         14         15         16         17         18         19         20         21         22         23           15         139         157         213         195         211         226         186         132         110         82         48         235           30         179         158         172         185         184         217         186         132         110         82         48         235           00         159         160         191         185         229         187         113         89         67         34         43           H rotal         1316	and the second se												-
45 $30$ $19$ $23$ $40$ $39$ $57$ $110$ $200$ $197$ $163$ $149$ $17.$ $00$ $19$ $12$ $15$ $37$ $45$ $77$ $146$ $173$ $136$ $139$ $125$ $17.$ $Hr$ Total $116$ $74$ $68$ $129$ $130$ $212$ $460$ $743$ $743$ $585$ $569$ $661$ $Trotal$ $116$ $74$ $68$ $129$ $121$ $220$ $21$ $22$ $22$ $23$ $30$ $121$ $226$ $116$ $17.$ $18$ $19$ $20$ $21$ $22$ $23$ $30$ $179$ $158$ $172$ $100$ $120$ $110$ $82$ $48$ $332$ $110$ $82$ $48$ $23$ $107$ $57$ $35$ $00$ $159$ $160$ $191$ $185$ $229$ $198$ $1$		-	-	the state of the s									169
$\begin{array}{c c c c c c c c c c c c c c c c c c c $													146
Hr Total         116         74         68         129         130         212         460         743         743         585         569         664           End Time         12         13         14         15         16         17         18         19         20         21         22         23           15         139         157         213         195         211         226         186         128         125         89         65         42           30         179         158         172         185         172         185         115         107         97         57         35           45         152         172         200         190         201         255         145         115         107         97         57         35           00         159         160         191         185         229         198         127         123         89         67         54         43           Hour Total         :         11,316          AM Peak Volume         ? 784         AM Peak Hour Factor         :         0.8           A Peak Hour begins         :         16:45						-							174
Instruction       Instruction       Instruction       Instruction       Instruction       Instruction         End Time       12       13       14       15       16       17       18       19       20       21       22       23         15       139       157       213       195       211       226       186       128       125       89       65       442         30       179       158       172       185       184       217       186       132       110       82       48       35         00       159       160       191       185       229       198       127       123       89       67       54       43         Hour Total       : 11,316       A       A Peak Hour begins : 16:45       PM Peak Volume : 784       AM Peak Hour Factor : 0.8       0.9         Hour begins : 16:45       PM Peak Volume : 927       PM PeaK Hour Factor : 0.9       0.9       10       11       15       59       40       32       52       50       95       216       378       409       284       290       34         30       50       38       36       48       51       124       301	00	19	12	15	37	45	77						179
Is         139         157         213         195         211         226         186         128         125         89         65         442           30         179         158         172         185         184         217         186         132         110         82         48         35           45         152         172         200         190         201         255         145         115         107         97         57         35           00         159         160         191         185         229         198         127         123         89         67         54         43           Hr Total         629         647         776         755         825         896         644         498         431         335         224         195           Hour Total         :         11,316         AM Peak Volume         :         784         AM Peak Hour Factor         :         0.8           A Peak Hour begins         :         16:45         PM Peak Volume         :         927         PM PeaK Hour Factor         :         0.9           1-Oct-19         Total Volume for All Lanes         1104         <	Hr Total	116	74	68	129	130	212	460	743	743	585	569	668
Is         139         157         213         195         211         226         186         128         125         89         65         442           30         179         158         172         185         184         217         186         132         110         82         48         35           45         152         172         200         190         201         255         145         115         107         97         57         35           00         159         160         191         185         229         198         127         123         89         67         54         43           Hr Total         629         647         776         755         825         896         644         498         431         335         224         195           Hour Total         :         11,316         AM Peak Volume         :         784         AM Peak Hour Factor         :         0.8           A Peak Hour begins         :         16:45         PM Peak Volume         :         927         PM PeaK Hour Factor         :         0.9           1-Oct-19         Total Volume for All Lanes         1104         <													
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	End Time	12	13										23
45         152         172         200         190         201         255         145         115         107         97         57         355           00         159         160         191         185         229         198         127         123         89         67         54         43           Hr Total         629         647         776         755         825         896         644         498         431         335         224         155           Hour Total         :         11,316         A         APeak Hour begins         :         7.15         AM Peak Volume         :         927         PM Peak Hour Factor         :         0.8           A Peak Hour begins         :         16:45         PM Peak Volume         :         927         PM Peak Hour Factor         :         0.9           LOct-19         Total Volume for All Lanes         Itans         11         124         301         418         349         286         306         315           45         46         33         46         69         81         159         274         445         367         323         320         333           00 <td>15</td> <td>139</td> <td>157</td> <td>213</td> <td>195</td> <td>211</td> <td>226</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>42</td>	15	139	157	213	195	211	226						42
OO         159         160         191         185         229         198         127         123         89         67         54         43           Hr Total         629         647         776         755         825         896         644         498         431         335         224         155           Hour Total         :         11.316         AM Peak Hour begins         ?         715         AM Peak Volume         ?         784         AM Peak Hour Factor         :         0.8           A Peak Hour begins         :         16:45         PM Peak Volume         :         927         PM Peak Hour Factor         :         0.9           1-Oct-19         Total Volume for All Lanes         11         15         59         40         32         52         50         95         216         378         409         284         290         342           30         50         38         36         48         51         124         301         418         349         286         306         319           45         46         33         46         69         81         159         274         445         367         323	30	179											39
Hr Total         629         647         776         755         825         896         644         498         431         335         224         155           Hour Total         : 11.316         A         A         Peak Hour begins         : 7.15         AM Peak Volume         : 784         AM Peak Hour Factor         : 0.8           A Peak Hour begins         : 16:45         PM Peak Volume         : 927         PM Peak Hour Factor         : 0.8           I-Oct-19         Total Volume for All Lanes         Total Volume for All Lanes         0.9         10         11           15         59         40         32         52         50         95         216         378         409         284         290         34           30         50         38         36         48         51         124         301         418         349         286         306         313         320         333         320         333         320         331         320         333         320         333         333         333         333         333         333         333         333         333         333         333         333         333         335         256 <t< td=""><td>45</td><td>152</td><td></td><td></td><td>and the second se</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	45	152			and the second se								
Hour Total       : 11.316         A Peak Hour begins       : 7.15       AM Peak Volume       : 784       AM Peak Hour Factor       : 0.8         A Peak Hour begins       : 16:45       PM Peak Volume       : 927       PM Peak Hour Factor       : 0.9         1-Oct-19       Total Volume for All Lanes         End Time       00       01       02       03       04       05       06       07       08       09       10       11         15       59       40       32       52       50       95       216       378       409       284       290       344         30       50       38       36       48       51       124       301       418       349       286       306       315         45       46       33       46       69       81       159       274       445       367       323       320       333         90       30       32       69       85       195       334       395       319       260       253       333         90       303       328       346       391       352       466       235       256       214       160       92	00	159											_
A Peak Hour begins       :       7:15       AM Peak Volume       :       784       AM Peak Hour Factor       :       0.8         A Peak Hour begins       :       16:45       PM Peak Volume       :       927       PM Peak Hour Factor       :       0.8         I-Oct-19       Total Volume for All Lanes       Total Volume for All Lanes         End Time       00       01       02       03       04       05       06       07       08       09       10       11         15       59       40       32       52       50       95       216       378       409       284       290       34:         30       50       38       36       48       51       124       301       418       349       286       306       313         45       46       33       46       69       81       159       274       445       367       323       320       250       333         4r Total       194       141       146       238       267       573       1,125       1,636       1,444       1,153       1,169       1,333         15       328       331       389       367 <th< td=""><td>Hr Total</td><td>629</td><td>647</td><td>776</td><td>755</td><td>825</td><td>896</td><td>644</td><td>498</td><td>431</td><td>335</td><td>224</td><td>159</td></th<>	Hr Total	629	647	776	755	825	896	644	498	431	335	224	159
Link       S9       40       32       52       50       95       216       378       409       284       290       344         30       50       38       36       48       51       124       301       418       349       286       306       315         45       46       33       46       69       81       159       274       445       367       323       320       333         00       39       30       32       69       85       195       334       395       319       260       253       333         Hr Total       194       141       146       238       267       573       1,125       1,636       1,444       1,153       1,169       1,33         End Time       12       13       14       15       16       17       18       19       20       21       22       23         15       328       331       389       367       382       448       346       239       219       158       113       84         30       328       334       397       466       335       256       214       160 <td< td=""><td>M Peak Hour A Peak Hour</td><td>begins</td><td>7:15</td><td></td><td></td><td>PM Peak</td><td>Volume</td><td>: 927</td><td>nes</td><td></td><td></td><td></td><td></td></td<>	M Peak Hour A Peak Hour	begins	7:15			PM Peak	Volume	: 927	nes				
15       59       40       32       52       50       95       216       378       409       284       290       34,333         30       50       38       36       48       51       124       301       418       349       286       306       315         45       46       33       46       69       81       159       274       445       367       323       320       337         00       39       30       32       69       85       195       334       395       319       260       253       333         Hr Total       194       141       146       238       267       573       1,125       1,636       1,444       1,153       1,169       1,333         End Time       12       13       14       15       16       17       18       19       20       21       22       23         15       328       331       389       367       382       448       346       239       219       158       113       84         30       328       346       391       352       466       335       256       214       <	End Time	00	01	02	03	04	05	06	07	08	09	10	11
30       50       38       36       48       51       124       301       418       349       286       306       319         45       46       33       46       69       81       159       274       445       367       323       320       33'         00       39       30       32       69       85       195       334       395       319       260       253       33'         00       39       30       32       69       85       195       334       395       319       260       253       33'         Hr Total       194       141       146       238       267       573       1,125       1,636       1,444       1,153       1,169       1,33         End Time       12       13       14       15       16       17       18       19       20       21       22       23         15       328       331       389       367       382       448       346       239       219       158       113       84         30       330       328       346       391       352       466       335       256						50	95	216	378	409	284	290	342
OC         39         30         32         69         85         195         334         395         319         260         253         333           Hr Total         194         141         146         238         267         573         1,125         1,636         1,444         1,153         1,169         1,33           End Time         12         13         14         15         16         17         18         19         20         21         22         23           15         328         331         389         367         382         448         346         239         219         158         113         84           30         330         328         346         391         352         466         335         256         214         160         92         67           45         329         364         376         354         397         466         287         221         180         167         105         67           00         311         339         367         386         415         384         258         253         153         128         91         74 <tr< td=""><td></td><td></td><td>38</td><td></td><td>48</td><td>51</td><td>124</td><td>301</td><td>418</td><td>349</td><td>286</td><td>306</td><td>319</td></tr<>			38		48	51	124	301	418	349	286	306	319
00         39         30         32         69         85         195         334         395         319         260         253         333           Hr Total         194         141         146         238         267         573         1,125         1,636         1,444         1,153         1,169         1,33           End Time         12         13         14         15         16         17         18         19         20         21         22         23           15         328         331         389         367         382         448         346         239         219         158         113         84           30         330         328         346         391         352         466         335         256         214         160         92         67           45         329         364         376         354         397         466         287         221         180         167         105         67           00         311         339         367         386         415         384         258         253         153         128         91         74 <tr< td=""><td></td><td>46</td><td>33</td><td>46</td><td>69</td><td>81</td><td>159</td><td>274</td><td>445</td><td>367</td><td>323</td><td></td><td>337</td></tr<>		46	33	46	69	81	159	274	445	367	323		337
End Time       12       13       14       15       16       17       18       19       20       21       22       23         15       328       331       389       367       382       448       346       239       219       158       113       84         30       330       328       346       391       352       466       335       256       214       160       92       67         45       329       364       376       354       397       466       287       221       180       167       105       67         00       311       339       367       386       415       384       258       253       153       128       91       74         Hr Total       1,298       1,362       1,478       1,498       1,546       1,764       1,226       969       766       613       401       292         Hour Total       :					69	85	195	334	395	319	260	253	333
15         328         331         389         367         382         448         346         239         219         158         113         84           30         330         328         346         391         352         466         335         256         214         160         92         67           45         329         364         376         354         397         466         287         221         180         167         105         67           00         311         339         367         386         415         384         258         253         153         128         91         74           Hr Total         1,298         1,362         1,478         1,498         1,546         1,764         1,226         969         766         613         401         292           Hour Total         22,630         22.630         24.630         24.630         24.630         24.630         24.630	Hr Total	194	141	146	238	267	573	1,125	1,636	1,444	1,153	1,169	1,331
15         328         331         389         367         382         448         346         239         219         158         113         84           30         330         328         346         391         352         466         335         256         214         160         92         67           45         329         364         376         354         397         466         287         221         180         167         105         67           00         311         339         367         386         415         384         258         253         153         128         91         74           Hr Total         1,298         1,362         1,478         1,498         1,546         1,764         1,226         969         766         613         401         292           Hour Total         22,630         22.630         24.630         24.630         24.630         24.630         24.630					1.2	1	1.5-						
30         330         328         346         391         352         466         335         256         214         160         92         67           45         329         364         376         354         397         466         287         221         180         167         105         67           00         311         339         367         386         415         384         258         253         153         128         91         74           Hr Total         1,298         1,362         1,478         1,498         1,546         1,764         1,226         969         766         613         401         292           Hour Total         :         22,630         530	the second se												23
45         329         364         376         354         397         466         287         221         180         167         105         67           00         311         339         367         386         415         384         258         253         153         128         91         74           Hr Total         1,298         1,362         1,478         1,498         1,546         1,764         1,226         969         766         613         401         292           Hour Total         :         22,630         :         :         22,630         : <td:< td="">         :         <td:< td=""></td:<></td:<>													
OO         311         339         367         386         415         384         258         253         153         128         91         74           Hr Total         1,298         1,362         1,478         1,498         1,546         1,764         1,226         969         766         613         401         292           Hour Total         : 22,630         :         :         22,630         : <td:< td=""> <td:< td="">         :         <t< td=""><td></td><td></td><td></td><td></td><td>and the second sec</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<></td:<></td:<>					and the second sec								
Hr Total         1,298         1,362         1,478         1,498         1,546         1,764         1,226         969         766         613         401         292           Hour Total         : 22,630         : <td:< td="">         :         <td:< td=""> <td:< td=""></td:<></td:<></td:<>													
Hour Total : 22,630				and the second se	the second se		Contraction of the local division of the loc	The second s	-		the second s		
	Hr Total	1,298	1,362	1,478	1,498	1,546	1,764	1,226	969	766	613	401	292
M Peak Hour begins : 7:15 AM Peak Volume : 1,667 AM Peak Hour Factor : 0.5	Hr Total	1,298	1,362	1,478	1,498	1,546	1,764	1.226	969	766	613	401	29

Start Date	: October 1, 2019	Start Time	00:00
Stop Date	: October 2, 2019	Stop Time	24:00
· · · · · · ·	<b>N</b> -11		

County : Polk Location : SR 544, East of Sunset Drive

					East	tbound Vol	ume for Lai	ne 1				
End Time	00	01	02	03	04	05	06	07	08	09	10	1 11
15	29	18	18	23	24	60	112	167	164	135	135	165
30	14	14	18	15	21	63	169	203	149	129	146	160
45	15	14	21	22	30	94	125	209	157	149	161	148
00	21	18	16	28	40	101	160	199	163	112	120	139
Hr Total	79	64	73	88	115	318	566	778	633	525	562	612
	1.1								-	1.1.1		
End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	173	157	160	151	150	199	151	100	89	66	44	42
30	138	157	164	185	149	233	137	104	95	77	41	24
45	159	166	166	146	178	195	133	94	69	65	47	30
00	135	160	163	181	166	168	121	123	57	59	38	31
Hr Total	605	640	653	663	643	795	542	421	310	267	170	127
4 Hour Total M Peak Hour M Peak Hour 1-Oct-19	rbegins	: 10,249 : 7:00 : 17:00			AM Peak	Volume	: 778 : 795 ume for La	2003		Hour Facto Hour Facto		0.9
1-001-19	-		-		1000						-	
End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	27	20	9	19	19	29	83	158	196	131	131	153
30	34	20	17	27	26	48	109	173	171	146	133	147
45	28	17	23	39	37	54	102	171	172	153	139	153
00	18	11	14	35	42	66	128	153	134	126	120	171
Hr Total	107	68	63	120	124	197	422	655	673	556	523	624
End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	135	144	191	167	185	200	163	117	111	83	49	39
30	155	140	158	158	172	188	159	116	96	79	45	35
45	132	170	177	177	186	228	128	105	100	83	51	32
00	140	143	170	170	204	173	110	106	74	59	52	36
Hr Total	562	597	696	672	747	789	560	444	381	304	197	142
4 Hour Total M Peak Hour M Peak Hour 1-Oct-19	begins :	10,223 7:15 16:45			AM Peak \ PM Peak \ To	/olume	: 693 : 820 for All Lan	es		Hour Facto Hour Facto		0.88
4 Hour Total M Peak Hour M Peak Hour	begins :	7:15	02	03	PM Peak \	/olume	: 820	es 07				0.90
4 Hour Total M Peak Hour M Peak Hour 1-Oct-19	begins : begins :	7:15 16:45 01 38	27	42	PM Peak \ To 04 .43	Volume tal Volume 05 89	: 820 for All Lan 06 195	07 325	PM PeaK	Hour Facto	10 10 266	0.90
4 Hour Total M Peak Hour M Peak Hour 1-Oct-19 End Time	begins : begins : 00	7:15 16:45 01			PM Peak \ To 04 43 47	Volume tal Volume 05 89 111	: 820 for All Lan 06 195 278	07 325 376	PM PeaK	09 266 275	10 266 279	0.90 11 318 307
4 Hour Total M Peak Hour M Peak Hour 1-Oct-19 End Time 15 30 45	begins : begins : 00 56 48 43	7:15 16:45 01 38 34 31	27 35 44	42 42 61	PM Peak V To 04 43 47 67	/olume tal Volume 05 89 111 148	: 820 for All Lan 06 195 278 227	07 325 376 380	08 360 320 329	09 266 275 302	10 266 279 300	0.90 11 318 307 301
4 Hour Total M Peak Hour M Peak Hour 1-Oct-19 End Time 15 30	begins : begins : 00 56 48 43 39	7:15 16:45 01 38 34 31 29	27 35 44 30	42 42 61 63	PM Peak V To 04 43 47 67 82	/olume tal Volume 05 89 111 148 167	: 820 for All Lan 06 195 278 227 288	07 325 376 380 352	PM PeaK 0 08 360 320 329 297	09 266 275 302 238	10 266 279 300 240	0.90 11 318 307 301 310
4 Hour Total M Peak Hour M Peak Hour 1-Oct-19 End Time 15 30 45	begins : begins : 00 56 48 43	7:15 16:45 01 38 34 31	27 35 44	42 42 61	PM Peak V To 04 43 47 67	/olume tal Volume 05 89 111 148	: 820 for All Lan 06 195 278 227	07 325 376 380	08 360 320 329	09 266 275 302	10 266 279 300	0.90 11 318 307 301 310
4 Hour Total M Peak Hour I-Oct-19 End Time 15 30 45 00 Hr Total	begins           begins           00           56           48           43           39           186	7:15 16:45 01 38 34 31 29 132	27 35 44 30 136	42 42 61 63 208	PM Peak V To 04 43 47 67 82 239	/olume tal Volume 05 89 111 148 167 515	: 820 for All Lan 06 195 278 227 288 988	07 325 376 380 352 1.433	08 360 320 329 297 <b>1,306</b>	09 266 275 302 238 1,081	10 266 279 300 240 1,085	0,90 11 318 307 301 310 1,236
4 Hour Total M Peak Hour I-Oct-19 End Time 15 30 45 00 Hr Total End Time	begins         :           begins         :           00         :           56         :           48         :           39         :           186         :	7:15 16:45 01 38 34 31 29 132	27 35 44 30 <b>136</b> 14	42 42 61 63 208	PM Peak V To 04 43 47 67 82 239 16	/olume tal Volume 05 89 111 148 167 515 17	: 820 for All Lan 06 195 278 227 288 988 988	07 325 376 380 352 1.433	PM PeaK 1 08 360 320 329 297 <b>1,306</b> 20	09 266 275 302 238 1,081 21	10 266 279 300 240 1,085	0,90 11 318 307 301 310 1,236 23
4 Hour Total M Peak Hour Peak Hour I-Oct-19 End Time 15 30 45 00 Hr Total End Time 15	begins : begins : 00 56 48 43 39 <b>186</b> 12 308	7:15 16:45 01 38 34 31 29 132 13 301	27 35 44 30 <b>136</b> 14 351	42 42 61 63 208 15 318	PM Peak \ To 04 43 47 67 82 239 16 335	/olume tal Volume 05 89 111 148 167 515 17 399	: 820 for All Lan 06 195 278 227 288 988 988 18 314	07 325 376 380 352 1.433 19 217	PM PeaK 1 08 360 320 329 297 <b>1,306</b> 20 200	09 266 275 302 238 1,081 21 149	10 266 279 300 240 1,085	0.90 11 318 307 301 310 1,236 23 81
4 Hour Total M Peak Hour Peak Hour I-Oct-19 End Time 15 30 45 00 Hr Total End Time 15 30	begins : begins : 00 56 48 43 39 <b>186</b> 12 308 293	7:15 16:45 01 38 34 31 29 <b>132</b> 13 301 297	27 35 44 30 136 14 351 322	42 42 61 63 208 15 318 343	PM Peak \ To 04 43 47 67 82 239 16 335 321	Volume tal Volume 05 89 111 148 167 515 17 399 421	: 820 for All Lan 06 195 278 227 288 988 988 18 314 296	07 325 376 380 352 1,433 19 217 220	PM PeaK 1 08 360 320 329 297 <b>1,306</b> 20 200 191	09 266 275 302 238 1,081 21 149 156	10 266 279 300 240 1,085 22 93 86	0.90 11 318 307 301 310 1,236 23 81 59
4 Hour Total M Peak Hour Peak Hour I-Oct-19 End Time 15 30 45 00 Hr Total End Time 15 30 45 30 45	begins         :           begins         :           00         :           56         :           43         :           39         :           186         :           308         :           293         :	7:15 16:45 01 38 34 31 29 132 13 29 132 13 297 336	27 35 44 30 136 14 351 322 343	42 42 61 63 208 15 318 343 323	PM Peak N To 04 43 47 67 82 239 16 335 321 364	/olume 05 89 111 148 167 515 17 399 421 423	: 820 for All Lan 06 195 278 227 288 988 988 18 314 296 261	07 325 376 380 352 1.433 19 217 220 199	PM Peak 1 08 360 320 297 <b>1,306</b> 20 200 191 169	09 266 275 302 238 1,081 21 149 156 148	10 266 279 300 240 1,085 22 93 86 98	0.90 11 318 307 301 1,236 23 81 59 62
4 Hour Total M Peak Hour Peak Hour I-Oct-19 End Time 15 30 45 00 Hr Total End Time 15 30	begins : begins : 00 56 48 43 39 <b>186</b> 12 308 293	7:15 16:45 01 38 34 31 29 <b>132</b> 13 301 297	27 35 44 30 136 14 351 322	42 42 61 63 208 15 318 343	PM Peak \ To 04 43 47 67 82 239 16 335 321	Volume tal Volume 05 89 111 148 167 515 17 399 421	: 820 for All Lan 06 195 278 227 288 988 988 18 314 296	07 325 376 380 352 1,433 19 217 220	PM PeaK 1 08 360 320 329 297 <b>1,306</b> 20 200 191	09 266 275 302 238 1,081 21 149 156	10 266 279 300 240 1,085 22 93 86	0.90 11 318 307 301 310 1,236 23 81 59

Start Date	: October 1, 2019	Start Time	00:00
Stop Date	: October 2, 2019	Stop Time	24:00
County	: Polk		

Location : Fairview Village, North of SR 544

							Construction of the					_
End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	0	0	0	0	0	0	0	0	0	0	3	3
30	0	0	0	0	0	0	0	0	0	1	0	2
45	0	0	0	0	0	0	0	1	0	0	3	1
00	0	0	0	0	0	0	1	0	0	1	0	1
Hr Total	0	0	0	0	0	0	1	1	0	2	6	7
End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	2	1	3	3	1	2	0	1	0	0	0	0
30	2	0	0	2	0	0	0	0	0	0	0	0
45	1	2	1	1	1	2	0	0	0	0	0	0
00	0	1	0	0	1	0	0	2	0	0	0	0
Hr Total	5	4	4	6	3	4	0	3	0	0	0	0
Hour Total M Peak Hour A Peak Hour		46 10:30 13:15		1	AM Peak \ PM Peak \		: 8 : 6			Hour Facto Hour Facto		0.6
1-Oct-19					South	bound Vo	lume for La	ne 2				
End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	0	0	0	0	0	0	1	0	1	1	1	0
30	0	0	0	0	0	0	0	0	1	2	1	3
45	0	0	0	0	0	0	0	1	3	2	0	2
00	0	0	0	0	0	0	0	0	0	1	2	0
Hr Total	0	0	0	0	0	0	1	1	5	6	4	5
				1.1								
End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	1	1	2	3	1	0	1	0	0	0	0	0
30	3	1	1	2	2	0	0	0	0	0	0	0
45	0	0	0	1 -	0	0	0	1	0	0	D	0
00	2	0	1	2	1	1	0	1	0	0	0	0
Hr Total	6	2	4	8	4	1	1	2	0	0	0	0
		50			AM Peak V PM Peak V		: 7			Hour Factor Hour Factor		0.58
Hour Total M Peak Hour M Peak Hour 1-Oct-19		10:45 15:00					for All Lan					
4 Peak Hour 4 Peak Hour 1-Oct-19			02	03					08	09	10	n
/ Peak Hour 1 Peak Hour 1-Oct-19	begins :	15:00	02 0	03	То	tal Volume	for All Lan	es	08 1	09 1	10 4	11
M Peak Hour M Peak Hour 1-Oct-19 End Time	begins : 00	15:00		the second s	<b>To</b>	tal Volume 05	for All Lan	es 07				
4 Peak Hour 4 Peak Hour 1-Oct-19 End Time 15	begins : 00 0	15:00 01 0	0	0	04 0	tal Volume 05 0	for All Lan	07 0	1	1	4	3
4 Peak Hour 4 Peak Hour 1-Oct-19 End Time 15 30	00 0 0	15:00 01 0	0	0	04 0 0	05 0	for All Lan	07 0 0	1	1 3	4	3
A Peak Hour A Peak Hour I-Oct-19 End Time 15 30 45 00	00 0 0 0 0	15:00 01 0 0	0 0 0	0	04 0 0 0	05 0 0 0	for All Lan	07 0 0 2	1 1 3	1 3 2	4 1 3	3 5 3
A Peak Hour A Peak Hour I-Oct-19 End Time 15 30 45 00	00         0           0         0           0         0           0         0           0         0           0         0           0         0	01 0 0 0 0 0	0 0 0	0 0 0 0	04 0 0 0 0 0	05 0 0 0 0 0	for All Lan 06 1 0 0 1	07 0 0 2 0	1 1 3 0	1 3 2 2	4 1 3 2	3 5 3
M Peak Hour A Peak Hour 1-Oct-19 End Time 15 30 45 00 Hr Total End Time End Time	00 0 0 0 0 0 0 0 12	15:00 0 0 0 0 13	0 0 0 0 0	0 0 0 0 0	To 04 0 0 0 0 0	05 0 0 0 0 0 0 0 17	for All Lan 06 1 0 1 2 18	es 07 0 2 0 2 0 2 19	1 1 3 0 5	1 3 2 2 8	4 1 3 2 10 22	3 5 3 1 12 23
A Peak Hour A Peak Hour 1-Oct-19 End Time 15 30 45 00 Hr Total End Time 15	00 0 0 0 0 0 0 0 0 12 3	15:00 0 0 0 0 0 13 2	0 0 0 0 14 5	0 0 0 0 15 6	To 04 0 0 0 0 0 0 0 16 2	05 0 0 0 0 0 0 0 0 17 2	for All Lan 06 1 0 1 2 18 1 1	es 07 0 2 0 2 2 19 1	1 1 3 0 5 20 0	1 3 2 2 8 2 8	4 1 3 2 10 22 0	3 5 3 1 12 23 0
A Peak Hour A Peak Hour 1-Oct-19 End Time 15 30 Hr Total End Time 15 30	00 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	15:00 0 0 0 0 0 13 2 1	0 0 0 0 14 5 1	0 0 0 0 15 6 4	To 04 0 0 0 0 0 0 0 0 16 2 2	tal Volume 05 0 0 0 0 0 17 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	for All Lan 06 1 0 1 2 18 1 0	es 07 0 2 0 2 19 1 0	1 1 3 0 5 20 0 0 0	1 3 2 2 8 8 21 0 0	4 1 3 2 10 22 0 0	3 5 3 1 12 23 0 0
M Peak Hour A Peak Hour 1-Oct-19 End Time 15 30 45 End Time 15 30 45	00 0 0 0 0 0 0 0 12 3 5 1	15:00 0 0 0 0 13 1 2	0 0 0 0 14 5 1 1	0 0 0 0 15 6 4 2	To 04 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	tal Volume 05 0 0 0 0 0 17 2 0 2	for All Lan 06 1 0 1 2 18 1 0 0 0	es 07 0 2 0 2 2 0 2 2 19 1 0 1	1 1 3 0 5 20 0 0 0 0	1 3 2 2 8 2 8 21 0 0 0 0	4 1 3 2 10 22 0 0 0 0	3 5 3 1 12 23 0 0 0 0
A Peak Hour A Peak Hour 1-Oct-19 End Time 15 30 45 00 Hr Total End Time 15 30 45 00 45 00 45 00 45 00 45 00 00 15 15 15 15 15 15 15 15 15 15	00         0           0         0           0         0           0         0           0         0           0         0           12         3           5         1           2         2	15:00 0 0 0 0 13 2 1 2 1 1	0 0 0 0 0 14 5 1 1 1	0 0 0 0 0 15 6 4 2 2	To 04 0 0 0 0 0 16 2 1 2 1 2	tal Volume 05 0 0 0 0 0 17 2 0 2 1	for All Lan 06 1 0 1 2 18 1 0 0 0 0	es 07 0 2 0 2 19 1 0 1 3	1 1 3 0 5 20 0 0 0 0 0 0	1 3 2 2 8 2 8 2 1 0 0 0 0 0 0	4 1 3 2 10 22 0 0 0 0 0	3 5 3 1 12 23 0 0 0 0 0 0
M Peak Hour A Peak Hour 1-Oct-19 End Time 15 30 45 End Time 15 30 45	00 0 0 0 0 0 0 0 12 3 5 1	15:00 0 0 0 0 13 1 2	0 0 0 0 14 5 1 1	0 0 0 0 15 6 4 2	To 04 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	tal Volume 05 0 0 0 0 0 17 2 0 2	for All Lan 06 1 0 1 2 18 1 0 0 0	es 07 0 2 0 2 2 0 2 2 19 1 0 1	1 1 3 0 5 20 0 0 0 0	1 3 2 2 8 2 8 21 0 0 0 0	4 1 3 2 10 22 0 0 0	3 5 3 1 12 23 0 0 0 0

Start Date	: October 1, 2019	Start Time	00:00
Stop Date	: October 2, 2019	Stop Time	24:00
County	: Polk		

Location : Lake Hamilton Drive, South of SR 544

					0.000	-						
End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	2	2	3	9	7	11	21	39	27	23	18	21
30	1	2	0	3	5	12	24	40	32	20	20	24
45	1	0	3	9	13	11	43	46	29	24	19	22
00	2	1	2	6	3	22	32	35	32	12	17	24
Hr Total	6	5	8	27	28	56	120	160	120	79	74	91
End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	32	21	26	29	29	37	23	20	11	6	4	1
30	18	18	24	34	38	30	16	24	11	8	4	5
45	20	33	27	26	31	27	14	13	10	7	2	3
00	23	23	23	35	31	26	14	11	11	4	2	0
Hr Total	93	95	100	124	129	120	67	68	43	25	12	9
4 Hour Total M Peak Hour M Peak Hour 1-Oct-19		: 1,659 : 7:00 : 16:15			AM Peak PM Peak	Volume	: 160 : 137 Iume for La			Hour Facto Hour Facto		0.8 0.9
1-001-19					Sout	nbouna vo	lume for La	ne z				
End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	7	2	2	3	0	3	13	36	35	18	26	21
30	3	2	3	5	3	3	14	30	33	12	22	13
45	3	1	1	3	3	6	12	41	42	27	20	27
00	2	2	2	3	5	17	23	32	15	19	17	20
Hr Total	15	7	8	14	n	29	62	139	125	76	85	81
End Time 15	12 18	13 18	14 28	15 34	16 35	17 38	18 35	19 17	20 19	21 9	22 15	23
30	29	22	29	38	33	43	31	20	16	11	4	5
45	24	10	36	20	26	37	22	13	13	16	7	4
45			30	31	37	35	20	19	19	10	5	7
00	21	20			131	163	100					1
	21 92	20 70	123	123	151	153	108	69	67	46	31	20
00	92 begins		123	123	AM Peak PM Peak	Volume Volume	: 142 : 155 for All Lan		AM Peak I	46 Hour Facto Hour Facto	31	0.8
00 Hr Total 4 Hour Total M Peak Hour M Peak Hour 1-Oct-19	92 begins begins	70 1.685 7:45 16:45			AM Peak PM Peak To	Volume Volume Ital Volume	: 142 : 155 for All Lan	25	AM Peak I PM PeaK I	Hour Facto Hour Facto	31	0.8 0.9
00 Hr Total 4 Hour Total M Peak Hour M Peak Hour 1-Oct-19 End Time	92 begins begins	70 1.685 7:45 16:45	02	03	AM Peak PM Peak Tc 04	Volume Volume Ital Volume	: 142 : 155 for All Lan	es 07	AM Peak I PM PeaK I 08	Hour Facto Hour Facto 09	31	0.8: 0.9(
00 Hr Total 4 Hour Total M Peak Hour M Peak Hour 1-Oct-19 End Time 15	92 begins : begins : 00 9	70 1.685 7:45 16:45 01 4	02	03 12	AM Peak PM Peak Tc 04 7	Volume Volume tal Volume 05 14	: 142 : 155 for All Land 06 34	es 07 75	AM Peak I PM PeaK I 08 62	Hour Facto Hour Facto 09 41	31 10 44	0.8 0.9 11 42
00 Hr Total 4 Hour Total M Peak Hour M Peak Hour 1-Oct-19 End Time 15 30	92 begins : begins : 00 9 4	70 1.685 7:45 16:45 01 4 4	02 5 3	03 12 8	AM Peak PM Peak Tc 04 7 8	Volume Volume Ital Volume 05 14 15	: 142 : 155 for All Land 06 34 38	es 07 75 70	AM Peak I PM PeaK I 08 62 65	Hour Facto Hour Facto 09 41 32	31 10 44 42	20 0.8: 0.90 11 42 37
00 Hr Total 4 Hour Total M Peak Hour M Peak Hour 1-Oct-19 End Time 15 30 45	92 begins : begins : 00 9 4 4	70 1.685 7:45 16:45 01 4 4 1	02 5 3 4	03 12 8 12	AM Peak PM Peak Tc 04 7 8 16	Volume Volume tal Volume 05 14 15 17	: 142 : 155 for All Land 06 34 38 55	es 07 75 70 87	AM Peak I PM PeaK I 08 62 65 71	Hour Facto Hour Facto 09 41 32 51	31 10 44 42 39	20 0.8: 0.90 11 42 37 49
00 Hr Total 4 Hour Total M Peak Hour M Peak Hour 1-Oct-19 End Time 15 30 45 00	92 begins : begins : 00 9 4 4 4 4	70 1.685 7:45 16:45 01 4 4 1 3	02 5 3 4 4	03 12 8 12 9	AM Peak PM Peak Tc 04 7 8 16 8	Volume Volume tal Volume 05 14 15 17 39	: 142 : 155 for All Land 06 34 38 55 55	07 75 70 87 67	AM Peak I PM PeaK I 08 62 65 71 47	Hour Facto Hour Facto 09 41 32 51 31	31 10 44 42 39 34	20 0.8: 0.90 11 42 37 49 44
00 Hr Total 4 Hour Total M Peak Hour V Peak Hour 1-Oct-19 End Time 15 30 45	92 begins : begins : 00 9 4 4	70 1.685 7:45 16:45 01 4 4 1	02 5 3 4	03 12 8 12	AM Peak PM Peak Tc 04 7 8 16	Volume Volume tal Volume 05 14 15 17	: 142 : 155 for All Land 06 34 38 55	es 07 75 70 87	AM Peak I PM PeaK I 08 62 65 71	Hour Facto Hour Facto 09 41 32 51	31 10 44 42 39	20 0.8: 0.90 11 42 37 49
00 Hr Total 4 Hour Total M Peak Hour M Peak Hour 1-Oct-19 End Time 15 30 45 00 Hr Total	92 begins : begins : 9 4 4 4 21	70           1.685           7:45           16:45           01           4           1           3           12	02 5 3 4 4 16	03 12 8 12 9 41	AM Peak PM Peak Tc 04 7 8 16 8 39	Volume Volume 05 14 15 17 39 85	: 142 : 155 for All Land 06 34 38 55 55 182	07 75 70 87 67 <b>299</b>	AM Peak 1 PM Peak 1 08 62 65 71 47 <b>245</b>	Hour Facto Hour Facto 09. 41 32 51 31 155	31 10 44 42 39 34 159	0.8: 0.9( 11 42 37 49 44 172
00 Hr Total 4 Hour Total M Peak Hour M Peak Hour 1-Oct-19 End Time 15 30 45 00 Hr Total End Time	92 begins : begins : 9 4 4 4 21 12	70 1.685 7:45 16:45 01 4 1 3 12 13	02 5 3 4 4 16	03 12 8 12 9 41	AM Peak PM Peak V Tc 04 7 8 16 8 39	Volume Volume 14 15 17 39 85 17	: 142 : 155 for All Land 06 34 38 55 55 182 18	07 75 70 87 67 <b>299</b> 19	AM Peak I PM Peak I 62 65 71 47 <b>245</b> 20	Hour Facto Hour Facto 09 41 32 51 31 155 21	31 10 44 42 39 34 159 22	0.8: 0.9( 11 42 37 49 44 172 23
00 Hr Total 4 Hour Total M Peak Hour M Peak Hour 1-Oct-19 End Time 15 30 45 00 Hr Total End Time 15	92 begins : begins : 9 9 4 4 4 4 21 12 50	70 1.685 7:45 16:45 01 4 4 1 3 12 13 39	02 5 3 4 4 4 16	03 12 8 12 9 <b>41</b> 15 63	AM Peak PM Peak V Tc 04 7 8 16 8 39 16 64	Volume Volume 05 14 15 17 39 85 17 75	: 142 : 155 for All Land 06 34 38 55 55 182 18 18 58	07 75 70 87 67 299	AM Peak I PM Peak I 62 65 71 47 <b>245</b> 20 30	Hour Facto Hour Facto 09 41 32 51 31 155 21 15	31 10 44 42 39 34 159 22 19	20 0.85 0.90 11 42 37 49 44 172 23 5
00 Hr Total 4 Hour Total M Peak Hour M Peak Hour 1-Oct-19 End Time 15 30 45 00 Hr Total End Time 15 30	92 begins : begins : 9 4 4 4 21 12 50 47	70 1.685 7:45 16:45 01 4 4 1 3 12 13 39 40	02 5 3 4 4 4 16	03 12 8 12 9 <b>41</b> 15 63 72	AM Peak PM Peak Y Tc 04 7 8 16 8 39 16 64 71	Volume /olume 05 14 15 17 39 85 17 75 73	: 142 : 155 for All Land 06 34 38 55 55 182 18 18 58 47	25 07 75 70 87 67 299 19 37 44	AM Peak I PM Peak I 08 62 65 71 47 <b>245</b> 20 30 27	Hour Facto Hour Facto 09 41 32 51 31 155 21 15 19	31 10 44 42 39 34 159 22 19 8	0.8: 0.9( 11 42 37 49 44 172 23 5 10
00 Hr Total 4 Hour Total M Peak Hour M Peak Hour 1-Oct-19 End Time 15 30 45 00 Hr Total End Time 15 30 45	92 begins : begins : 9 4 4 4 21 12 50 47 44	70           1.685           7:45           16:45           01           4           4           1           3           12           13           39           40           43	02 5 3 4 16 14 54 53 63	03 12 8 12 9 <b>41</b> 15 63 72 46	AM Peak PM Peak Tc 04 7 8 16 8 39 39 16 64 71 57	Volume Volume 05 14 15 17 39 85 17 85 17 73 64	: 142 : 155 for All Land 06 34 38 55 55 182 18 18 18 58 47 36	25 07 75 70 87 67 299 19 37 44 26	AM Peak I PM Peak I 08 62 65 71 47 245 20 30 27 23	Hour Facto Hour Facto 09 41 32 51 31 155 21 15 19 23	31 10 44 42 39 34 159 22 19 8 9	0.8 0.8 0.9 11 42 37 49 44 172 23 5 10 7
00 Hr Total 4 Hour Total M Peak Hour M Peak Hour 1-Oct-19 End Time 15 30 45 00 Hr Total End Time 15 30	92 begins : begins : 9 4 4 4 21 12 50 47	70 1.685 7:45 16:45 01 4 4 1 3 12 13 39 40	02 5 3 4 4 4 16	03 12 8 12 9 <b>41</b> 15 63 72	AM Peak PM Peak Y Tc 04 7 8 16 8 39 16 64 71	Volume /olume 05 14 15 17 39 85 17 75 73	: 142 : 155 for All Land 06 34 38 55 55 182 18 18 58 47	25 07 75 70 87 67 299 19 37 44	AM Peak I PM Peak I 08 62 65 71 47 <b>245</b> 20 30 27	Hour Facto Hour Facto 09 41 32 51 31 155 21 15 19	31 10 44 42 39 34 159 22 19 8	0.8: 0.9( 11 42 37 49 44 172 23 5 10

		-	TRAF	State o				of Tran			ARY		TRAFFIC EN	1750-020-01 GINEERING October 2020
City: County: District:		Wir	nter Hav 6 – Poll One	ven					Engin		All	M Enginee une 29, 20		
Major Street: Minor Street:			Lake	SR 544 Hamilto		• 			anes anes			r Approach r Approach		50 45
MUTCD Electron	nic Refe	rence to	Chapter	4: <u>http</u>	<u>://mutc</u>	d.fhwa.	dot.gov	//pdfs/20	09r1	<u>r2/part4.</u>	.pdf			
Volume Level C												_	_	
1. Is the pos			-		-							⊡Yes	No	
2. Is the inte	ersectior	n in a bui	lt-up are	ea of an i	solated	comm	unity wi	ith a pop	oulati	on < 10,	000?	Yes	✓ No	
"70%" volun	ne level	<b>may</b> be ι	used if C	Question	1 <b>or</b> 2 a	above i	s answe	ered "Ye	s"		Y	70%	100%	
WARRANT 1	- EIGH	T-HOU	R VEH	ICULA	r vol	UME								
											ight hours.	⊡ Yes	□No	
(should only i			an adeq	uate tria	l of othe	er alteri	natives	that cou	ld ca	use less	6" satisfied delay and problems).	Yes	√No	
	Warrar	nt 1 is sa								•	ight hours.	√Yes	No	
Condition A	<mark>A - Mini</mark> r	num Vel	nicular '	<u>Volume</u>	_						-			
											Applicable:	🗹 Yes	No	
Condition A							•			100%	6 Satisfied:		⊡ No	
intersecting signal.	traffic is	the prind	cipal rea	son to co	onsider	installii	ng a tra	ffic cont	rol	80%	6 Satisfied:		. INO	
signal.										70%	6 Satisfied:	Yes	⊡No	
Number of traffic or			ng		per hou t (total oproacl	of botł	-				on minor- on only)			
Major		Minor		100% <sup>a</sup>	80%	b -	70%°	100%	а	80% <sup>b</sup>	70% <sup>°</sup>			
1		1		500	400	)	350	150		120	105			
2 or more	е	1		600	480	)	420	150		120	105			
2 or more	e 2	2 or more	e	600	480	)	420	200		160	140			
1		2 or more	Э	500	400	)	350	200		160	140	J		
<sup>a</sup> Basic Minim <sup>b</sup> Used for cor <sup>c</sup> May be usec <u>Record 8 hig</u>	nbination d when th	of Condit e major-si	treet spe <i>correspo</i>	ed exceed	ds 40 mr <i>jor-stree</i>	oh or in a <u>t and m</u> i	an isolat	ted comm	nunity	with a po	-		000	
	am	am	шd	шd	mq	шd	шd	шd						
Street	am - 8 a	am - 9 a	n - 12	- 2	۳ ۲	4	pm - 5 p	pm - 6 p						
	7 aı	8 aı	11 am	1 pm	2 pm	3 pm	4 pi	5 pi						
Major	1,548	1,374	1,287	1,312	1,398	1,415	1,468	1,657	Ex	isting V	olumes			
Minor	160	120	91	95	100	124	129	120						

Form 750-020-01 TRAFFIC ENGINEERING October 2020

## State of Florida Department of Transportation TRAFFIC SIGNAL WARRANT SUMMARY

Condition B - Interruption of Continuous Traffic	Applicable:	Yes	🗌 No	
Condition B is intended for application where Condition A is not satisfied and the	100% Satisfied:	√Yes	No	
traffic volume on a major street is so heavy that traffic on the minor intersecting	80% Satisfied:	⊡Yes	🗌 No	
street suffers excessive delay or conflict in entering or crossing the major street.	70% Satisfied:	√Yes	No	

	nes for moving ch approach		per hour o t (total of t oproaches	ooth		per hour o one directi	on minor- on only)
Major	Minor	100% <sup>a</sup>	80% <sup>b</sup>	70%°	100% <sup>a</sup>	80% <sup>b</sup>	70%°
1	1	750	600	525	75	60	53
2 or more	1	900	720	630	75	60	53
2 or more	2 or more	900	720	630	100	80	70
1	2 or more	750	600	525	100	80	70

<sup>a</sup> Basic Minimum hourly volume

<sup>b</sup> Used for combination of Conditions A and B after adequate trial of other remedial measures

<sup>c</sup> May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Pocord 8 highest hours and the co	rroeponding major_stroot and r	minor-street volumes in the Instructions Sheet.
necolu o nignest nouis anu the co	inesponding major-succi and i	

		Eiç	ght High	est Hou	rs			
Street	7 am - 8 am	8 am - 9 am	11 am - 12 pm	1 pm - 2 pm	2 pm - 3 pm	3 pm - 4 pm	4 pm - 5 pm	5 pm - 6 pm
Major	1,548	1,374	1,287	1,312	1,398	1,415	1,468	1,657
Minor	160	120	91	95	100	124	129	120

**Existing Volumes** 

Appendix C

CAP-X and SPICE Analysis Summary Sheets

### **Capacity Analysis for Planning of Junctions**

Summary Report - Page 1 of 2

Project Name:	SR 544 PD&E Study from MLK Boulevard to SR 17
Project Number:	FPID No. 440273-1-22-01
Location:	SR 544/Lake Hamilton Drive
Date:	Design Year (2045) AM Peak Hour
Number of Intersection Legs:	4
Major Street Direction	East-West

			Tra	ffic Volume D	emand				
		1	Volume	(Veh/hr)			Perce	nt (%)	
	U-Turn	Le	eft	Thru	Right				
	ŋ	¥	1			Heavy \	/ehicles	Volume Growth	
Eastbound	0	2	2	1599	91	5.0	0%	0.00%	
Westbound	0	18	33	1864	3	5.0	0%	0.00%	
Southbound	0	2	2	1	3	0.00%		0.00%	
Northbound	0	5	8	0	237	4.0	0%	0.00%	
Adjustment Factor	0.80	0.9	95		0.85				
Suggested	0.80	0.9	95		0.85				
	Truck to	PCE Fa	ctor		Suggested =	2.00	2.00 2.00		
FDC	OT Context Zone			C	3C-Suburban Co	ommerci	al		
			2-pha	se signal	Suggested =	1800	1800		
	Lane Volume		3-pha	se signal	Suggested =	1750		1750	
			4-pha	se signal	Suggested =	1700		1700	

Capacit	y Analys	sis for	Plannin	g of Junct	ions	
	Sur	nmary Repo	ort - Page 2 of	2		
TYPE OF INTERSECTION	Overall v/c Ratio	V/C Ranking	Multimodal Score	Pedestrian Accommodation s	Bicycle Accommodation s	Transit Accommodatio ns
Signalized Restricted Crossing U-Lurn E-W	0.67	1	6.3	Good	Good	Fair
Median U-Turn E-W	0.73	2	6.3	Good	Good	Fair
Traffic Signal	0.79	3	4.8	Fair	Fair	Good
Signalized ThruCut E-W	0.86	4	5.2	Fair	Good	Fair
2 X 2	0.89	5	5.6	Fair	Good	Good
1NS X 2EW	0.95	6	5.6	Fair	Good	Good
All-Way Stop Control	2.83	7	6.7	Good	Good	Good
Unsignalized Restricted Crossing U- Turn F-W	4.04	8	4.4	Fair	Fair	Fair
Unsignalized ThruCut E-W	212.55	9	3.3	Poor	Fair	Fair
Two-Way Stop Control E-W	263.37	10	3.7	Poor	Fair	Good

#### **Capacity Analysis for Planning of Junctions**

Detailed Report - Page 1 of 4

Project Name:	SR 544 PD&E Study from MLK Boulevard to SR 17
Project Number:	FPID No. 440273-1-22-01
Location:	SR 544/Lake Hamilton Drive
Date:	Design Year (2045) AM Peak Hour
Number of Intersection Legs:	4
Major Street Direction:	East-West

			Tra	ffic Volume D	emand					
		١	/olume	(Veh/hr)		Percent (%)				
	U-Turn	Le	ft	Thru	Right					
	ŋ	Ļ	]			Heavy \	/ehicles	Volume Growth		
Eastbound	0	2		1599	91	5.0	0%	0.00%		
Westbound	0	18	3	1864	3	5.0	0%	0.00%		
Southbound	0	2		1	3	0.00%		0.00%		
Northbound	0	58	3	0	237	4.0	0%	0.00%		
Adjustment Factor	0.80	0.9	95		0.85		$\sim$			
Suggested	0.80	0.9	5		0.85					
	Truck to	PCE Fac	ctor		Suggested =	= 2.00	2.00			
FDC	OT Context Zone			C	3C-Suburban Co	ommerc	ial			
		-	2-pha	se signal	Suggested =	1800		1800		
	Lane Volume		3-pha	se signal	Suggested =	1750		1750		
			4-pha	se signal	Suggested =	1700		1700		

# Capacity Analysis for Planning of Junctions Detailed Report - Page 2 of 4

Number c	flance	for	No	n-re	our	dak		t In	tore	2001	lion						
	Sheet			bou				bou				oun	nd	W	est	oour	nd
TTPE OF INTERSECTION	Sileet	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	٦	Т	R
Traffic Signal	<b>FULL</b>	$\sim$	1	1	0	$\mathbf{>}$	0	1	0		1	2	0		1	2	0
Two-Way Stop Control	<u>E-W</u>		1	1	0		0	1	0		1	2	0		1	2	0
All-Way Stop Control	FULL	$\checkmark$	1	1	0		0	1	0		1	2	0		1	2	0
Signalized Restricted Crossing U-Turn	<u>E-W</u>	$\checkmark$	$\checkmark$	$\langle$	1		/		1	1	1	2	0	1	1	2	0
Turn	<u>E-W</u>	$\checkmark$	/		1		/		1	1	1	2	0	1	1	2	0
Median U-Turn	<u>E-W</u>	$\checkmark$		1	0		/	1	0	1	$\checkmark$	2	0	1	$\sim$	2	0
Signalized ThruCut	E-W	$\checkmark$	1		1		1		0		1	2	0		1	2	0
Unsignalized ThruCut	<u>E-W</u>	$\checkmark$	1		1	$\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ $	1		0		1	2	0		1	2	0
Ν	lumber	of L	.ane	es f	or	nte	rch	ang	es								
	Sheet			boul				bou		E	astb	oun	nd	W	est	oour	nd
TYPE OF INTERCHANGE	Sneet	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R

## Capacity Analysis for Planning of Junctions Detailed Report - Page 3 of 4

	F	lesuli	ts for	Non	-rour	idabo	out In	terse	ction	IS					
TYPE OF INTERSECTION	Sheet		ne 1 orth)		ne 2 uth)	Zone 3	i (East)	Zor (We		1000	ne 5 nter)	Overall v/c Ratio	Pedestrian commodations	Bicycle ccommodations	Transit Accommodations
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		Ac	Ac	Ac
Traffic Signal	FULL					$\checkmark$		$\nearrow$	/	1336	<u>0.79</u>	0.79	Fair	Fair	Good
Two-Way Stop Control	<u>E-W</u>	$\geq$						$\geq$	/	***	263.37	263.37	Poor	Fair	Good
All-Way Stop Control	FULL	$\geq$						$\geq$		4241	2.83	2.83	Good	Good	Good
Signalized Restricted Crossing U-Turn	<u>E-W</u>	1016	0.56	1201	0.67	1151	0.64	892	0.50	/		0.67	Good	Good	Fair
Unsignalized Restricted Crossing U-Turn	<u>E-W</u>	2019	0.12	1730	<u>4.04</u>	2152	<u>0.33</u>	1777	<u>0.01</u>	/	/	4.04	Fair	Fair	Fair
Median U-Turn	<u>E-W</u>					1154	<u>0.64</u>	1131	<u>0.63</u>	1322	<u>0.73</u>	0.73	Good	Good	Fair
Signalized ThruCut	<u>E-W</u>								/	1192	0.86	0.86	Fair	Good	Fair
Unsignalized ThruCut	E-W								/	-	212.55	212.55	Poor	Fair	Fair

									Page 4 c		f Jur					
						Re	sults f	or Roı	Indabo	uts						
TYPE OF ROUNDABOUT	Zo	Zone 1 (North) Zone 3 (East)		st)	Zo	one 2 (Sou	ıth)	z	Zone 4 (West) Ove F			Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations		
	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3		Acc	Acc	Ac
<u>1NS X 2EW</u>	<u>0.03</u>			<u>0.78</u>	<u>0.82</u>		<u>0.95</u>			<u>0.83</u>	<u>0.89</u>		0.95	Fair	Good	Good
<u>2 X 2</u>	<u>0.02</u>	<u>0.02</u>		<u>0.83</u>	<u>0.89</u>		<u>0.22</u>	<u>0.76</u>		<u>0.78</u>	<u>0.82</u>	/	0.89	Fair	Good	Good
														_		
		-				Re	sults f	or inte	rchang	jes					-	
TYPE OF INTERCHANC		E	Sheet	Zone 1 Mrg)	(Rt Zon	e2 (Lt Mrg)	Zone (Ctr. 1		Zone 4 (Ctr. 2)	Zone 5 Mrg)	(Lt Zone	∌6 (Rt Mrg)	Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
				CLV	V/C CL	v v/c	CLV	V/C CL	v v/c	CLV	V/C CL\	v v/c		Ř	Ř	¥

### **Capacity Analysis for Planning of Junctions**

Summary Report - Page 1 of 2

Project Name:	SR 544 PD&E Study from MLK Boulevard to SR 17
Project Number:	FPID No. 440273-1-22-01
Location:	SR 544/Lake Hamilton Drive
Date:	Design Year (2045) PM Peak Hour
Number of Intersection Legs:	4
Major Street Direction	East-West

			Tra	ffic Volume D	emand					
		1	Volume	(Veh/hr)			Perce	nt (%)		
	U-Turn	Le	eft	Thru	Right					
	ŋ	<b></b>	1			Heavy \	/ehicles	Volume Growth		
Eastbound	0	2	2	1814	92	3.0	0%	0.00%		
Westbound	0	20	)8	1610	3	3 3.0		0.00%		
Southbound	0		1	2	2	0.00%		0.00%		
Northbound	0	5	6	2	204	4.0	0%	0.00%		
Adjustment Factor	0.80	0.9	95		0.85					
Suggested	0.80	0.9	95		0.85					
	Truck to	PCE Fa	ctor		Suggested =	2.00		2.00		
FDC	OT Context Zone			C	3C-Suburban Co	ommercial				
			2-pha	se signal	Suggested =	1800		1800		
	Lane Volume		3-pha	se signal	Suggested =	1750		1750		
			4-pha	se signal	Suggested =	1700	1700			

Capacit	y Analys	sis for	Plannin	g of Junct	ions	
	Sur	nmary Repo	ort - Page 2 of	2		
TYPE OF INTERSECTION	Overall v/c Ratio	V/C Ranking	Multimodal Score	Pedestrian Accommodation s	Bicycle Accommodation s	Transit Accommodatio ns
Signalized Restricted Crossing U-Turn E-W	0.70	1	6.3	Good	Good	Fair
Median U-Turn E-W	0.70	-	6.3	Good	Good	Fair
Traffic Signal	0.84	3	4.8	Fair	Fair	Good
Signalized ThruCut E-W	0.92	4	5.2	Fair	Good	Fair
2 X 2	0.93	5	5.6	Fair	Good	Good
1NS X 2EW	0.99	6	5.6	Fair	Good	Good
All-Way Stop Control	2.74	7	6.7	Good	Good	Good
Unsignalized Restricted Crossing U- Turn E-W	4.85	8	4.4	Fair	Fair	Fair
Unsignalized ThruCut E-W	305.71	9	3.3	Poor	Fair	Fair
Two-Way Stop Control E-W	337.95	10	3.7	Poor	Fair	Good

#### **Capacity Analysis for Planning of Junctions**

Detailed Report - Page 1 of 4

Project Name:	SR 544 PD&E Study from MLK Boulevard to SR 17
Project Number:	FPID No. 440273-1-22-01
Location:	SR 544/Lake Hamilton Drive
Date:	Design Year (2045) PM Peak Hour
Number of Intersection Legs:	4
Major Street Direction:	East-West

			Tra	ffic Volume D	emand					
		١	Volume	(Veh/hr)			Percent (%)			
	U-Turn	Le	eft	Thru	Right	Heavy \	/ehicles	Volume Growth		
	<b>↓</b>					Ticavy (	CTILOICO	Volume Crowin		
Eastbound	0	2	2	1814	92	3.0	0%	0.00%		
Westbound	0	20	)8	1610	3	3.0	0%	0.00%		
Southbound	0	1	l	2	2 0.00		0%	0.00%		
Northbound	0	5	6	2	204	4.0	0%	0.00%		
Adjustment Factor	0.80	0.9	95		0.85					
Suggested	0.80	0.9	95		0.85					
	Truck to	PCE Fa	ctor		Suggested =	2.00		2.00		
FDC	OT Context Zone			C	3C-Suburban Co	ommerc	ial			
			2-pha	se signal	Suggested =	1800	1800			
	Lane Volume preshold		3-pha	se signal	Suggested =	1750		1750		
			4-pha	se signal	Suggested =	1700	1700			

# Capacity Analysis for Planning of Junctions Detailed Report - Page 2 of 4

Number c	flance	for	No	n-r	2011	dał		t In	tore	2001	lion						
	Sheet			rthbound		Southbound			Eastbound				Westbound			nd	
TTPE OF INTERSECTION	oneer	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Traffic Signal	<b>FULL</b>	$\sim$	1	1	0		0	1	0		1	2	0		1	2	0
Two-Way Stop Control	<u>E-W</u>		1	1	0		0	1	0		1	2	0		1	2	0
All-Way Stop Control	FULL	$\checkmark$	1	1	0		0	1	0		1	2	0		1	2	0
Signalized Restricted Crossing U-Turn							$\langle$		1	1	1	2	0	1	1	2	0
Turn	<u>E-W</u>	$\checkmark$	/		1				1	1	1	2	0	1	1	2	0
Median U-Turn	<u>E-W</u>	$\checkmark$	/	1	0			1	0	1	$\checkmark$	2	0	1		2	0
Signalized ThruCut	<u>E-W</u>		1		1		1		0		1	2	0		1	2	0
Unsignalized ThruCut	<u>E-W</u>	$\checkmark$	1		1		1		0		1	2	0		1	2	0
Ν	lumber	of L	ane	es f	or l	nte	rch	ang	es								
	Sheet			boui		Southbound				Eastbound				Westbound			۱d
TYPE OF INTERCHANGE	Sneet	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R

## Capacity Analysis for Planning of Junctions Detailed Report - Page 3 of 4

	F	Resul	ts for	Non	-rour	idabc	out In	terse	ction	IS					
TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zor (We		Zone 5 (Center)		Overall v/c Ratio	Pedestrian commodations	Bicycle ccommodations	Transit Accommodations
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		Aci	Ac	40
Traffic Signal	<u>FULL</u>			$\sim$		$\sim$			/	1421	0.84	0.84	Fair	Fair	Good
Two-Way Stop Control	<u>E-W</u>	$\geq$							/	**	337.95	337.95	Poor	Fair	Good
All-Way Stop Control	<u>FULL</u>	$\geq$						$\geq$		4117	2.74	2.74	Good	Good	Good
Signalized Restricted Crossing U-Turn	<u>E-W</u>	864	0.48	1255	<u>0.70</u>	1013	0.56	986	0.55			0.70	Good	Good	Fair
Unsignalized Restricted Crossing U-Turn	<u>E-W</u>	1719	<u>0.06</u>	1918	<u>4.85</u>	1875	<u>0.24</u>	1965	<u>0.01</u>	/		4.85	Fair	Fair	Fair
Median U-Turn	<u>E-W</u>	/				1013	<u>0.56</u>	1251	<u>0.70</u>	1197	0.66	0.70	Good	Good	Fair
Signalized ThruCut	<u>E-W</u>	$\geq$							/	1277	<u>0.92</u>	0.92	Fair	Good	Fair
Unsignalized ThruCut	E-W	r⁄		$\sim$					/	-	305.71	305.71	Poor	Fair	Fair

									anni Page 4 c							
						Re	sults f	or Rou	Indabo	uts						
TYPE OF Zone 1 (North) ROUNDABOUT		th)	Zone 3 (East)			Zo	Zone 2 (South)			one 4 (Wes	st)	Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations	
	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3		Acc	,	Acc
<u>1NS X 2EW</u>	<u>0.02</u>			0.88	<u>0.93</u>		<u>0.99</u>			<u>0.73</u>	0.78		0.99	Fair	Good	Good
<u>2 X 2</u>	<u>0.01</u>	<u>0.01</u>		<u>0.73</u>	<u>0.78</u>		<u>0.26</u>	<u>0.77</u>		<u>0.88</u>	<u>0.93</u>	/	0.93	Fair	Good	Good
														_		
		-				Re	sults f	or inte	rchang	jes					-	
TYPE OF INTE	RCHANG	E	Sheet	Zone 1 Mrg)	(Rt Zon	e2 (Lt Mrg)	Zone (Ctr. 1		Zone 4 (Ctr. 2)	Zone 5 Mrg)	one 5 (Lt Zone 6 Mrg) Mi		Overall v/c Ratio	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
				CLV	V/C CL	v v/c	CLV	V/C CL	v v/c	CLV	V/C CL\	v v/c		Ř	ě	¥

					Iministration (FHWA)					
				Safety Performance for Inters		1 Tool				
					sults					
				Summary of crash predictio		ive				
				, ,	formation					
Project Name:		rom MLK Blvd to SR 17		Intersection Type					At-Gra	de Intersections
Intersection:	SR 544/Lake Hamilto	n Drive		Opening Year						2025
Agency:	FDOT District One			Design Year						2045
Project Reference:	FPID No.: 440273-1-2	22-01		Facility Type				0	n Urban a	nd Suburban Arterial
City:	Polk County			Number of Legs						4-leg
State:	Florida			1-Way/2-Way					2-way Ir	tersecting 2-way
Date:	12/2/2022			# of Major Street Lanes (both	directions)				1	or fewer
Analyst:	AIM Engineering & S	urveying, Inc.		Major Street Approach Speed					Less	than 55 mph
				Crash Predic	tion Summary			·		
						AADT Within SPF Prediction				SSI Score
Control Strategy	Crash Type	Opening Year	Design Year	Total Project Life Cycle	Crash Prediction Rank	Range?	Source of Prediction	Open Year	Design Year	Rank
Traffic Signal	Total	7.16	13.15	211.97	5	Yes	Calibrated SPF	66	47	7
Tramic Signal	Fatal & Injury	2.51	4.79	75.98	5	res	Calibrated SPF	00	47	/
Minor Road Stop	Total	3.89	6.31	107.03	3	Yes	Calibrated SPF	47	27	9
winor koad stop	Fatal & Injury	1.63	2.79	46.29	5	res	Calibrated SPF	<u>47</u>	27	9
All Way Stop	Total	2.87	4.78	80.16	1	N/A	N/A	86	78	2
All Way Stop	Fatal & Injury	1.13	2.01	32.73	1	1974	N/A	<u>80</u>	70	2
2-lane Roundabout	Total	7.58	13.25	217.92	2	No	Uncalibrated SPF	86	79	1
2-lane Roundabout	Fatal & Injury	1.41	2.61	41.88	2	NU	Uncalibrated SFF	00	15	1
Median U-Turn (MUT)	Total	6.09	11.18	180.17	4	N/A	CMF	85	75	3
Wedian 0-Turn (WOT)	Fatal & Injury	1.76	3.35	53.18	4	N/A	CIVIF	<u>co</u>	<u>75</u>	5
Signalized RCUT	Total	12.05	24.75	381.15	6	Yes	Uncalibrated SPF	77	64	5
Signalized RCOT	Fatal & Injury	2.36	5.07	76.64	0	163	officationated SFT	<u> </u>	04	J
Unsignalized RCUT	Total	No SPF	No SPF	No SPF		Yes	Uncalibrated SPF	61	43	8
onsignalized RCOT	Fatal & Injury	No SPF	No SPF	No SPF		165	oncanorated SFF	<u>01</u>		U
Signalized Thru-Cut	Total	No SPF	No SPF	No SPF		N/A	N/A	80	65	4
Signanced Thru-cut	Fatal & Injury	No SPF	No SPF	No SPF		11/1	14/4	<u></u>	55	-
Unsignalized Thru-Cut	Total	No SPF	No SPF	No SPF		N/A	N/A	68	50	6
	Fatal & Injury	No SPF	No SPF	No SPF		1975	1975	<u> </u>	5	U
Other 1*	Total	No SPF	No SPF	No SPF		N/A	CMF			
ould 1	Fatal & Injury	No SPF	No SPF	No SPF		11/1	Civil			
Other 2*	Total	No SPF	No SPF	No SPF		N/A	CMF		-	
ould z	Fatal & Injury	No SPF	No SPF	No SPF		N/A	CIVII			

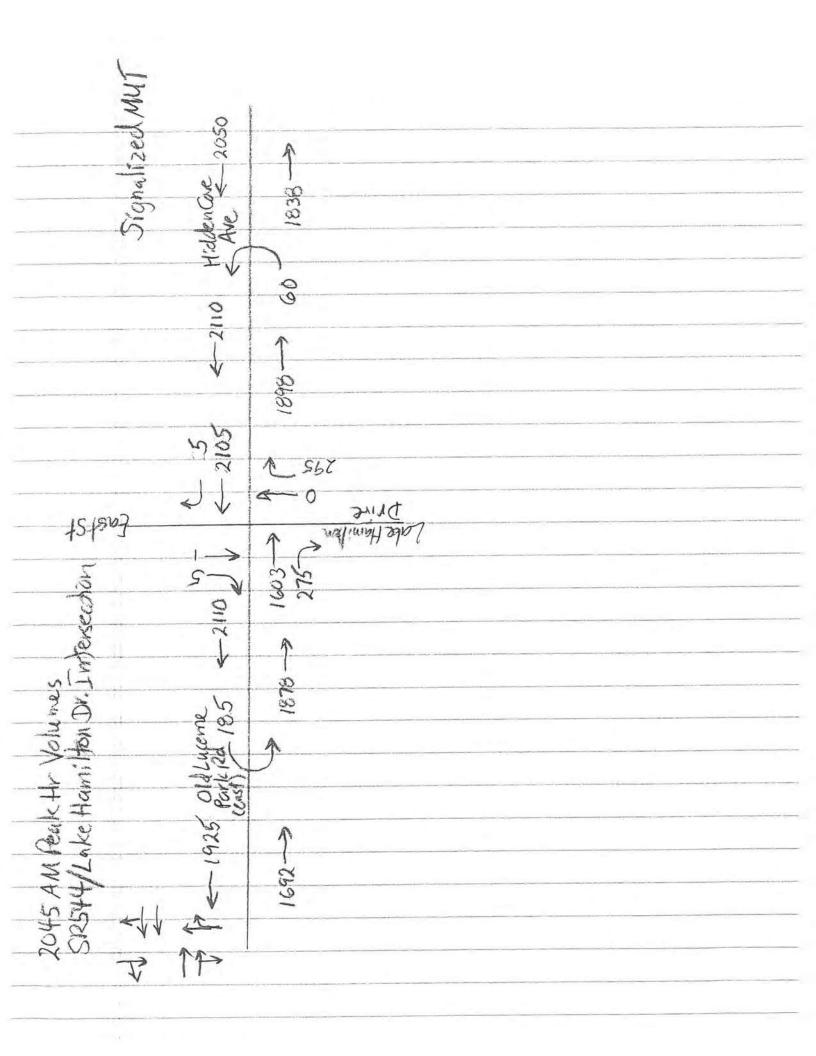
Appendix D

SYNCHRO Analysis Summary Sheets

					4	M Peak Hou	r						
		9	Signalized FM	0	S	ignalized RCL	Л	Sig	nalized Thru-	Cut		Signalized ML	т
Intersection	Movement	V/C	Avg. Delay	LOS									
	NB LT	0.41	56.2	E	n/a	n/a	n/a	0.38	53.6	D	n/a	n/a	n/a
	NB TH	0.65	12.8	В	n/a	n/a	n/a	n/a	n/a	n/a	0.85	54.9	D
	NB RT	0.65	12.8	В	0.67	33.0	С	0.59	16.1	В	0.85	54.9	D
	NB Approach	n/a	21.3	С	n/a	33.0	С	n/a	23.5	С	n/a	54.9	D
	SB LT	0.06	41.8	D	n/a	n/a	n/a	0.03	0.2	А	n/a	n/a	n/a
	SB TH	0.06	41.8	D	n/a	n/a	n/a	n/a	n/a	n/a	0.02	19.5	В
	SB RT	0.06	41.8	D	0.01	0.0	А	0.03	0.2	А	0.02	19.5	В
	SB Approach	n/a	41.8	D	n/a	0.0	А	n/a	0.2	А	n/a	19.5	В
Lake Hamilton Dr	WB LT	0.78	47.3	D	0.72	33.2	С	0.85	59.0	E	n/a	n/a	n/a
	WB TH	0.85	19.5	В	0.96	29.8	С	0.85	19.9	В	0.98	32.3	С
	WB RT	0.85	19.5	В	0.96	29.8	С	0.85	19.9	В	0.98	32.3	С
	WB Approach	n/a	22.0	С	n/a	30.1	С	n/a	23.4	С	n/a	32.3	С
	EB LT	0.01	7.0	А	0.01	3.0	А	0.01	7.0	А	n/a	n/a	n/a
	EB TH	0.98	42.8	D	0.89	23.1	С	0.96	38.3	D	0.88	20.3	С
-	EB RT	0.98	42.8	D	0.89	23.1	С	0.96	38.3	D	0.88	20.3	С
	EB Approach	n/a	42.7	D	n/a	23.0	С	n/a	38.2	D	n/a	20.3	С
	ALL	0.87	30.7	С	0.75	27.3	С	0.81	29.6	С	0.87	28.6	С
					P	M Peak Hou	r						
		9	Signalized FM	0	S	ignalized RCL	JT	Sig	nalized Thru-	Cut		Signalized ML	т
Intersection	Movement	V/C	Avg. Delay	LOS									
	NB LT	0.40	56.1	E	n/a	n/a	n/a	0.41	65.9	E	n/a	n/a	n/a
	NB TH	0.66	17.1	В	n/a	n/a	n/a	n/a	n/a	n/a	0.83	53.8	D
	NB RT	0.66	17.1	В	0.58	29.2	С	0.53	17.8	В	0.83	53.8	D
	NB Approach	n/a	25.5	С	n/a	29.2	С	n/a	28.1	С	n/a	53.8	D
	SB LT	0.05	44.6	D	n/a	n/a	n/a	0.03	0.2	Α	n/a	n/a	n/a
	SB TH	0.05	44.6	D	n/a	n/a	n/a	n/a	n/a	n/a	0.01	22.0	С
	SB RT	0.05	44.6	D	0.01	0.0	А	0.03	0.2	А	0.01	22.0	С
	SB Approach	n/a	44.6	D	n/a	0.0	А	n/a	0.2	А	n/a	22.0	С
Lake Hamilton Dr	WB LT	0.99	89.5	F	0.78	39.0	D	0.88	71.5	E	n/a	n/a	n/a
	WB TH	0.70	14.2	В	0.79	16.2	В	0.66	12.4	В	0.82	15.1	В
	WB RT	0.70	14.2	В	0.79	16.2	В	0.66	12.4	В	0.82	15.1	В
	WB Approach	n/a	22.8	С	n/a	18.7	В	n/a	19.1	В	n/a	15.1	В
	EB LT	0.01	6.5	А	0.01	3.0	А	0.01	6.0	А	n/a	n/a	n/a
	EB TH	1.01	48.9	D	0.97	32.3	С	0.97	40.5	D	0.94	24.1	С
	EB RT	1.01	48.9	D	0.97	32.3	С	0.97	40.5	D	0.94	24.1	С
	EB Approach	n/a	48.8	D	n/a	32.3	С	n/a	40.5	D	n/a	24.1	С
	ALL	0.92	35.4	D	0.79	25.8	С	0.89	29.9	С	0.86	22.0	С

Table 2: Design Year (2045) Peak Hour Operational Analysis Summary - Lake Hamilton Drive Intersection AM Peak Hour

3254 SR544 -2050 2050 いい 1000 1838 \$ Stang lized FMO HiddenGve Signalized Thru-Signalized 2168 200 - 2050 0 1838 18387 896 -1922 - 1864 -1864 -183 3 LEY 127 85 25 568 SVIN 507 ralimo Hariller 2045 AM Peak Hr Volumes SR544/Lake Hamilton Dr Intersecher 25 4 927 9 -1091 N 539 1599-え 5 -1928 1926 1693-1925 695 3 k Rd (ewst) 1692 EV.N reast Park Rul MG Park - (925 1692 1692 4



Signalized Thru-Cut 5125 44 4525 -5535-Signalized ROUT Sigralized FMO 1231-Hidden Gvec- 1821 1821 2419-1 Hidden Core 2019 2019 09 -1823 Taci r V 3021 2079 -208 1 1668 - tor - r - 99 <-1610 √-208 NI I 908 50 Drid Defe Hamilton ts fsm3 177 + 2045 PM Peak Hr Volumes SRSPH/Lake Hamilton Dr.Interschön 2. 92-200 -1670 - 1673 1910 1913 Plat Lucenze old Lucene Park RU (east) ×-1668 +1668 -9061 500 V 8061

-1821 icy mailized HEDden Cont 2019 28 -1629 V 2077 47.91 10 097 Under Hamilton 2 t ME COL 1-1131 E 300 1 nterser 201 2045 PM Reak Mr Volumes 2117 tor 5 9 Garn a ション A - 1668 SRSH 1908 V

Lanes, Volumes, Timings		
17: Lake Hamilton Dr./Fairview	Village/Lakeside Ranch & SR 544	4

	٩	->	7	1	-	*	4	Ť	1	1	ŧ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	٦	14%	1	1	14		1	4			4	-
Traffic Volume (vph)	2	1599	91	183	1864	3	58	0	237	2	- 1	3
Future Volume (vph)	2	1599	91	183	1864	3	58	0	237	2	1	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	60	1.01010	0	500		0	200		0	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992	0.00		0.00			0.850			0.932	
Fit Protected	0.950	0.001		0.950			0.950	0.000			0.984	
Satd. Flow (prot)	1805	3412	0	1736	3438	0	1736	1553	0	0	1742	0
Flt Permitted	0.063	UTIL	U	0.058	0100	Ū	0.950	1000		U	0.984	Ŭ
Satd. Flow (perm)	120	3412	0	106	3438	0	1736	1553	0	0	1742	0
Right Turn on Red	120	0112	Yes	100	0100	Yes	1100	1000	Yes	J	47.11	Yes
Satd. Flow (RTOR)		7	100			103		272	103		3	103
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1011			109			657			126	
		23.0			2.5			14.9			2.9	-
Travel Time (s) 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
					5%	0.95	4%	- 0%	4%	0.95	0.95	
Heavy Vehicles (%)	0%	5%	4%	4%		and the second second		Carlo Carlo			Contraction of the local distance of the loc	0%
Adj. Flow (vph)	2	1683	96	193	1962	3	61	0	249	2	1	3
Shared Lane Traffic (%)	0	4770	0	100	4005	0	04	040	0	•	0	0
Lane Group Flow (vph)	2	1779	0	193	1965	0	61	249	0	0	6	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0	_		0			0	_
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane	N E1020201	00 -2020			10.02000	-		1112121	12112121			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15	10000	9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	-
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA		Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	

2045 Build Alt. 2 AM Peak Lake Hamilton Full Median Opening

Lanes, Volumes, Timings	
17: Lake Hamilton Dr./Fairview Village/Lakeside Ranch & SR 544	4

	٨	-	>	*	+	*	4	Ť	1	6	ţ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		200	8								
Detector Phase	7	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	24.5		11.0	24.5		21.0	21.0		15.0	15.0	
Total Split (s)	16.0	64.0		20.0	68.0		21.0	21.0		15.0	15.0	
Total Split (%)	13.3%	53.3%		16.7%	56.7%		17.5%	17.5%		12.5%	12.5%	
Maximum Green (s)	10.0	58.0		14.0	62.0		15.0	15.0		9.0	9.0	
Yellow Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0			6.0	
Lead/Lag	Lead	Lag		Lead	Lag		0.0	0.0			0.0	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)	63.7	58.2		75.9	73.7		9.4	9.4		IVIIII	5.9	
Actuated g/C Ratio	0.58	0.53		0.69	0.67		0.09	0.09			0.05	
v/c Ratio	0.00	0.98		0.78	0.85		0.03	0.65			0.06	
Control Delay	7.0	42.8		47.3	19.5		56.2	12.8			41.8	
and the second	0.0	42.0		0.0	0.0		0.0	0.0			0.0	
Queue Delay												
Total Delay LOS	7.0	42.8		47.3	19.5		56.2 E	12.8			41.8	
and the second se	А	D 42.7		D	B 22.0		E	B 21.3			D 41.8	
Approach Delay												-
Approach LOS	E 7	D		11.0	C		44.0	C		0.0	D	
90th %ile Green (s)	5.7	58.0		14.0	66.3		14.2	14.2		6.8	6.8	-
90th %ile Term Code	Gap	Max		Max	Hold		Gap	Gap		Gap	Gap	
70th %ile Green (s)	0.0	58.0		14.0	78.0		10.7	10.7		6.1	6.1	
70th %ile Term Code	Skip	Max		Max	Hold		Gap	Gap		Gap	Gap	
50th %ile Green (s)	0.0	58.0		13.3	77.3		9.2	9.2		5.6	5.6	
50th %ile Term Code	Skip	Max		Gap	Hold		Gap	Gap		Gap	Gap	
30th %ile Green (s)	0.0	58.0		10.4	74.4		7.8	7.8		5.5	5.5	
30th %ile Term Code	Skip	Max		Gap	Hold		Gap	Gap		Gap	Gap	
10th %ile Green (s)	0.0	58.0		7.6	71.6		5.8	5.8		5.5	5.5	_
10th %ile Term Code	Skip	Max		Gap	Hold		Gap	Gap		Gap	Gap	
Stops (vph)	1	1393		111	1230		52	22		_	7	_
Fuel Used(gal)	0	36		6	53		1	2			0	
CO Emissions (g/hr)	2	2498		430	3684		87	136			7	
NOx Emissions (g/hr)	0	486		84	717		17	27			1	
VOC Emissions (g/hr)	0	579		100	854		20	32			2	
Dilemma Vehicles (#)	0	0		0	0		0	0			0	
Queue Length 50th (ft)	0	624		84	449		42	0			2	
Queue Length 95th (ft)	3	#911		#197	#956		86	58			16	
Internal Link Dist (ft)		931			29			577			46	
Turn Bay Length (ft)	60			500			200					
Base Capacity (vph)	229	1818		282	2319		238	448			146	
Starvation Cap Reductn	0	0		0	0		0	0			0	
Spillback Cap Reductn	0	0		0	0		0	0			0	
Storage Cap Reductn	0	0		0	0		0	0			0	

2045 Build Alt. 2 AM Peak Lake Hamilton Full Median Opening

Lanes, Volumes, Timings	
17: Lake Hamilton Dr./Fairview Village	/Lakeside Ranch & SR 544

	٨		7	1	-	1	1	1	1	1	¥	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Reduced v/c Ratio	0.01	0.98		0.68	0.85		0.26	0.56			0.04	
Intersection Summary								-				
Area Type:	Other											
Cycle Length: 120												
Actuated Cycle Length: 10	9.3											
Natural Cycle: 120												
Control Type: Actuated-Un	coordinated											
Maximum v/c Ratio: 0.98												
Intersection Signal Delay:					tersection							
Intersection Capacity Utiliz	ation 86.9%			IC	U Level o	of Service	E					
Analysis Period (min) 15												
90th %ile Actuated Cycle: *												
70th %ile Actuated Cycle:												
50th %ile Actuated Cycle: *												
30th %ile Actuated Cycle: 1												_
10th %ile Actuated Cycle: 1			A line									
# 95th percentile volume			eue may l	be longer	16							_
Queue shown is maxim	um after two	cycles.										
Splits and Phases: 17: L	ake Hamiltor	Dr./Fair	view Villa	ge/Lakesi	de Ranch	1 & SR 54	4	_				
<b>N</b> Ø2	<b>№</b> Ø6	10	33	-	-04							1.1

ØZ	<b>♥</b> Ø6	<b>▼</b> Ø3	
21.4	15.5	20 a	
		A	4-
		- Ø7	₹ Ø8
		16 *	58 S

06/27/2022

	١	->	~	1	-	*	1	Ť	1	1	4	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	٦	14	-	1 1	1		1	4	1	/	\$	/
Traffic Volume (vph)	2	1814	92	208	1610	3	56	2	204	1	2.	2
Future Volume (vph)	2	1814	92	208	1610	3	56	2	204	1	2	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	60		0	500		0	200		0	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993		Line of the second	0000000			0.851	SILVANDOUTO	Unistro	0.946	
Flt Protected	0.950			0.950			0.950				0.990	
Satd. Flow (prot)	1805	3479	0	1736	3505	0	1736	1555	0	0	1779	0
Flt Permitted	0.096			0.055			0.950				0.990	
Satd. Flow (perm)	182	3479	0	100	3505	0	1736	1555	0	0	1779	0
Right Turn on Red			Yes	11225		Yes			Yes			Yes
Satd. Flow (RTOR)		6	105050			10.0101		210	0.000		2	1005075
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1011			109			657			126	
Travel Time (s)		23.0			2.5			14.9			2.9	
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
Heavy Vehicles (%)	0%	3%	4%	4%	3%	0%	4%	0%	4%	0%	- 0%	- 0%
Adj. Flow (vph)	2	1870	95	214	1660	3	58	2	210	1	2	2
Shared Lane Traffic (%)	-	1070	00	214	1000	U	00		210	-	5	-
Lane Group Flow (vph)	2	1965	0	214	1663	0	58	212	0	0	5	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	Lon	12	rugin	Lon	12	rugin	Lon	12	rugin	Lon	12	ragin
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		10			10			10			10	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	1.00	1.00	9	15	1.00	9	15	1.00	9	1.00	1.00	9
Number of Detectors	13	2	3	1	2	3	1	2	5	10	2	3
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
I Description of the process and the local distribution of the local d	20	100		20	100		20	100		20	100	-
Leading Detector (ft) Trailing Detector (ft)	0	0		0	0		0	0		0	0	
	0	0		0	0		0	0		0	0	-
Detector 1 Position(ft)	20	6		20	6		20	6		20	6	-
Detector 1 Size(ft)							CI+Ex	CI+Ex		CI+Ex	CI+Ex	-
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		UITEX	UTEX		UPEX	UITEX	
Detector 1 Channel	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	-
Detector 1 Extend (s)	0.0	0.0			0.0		and the second second	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0			0.0			0.0				0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0 94		0.0	94	
Detector 2 Position(ft)		94			94			94 6				
Detector 2 Size(ft)		6			6						6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	_
Detector 2 Channel					0.0			0.0			0.0	
Detector 2 Extend (s)		0.0			0.0		0.00	0.0		<b>A</b> 111	0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA		Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	

2045 Build Alt. 2 PM Peak Lake Hamilton Full Median Opening

Lanes, Volumes, Timings	
17: Lake Hamilton Dr./Fairview	Village/Lakeside Ranch & SR 544

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4	-		8								
Detector Phase	7	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	24.5		11.0	24.5		11.0	11.0		11.0	11.0	
Total Split (s)	16.0	68.0		16.0	68.0		21.0	21.0		15.0	15.0	
Total Split (%)	13.3%	56.7%		13.3%	56.7%		17.5%	17.5%		12.5%	12.5%	
Maximum Green (s)	10.0	62.0		10.0	62.0		15.0	15.0		9.0	9.0	
Yellow Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0			6.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)	67.6	62.0		77.7	75.8		9.4	9.4			5.9	
Actuated g/C Ratio	0.61	0.56		0.70	0.68		0.08	0.08			0.05	
v/c Ratio	0.01	1.01		0.99	0.70		0.40	0.66			0.05	
Control Delay	6.5	48.9		89.5	14.2		56.1	17.1			44.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	6.5	48.9		89.5	14.2		56.1	17.1			44.6	
LOS	A	D		F	B		E	В			D	
Approach Delay	Л	48.8			22.8		_	25.5			44.6	
Approach LOS		40.0 D			C			C			D	
90th %ile Green (s)	5.7	62.0		10.0	66.3		14.3	14.3		6.7	6.7	
90th %ile Term Code	Gap	Max		Max	Hold		Gap	Gap		Gap	Gap	
70th %ile Green (s)	0.0	62.0		10.0	78.0		10.5	10.5		6.0	6.0	
70th %ile Term Code	Skip	Max		Max	Hold		Gap	Gap		Gap	Gap	
50th %ile Green (s)	0.0	62.0		10.0	78.0		9.0	9.0		5.6	5.6	
50th %ile Term Code	Skip	Max		Max	Hold		Gap	Gap		Gap	Gap	
30th %ile Green (s)	0.0	62.0		10.0	78.0		7.7	7.7		5.5	5.5	
30th %ile Term Code	Skip	Max		Max	Hold		Gap	Gap		Gap	Gap	
10th %ile Green (s)	0.0	62.0		10.0	78.0		5.8	5.8		5.5	5.5	
10th %ile Term Code	Skip	Max		Max	Hold		Gap	Gap		Gap	Gap	
Stops (vph)	1	1601		114	956		50	30		oup	7	
Fuel Used(gal)	0	43		9	43		1	2			0	
10 .	2	2994		609	3019		84	135			6	
CO Emissions (g/hr)	0	582		118	587		16	26			1	
NOx Emissions (g/hr)	0	694		141	700		19	31			1	
VOC Emissions (g/hr)		and the second sec		0	0		0	0			0	
Dilemma Vehicles (#)	0	0		107	307		40	1			2	
Queue Length 50th (ft)	0	~712		#286	627		82	74			15	
Queue Length 95th (ft)	3	#1002 -		#200	29		02	577			46	
Internal Link Dist (ft)	00	931		500	29		200	511			40	
Turn Bay Length (ft)	60	1014		500	0207		200	204			145	
Base Capacity (vph)	263	1941		217	2387		234	391				-
Starvation Cap Reductn	0	0		0	0		0	0			0	
Spillback Cap Reductn	0	0		0	0		0	0			0	
Storage Cap Reductn	0	0		0	0		0	0			0	

2045 Build Alt. 2 PM Peak Lake Hamilton Full Median Opening

1 t Lane Group EBL EBT EBR WBL WBT WBR NBL NBT NBR SBL SBT SBR 0.03 0.01 1.01 0.99 0.70 0.25 0.54 Reduced v/c Ratio Intersection Summary Area Type: Other Cycle Length: 120 Actuated Cycle Length: 111.3 Natural Cycle: 100 Control Type: Actuated-Uncoordinated Maximum v/c Ratio: 1.01 Intersection Signal Delay: 35.4 Intersection LOS: D Intersection Capacity Utilization 92.3% ICU Level of Service F Analysis Period (min) 15 90th %ile Actuated Cycle: 117 70th %ile Actuated Cycle: 112.5 50th %ile Actuated Cycle: 110.6 30th %ile Actuated Cycle: 109.2 10th %ile Actuated Cycle: 107.3 ~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles. # 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

Splits and Phases: 17: Lake Hamilton Dr./Fairview Village/Lakeside Ranch & SR 544

<b>1</b> Ø2	<b>↓</b> Ø6	<b>√</b> Ø3	
21.5	Ma	lis	68 S
		<b>▲</b> <sub>Ø7</sub>	<b>≪</b> Ø8
And A state of the second s		16 s	58 s

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ň.	41	/	1	141	/	/		11	1		1
Traffic Volume (vph)	2	1601	92	183	1922	3	0	0	295	0	0	6
Future Volume (vph)	2	1601	92	183	1922	3	0	0	295	0	0	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	60		0	500		0	200		0	0	10 100000000	0
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992			212.2	2020	10398		0.865	0.07177	108.5	0.865
FIt Protected	0.950		1.1.1.1	0.950								
Satd. Flow (prot)	1805	3412	0	1736	3438	0	0	0	1580	0	0	1644
Flt Permitted	0.077	UTIL	U	0.074	0100	Ū	•	U	1000	Ū	•	1011
Satd. Flow (perm)	146	3412	0	135	3438	0	0	0	1580	0	0	1644
Right Turn on Red	140	UTIL .	Yes	100	0100	Yes	· ·	v	Yes		v	Yes
Satd. Flow (RTOR)		11	100			100			36			36
Link Speed (mph)		30			30			30	00		30	00
Link Distance (ft)		1011			109			657			126	
Travel Time (s)		23.0			2.5			14.9			2.9	
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
Heavy Vehicles (%)	0.35	5%	4%	4%	5%	0%	4%	0%	4%	0.00	0%	0%
Adj. Flow (vph)	2	1685	97	193	2023	3	0	0	311	0	0	6
Shared Lane Traffic (%)	2	1005	97	195	2023	5	U	U	511	0	0	0
Construction of the second s	2	1782	0	193	2026	0	0	0	311	0	0	6
Lane Group Flow (vph) Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
CALIFY DATA AND STREAM AND A CONTRACT AND A		Left			Left		Left	Left		Left	Left	
Lane Alignment	Left	12	Right	Left	12	Right	Leit		Right	Len	Len 0	Right
Median Width(ft)								0				
Link Offset(ft)		0			0			0			0 16	-
Crosswalk Width(ft)		16			16			16			10	
Two way Left Turn Lane	1.00	4.00	4.00	4.00	4.00	1.00	4.00	1.00	4.00	4.00	1.00	4 00
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	-	9	15	•	9	15		9	15		9
Number of Detectors	1	2		1	2				1			1
Detector Template	Left	Thru		Left	Thru				Right			Right
Leading Detector (ft)	20	100		20	100				20			20
Trailing Detector (ft)	0	0		0	0				0			0
Detector 1 Position(ft)	0	0		0	0				0			0
Detector 1 Size(ft)	20	6		20	6				20			20
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex				CI+Ex			CI+Ex
Detector 1 Channel		01010-000				_						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0				0.0			0.0
Detector 1 Queue (s)	0.0	0.0	1	0.0	0.0				0.0			0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0				0.0			0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		CI+Ex			CI+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0				-			
Furn Type	pm+pt	NA		pm+pt	NA				Perm			Perm
Protected Phases	7	4		3	8							

2045 Build Alt. 2 AM Peak Lake Hamilton Signalized RCUT

Lane Group	Ø2	Ø6		
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Frt				
Fit Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Enter Blocked Intersection				
Lane Alignment				
Median Width(ft)				
Link Offset(ft)				
Crosswalk Width(ft)				
Two way Left Turn Lane				
Headway Factor				
Turning Speed (mph)				
Number of Detectors				
Detector Template				
Leading Detector (ft)				
Trailing Detector (ft)				
Detector 1 Position(ft)				
Detector 1 Size(ft)				
Detector 1 Type				
Detector 1 Channel				
Detector 1 Extend (s)				
Detector 1 Queue (s)				
Detector 1 Delay (s)				
Detector 2 Position(ft)				
Detector 2 Size(ft)				
Detector 2 Type				
Detector 2 Channel				
Detector 2 Extend (s)				
Turn Type	1 22			
Protected Phases	2	6		

2045 Build Alt. 2 AM Peak Lake Hamilton Signalized RCUT

Lanes, Volumes, Timings		
17: Lake Hamilton Dr./Fairview	Village/Lakeside Ranch & SR 54	4

	٨	-	>	1	+	*	1	Ť	P	1	Ļ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8					273			673
Detector Phase	7	4		3	8				273			673
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0							
Minimum Split (s)	11.0	24.5		11.0	24.5							
Total Split (s)	17.0	58.0		17.0	58.0							
Total Split (%)	18.9%	64.4%		18.9%	64.4%							
Maximum Green (s)	11.0	52.0		11.0	52.0							
Yellow Time (s)	4.5	4.5		4.5	4.5							
All-Red Time (s)	1.5	1.5		1.5	1.5							
Lost Time Adjust (s)	0.0	0.0		0.0	0.0							
Total Lost Time (s)	6.0	6.0		6.0	6.0							_
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							-
Vehicle Extension (s)	3.0	3.0		3.0	3.0							100
Recall Mode	None	None		None	None							
Act Effct Green (s)	58.9	51.8		63.6	54.2				24.5			24.5
Actuated g/C Ratio	0.67	0.59		0.72	0.61				0.28			0.28
v/c Ratio	0.01	0.89		0.72	0.96				0.67			0.01
Control Delay	3.0	23.1		33.2	29.8				33.0			0.0
Queue Delay	0.0	0.0		0.0	0.0				0.0			0.0
Total Delay	3.0	23.1		33.2	29.8				33.0			0.0
LOS	3.0 A	23.1 C		00.2 C	23.0 C				00.0 C			A
Approach Delay	~	23.0		U	30.1			33.0	U			~
Approach LOS		23.0 C			50.1 C			00.0 C				-
90th %ile Green (s)	11.0	52.0		11.0	52.0			U				
90th %ile Term Code	Max	Max		Max	Max							
70th %ile Green (s)	8.1	52.0		11.0	54.9							
70th %ile Term Code	Gap	Max		Max	Hold							
E TRUE TRUE TRUE TRUE TR	5.5	52.0		10.6	57.1							
50th %ile Green (s)				and the second second								
50th %ile Term Code	Gap	Max		Gap 8.3	Hold 54.8							
30th %ile Green (s)	5.5	52.0										-
30th %ile Term Code	Gap	Max		Gap	Hold							
10th %ile Green (s)	5.5	50.9		6.6	52.0							
10th %ile Term Code	Gap	Hold		Gap 95	Max				000			0
Stops (vph)	1	1338			1513				229			0
Fuel Used(gal)	0	29		6	60				5			0
CO Emissions (g/hr)	2	2005		387	4174				333			0
NOx Emissions (g/hr)	0	390		75	812				65			0
VOC Emissions (g/hr)	0	465		90	967				77			0
Dilemma Vehicles (#)	0	0		0	0				0			0
Queue Length 50th (ft)	0	427		50	478				136			0
Queue Length 95th (ft)	2	#580		#142	#787				227			0
Internal Link Dist (ft)		931			29			577			46	
Turn Bay Length (ft)	60	0015		500								
Base Capacity (vph)	310	2015		299	2109				491			509
Starvation Cap Reductn	0	0		0	0				0			0
Spillback Cap Reductn	0	0		0	0				0			0
Storage Cap Reductn	0	0		0	0				0			0

2045 Build Alt. 2 AM Peak Lake Hamilton Signalized RCUT

Lane Group	Ø2	Ø6
Permitted Phases		-
Detector Phase		
Switch Phase		
Minimum Initial (s)	5.0	5.0
Minimum Split (s)	21.0	21.0
Total Split (s)	15.0	15.0
Total Split (%)	17%	17%
Maximum Green (s)	9.0	9.0
Yellow Time (s)	4.5	4.5
All-Red Time (s)	1.5	1.5
Lost Time Adjust (s)	1.0	1.0
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	Min	Min
Act Effct Green (s)	IVIIII	WIT
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
90th %ile Green (s)	9.0	9.0
90th %ile Term Code	Max	Hold
70th %ile Green (s)	9.0	9.0
70th %ile Term Code	Max	Hold
50th %ile Green (s)	9.0	9.0
50th %ile Term Code	Max	Hold
30th %ile Green (s)	9.0	9.0
30th %ile Term Code	Max	Hold
10th %ile Green (s)	9.0	9.0
10th %ile Term Code	Max	Hold
Stops (vph)		
Fuel Used(gal)		
CO Emissions (g/hr)		
NOx Emissions (g/hr)		
VOC Emissions (g/hr)		
Dilemma Vehicles (#)		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
otorage oup reductin		

2045 Build Alt. 2 AM Peak Lake Hamilton Signalized RCUT

06/27/2022

	1	-	>	1	+	4	1	1	P	1	ŧ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Reduced v/c Ratio	0.01	0.88		0.65	0.96				0.63			0.01
Intersection Summary												
Area Type:	Other											
Cycle Length: 90												
Actuated Cycle Length: 88	.3											
Natural Cycle: 90												
Control Type: Actuated-Un	coordinated											
Maximum v/c Ratio: 0.96												
Intersection Signal Delay:	27.3			In	tersectior	LOS: C						
Intersection Capacity Utiliz	ation 75.4%			IC	U Level o	of Service	D					
Analysis Period (min) 15												
90th %ile Actuated Cycle:												
70th %ile Actuated Cycle:												
50th %ile Actuated Cycle:												
30th %ile Actuated Cycle:												
10th %ile Actuated Cycle:												
# 95th percentile volume			eue may	be longer	<b>8</b> 0							
Queue shown is maxim	um after two	cycles.										
Splits and Phases: 17: L	ake Hamiltor	Dr./Fair	view Villa	ge/Lakesi	ide Ranch	n & SR 54	.4	_				
Ø2	Ø3		-04									
15,5	\$	1200	58.5									
Ø6	Ø7		<b>★</b> Ø8									
15 5			53 5					-	_			

Lanes, Volumes, Timings 17: Lake Hamilton Dr./Fairview Village/Lakeside Ranch & SR 544

06	127	120	122
001	21	120	166

	×	->	V	1	<b>-</b>	*	1	Ť	r	1	ŧ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	14%	/	1	1	1	/		1	/		1
Traffic Volume (vph)	2		94	208	1668	5	0	0	262	0	0	5
Future Volume (vph)	2	1817	94	208	1668	5	0	0	262	0	0	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	60		0	500	110-07200-000	0	200	10 Statistics	0	0		0
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993							0.865			0.865
Fit Protected	0.950			0.950								
Satd. Flow (prot)	1805	3479	0	1736	3505	0	0	0	1580	0	0	1644
FIt Permitted	0.077			0.072								
Satd. Flow (perm)	146	3479	0	132	3505	0	0	0	1580	0	0	1644
Right Turn on Red			Yes			Yes	197		Yes			Yes
Satd. Flow (RTOR)		10			1				36			36
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1011			109			657			126	
Travel Time (s)		23.0	7	1	2.5			14.9			2.9	
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
Heavy Vehicles (%)	0%	3%	4%	4%	3%	0%	4%	0%	4%	0%	0%	0%
Adj. Flow (vph)	2	1873	97	214	1720	5	0	0	270	0	0	5
Shared Lane Traffic (%)		TOTO	U.		1120					, in the second se		
Lane Group Flow (vph)	2	1970	0	214	1725	0	0	0	270	0	0	5
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	Lon	12	rugitt	Lon	12	rugin	Lon	0	rugin	Lon	0	rugitt
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		10			10			10			10	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	1.00	9	15	1.00	9	15	1.00	9	15	1.00	9
Number of Detectors	10	2	J	1	2	0	10		1	10		1
Detector Template	Left	Thru		Left	Thru				Right			Right
Leading Detector (ft)	20	100		20	100				20			20
Trailing Detector (ft)	0	0		0	0				0			0
Detector 1 Position(ft)	0	0		0	0				0			0
Detector 1 Size(ft)	20	6		20	6				20			20
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex				CI+Ex	-		CI+Ex
Detector 1 Channel	UNLA	OFLA		OFFER	UNLA				OFER			OILA
Detector 1 Extend (s)	0.0	0.0		0.0	0.0				0.0			0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0				0.0			0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0				0.0			0.0
A CALCULAR DE LA CALCULAR	0.0	94		0.0	94				0.0			0.0
Detector 2 Position(ft)		94 6			94 6							-
Detector 2 Size(ft)												
Detector 2 Type		CI+Ex			CI+Ex							
Detector 2 Channel		0.0			0.0							
Detector 2 Extend (s)		0.0			0.0				Derry			Desire
Turn Type	pm+pt	NA		pm+pt	NA		12.00		Perm			Perm
Protected Phases	7	4		3	8							

2045 Build Alt. 2 PM Peak Lake Hamilton Signalized RCUT

Lane Group	Ø2	Ø6
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
the second se		
Frt		
Fit Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Number of Detectors		
the service of the se		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(ft)		
Detector 2 Size(ft)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		1.000
Protected Phases	2	6
Trolecteu Fllases	3 <b>6</b>	0

2045 Build Alt. 2 PM Peak Lake Hamilton Signalized RCUT

Lanes, Volumes, Timings
17: Lake Hamilton Dr./Fairview Village/Lakeside Ranch & SR 544

	۶	->	7	*	-	4	1	Ť	P	6	Ļ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4	-		8			-		273			673
Detector Phase	7	4		3	8				273			673
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0							
Minimum Split (s)	11.0	24.5		11.0	24.5							
Total Split (s)	17.0	58.0		17.0	58.0							
Total Split (%)	18.9%	64.4%		18.9%	64.4%							
Maximum Green (s)	11.0	52.0		11.0	52.0							
Yellow Time (s)	4.5	4.5		4.5	4.5							
All-Red Time (s)	1.5	1.5		1.5	1.5							
Lost Time Adjust (s)	0.0	0.0		0.0	0.0							
Total Lost Time (s)	6.0	6.0		6.0	6.0							_
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0							
Recall Mode	None	None		None	None							
Act Effct Green (s)	58.5	52.0		65.4	55.4				24.9			24.9
Actuated g/C Ratio	0.66	0.58		0.74	0.62				0.28			0.28
v/c Ratio	0.01	0.97		0.78	0.79				0.58			0.01
Control Delay	3.0	32.3		39.0	16.2				29.2			0.0
Queue Delay	0.0	0.0		0.0	0.0				0.0			0.0
Total Delay	3.0	32.3		39.0	16.2				29.2			0.0
LOS	3.0 A	02.0 C		00.0	B				C			A
Approach Delay	A	32.3		U	18.7			29.2	U			~
Approach LOS		52.5 C			B			23.2 C				
90th %ile Green (s)	10.4	52.0		11.0	52.6			U				
90th %ile Term Code	Gap	Max		Max	Hold							
Sconner Wither and a scheme and a scheme of	5.5	52.0		11.0	57.5							-
70th %ile Green (s)		Max		Max	Hold							
70th %ile Term Code	Gap	52.0		11.0	57.5							
50th %ile Green (s) 50th %ile Term Code	5.5			Max	Hold							
WE REAL TO MANAGEMENT AND A COMPANY AND A COMPANY	Gap 5.5	Max 52.0		9.5	56.0							
30th %ile Green (s)												
30th %ile Term Code	Gap	Max		Gap	Hold							
10th %ile Green (s) 10th %ile Term Code	5.5	52.0		7.2	53.7							-
NATIONAL WORKSHARE INVESTIGATION OF LOW AND	Gap	Max		Gap	Hold				192			0
Stops (vph)	1	1562		112	1177				2.52.52			0
Fuel Used(gal)	0	36		7	46				4			0
CO Emissions (g/hr)	2	2536		458	3249				277			0
NOx Emissions (g/hr)	0	493		89	632				54			0
VOC Emissions (g/hr)	0	588		106	753				64			0
Dilemma Vehicles (#)	0	0		0	0				0			0
Queue Length 50th (ft)	0	528		64	328				112			0
Queue Length 95th (ft)	2	#744		#173	498				192		10	0
Internal Link Dist (ft)		931			29			577			46	-
Turn Bay Length (ft)	60			500					10-			
Base Capacity (vph)	308	2038		297	2185				487			506
Starvation Cap Reductn	0	0		0	0				0			0
Spillback Cap Reductn	0	0		0	0				0			0
Storage Cap Reductn	0	0		0	0				0			0

2045 Build Alt. 2 PM Peak Lake Hamilton Signalized RCUT

Lane Group	Ø2	Ø6
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	5.0	5.0
Minimum Split (s)	17.0	17.0
Total Split (s)	15.0	15.0
Total Split (%)	17%	17%
Maximum Green (s)	9.0	9.0
Yellow Time (s)	4.5	4.5
All-Red Time (s)	4.5	1.5
Lost Time Adjust (s)	1.0	1.5
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?	20	20
Vehicle Extension (s)	3.0 Mip	3.0
Recall Mode	Min	Min
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
90th %ile Green (s)	9.0	9.0
90th %ile Term Code	Max	Hold
70th %ile Green (s)	9.0	9.0
70th %ile Term Code	Max	Hold
50th %ile Green (s)	9.0	9.0
50th %ile Term Code	Max	Hold
30th %ile Green (s)	9.0	9.0
30th %ile Term Code	Max	Hold
10th %ile Green (s)	9.0	9.0
10th %ile Term Code	Max	Hold
Stops (vph)		
Fuel Used(gal)		
CO Emissions (g/hr)		
NOx Emissions (g/hr)		
VOC Emissions (g/hr)		
Dilemma Vehicles (#)		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		

2045 Build Alt. 2 PM Peak Lake Hamilton Signalized RCUT

Lanes, Volumes, Timings

17: Lake Hamilton Dr./Fairview Village/Lakeside Ranch & SR 544

	٠	->	7	1	-	*	1	Ť	P	1	¥.	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Reduced v/c Ratio	0.01	0.97		0.72	0.79				0.55			0.0
Intersection Summary				122							-	
Area Type:	Other											
Cycle Length: 90												
Actuated Cycle Length: 88.9	)											
Natural Cycle: 90												
Control Type: Actuated-Unc	oordinated											
Maximum v/c Ratio: 0.97												
Intersection Signal Delay: 2	5.8			In	tersection	LOS: C						
Intersection Capacity Utiliza	tion 79.4%			IC	U Level o	of Service	D					
Analysis Period (min) 15												
90th %ile Actuated Cycle: 90												
70th %ile Actuated Cycle: 90												-
50th %ile Actuated Cycle: 90												
30th %ile Actuated Cycle: 88												
10th %ile Actuated Cycle: 86		-		-								
# 95th percentile volume e		Contract of the second	eue may l	be longer	e							
Queue shown is maximu	m after two	cycles.										

Ø2	<b>1</b> Ø3	<b>→</b> Ø4	
15%	17 8	58 s	
Ø6	<i>▶</i> 07	<b>4</b> Ø8	
15.4	27.6	55 K	

06/27/2022

	14	
-	2	1
-	06/27/20	122

	٨	->	7	1	-	*	4	1	P	1	ŧ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	٦	1 10		1	1	,	J.	ર્ન	1	1	4	TE
Traffic Volume (vph)	2	1599	92	183	1864	3	58	0	237	2	1º	4
Future Volume (vph)	2	1599	92	183	1864	3	58	0	237	2	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	60		0	500		0	200		0	0	agested a	0
Storage Lanes	1		0	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt	. A depende	0.992	029359550	- 00.8959			0.0.0.0.0		0.850		0.910	
Fit Protected	0.950			0.950				0.950			0.984	
Satd. Flow (prot)	1805	3412	0	1736	3438	0	0	1736	1553	0	1701	0
Flt Permitted	0.062			0.056				0.950			0.984	
Satd. Flow (perm)	118	3412	0	102	3438	0	0	1736	1553	0	1701	0
Right Turn on Red			Yes			Yes			Yes	, in the second s		Yes
Satd. Flow (RTOR)		7							160		136	100
Link Speed (mph)		30			30			30	100		30	
Link Distance (ft)		1011			109			657			126	
Travel Time (s)		23.0			2.5			14.9			2.9	-
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
Heavy Vehicles (%)	0%	5%	4%	4%	5%	0%	4%	0%	4%	0.00	- 0%	0.95
Adj. Flow (vph)	2	1683	97	193	1962	3	61	0	249	2	0	4
Shared Lane Traffic (%)	2	1005	51	100	1302	5	01	U	245	2	U	4
Lane Group Flow (vph)	2	1780	0	193	1965	0	0	61	249	0	6	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	Lon	12	rugin	Len	12	right	Len	0	Tayin	Len	0	Right
Link Offset(ft)		0			0			0			0	-
Crosswalk Width(ft)		16			16			16			16	-
Two way Left Turn Lane		10			10			10			10	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	1.00	1.00	9	15	1.00	9	15	1.00	9	15	1.00	THE STATISTICS
Number of Detectors	10	2	9	10	2	9	15	2	9	15	2	9
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Z Thru	1
	20	100					Note:		Right			-
Leading Detector (ft) Trailing Detector (ft)	20	0		20 0	100		20 0	100	20	20	100	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	-
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	-
Detector 1 Channel	CITEX	UTEX		CITEX	CITEX		GITEX	UITEX	CITEX	CITEX	CITEX	
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	-
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
	0.0	94		0.0	94		0.0	94	0.0	0.0	0.0	
Detector 2 Position(ft)		94 6			94 6						94	
Detector 2 Size(ft)								6 CHEX			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	-
Detector 2 Channel		0.0			0.0			0.0			0.0	
Detector 2 Extend (s)	mm tak	0.0			0.0		0	0.0		0.11	0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Split		custom	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	

2045 Build Alt. 2 AM Peak Lake Hamilton Signalized Thru-CUT

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8					23			
Detector Phase	7	4		3	8		2	2	23	6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	24.5		11.0	24.5		21.0	21.0		16.0	16.0	
Total Split (s)	17.0	66.0		17.0	66.0		21.0	21.0		16.0	16.0	
Total Split (%)	14.2%	55.0%		14.2%	55.0%		17.5%	17.5%		13.3%	13.3%	
Maximum Green (s)	11.0	60.0		11.0	60.0		15.0	15.0		10.0	10.0	
Yellow Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)	65.7	60.1		76.6	74.5			10.3	21.0		5.5	
Actuated g/C Ratio	0.59	0.54		0.69	0.67			0.09	0.19		0.05	_
v/c Ratio	0.01	0.96		0.85	0.85			0.38	0.59		0.03	
Control Delay	7.0	38.3		59.0	19.9			53.6	16.1		0.2	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay	7.0	38.3		59.0	19.9			53.6	16.1		0.2	
LOS	A	D		E	В			D	В		A	
Approach Delay		38.2		-	23.4			23.5	- And And		0.2	
Approach LOS		D			С			C			A	
90th %ile Green (s)	5.7	60.0		11.0	65.3		15.0	15.0		5.5	5.5	_
90th %ile Term Code	Gap	Max		Max	Hold		Max	Max		Gap	Gap	-
70th %ile Green (s)	0.0	60.0		11.0	77.0		13.1	13.1		5.5	5.5	
70th %ile Term Code	Skip	Max		Max	Hold		Gap	Gap		Gap	Gap	
50th %ile Green (s)	0.0	60.0		11.0	77.0		10.4	10.4		5.5	5.5	
50th %ile Term Code	Skip	Max		Max	Hold		Gap	Gap		Gap	Gap	
30th %ile Green (s)	0.0	60.0		11.0	77.0		7.8	7.8		5.5	5.5	
30th %ile Term Code	Skip	Max		Max	Hold		Gap	Gap		Gap	Gap	
10th %ile Green (s)	0.0	60.0		9.2	75.2		5.8	5.8		5.5	5.5	
10th %ile Term Code	Skip	Max		Gap	Hold		Gap	Gap		Gap	Gap	
Stops (vph)	1	1404		104	1240		oup	51	79	oup	0	
Fuel Used(gal)	0	34		7	53			1	2		0	-
CO Emissions (g/hr)	2	2395		458	3697			85	170		0	
NOx Emissions (g/hr)	0	466		89	719			16	33		0	
VOC Emissions (g/hr)	0	555		106	857			20	39		0	
Dilemma Vehicles (#)	0	0		0	0			0	0		0	1
Queue Length 50th (ft)	0	608		89	467			42	43		0	
Queue Length 95th (ft)	3	#867		#231	#948			85	107		0	
Internal Link Dist (ft)	0	931		ILO I	29			577	101		46	
Turn Bay Length (ft)	60	001		500	20			U.I.			τu	
Base Capacity (vph)	243	1857		233	2316			235	487		277	
Starvation Cap Reductn	0	0		0	0			0	407		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
	0			0	0			0	0			
Storage Cap Reductn	U	0		0	U	-		U	0		0	

2045 Build Alt. 2 AM Peak Lake Hamilton Signalized Thru-CUT

Lanes, Volumes, Timings 17: Lake Hamilton Dr./Fairview Village/Lakeside Ranch & SR 544

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Reduced v/c Ratio	0.01	0.96		0.83	0.85			0.26	0.51		0.02	
Intersection Summary					and the							
Area Type:	Other											
Cycle Length: 120												
Actuated Cycle Length: 110.	.6											
Natural Cycle: 120												
Control Type: Actuated-Unc	oordinated											
Maximum v/c Ratio: 0.96												
Intersection Signal Delay: 29	9.6			In	tersection	LOS: C						
Intersection Capacity Utilizat	tion 81.0%			IC	U Level o	of Service	D					
Analysis Period (min) 15												
90th %ile Actuated Cycle: 11												
70th %ile Actuated Cycle: 11												
50th %ile Actuated Cycle: 11												
30th %ile Actuated Cycle: 10												
10th %ile Actuated Cycle: 10												
# 95th percentile volume e			eue may	be longer	(j)							
Queue shown is maximur	m after two	cycles.										
		<b>D</b> / <b>C</b> /				0.00.54						
Splits and Phases: 17: La	ke Hamiltor	Dr./Fair	view Villa	ge/Lakesi	de Rancr	1 & SR 54	4					- 1
<b>N</b> ø2	<b>Ø</b> 6	1	Ø3	2	04						_	-

NØ2	<b>♥</b> Ø6	<b>♥</b> Ø3		
24.4	16 8	17 5	66.9	
		▲ Ø7	Ø8	
		17 9	0.0.5	

1	71	1
0	5727/2	022

	٨	->	7	1	+	4	4	1	P	1	ŧ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	-NBR	SBL	SBT	SBR
Lane Configurations	7	<b>≜</b> ⊅		7	<b>≜</b> î	_	C	र्भ	7	)	( 4)	)
Traffic Volume (vph)	2	1814	94	208	1610	5	56	0		1	O	4
Future Volume (vph)	2	1814	94	208	1610	5	56	0	206	1	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	60		0	500		0	200		0	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993	487.468045	11.448438	2.0.242	2005000	1000.505	11445-55	0.850	0.000033904	0.892	UNDERS:
Fit Protected	0.950			0.950				0.950			0.990	
Satd. Flow (prot)	1805	3479	0	1736	3505	0	0	1736	1553	0	1678	0
Flt Permitted	0.111			0.046				0.950			0.990	
Satd. Flow (perm)	211	3479	0	84	3505	0	0	1736	1553	0	1678	0
Right Turn on Red		2.1.0	Yes			Yes	· ·		Yes			Yes
Satd. Flow (RTOR)		6				100			133		117	
Link Speed (mph)		30			30			30	100		30	
Link Distance (ft)		1011			109			657			126	
Travel Time (s)		23.0			2.5			14.9			2.9	-
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
Heavy Vehicles (%)	0%	3%	4%	4%	3%	0%	4%	0%	4%	0%	0%	0%
Adj. Flow (vph)	2	1870	97	214	1660	5	58	070	212	1	078	4
Shared Lane Traffic (%)	2	1070	51	214	1000	5	50	U	212	-	0	4
	2	1967	0	214	1665	0	0	58	212	0	5	0
Lane Group Flow (vph) Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	0 No
HOW HEARS IN HIR OF HOUSE PORTAGE AND THE COMPANY ME	Left	Left		Left	Left		Left	100000				The late of the
Lane Alignment	Leit	12	Right	Leit	12	Right	Len	Left 0	Right	Left	Left	Right
Median Width(ft)								10000			0	
Link Offset(ft)		0			0			0			0	_
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane	1 00	1.00	4.00	1.00	1.00	1.00	4.00	1.00	4.00	4.00	4.00	4.00
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15	0	9	15	0	9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	-
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	_
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel	NHA MAR				021150		100 M	CARCOLINET				
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	_
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA	custom	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	-

2045 Build Alt. 2 PM Peak Lake Hamilton Signalized Thru-CUT

Lanes, Volumes, Timings	
17: Lake Hamilton Dr./Fairview	Village/Lakeside Ranch & SR 544

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8				1.	23			
Detector Phase	7	4		3	8		2	2	23	6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	24.5		11.0	24.5		21.0	21.0		16.0	16.0	
Total Split (s)	21.0	82.0		21.0	82.0		21.0	21.0		16.0	16.0	
Total Split (%)	15.0%	58.6%		15.0%	58.6%		15.0%	15.0%		11.4%	11.4%	
Maximum Green (s)	15.0	76.0		15.0	76.0		15.0	15.0		10.0	10.0	
Yellow Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		1.0	0.0	- L	1.0	0.0	1
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Lead/Lag	Lead	Lag		Lead	Lag	-		0.0			0.0	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)	81.6	76.1		96.3	94.1		IVIIII	10.5	24.8	IVIIII	5.5	
Actuated g/C Ratio	0.63	0.58		0.74	0.72			0.08	0.19		0.04	
v/c Ratio	0.03	0.58		0.74	0.66			0.08				-
And the second se									0.53		0.03	
Control Delay	6.0	40.5		71.5	12.4			65.9	17.8		0.2	_
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay	6.0	40.5		71.5	12.4			65.9	17.8		0.2	_
LOS	А	D	-	Е	В			E	В		A	
Approach Delay		40.5			19.1			28.1			0.2	
Approach LOS		D			В			С			A	
90th %ile Green (s)	5.7	76.0		15.0	85.3		15.0	15.0		5.5	5.5	
90th %ile Term Code	Gap	Max		Max	Hold		Max	Max		Gap	Gap	
70th %ile Green (s)	0.0	76.0		15.0	97.0		13.4	13.4		5.5	5.5	
70th %ile Term Code	Skip	Max		Max	Hold		Gap	Gap		Gap	Gap	
50th %ile Green (s)	0.0	76.0		15.0	97.0		10.6	10.6		5.5	5.5	
50th %ile Term Code	Skip	Max		Max	Hold		Gap	Gap		Gap	Gap	
30th %ile Green (s)	0.0	76.0		15.0	97.0		8.2	8.2		5.5	5.5	
30th %ile Term Code	Skip	Max		Max	Hold		Gap	Gap		Gap	Gap	
10th %ile Green (s)	0.0	76.0		11.5	93.5		6.0	6.0		5.5	5.5	
10th %ile Term Code	Skip	Max		Gap	Hold		Gap	Gap		Gap	Gap	
Stops (vph)	1	1594		133	833			52	68		0	
Fuel Used(gal)	0	40		8	42			1	2		0	
CO Emissions (g/hr)	2	2767		563	2932			93	152		0	
NOx Emissions (g/hr)	0	538		109	570			18	30		0	
VOC Emissions (g/hr)	0	641		130	680			21	35		0	
Dilemma Vehicles (#)	0	0		0	0			0	0		0	
Queue Length 50th (ft)	0	809		132	325			48	47		0	
Queue Length 95th (ft)	3	#1089		#287	605			94	113		0	
nternal Link Dist (ft)		931			29			577			46	
Turn Bay Length (ft)	60			500								
Base Capacity (vph)	330	2031		252	2529			199	460		236	
Starvation Cap Reductn	0	0		0	0			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	

2045 Build Alt. 2 PM Peak Lake Hamilton Signalized Thru-CUT

Lanes, Volumes, Timings	
17: Lake Hamilton Dr./Fairview Village/Lakeside Ranch & SR 544	

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Reduced v/c Ratio	0.01	0.97		0.85	0.66			0.29	0.46		0.02	
Intersection Summary												
Area Type:	Other											
Cycle Length: 140												
Actuated Cycle Length: 13	30.4											
Natural Cycle: 140												
Control Type: Actuated-Ur	ncoordinated											
Maximum v/c Ratio: 0.97												
Intersection Signal Delay:	29.9			In	tersection	LOS: C						
Intersection Capacity Utiliz	ation 89.4%			IC	U Level o	of Service	E					
Analysis Period (min) 15												
90th %ile Actuated Cycle:	135.5											
70th %ile Actuated Cycle:	133.9											
50th %ile Actuated Cycle:	131.1											
30th %ile Actuated Cycle:	128.7											
10th %ile Actuated Cycle:	123											
# 95th percentile volume	exceeds cap	acity, qui	eue may	be longer								
Queue shown is maxim	um after two	cycles.										

Splits and Phases: 17: Lake Hamilton Dr./Fairview Village/Lakeside Ranch & SR 544

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21.e	16 s	215	825
		▶ <sub>07</sub>	<b>4</b> − Ø8
		21.5	82's

06/27/2022

Lanes, Volumes, Timings			
17: Lake Hamilton Dr./Fairview	Village/Lakeside	Ranch &	SR 544

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		<b>A</b> 16	/ /	1.	<b>≜</b> ₽	1	/	<b>ب</b>			Â	-
Traffic Volume (vph)	0	1603	275	0	2105	5	0	1	295	0	1	5
Future Volume (vph)	0	1603	275	0	2105	5	0	1	295	0	1	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	60		0	500		0	200		0	0		C
Storage Lanes	0		0	0		0	0		0	0		C
Taper Length (ft)	25		9 <u>5</u> (C	25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.1.2.2	0.978	201022	0.000	20.010	1181/3-515-6	19102121	0.865	10,500		0.887	
Flt Protected		0.010										
Satd. Flow (prot)	0	3367	0	0	3438	0	0	1580	0	0	1685	0
Flt Permitted		0001	U		0100			1000			1000	
Satd. Flow (perm)	0	3367	0	0	3438	0	0	1580	0	0	1685	0
Right Turn on Red	, in the second s	0001	Yes		0.00	Yes			Yes		1000	Yes
Satd. Flow (RTOR)		38	100			100		31	100		5	100
Link Speed (mph)		30			30	_		30	-		30	
Link Distance (ft)		1011			109			657			126	
Travel Time (s)		23.0			2.5			14.9		-	2.9	
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
	0.95	5%	4%	4%	5%	0.95	4%	0.95	4%	0.95	0.95	0.95
Heavy Vehicles (%)	1 Pro 011							1	311			
Adj. Flow (vph)	0	1687	289	0	2216	5	0	1	311	0	1	5
Shared Lane Traffic (%)	0	4070	0	0	0004	•	0	040	0	0	•	0
Lane Group Flow (vph)	0	1976	0	0	2221	0	0	312	0	0	6	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0	_		0	-
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane	1110 3 EV220	10 2121										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15	321	9	15		9	15		9
Number of Detectors		2			2			2			2	-
Detector Template		Thru			Thru			Thru			Thru	_
Leading Detector (ft)		100			100			100		-	100	
Trailing Detector (ft)		0			0			0			0	
Detector 1 Position(ft)		0			0			0			0	
Detector 1 Size(ft)		6			6			6			6	
Detector 1 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0			0.0			0.0			0.0	
Detector 1 Queue (s)		0.0			0.0			0.0			0.0	
Detector 1 Delay (s)		0.0			0.0			0.0			0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA			NA			NA			NA	
Protected Phases		4			8			2	-		6	

2045 Build Alt. 2 AM Peak Lake Hamilton Signalized MUT

Lanes, Volumes, Timings	
17: Lake Hamilton Dr./Fairview Village/Lakeside Ranch & SR 544	ł

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	and the second		State of						-			
Detector Phase		4			8			2			6	
Switch Phase												
Minimum Initial (s)		5.0			5.0			5.0			5.0	
Minimum Split (s)		24.5			24.5			21.0			21.0	
Total Split (s)		70.0			70.0			30.0			30.0	
Total Split (%)		70.0%			70.0%			30.0%			30.0%	
Maximum Green (s)		64.0			64.0			24.0			24.0	
Yellow Time (s)		4.5			4.5			4.5			4.5	
All-Red Time (s)		1.5			1.5			1.5			1.5	_
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		6.0			6.0			6.0		_	6.0	
Lead/Lag											1.1.1	
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0			3.0			3.0			3.0	1000
Recall Mode		None			None			Min			Min	
Act Effct Green (s)		64.1			64.1			21.1			21.1	
Actuated g/C Ratio		0.66			0.66			0.22			0.22	_
v/c Ratio		0.88			0.98			0.85			0.02	
Control Delay		20.3			32.3			54.9			19.5	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		20.3			32.3			54.9			19.5	
LOS		20.0 C			C			D			B	
Approach Delay		20.3			32.3			54.9			19.5	
Approach LOS		20.5 C			C			D			B	
90th %ile Green (s)		64.0			64.0			24.0			24.0	
90th %ile Term Code		Max			Max			Max			Hold	-
70th %ile Green (s)		64.0			64.0			24.0			24.0	
70th %ile Term Code		Max			Max			Max			Hold	
50th %ile Green (s)		64.0			64.0			23.8			23.8	
50th %ile Term Code		Max			Max			Gap			Hold	-
		64.0			64.0			19.7			19.7	
30th %ile Green (s) 30th %ile Term Code		Max			Max			Gap			Hold	-
		64.0			64.0			14.4			14.4	
10th %ile Green (s) 10th %ile Term Code		Hold			Max			Gap			Hold	
THE REPORT OF A DESCRIPTION OF A DESCRIP		1398			1662			244			4	
Stops (vph)		30			67			6			0	
Fuel Used(gal)		2116			4651			432			4	
CO Emissions (g/hr)		412			905			84			1	
NOx Emissions (g/hr)		412			1078			100			1	
VOC Emissions (g/hr)								0			0	-
Dilemma Vehicles (#)		0 509			0 ~698			169			1	
Queue Length 50th (ft)		#664			~698 #924			#299			11	-
Queue Length 95th (ft)					#924			#299			46	
Internal Link Dist (ft)		931			29			5//			40	-
Turn Bay Length (ft)		0000			0007			414			420	
Base Capacity (vph)		2233	-		2267							-
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0	and the second second		0	

2045 Build Alt. 2 AM Peak Lake Hamilton Signalized MUT

Lanes, Volumes, Timings	
17: Lake Hamilton Dr./Fairview	Village/Lakeside Ranch & SR 544

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Reduced v/c Ratio		0.88			0.98			0.75			0.01	
Intersection Summary												
Area Type: Ot	her											
Cycle Length: 100												
Actuated Cycle Length: 97.2												
Natural Cycle: 90												
Control Type: Actuated-Uncoo	rdinated											
Maximum v/c Ratio: 0.98												
Intersection Signal Delay: 28.6	3			In	tersection	LOS: C						
Intersection Capacity Utilizatio	n 86.7%			IC	U Level o	f Service	E					
Analysis Period (min) 15												
90th %ile Actuated Cycle: 100												
70th %ile Actuated Cycle: 100												
50th %ile Actuated Cycle: 99.8	3											
30th %ile Actuated Cycle: 95.7												
10th %ile Actuated Cycle: 90.4												
<ul> <li>Volume exceeds capacity,</li> </ul>	queue is	theoretic	ally infinit	e.								
Queue shown is maximum	after two	cycles.										
# 95th percentile volume exc			eue may l	be longer	10							
Queue shown is maximum												

Splits and Phases: 17: Lake Hamilton Dr./Fairview Village/Lakeside Ranch & SR 544

¶ø₂	<b>→</b> Ø4	
30. ş	70 s	
<b>↓</b> Ø6	<b>←</b> Ø8	
30 s	70 s	

06/27/2022

	٨		7	1	-	*	1	1	1	1	¥	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		1¢	11		<b>↑</b> ₽́	1	/	Þ	/ /		4	
Traffic Volume (vph)	0	1817	300	0	1874	5	0	2	260	0	2	3
Future Volume (vph)	0	1817	300	0	1874	5	0	2	260	0	2	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	60		0	500	and the state	0	200	Date: Note:	0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		_
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt	10.000	0.979	18402180	10000	1000000	05007455		0.866		0.000000	0.919	
Fit Protected												
Satd. Flow (prot)	0	3427	0	0	3505	0	0	1583	0	0	1746	0
Flt Permitted						10-744						
Satd. Flow (perm)	0	3427	0	0	3505	0	0	1583	0	0	1746	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		43	100		1			22			3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1011			109			657			126	
Travel Time (s)		23.0			2.5			14.9		-	2.9	
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
Heavy Vehicles (%)	0%	3%	4%	4%	- 3%	0%	4%	0%	4%	0%	0%	0%
A CONTRACT OF A	0/8	1873	309	4 /0	1932	5	0	2	268	0	2	3
Adj. Flow (vph)	0	1075	309	0	1992	5	U	2	200	0	2	5
Shared Lane Traffic (%)	0	2182	0	0	1937	0	0	270	0	0	5	0
Lane Group Flow (vph)	No	No	No	No	No	No	No	No	No	No	No	No
Enter Blocked Intersection		Left		Left	Left		Left	Left	Right	Left	Left	Right
Lane Alignment	Left	0	Right	Leit	0	Right	Leit	0	Right	Len	0	Right
Median Width(ft)					0			0			0	
Link Offset(ft)		0 16			16			16			16	-
Crosswalk Width(ft)		10			10			10			10	
Two way Left Turn Lane	4.00	1.00	1.00	1.00	4.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	0	9	15	0	9	15	0	9	15	0	9
Number of Detectors		2			2			2			2 Thru	
Detector Template		Thru			Thru			Thru			Thru	-
Leading Detector (ft)		100			100			100			100	
Trailing Detector (ft)		0			0			0			0	_
Detector 1 Position(ft)		0		-	0			0	_		0	100
Detector 1 Size(ft)		6			6			6			6	_
Detector 1 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 1 Channel					0.0			0.0			0.0	
Detector 1 Extend (s)		0.0			0.0			0.0			0.0	
Detector 1 Queue (s)		0.0			0.0			0.0			0.0	
Detector 1 Delay (s)		0.0			0.0			0.0			0.0	
Detector 2 Position(ft)		94			94			94	_		94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel		agore of			A STREET							
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA			NA			NA			NA	
Protected Phases		4			8			2			6	

2045 Build Alt. 2 PM Peak Lake Hamilton Signalized MUT

Lanes, Volumes, Timings	
17: Lake Hamilton Dr./Fairview Vill	age/Lakeside Ranch & SR 544

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases				1.1.1								
Detector Phase		4			8			2			6	
Switch Phase												
Minimum Initial (s)		5.0			5.0			5.0			5.0	
Minimum Split (s)		24.5			24.5			21.0			21.0	
Total Split (s)		65.0			65.0			25.0			25.0	
Total Split (%)		72.2%			72.2%			27.8%			27.8%	
Maximum Green (s)		59.0			59.0			19.0			19.0	_
Yellow Time (s)		4.5			4.5			4.5			4.5	
All-Red Time (s)		1.5			1.5			1.5			1.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		6.0			6.0			6.0			6.0	
Lead/Lag												1
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Recall Mode		None			None			Min			Min	
Act Effct Green (s)		59.1			59.1			17.1			17.1	
Actuated g/C Ratio		0.67			0.67			0.19			0.19	
v/c Ratio		0.94			0.82			0.83			0.01	
Control Delay		24.1			15.1			53.8			22.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		24.1			15.1			53.8			22.0	
LOS		С			В			D			С	
Approach Delay		24.1			15.1			53.8			22.0	
Approach LOS		С			В			D			С	100
90th %ile Green (s)		59.0			59.0			19.0			19.0	
90th %ile Term Code		Max			Max			Max			Hold	
70th %ile Green (s)		59.0			59.0			19.0			19.0	
70th %ile Term Code		Max			Max			Max			Hold	
50th %ile Green (s)		59.0			59.0			19.0			19.0	_
50th %ile Term Code		Max			Max			Max			Hold	
30th %ile Green (s)		59.0			59.0			16.7			16.7	
30th %ile Term Code		Max			Hold			Gap			Hold	
10th %ile Green (s)		59.0			59.0			12.1			12.1	
10th %ile Term Code		Max			Hold			Gap			Hold	
Stops (vph)		1611			1325			217			4	
Fuel Used(gal)		36			52			5			0	
CO Emissions (g/hr)		2514			3623			378			3	
NOx Emissions (g/hr)		489			705			74			1	
VOC Emissions (g/hr)		583			840			88			1	
Dilemma Vehicles (#)		0			0			0			0	
Queue Length 50th (ft)		536			395			134			1	
Queue Length 95th (ft)		#796			512			#255			10	
Internal Link Dist (ft)		931			29			577			46	
Turn Bay Length (ft)		CONTRACT.			177457A1			371532			2.1980	
Base Capacity (vph)		2309			2348			358			378	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	

2045 Build Alt. 2 PM Peak Lake Hamilton Signalized MUT

Lanes,	Volumes,	Timings	

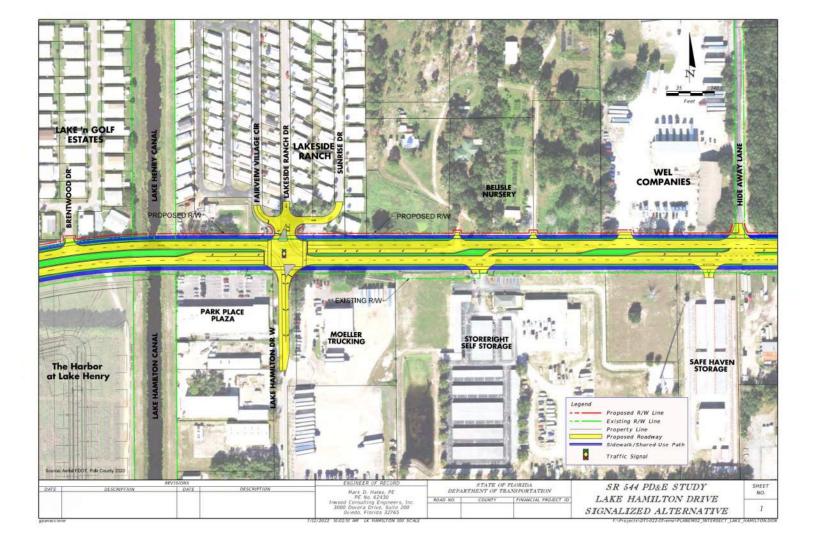
17: Lake Hamilton Dr./Fairview Village/Lakeside Ranch & SR 544

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Reduced v/c Ratio		0.94			0.82		1	0.75			0.01	
Intersection Summary			-									
Area Type:	Other											
Cycle Length: 90												
Actuated Cycle Length: 88.	.2											
Natural Cycle: 90												
Control Type: Actuated-Un	coordinated											
Maximum v/c Ratio: 0.94												
Intersection Signal Delay: 2					tersection							
Intersection Capacity Utiliza	ation 86.0%			IC	U Level o	of Service	E					
Analysis Period (min) 15												
90th %ile Actuated Cycle: 9												
70th %ile Actuated Cycle: 9												
50th %ile Actuated Cycle: 9												
30th %ile Actuated Cycle: 8												_
10th %ile Actuated Cycle: 8												
# 95th percentile volume			eue may	be longer	ži.							
Queue shown is maximu	um after two	cycles.										
0. III			1	and always	de Devel							
Splits and Phases: 17: La	ake Hamilton	h Dr./Fair	view villa	ge/Lakes	ide Ranci	1 & SK 54	4	_				
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		-										
V Ø6		Ø8	_			_		_	_	_		

06/27/2022

Appendix E

Signalized Intersection Preliminary Geometric Concept



## CERTIFICATION

AGENCY: Florida Department of Transportation District One 801 North Broadway Avenue Bartow, Florida 33831-1249

I hereby certify that I am a registered professional engineer in the State of Florida and that I have supervised the preparation of, and approved the analysis, findings, opinions, conclusions and technical advice hereby reported for:

REPORT:	SR 544/Old Lucerne Park Road (East End) Intersection Control Evaluation (ICE) - Stage 2
PROJECT:	SR 544 Project Development and Environment (PD&E) Study
LOCATION:	SR 544 from Martin Luther King Boulevard to SR 17 Polk County, Florida
ROADWAY ID:	16140000

MILEPOST No: 8.965

FPID No.: 440273-1-22-01

I acknowledge that the procedures and references used to develop the information contained in this memorandum are standard to the professional practice of transportation engineering as applied through professional judgement and experience.

Engineer in Responsible Charge:	Anastasiya A. Senyushkina	
Professional Registration No.:	82191 No. 82191 Anastasiya A Senyushkina 2023.03 09:26:29-0	.20
Date:	3/20/2023	0100

# **MEMORANDUM**



# **AIM Engineering** & Surveying, Inc.

Tampa Office 201 E. Kennedy Boulevard, Suite 1800 Tampa, Florida 33602 813-627-4144 www.aimengr.com

Date:	March 20, 2023
То:	David C. Turley, P.E. – FDOT District One DEMO Project Manager Abra Horne – FDOT District One Planning and Environmental Administrator
From:	Greg Root/Anastasiya Senyushkina, P.E.
Subject:	SR 544/Old Lucerne Park Road (east end) Intersection (Polk County) — Stage 2 Intersection Control Evaluation

### INTRODUCTION/PROJECT BACKGROUND

This memorandum documents the Stage 2 Intersection Control Evaluation (ICE) conducted for the Old Lucerne Park Road (east end) intersection. This analysis was conducted in support of the SR 544 Project Development & Environment (PD&E) Study from Martin Luther King Boulevard to SR 17 in Polk County. The PD&E study goals are to determine the location and conceptual design of the improvement(s) that satisfy the purpose and need for the project, while also minimizing the impacts to the natural and social environment and satisfying the requirements of the National Environmental Policy Act (NEPA).

A Stage 1+ ICE Technical Memorandum and Stage 1 ICE Form were submitted to District One on February 22, 202. The Stage 1 evaluation recommended that a conventional signalized intersection and a two-lane roundabout be advanced to a Stage 2 evaluation. This recommendation was approved by the District Traffic Operations Engineer and the District Design Engineer on 3/13/2023 and 3/14/2023, respectively. This memorandum documents the Stage 2 Benefit/Cost (B/C) analysis and Net Present Value (NPV) Costs.

## **EXISTING INTERSECTION CHARACTERISTICS**

The east end of Old Lucerne Park Road intersects SR 544 at a T- intersection. This roadway curves to the right approximately 125 feet northwest of the intersection stop bar and intersects SR 544 at a 90degree angle. The north leg is controlled by a stop sign. A Chevron gas station/convenience store is located in the northwest auadrant of the intersection and Lake 'n Golf Estates is located on the north side of SR 544 and Old Lucerne Park Road. Access to and from this manufactured home community is provided on both SR 544 (via Brentwood Drive) and on Old Lucerne Park Road (via Westchester Drive). Brentwood Drive is located approximately 400 feet east of the Old Lucerne Park Road intersection, while Westchester Drive is located approximately 325 feet northwest of this intersection. An aerial depicting the Old Lucerne Park Road intersection (Figure 1) is provided in Appendix A.

Approximately 175 feet east of Brentwood Drive, there is a bridge over the Lake Hamilton canal. Although the land on the south side of SR 544 is currently undeveloped, there is a residential development (i.e., The Harbor at Lake Henry) currently going through the permit approval process. The proposed entrance/exit for this residential development is located approximately 950 feet southwest of the Old Lucerne Park Road intersection. Another future residential development (i.e., Tuscany Village) is located between SR 544 and Old Lucerne Park Road. This development proposes access to both SR 544 and Old Lucerne Park Road. In addition, Duke Energy is currently in the process of acquiring an easement for the construction of a 230-kilovolt transmission line to be located on the south side of SR 544. An aerial image depicting the Old Lucerne Park Road intersection, the two proposed residential developments, the Lake Hamilton canal, and the Lake Hamilton Drive intersection (**Figure 2**) is also provided in **Appendix A**. The posted speed limit on SR 544 in the vicinity of this intersection is 50 miles per hour (mph). The posted speed limit on Old Lucerne Park Road is 40 mph; however, there is a 15 mph advisory speed sign in the southbound direction in advance of the horizontal curve.

# STAGE 2 INTERSECTION CONTROL EVALUATION

Opening year (2025) and design year (2045) peak hour SYNCHRO and SIDRA analyses were conducted for the conventional signalized intersection and the roundabout. These analyses were conducted using the peak hour volumes documented in the FDOT approved Project Traffic Analysis Report (*January 2021*). These volumes are provided in **Appendix B**. The operational analysis results are summarized in **Table 1**. Both alternatives are projected to operate with v/c ratios less than 1.00 during both peak hours.

Table 1: Pe	ak Hour Operat	-			Road (East) Inte	rsection	
		Open	ing Year (202	25)			
Peak Hour	Signa	alized Intersection	on	Roundabout			
AM	Max V/C <sup>(1)</sup>	Avg. Delay	LOS	Max V/C <sup>(1)</sup>	Avg. Delay	LOS	
Alvi	0.67	13.5	В	0.40	6.7	А	
Peak Hour	Signalized Intersection Roundabout						
PM	Max V/C <sup>(1)</sup>	Avg. Delay	LOS	Max V/C <sup>(1)</sup>	Avg. Delay	LOS	
	0.57	11.4	В	0.42	6.9	А	
		Desi	gn Year (204	5)			
Peak Hour	Signa	alized Intersectio	on	Roundabout			
4.5.4	Max V/C <sup>(1)</sup>	Avg. Delay	LOS	Max V/C <sup>(1)</sup>	Avg. Delay	LOS	
AM	0.94	22.9	С	0.79	19.6	С	
Peak Hour	Signalized Intersection Roundabout						
PM	Max V/C <sup>(1)</sup>	Avg. Delay	LOS	Max V/C <sup>(1)</sup>	Avg. Delay	LOS	
	0.80	15.6	В	0.81	16.4	С	

<sup>(1)</sup> Highest volume-to-capacity ratio of all the individual movements.

The average delay for the southbound roundabout approach is projected to be 50.2 seconds per vehicle in the design year a.m. peak hour. The maximum delay for Level of Service E is 50.0 seconds per vehicle. Consequently, the year of failure is estimated to be 2045. The opening year and design year SYNCHRO and SIDRA analysis summary sheets are provided in **Appendix C**. The total number of crashes and the total number of fatal and injury crashes that were previously estimated for these two control strategies using the SPICE software (and documented in the FDOT approved Stage 1+ ICE Technical Memorandum) are provided in **Appendix D**.

Geometric improvement concepts were developed for both of these alternatives, and these are provided in **Appendix E**. The roundabout improvement concept impacts six parcels, requires approximately 0.70 acres of right-of-way and results in one business relocation (i.e., the Chevron gas station). In comparison, the conventional signalized intersection impacts five parcels, requires approximately 0.08 acres of right-of-way and does not result in any business relocations. Right-of-way cost estimates and roadway construction cost estimates were prepared for both alternatives and were provided by District One. Wetland mitigation cost estimates and reimbursable utility relocation cost estimates were provided by Inwood Consulting Engineers. The cost estimates are summarized in **Table 2**, while the supporting information is provided in **Appendix F**.

Table 2: Cost Comparison - Old Lucerne Park Road (East) Intersection						
	Intersection Control Strategy					
Estimated Present Day Costs	Roundabout	Signalized Intersection				
Design	\$279,000	\$55,000				
Right-of-Way	4,225,000	\$520,000				
Reimbursable Utility Relocation	\$25,900	\$3 <i>,</i> 800				
Wetland Mitigation	\$13,500	\$13,500				
Roadway Construction	\$1,858,000	\$369,000				
Construction Engineering & Inspection	\$223,000	\$44,000				
Total	\$6,624,400	\$1,005,300				

The design costs were assumed to be equal to 15% of the roadway construction costs, while the Construction Engineering & Inspection costs were assumed to be equal to 12% of the roadway construction costs. The wetland mitigation cost was estimated based on a value of \$135,000 per acre.

The Stage 2 B/C analysis and NPV costs were calculated using the FDOT's ICE Tool that was downloaded from the FDOT Traffic Studies/Intersection Operations website. Compared to the conventional signalized intersection, the roundabout has a B/C ratio equal to 3.96 and a NPV equal to \$7,774,263. The Stage 2 ICE analysis summary is provided in **Appendix G**.

### RECOMMENDED INTERSECTION CONTROL STRATEGY

The implementation of a roundabout at the SR 544/Old Lucerne Park Road (east) intersection would provide positive speed control and result in a lower number of fatal and injury crashes as compared to a conventional signalized intersection. Although the current posted speed limit in the vicinity of this intersection is 50 mph, the proposed SR 544 typical section and horizontal alignment is based on a 45 mph target speed. A roundabout would help to facilitate slower vehicle speeds east and west of this intersection. A roundabout is estimated to have significantly higher SSI scores as compared to a conventional signalized intersection. Compared to the conventional signalized intersection, the roundabout has a B/C ratio equal to 3.96 and a NPV equal to \$7,774,263. Consequently, a two-lane roundabout is the recommended intersection control; strategy for the Old Lucerne Park Road (east) intersection.

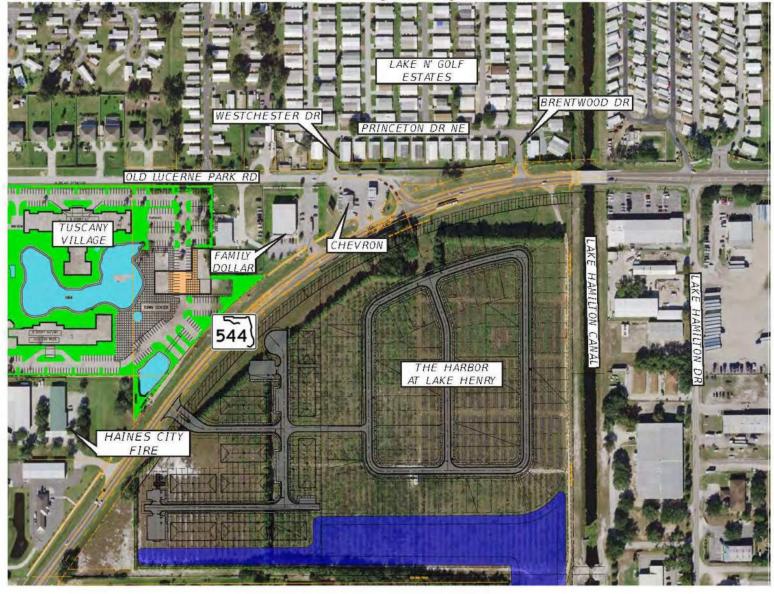
# Appendix A

**Existing Intersection Aerials** 



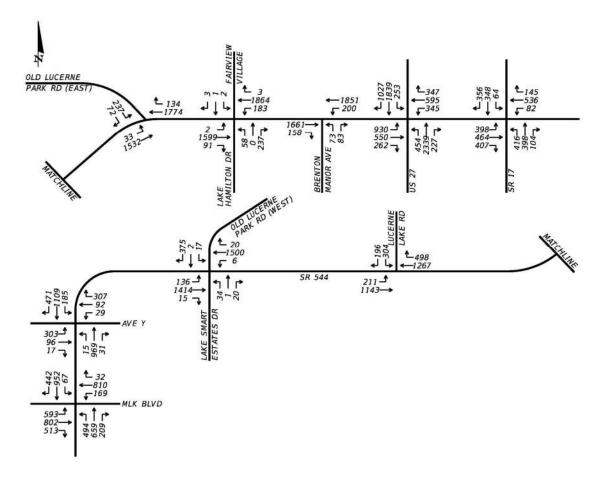
Figure 1: Existing SR 544/Old Lucerne Park Road (East End) Intersection

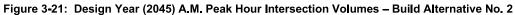
### Figure 2: SR 544/Old Lucerne Park Road (East End) Intersection Surrounding Area



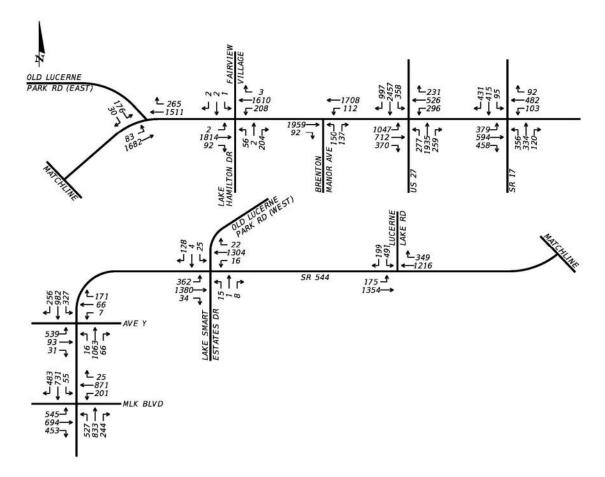
# Appendix B

Future Year Peak Hour Traffic Volumes



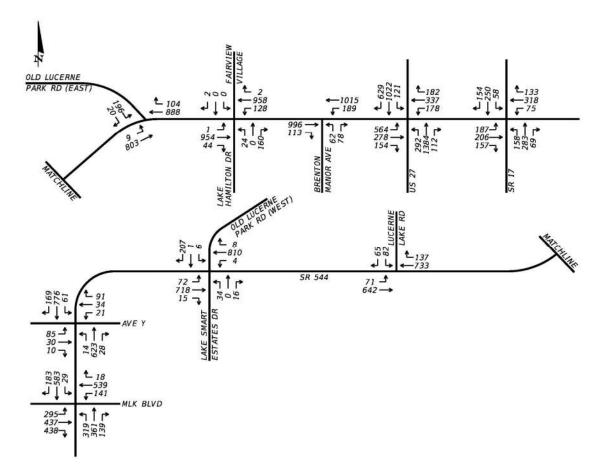


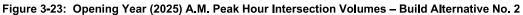
Page 3-32



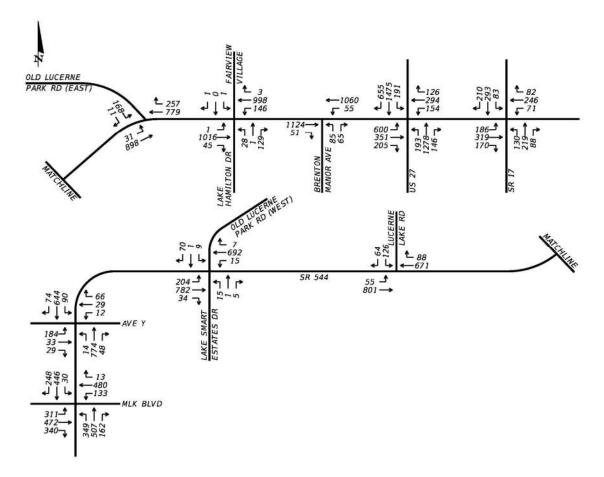


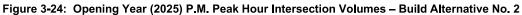
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Appendix C

SYNCHRO and SIDRA Analysis Summary Sheets

	Signa	lized Intersecti	on		Roundabout	
Movement	V/C Ratio	Avg. Delay	LOS	V/C Ratio	Avg. Delay	LOS
EB LT	0.03	6.4	А	0.40	7.8	А
EB TH	0.51	9.5	А	0.40	7.5	А
EB APPROACH	$0.51^{(1)}$	9.5	А	0.40 <sup>(1)</sup>	7.5	А
WB TH	0.67	16.3	В	0.39	5.3	А
WB RT	0.08	0.9	А	0.39	5.4	А
WB APPROACH	0.67 <sup>(1)</sup>	14.7	В	0.39 <sup>(1)</sup>	5.3	А
SB LT	0.53	24.6	С	0.23	10.7	В
SB RT	0.03	5.5	А	0.23	10.2	В
SB APPROACH	0.53 <sup>(1)</sup>	22.8	С	0.23 <sup>(1)</sup>	10.6	В
OVERALL	0.67 <sup>(1)</sup>	13.5	В	0.40 <sup>(1)</sup>	6.7	А

Table 1A: Peak Hour Operational Analysis Summary - Old Lucerne Park Road (East) Intersection

**Opening Year (2025) AM Peak Hour** 

#### Opening Year (2025) PM Peak Hour

	Signa	lized Intersecti	ion		Roundabout	
Movement	V/C Ratio	Avg. Delay	LOS	V/C Ratio	Avg. Delay	LOS
EB LT	0.09	6.7	А	0.42	8.0	А
EB TH	0.54	9.5	А	0.42	7.5	А
EB APPROACH	0.54 <sup>(1)</sup>	9.4	А	0.42 <sup>(1)</sup>	7.5	А
WB TH	0.57	14.6	В	0.40	6.0	А
WB RT	0.20	0.9	А	0.40	6.3	А
WB APPROACH	0.57 <sup>(1)</sup>	11.2	В	0.40 <sup>(1)</sup>	6.1	А
SB LT	0.46	23.8	С	0.16	8.3	А
SB RT	0.01	6.2	А	0.16	7.9	А
SB APPROACH	0.46 <sup>(1)</sup>	22.8	С	0.16 <sup>(1)</sup>	8.2	А
OVERALL	0.57 <sup>(1)</sup>	11.4	В	0.42 <sup>(1)</sup>	6.9	А

<sup>(1)</sup> Highest movement volume-to-capacity ratio

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Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations	) J				JLL I	
Traffic Volume (vph)	9	803	888	104	196	
Future Volume (vph)	9	803	888	104	196	
Ideal Flow (vphpl)	1900	1900	1900	1900	190	
	425	1900	1900	250	1900	
Storage Length (ft)	425			250	1	200
Storage Lanes	25			1	25	
Taper Length (ft)		0.05	0.05	1.00		1.00
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt	0.050			0.850	0.050	0.850
Fit Protected	0.950	2400	0400	4500	0.950	1500
Satd. Flow (prot)	1687	3438	3438	1509	1687	1509
Flt Permitted	0.163	0.400	0.100	1500	0.950	1500
Satd. Flow (perm)	289	3438	3438	1509	1687	1509
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				109		21
Link Speed (mph)		30	30		30	
Link Distance (ft)		9058	1011		169	
Travel Time (s)		205.9	23.0		3.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	7%	5%	5%	7%	7%	7%
Adj. Flow (vph)	9	845	935	109	206	21
Shared Lane Traffic (%)						
Lane Group Flow (vph)	9	845	935	109	206	21
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
	Leit	0	0	right	0	Nym
Median Width(ft)		0	0		0	
Link Offset(ft)						
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	11-11-		9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (ft)	20	100	100	20	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	6	20	20	20
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel	15 COLUMN DALLY	Constant and the second second	Mozali constrati	199251 3151905	Contraction of the	anagina ang katalan ka
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	0.0	94	94	0.0	0.0	0.0
		94	94			
Detector 2 Size(ft)						
Detector 2 Type		CI+Ex	CI+Ex			
Detector 2 Channel		0.0	0.0			
Detector 2 Extend (s)	July 1	0.0	0.0		1	1 1
Turn Type	pm+pt	NA	NA	pm+ov		pm+ov
Protected Phases	7	4	8	5	5	7

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Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Permitted Phases	4	201	mon	8	OLL	5
Detector Phase	4	4	8	5	5	7
Switch Phase	1	4	0	5	5	1
the state we want to be a weather state of the	5.0	5.0	5.0	5.0	EO	5.0
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	17.0	24.0	24.0	17.0	17.0	17.0
Total Split (s)	17.0	48.0	31.0	22.0	22.0	17.0
Total Split (%)	24.3%	68.6%	44.3%	31.4%	31.4%	24.3%
Maximum Green (s)	10.5	41.5	24.5	15.5	15.5	10.5
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	Min	Min	None
Act Effct Green (s)	24.0	24.0	20.1	43.7	11.5	24.7
Actuated g/C Ratio	0.48	0.48	0.41	0.88	0.23	0.50
v/c Ratio	0.03	0.51	0.67	0.08	0.53	0.03
Control Delay	6.4	9.5	16.3	0.9	24.6	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.4	9.5	16.3	0.9	24.6	5.5
LOS	А	А	В	А	С	А
Approach Delay		9.5	14.7		22.8	
Approach LOS		А	В		С	
90th %ile Green (s)	6.3	37.3	24.5	15.5	15.5	6.3
90th %ile Term Code	Gap	Hold	Max	Max	Max	Gap
70th %ile Green (s)	6.0	37.0	24.5	15.0	15.0	6.0
70th %ile Term Code	Gap	Hold	Max	Gap	Gap	Gap
50th %ile Green (s)	0.0	20.3	20.3	11.0	11.0	0.0
50th %ile Term Code	Skip	Hold	Gap	Gap	Gap	Skip
30th %ile Green (s)	0.0	16.9	16.9	9.3	9.3	0.0
30th %ile Term Code	Skip	Hold	Gap	Gap	Gap	Skip
10th %ile Green (s)	0.0	13.1	13.1	7.0	7.0	0.0
10th %ile Term Code	Skip	Hold	Gap	Gap	Gap	Skip
Stops (vph)	6	462	657	7	156	7
Fuel Used(gal)	1	61	14	1	2	0
CO Emissions (g/hr)	48	4251	949	61	147	6
NOx Emissions (g/hr)	9	827	185	12	29	1
VOC Emissions (g/hr)	11	985	220	14	34	1
Dilemma Vehicles (#)	0	0	0	0	0	0
Queue Length 50th (ft)	1	74	84	0	45	0
Queue Length 95th (ft)	7	129	230	10	133	11
Internal Link Dist (ft)	18	8978	931		89	Cont.
Turn Bay Length (ft)	425	0010	001	250	00	200
Base Capacity (vph)	459	2892	1834	1332	569	917
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0

2025 Opening Year AM Peak

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Lane Group	EBL	EBT	WBT	WBR	SEL	SER	
Reduced v/c Ratio	0.02	0.29	0.51	0.08	0.36	0.02	
Intersection Summary							
Area Type:	Other						
Cycle Length: 70							
Actuated Cycle Length	49.5						
Natural Cycle: 60							
Control Type: Actuated	-Uncoordinated						
Maximum v/c Ratio: 0.6	57						
Intersection Signal Dela	ay: 13.5			In	tersection	LOS: B	
Intersection Capacity U	tilization 46.2%			IC	U Level o	Service A	
Analysis Period (min) 1	5						
90th %ile Actuated Cyc	le: 65.8						
70th %ile Actuated Cyc	le: 65						
50th %ile Actuated Cyc	le: 44.3						
30th %ile Actuated Cyc	le: 39.2						
10th %ile Actuated Cyc							

Splits and Phases: 15: SR 544 & Old Lucerne Park Rd. (East)

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Lane Group	EBL	EBT	WB	T WBR	SEL	L SER
Lane Configurations	1					
Traffic Volume (vph)	31					
Future Volume (vph)	31					
Ideal Flow (vphpl)	1900					
Storage Length (ft)	425		1900	250		
Storage Lanes	425					
				1		
Taper Length (ft) Lane Util, Factor	25	0.05	0.01		25	
	1.00	0.95	0.95		1.00	
Frt				0.850	-	0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1687	3505	3505	1509	1687	
Flt Permitted	0.216				0.950	
Satd. Flow (perm)	384	3505	3505	1509	1687	1509
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				265		11
Link Speed (mph)		30	30		30	
Link Distance (ft)		9058	1011		169	
Travel Time (s)		205.9	23.0		3.8	
Peak Hour Factor	0.97	0.97	0.97		0.97	0.97
Heavy Vehicles (%)	7%	3%	3%		7%	
Adj. Flow (vph)	32	926	803			
	32	920	803	265	173	11
Shared Lane Traffic (%)		000				
Lane Group Flow (vph)	32	926	803	265	173	11
Enter Blocked Intersection	No	No	No	and the second sec	No	No
Lane Alignment	Left	Left	Left	•	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	10000		9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	
Leading Detector (ft)	20	100	100	20	20	Right
Trailing Detector (ft)	20	and an a second second	and the state		1.00	20
		0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	6	20	20	20
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		CI+Ex	CI+Ex			
Detector 2 Channel		UI. LA	ULLA			
Detector 2 Extend (s)		0.0	0.0			
	new late	0.0	0.0	-	-	( )
Turn Type	pm+pt	NA	NA	pm+ov	and the state of the	pm+ov
Protected Phases	7	4	8	5	5	7

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	3		-	ĸ	1	4
Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Permitted Phases	4			8		5
Detector Phase	7	4	8	5	5	7
Switch Phase			2		J	
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	17.0	24.0	24.0	17.0	17.0	17.0
Total Split (s)	17.0	48.0	31.0	22.0	22.0	17.0
Total Split (%)	24.3%	68.6%	44.3%	31.4%	31.4%	24.3%
Maximum Green (s)	10.5	41.5	24.5	15.5	15.5	10.5
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0			
Lost Time Adjust (s)	0.0	0.0		2.0	2.0	2.0
Total Lost Time (s)			0.0	0.0	0.0	0.0
	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	Min	Min	None
Act Effct Green (s)	23.9	23.9	19.9	43.0	10.9	24.6
Actuated g/C Ratio	0.49	0.49	0.41	0.88	0.22	0.50
v/c Ratio	0.09	0.54	0.57	0.20	0.46	0.01
Control Delay	6.7	9.5	14.6	0.9	23.8	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.7	9.5	14.6	0.9	23.8	6.2
LOS	A	A	В	A	C	A
Approach Delay	1.1	9.4	11.2	~	22.8	~
Approach LOS		A	B		22.0 C	
90th %ile Green (s)	7.4	38.4	24.5	15.5	15.5	7.4
90th %ile Term Code	Gap	Hold	Max			1.12 3.14
70th %ile Green (s)				Max	Max	Gap
	6.8	37.6	24.3	13.5	13.5	6.8
70th %ile Term Code	Gap	Hold	Gap	Gap	Gap	Gap
50th %ile Green (s)	0.0	20.3	20.3	11.2	11.2	0.0
50th %ile Term Code	Skip	Hold	Gap	Gap	Gap	Skip
30th %ile Green (s)	0.0	16.1	16.1	8.2	8.2	0.0
30th %ile Term Code	Skip	Gap	Hold	Gap	Gap	Skip
10th %ile Green (s)	0.0	12.6	12.6	6.4	6.4	0.0
10th %ile Term Code	Skip	Gap	Hold	Gap	Gap	Skip
Stops (vph)	14	522	541	13	132	4
Fuel Used(gal)	2	68	11	2	2	0
CO Emissions (g/hr)	161	4757	800	150	123	4
NOx Emissions (g/hr)	31	925	156	29	24	1
VOC Emissions (g/hr)	37	1102	186	35	29	1
Dilemma Vehicles (#)	0	0	0	0	0	0
Queue Length 50th (ft)	4	83	68	0	37	0
Queue Length 95th (ft)	15	143	194	17		
nternal Link Dist (ft)	10			17	115	8
and the second se	105	8978	931	050	89	000
Furn Bay Length (ft)	425	0044	100-	250		200
Base Capacity (vph)	491	2944	1907	1351	580	910
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0

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	3		-	*	1	\$
Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Reduced v/c Ratio	0.07	0.31	0.42	0.20	0.30	0.01
Intersection Summary	1					
Area Type: Oti	her					
Cycle Length: 70						
Actuated Cycle Length: 49						
Natural Cycle: 60						
Control Type: Actuated-Uncool	rdinated					
Maximum v/c Ratio: 0.57						
Intersection Signal Delay: 11.4				Int	ersection	LOS: B
Intersection Capacity Utilization	n 45.9%			IC	U Level o	f Service A
Analysis Period (min) 15						
90th %ile Actuated Cycle: 66.9						
70th %ile Actuated Cycle: 64.1						
50th %ile Actuated Cycle: 44.5						
30th %ile Actuated Cycle: 37.3						
10th %ile Actuated Cycle: 32						

Splits and Phases: 15: SR 544 & Old Lucerne Park Rd. (East)

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22.8	175	616	

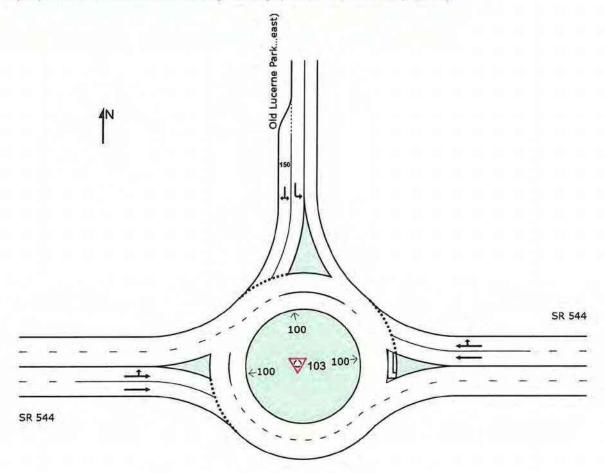
01/17/2023

### SITE LAYOUT

♥ Site: 103 [SR 544/Old Lucerne Park Rd (east end) Intersection (Site Folder: General)]

Opening Year (2025) AM Peak Hour - Build Alt 2 Site Category: (None) Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings



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#### MOVEMENT SUMMARY

Site: 103 [SR 544/Old Lucerne Park Rd (east end) Intersection

(Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Opening Year (2025) AM Peak Hour - Build Alt 2 Site Category: (None) Roundabout

Vehic	cle Mo	ovement	Perfor	man						e della		-	-	Con the second	-
Mov ID	Turn	Mov Class	F			rival lows HV ] %	Deg Satn v/c	Aver Delay sec	Level of Service		Back Of ieue Dist] ft	Prop Que	Eff Stop Rate	Aver. No. of Cycles	Aver Speed mpt
East:	SR 54	4	VENIT	70	VEIMI	20	V/C	360		ven	15				
6	T1	All MCs	935	5.0	935	5.0	0.390	5.3	LOSA	2.3	60.7	0.08	0.01	0.08	33.7
16	R2	All MCs	109	7.0	109	7.0	0.390	5.4	LOSA	2.3	60.6	0.08	0.01	0.08	33.3
Appro	ach		1044	5.2	1044	5.2	0.390	5.3	LOSA	2.3	60.7	0.08	0.01	0.08	33.7
North:	Old L	ucerne Pa	ark Rd (	east)											
7	L2	All MCs	206	7.0	206	7.0	0.231	10.7	LOS B	0.7	19.2	0.65	0.64	0.65	28.8
14	R2	All MCs	21	7.0	21	7.0	0.231	10.2	LOS B	0.7	18.6	0.64	0.63	0.64	29.4
Appro	ach		227	7.0	227	7.0	0.231	10.6	LOS B	0.7	19.2	0.65	0.64	0.65	28.8
West:	SR 54	14													
5	L2	All MCs	9	7.0	9	7.0	0.398	7.8	LOSA	2.0	52.6	0.45	0.27	0.45	31.9
2	T1	All MCs	845	5.0	845	5.0	0.398	7.5	LOSA	2.0	52.6	0.44	0.26	0.44	32.7
Appro	ach		855	5.0	855	5.0	0.398	7.5	LOSA	2.0	52.6	0.44	0.26	0.44	32.7
All Vel	hicles		2126	5.3	2126	5.3	0.398	6.7	LOSA	2.3	60.7	0.29	0.18	0.29	32.7

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab). Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6). Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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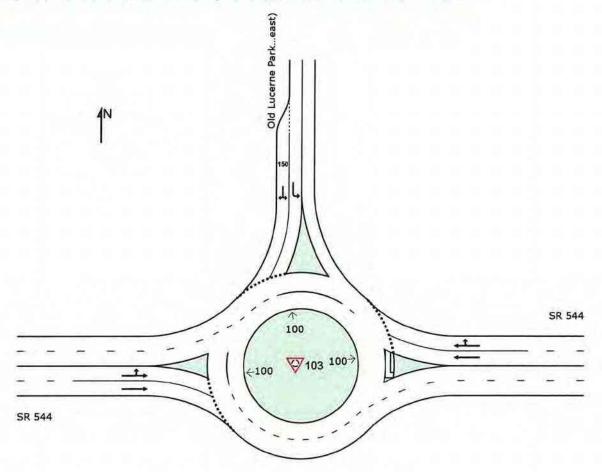
Organisation: AIM ENGINEERING AND SURVEYING | Licence: NETWORK / 1PC | Processed: Tuesday, January 17, 2023 3:45:16 PM Project: T:\PROJECTS\2 - DISTRICT 1\D1\_SR 544\Traffic\Roundabouts\Interim Years\SR 544\_OLP Rd\_East\_2025 AM Pk Hr\_Build Alt 2.sip9

### SITE LAYOUT

♡ Site: 103 [SR 544/Old Lucerne Park Rd (east end) Intersection (Site Folder: General)]

Opening Year (2025) PM Peak Hour - Build Alt 2 Site Category: (None) Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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#### **MOVEMENT SUMMARY**

Site: 103 [SR 544/Old Lucerne Park Rd (east end) Intersection

(Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Opening Year (2025) PM Peak Hour - Build Alt 2 Site Category: (None) Roundabout

Mov ID	Tum	Mov Class		nand lows		rrival Iows	Deg. Satn	Aver Delay	Level of Service		Back Of eue	Prop. Que	Eff. Stop	Aver. No. of	Aver Speed
			[ Total veh/h	HV ]			v/c	sec		[ Veh veh	Dist ] ft		Rate	Cycles	mph
East:	SR 54	4													
6	T1	All MCs	803	3.0	803	3.0	0.404	6.0	LOSA	2.5	63.3	0.18	0.05	0.18	33.4
16	R2	All MCs	265	7.0	265	7.0	0.404	6.3	LOS A	2.4	63.0	0.18	0.05	0.18	32.9
Appro	ach		1068	4.0	1068	4.0	0.404	6.1	LOS A	2.5	63.3	0.18	0.05	0.18	33.3
North	Old L	ucerne Pa	ark Rd (	east)											
7	L2	All MCs	173	7.0	173	7.0	0.160	8.3	LOSA	0.5	13.5	0.60	0.56	0.60	29.6
14	R2	All MCs	11	7.0	11	7.0	0.160	7.9	LOSA	0.5	13.1	0.59	0.55	0.59	30.2
Аррго	ach		185	7.0	185	7.0	0.160	8.2	LOS A	0.5	13.5	0.60	0.56	0.60	29.6
West:	SR 54	4													
5	L2	All MCs	32	7.0	32	7.0	0.422	8.0	LOS A	2.3	59.1	0.43	0.24	0.43	31.7
2	T1	All MCs	926	3.0	926	3.0	0.422	7.5	LOS A	2.3	59.1	0.42	0.24	0.42	32.7
Appro	ach		958	3.1	958	3.1	0.422	7.5	LOS A	2.3	59.1	0.42	0.24	0.42	32.6
All Ve	hicles		2210	3.9	2210	3.9	0.422	6.9	LOSA	2.5	63.3	0.32	0.17	0.32	32.6

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab). Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6). Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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	Signa	lized Intersecti	on		Roundabout	
Movement	V/C Ratio	Avg. Delay	LOS	V/C Ratio	Avg. Delay	LOS
EB LT	0.19	7.5	А	0.79	19.6	С
EB TH	0.69	11.0	В	0.79	19.0	С
EB APPROACH	0.69 <sup>(1)</sup>	11.0	В	0.79 <sup>(1)</sup>	19.0	С
WB TH	0.94	30.8	С	0.77	15.1	С
WB RT	0.11	0.5	А	0.77	15.2	С
WB APPROACH	0.94 <sup>(1)</sup>	28.6	С	0.77 <sup>(1)</sup>	15.1	С
SB LT	0.79	55.5	E	0.71	51.3	F
SB RT	0.16	22.3	С	0.71	46.7	E
SB APPROACH	0.79 <sup>(1)</sup>	47.7	D	0.71 <sup>(1)</sup>	50.2	F
OVERALL	0.94 <sup>(1)</sup>	22.9	С	0.79 <sup>(1)</sup>	19.6	С

 Table 1B: Peak Hour Operational Analysis Summary - Old Lucerne Park Road (East) Intersection

Design Year (2045) AM Peak Hour

#### Design Year (2045) PM Peak Hour

	Signa	lized Intersecti	on		Roundabout	
Movement	V/C Ratio	Avg. Delay	LOS	V/C Ratio	Avg. Delay	LOS
EB LT	0.38	11.8	В	0.81	19.4	С
EB TH	0.73	10.9	В	0.81	18.8	С
EB APPROACH	0.73 <sup>(1)</sup>	10.9	В	$0.81^{(1)}$	18.8	С
WB TH	0.80	20.1	С	0.73	13.6	В
WB RT	0.21	0.7	А	0.73	13.8	В
WB APPROACH	0.80 <sup>(1)</sup>	17.2	В	0.73 <sup>(1)</sup>	13.6	В
SB LT	0.63	45.8	D	0.34	19.1	С
SB RT	0.06	12.7	В	0.34	17.6	С
SB APPROACH	0.63 <sup>(1)</sup>	41.0	D	0.34 <sup>(1)</sup>	18.9	С
OVERALL	0.80 <sup>(1)</sup>	15.6	В	0.81 <sup>(1)</sup>	16.4	С

<sup>(1)</sup> Highest movement volume-to-capacity ratio

01/05/2021

	3	->	-	×	1	\$
Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations	<u></u>	<b>†</b> †	<b>**</b>	WDIN M	JEL Y	1
Traffic Volume (vph)	33	1532	1774	134	237	72
	33	1532	1774	134	237	72
Future Volume (vph)	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	425	1900	1900	250	1900	200
Storage Length (ft)		-		250	1	200
Storage Lanes	1			1		1
Taper Length (ft)	25	0.05	0.05	1.00	25	1.00
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt	0.050			0.850	0.050	0.850
Flt Protected	0.950			1500	0.950	1500
Satd. Flow (prot)	1687	3438	3438	1509	1687	1509
Flt Permitted	0.067			-	0.950	
Satd. Flow (perm)	119	3438	3438	1509	1687	1509
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				141		8
Link Speed (mph)		30	30		30	
Link Distance (ft)		9058	1011		169	
Travel Time (s)		205.9	23.0		3.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	7%	5%	5%	7%	7%	7%
Adj. Flow (vph)	35	1613	1867	141	249	76
Shared Lane Traffic (%)	00	1010	1001	111	210	
Lane Group Flow (vph)	35	1613	1867	141	249	76
Turn Type	pm+pt	NA	NA	pm+ov	Prot	pm+ov
Protected Phases	7	4	8	5	5	7
		4	0	8	5	5
Permitted Phases	4		8	o 5	5	э 7
Detector Phase	7	4	8	5	5	1
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	24.0	24.0	24.0	24.0	11.0
Total Split (s)	15.0	74.0	59.0	26.0	26.0	15.0
Total Split (%)	15.0%	74.0%	59.0%	26.0%	26.0%	15.0%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	201,438	Lag	049034	101032	Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	None	None	None	Min	Min	None
Act Effct Green (s)	63.5	63.5	53.9	78.8	17.4	29.8
Actuated g/C Ratio	0.68	0.68	0.58	0.85	0.19	0.32
		0.69	0.94	0.05	0.79	0.16
v/c Ratio	0.19					22.3
Control Delay	7.5	11.0	30.8	0.5	55.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.5	11.0	30.8	0.5	55.5	22.3
LOS	А	В	С	A	E	С
Approach Delay		11.0	28.6		47.7	
Approach LOS		В	С		D	
Stops (vph)	10	851	1404	4	212	44

Build Alt. 2 2045 AM Peak

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	3		->	×	1	2	
Lane Group	EBL	EBT	WBT	WBR	SEL	SER	
Fuel Used(gal)	2	116	33	1	4	1	
CO Emissions (g/hr)	170	8132	2296	76	291	46	
NOx Emissions (g/hr)	33	1582	447	15	57	9	
VOC Emissions (g/hr)	39	1885	532	18	67	11	
Dilemma Vehicles (#)	0	0	0	0	0	0	
Queue Length 50th (ft)	6	287	571	0	145	29	
Queue Length 95th (ft)	16	362	#786	9	#262	64	
Internal Link Dist (ft)		8978	931		89		
Turn Bay Length (ft)	425			250		200	
Base Capacity (vph)	234	2537	1991	1310	366	533	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.15	0.64	0.94	0.11	0.68	0.14	
Intersection Summary			- 22	-	and a		100
Area Type:	Other						
Cycle Length: 100							
Actuated Cycle Length: 93							
Natural Cycle: 90							
Control Type: Actuated-Un	coordinated						
Maximum v/c Ratio: 0.94							
Intersection Signal Delay: 2	22.9			In	tersection	LOS: C	
Intersection Capacity Utilization	ation 72.2%			IC	U Level o	f Service C	

Intersection Capacity Utilization 72.2% ICU Analysis Period (min) 15 # 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 15: SR 544 & Old Lucerne Park Rd. (East)

	- <b>b</b> Ø4		
	74 s		
105	2 <sub>07</sub>	<b>←</b> Ø8	
55	15 s	59 s	

01/05/2021

	3		-	×	1	\$
Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations	EDL	<b>^</b>	<b>**</b>	WDR	SLL 1	ULK I
•	83	1682	1511	265	176	30
Traffic Volume (vph)	83	1682	1511	265	176	30
Future Volume (vph)	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	425	1900	1900	250	1900	200
Storage Length (ft)	425			250	1	200
Storage Lanes	25			1	25	1
Taper Length (ft)	1.00	0.95	0.95	1.00	1.00	1.00
Lane Util. Factor	1.00	0.95	0.95	0.850	1.00	0.850
Frt	0.050			0.650	0.050	0.000
Fit Protected	0.950	2505	2505	1500	0.950	1509
Satd. Flow (prot)	1687	3505	3505	1509	1687	1203
Flt Permitted	0.075	0505	0505	4500	0.950	4500
Satd. Flow (perm)	133	3505	3505	1509	1687	1509
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				273		20
Link Speed (mph)		30	30		30	
Link Distance (ft)		9058	1011		169	
Travel Time (s)		205.9	23.0		3.8	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	7%	3%	3%	7%	7%	7%
Adj. Flow (vph)	86	1734	1558	273	181	31
Shared Lane Traffic (%)			-		-	
Lane Group Flow (vph)	86	1734	1558	273	181	31
Turn Type	pm+pt	NA	NA	pm+ov	Prot	pm+ov
Protected Phases	7	4	8	5	5	7
Permitted Phases	4	1	U	8	Ű	5
Detector Phase	7	4	8	5	5	7
Switch Phase		. т	U	J	U	-
	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Initial (s)						11.0
Minimum Split (s)	11.0	24.0	24.0	24.0	24.0	
Total Split (s)	15.0	74.0	59.0	26.0	26.0	15.0
Total Split (%)	15.0%	74.0%	59.0%	26.0%	26.0%	15.0%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	None	None	None	Min	Min	None
Act Effct Green (s)	57.4	57.4	47.3	70.1	14.5	28.4
Actuated g/C Ratio	0.68	0.68	0.56	0.83	0.17	0.34
v/c Ratio	0.38	0.73	0.80	0.21	0.63	0.06
Control Delay	11.8	10.9	20.1	0.7	45.8	12.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
and the second se	11.8	10.9	20.1	0.0	45.8	12.7
Total Delay			20.1 C	0.7 A	45.6 D	12.7 B
LOS Approach Delay	В	B	17.2	A	41.0	D
Approach Delay		10.9				
Approach LOS		В	В		D	10
Stops (vph)	27	949	1130	7	154	12

Build Alt. 2 2045 PM Peak

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	3		-	×_	1	\$	
Lane Group	EBL	EBT	WBT	WBR	SEL	SER	
Fuel Used(gal)	6	128	· 24	2	3	0	
CO Emissions (g/hr)	434	8930	1701	151	191	13	
NOx Emissions (g/hr)	84	1738	331	29	37	2	
VOC Emissions (g/hr)	101	2070	394	35	44	3	
Dilemma Vehicles (#)	0	0	0	0	0	0	
Queue Length 50th (ft)	13	265	356	0	102	5	
Queue Length 95th (ft)	44	409	526	14	175	24	
Internal Link Dist (ft)		8978	931		89		
Turn Bay Length (ft)	425			250		200	
Base Capacity (vph)	265	2766	2311	1338	422	554	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.32	0.63	0.67	0.20	0.43	0.06	
Intersection Summary			-	200	2		
Area Type:	Other						
Cycle Length: 100							
Actuated Cycle Length: 8	4.6						
Natural Cycle: 75							
Control Type: Actuated-U	ncoordinated						
Maximum v/c Ratio: 0.80							

Maximum v/c Ratio: 0.80		
Intersection Signal Delay: 15.6	Intersection LOS: B	
Intersection Capacity Utilization 71.1%	ICU Level of Service C	
Analysis Period (min) 15		

Splits and Phases: 15: SR 544 & Old Lucerne Park Rd. (East)

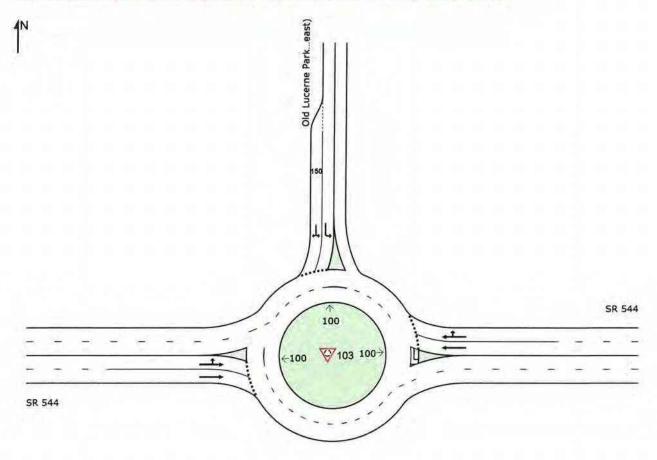
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### SITE LAYOUT

# V Site: 103 [SR 544/Old Lucerne Park Rd (east end) Intersection (Site Folder: General)]

Design Year (2045) AM Peak Hour - Build Alt 2 Site Category: (None) Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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### **MOVEMENT SUMMARY**

# V Site: 103 [SR 544/Old Lucerne Park Rd (east end) Intersection (Site Folder: General)]

Design Year (2045) AM Peak Hour - Build Alt 2 Site Category: (None) Roundabout

Vehi Mov	Turn	INF	IUhr	DEM	AND	Deg.	Aver	Level of	95% B	ACK OF	Prop	Effective	Aver	Aver
ID	. ann	VOLL [ Total		FLO [ Total		Satn	Delay	Service	and the second sec	EUE Dist ]	Que	Stop	No. Cycles	Speed
1	and the second	veh/h	%	veh/h	%	v/c	sec		veh	ft	_		1.4.4	mph
East	: SR 54	4												
6	T1	1774	5.0	1867	5.0	0.769	15.1	LOS C	9.6	250.5	0.38	0.15	0.38	30.5
16	R2	134	7.0	141	7.0	0.769	15.2	LOS C	9.5	248.8	0.38	0.15	0.38	29.6
Appr	oach	1908	5.1	2008	5.1	0.769	15.1	LOS C	9.6	250.5	0.38	0.15	0.38	30.4
North	h: Old L	ucerne P	ark Rd (	east)										
7	L2	237	7.0	249	7.0	0.710	51.3	LOS F	3.2	84.6	0.93	1.18	1.92	19.9
14	R2	72	7.0	76	7.0	0.710	46.7	LOS E	3.2	84.6	0.93	1.18	1.92	20.4
Appr	oach	309	7.0	325	7.0	0.710	50.2	LOS F	3.2	84.6	0.93	1.18	1.92	20.0
West	t: SR 54	4												
5	L2	33	7.0	35	7.0	0.791	19.6	LOS C	17.1	445.2	0.82	1.09	1.65	28.7
2	T1	1532	5.0	1613	5.0	0.791	19.0	LOS C	17.4	453.5	0.81	1.07	1.63	28.9
Appr	oach	1565	5.0	1647	5.0	0.791	19.0	LOS C	17.4	453.5	0.81	1.07	1.63	28.9
	ehicles	3782	5.3	3981	5.3	0.791	19.6	LOS C	17.4	453.5	0.60	0.61	1.02	28.6

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6). Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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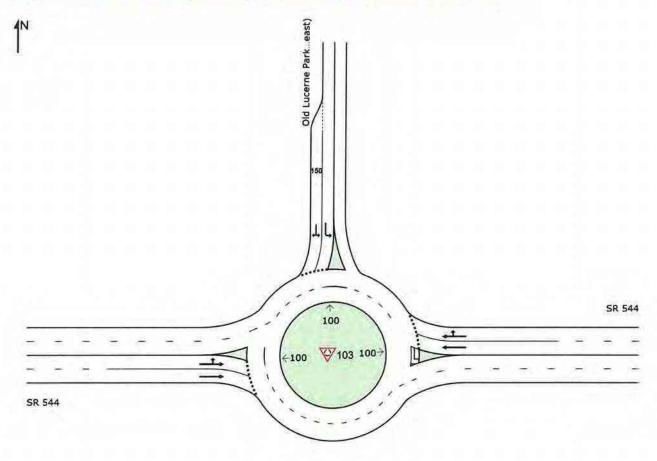
Organisation: AIM ENGINEERING AND SURVEYING | Licence: NETWORK / 1PC | Processed: Monday, January 18, 2021 12:33:03 PM Project: T:\PROJECTS\2 - DISTRICT 1\D1\_SR 544\Traffic\Roundabouts\Design Year 2045\AM Pk Hr\SR 544\_OLP Rd\_East\_2045 AM Pk Hr\_Build Alt 2.sip9

### SITE LAYOUT

W Site: 103 [SR 544/Old Lucerne Park Rd (east end) Intersection (Site Folder: General)]

Design Year (2045) PM Peak Hour - Build Alt 2 Site Category: (None) Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings



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### MOVEMENT SUMMARY

# V Site: 103 [SR 544/Old Lucerne Park Rd (east end) Intersection (Site Folder: General)]

Design Year (2045) PM Peak Hour - Build Alt 2 Site Category: (None) Roundabout

Mov ID	Turn	INF VOLU		DEM. FLO		Deg. Satn	Aver. Delav	Level of Service		ACK OF EUE	Prop. Que	Effective Stop	Aver. No.	Aver Speed
		(Total veh/h	HV ] %	[ Total veh/h	HV J %	v/c	sec		[ Veh. veh	Dist ] ft		Rate	Cycles	mph
East	SR 54	4												Lin Collage
6	T1	1511	3.0	1558	3.0	0.726	13.6	LOS B	7.7	195.9	0.53	0.29	0.53	31.1
16	R2	265	7.0	273	7.0	0.726	13.8	LOS B	7.4	191.4	0.53	0.29	0.53	30.1
Appr	oach	1776	3.6	1831	3.6	0.726	13.6	LOS B	7.7	195.9	0.53	0.29	0.53	31.0
North	: Old L	ucerne P	ark Rd (e	east)										
7	L2	176	7.0	181	7.0	0.338	19.1	LOS C	1.2	30.7	0.82	0.88	1.06	27.4
14	R2	30	7.0	31	7.0	0.338	17.6	LOS C	1.2	30.7	0.81	0.87	1.05	27.3
Appro	oach	206	7.0	212	7.0	0.338	18.9	LOS C	1.2	30.7	0.82	0.88	1.06	27.4
West	: SR 54	4												
5	L2	83	7.0	86	7.0	0.805	19.4	LOSC	20.4	523.7	0.82	0.96	1.45	28.7
2	T1	1682	3.0	1734	3.0	0.805	18.8	LOS C	20.4	523.1	0.81	0.93	1.42	29.0
Appro	bach	1765	3.2	1820	3.2	0.805	18.8	LOS C	20.4	523.7	0.81	0.93	1.42	29.0
All Ve	hicles	3747	3.6	3863	3.6	0.805	16.4	LOSC	20.4	523.7	0.68	0.63	0.98	29.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6). Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Organisation: AIM ENGINEERING AND SURVEYING | Licence: NETWORK / 1PC | Processed: Monday, January 18, 2021 12:36:48 PM Project: T:\PROJECTS\2 - DISTRICT 1\D1\_SR 544\Traffic\Roundabouts\Design Year 2045\PM Pk Hr\SR 544\_OLP Rd\_East\_2045 PM Pk Hr\_Build Alt 2.sip9

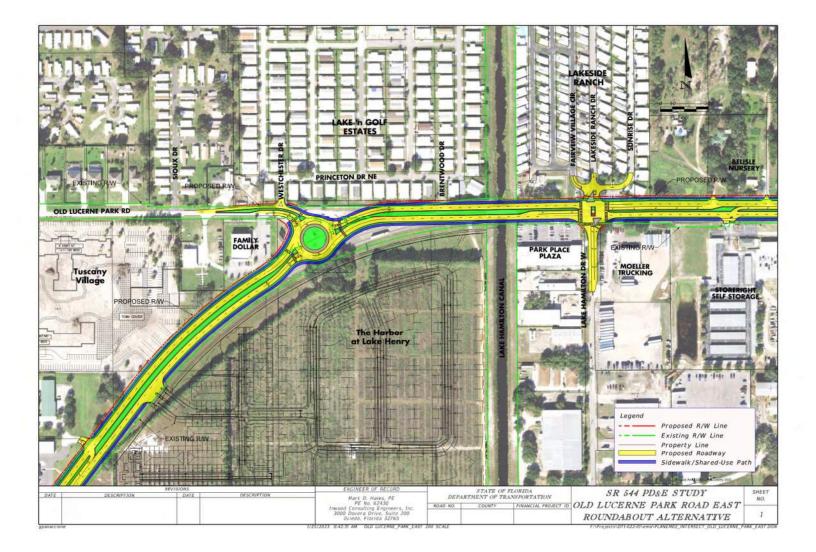
# Appendix D

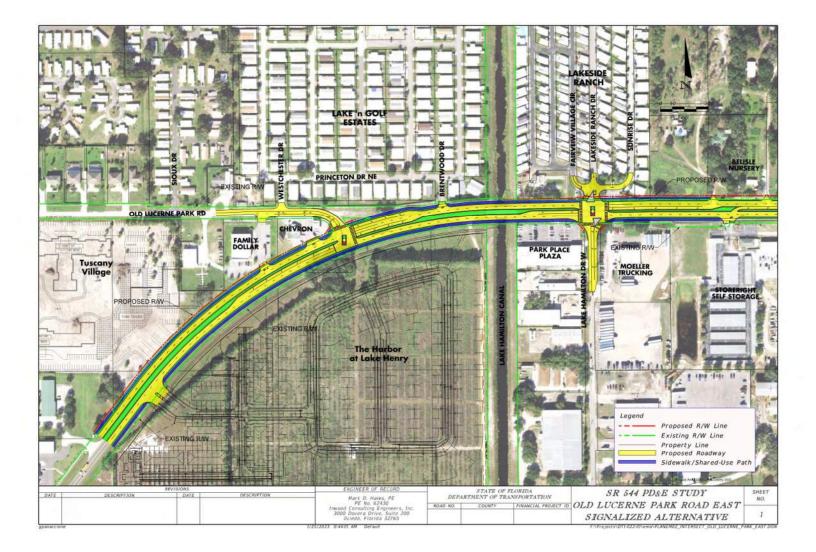
SPICE Analysis Summary Sheet

	Federal Highway Administration (FHWA) Safety Performance for Intersection Control Evaluation Tool													
					section Control Evaluation sults	n Tool								
				Summary of crash predictio		hua								
					nformation	ive								
Project Name:	CR E44 DDR E Study f	rom MLK Blvd to SR 17		Intersection Type	normation			r	At Gra	de Intersections				
Intersection:	SR 544/Old Lucerne			-	Al-Ola	2025								
Agency:	FDOT District One	raik Koau (East Eliu)		Opening Year Design Year						2025				
Project Reference:	FPID No.: 440273-1-2	22.01		Facility Type					n Urban a	nd Suburban Arterial				
City:	Polk County	12-01		Number of Legs					ii orbair a	3-leg				
State:	Florida			1-Way/2-Way					2-way Ir	tersecting 2-way				
Date:	12/19/2022			# of Major Street Lanes (both	directions)					or fewer				
Analyst:	AIM Engineering & S	urveying, Inc.		Major Street Approach Speed						than 55 mph				
Crash Prediction Summary														
	ADT Within SPF Prediction SSI Score													
Control Strategy	Crash Type	Opening Year	Design Year	Total Project Life Cycle	Crash Prediction Rank	Range?	Source of Prediction	Open Year	Design Year	Rank				
Traffic Signal	Total	5.59	10.96	173.69	7	Yes	Calibrated SPF	71	<u>52</u>	5				
Traffic Signal	Fatal & Injury	1.95	3.65	58.89	/	Tes	Calibrated SFF	<u>/1</u>	<u>32</u>	5				
Minor Road Stop	Total	2.29	4.30	69.26	2	Yes	Calibrated SPF	<u>49</u>	26	7				
inner neda stop	Fatal & Injury	0.74	1.39	22.45	2	165	cultorated of t		20	/				
All Way Stop	Total	2.56	3.98	68.98	1	N/A	N/A	87	78	1				
	Fatal & Injury	0.71	1.07	18.80	-			<u></u>	<u>70</u>	-				
2-lane Roundabout	Total	6.59	11.84	192.94	3	No	Uncalibrated SPF	86	75	2				
	Fatal & Injury	1.21	2.42	37.83	,				10	4				
Median U-Turn (MUT)	Total	4.76	9.31	147.63	4	N/A	CMF							
	Fatal & Injury	1.37	2.56	41.22	-	,	•		-					
Signalized RCUT	Total	5.95	11.77	186.20	6	Yes	Uncalibrated SPF	77	61	3				
-	Fatal & Injury	1.86	3.53 No SPF	56.80	-				_					
Unsignalized RCUT	Total Fatal & Injury	No SPF No SPF	No SPF No SPF	No SPF No SPF		Yes	Uncalibrated SPF	<u>69</u>	<u>50</u>	6				
Continuous Green-T	Total	5.37	10.52	166.74	_									
Intersection	Fatal & Injury	1.66	3.10	50.05	5	N/A	CMF	<u>78</u>	<u>61</u>	4				
Other 1*	Total	No SPF	No SPF	No SPF		N/A	CMF							
Other 1	Fatal & Injury	No SPF	No SPF	No SPF		IN/A	CIVIF							
Other 2*	Total	No SPF	No SPF	No SPF		N/A	CMF							
0.0012	Fatal & Injury	No SPF	No SPF	No SPF			0.411		-	-				

Appendix E

Roundabout and Signalized Intersection Preliminary Geometric Concepts





# Appendix F

Preliminary Cost Estimates

Appendix F1

Preliminary Right-of-Way Cost Estimates

# <u>CONCEPTUAL ESTIMATE, ALTERNATES / SEGMENTS: PHASE COSTS SUMMARY</u> <u>The costs below are not based on an appraisal of values!</u>

#### \*\* EXEMPT FROM PUBLIC DISCLOSURE - FS: 337.168 \*\*

<u>ITEM SEG: , 4402731,</u>

LIMITS: SR 544, Lucerne Park Rd, MLK to SR 17

COST ESTIMATE NUMBER: 22030 & 23003

FOR: D. Turley, PE, FDOT Project Development

BY: J. Harper, FDOT Right of Way

COUNTY: , Polk,

Alternate / Segment: Alternatives at Eastern Terminus of Old Lucerne Park Rd at SR 544; Bulb Out at Hideaway Dr

Description:	Size Acres:	Parcels	Relo.Cnt	Phase: 4B	Phase: 41	Phase: 43	Phase: 45	Total:
Alt. 1 - Old LP East RAB	1.047	7	0	\$260,000	\$84,000	\$7,406,000	\$0	\$7,750,000
Alt. 2- Old LP East RAB	1.143	10	0	\$330,000	\$120,000	\$5,220,000	\$0	\$5,670,000
Alt. 3 - Old LP East 180' RAB	0.693	6	0	\$220,000	\$72,000	\$3,933,000	\$0	\$4,225,000
Alt. 4 - Old LP East Signal	0.076	5	0	\$170,000	\$60,000	\$290,000	\$0	\$520,000
Lake Hamilton @ Hideaway Bulb Out	0.287	1	0	\$75,000	\$12,000	\$368,000	\$0	\$455,000
Total All Sheets:	3.246	29	0	\$1,055,000	\$348,000	\$17,217,000	\$0	\$18,620,000

S:\ROW\EST\a-Estimates\Polk\_16\23004 4402731 SR 544 Lucerne Park, MLK to SR 17 Seg 7\[23004 4402731 SR 544 Old LP Rd East RAB - 180 feet.xlsm]Inflate

DATE: 1/23/2023

<u>Notes</u>

Contiguous PD&E parcels with similar ownerships are considered one parcel for Right of Way estimating.

Parcel 255 - Giant Oil Inc. - Single billboard with four signs, not illuminuted, six poles. 100% impact in Alternatives 1 and 2.

Alternative 1 considers Parcels 252 and 255 as 100% damaged; Alternative 2 considers only 255 as 100% damaged.



# Appendix F2

Preliminary Construction Cost Estimates

Date: 10/8/2019 4:43:23 PM

# FDOT Long Range Estimating System - Production R3: Project Details by Sequence Report

Project: TEMPLT-R-00-03			Letting Da	<b>te:</b> 01/2099			
<b>Description:</b> Roundabout 2 X 2 (4 Lane - 4 Lane)							
District: 09 Contract Class:	County: 99 DISTRICT/STATE WIDE Lump Sum Project: N	Market Area: 99 Design/Build: N	<b>Units:</b> English <b>Project Length:</b> (	).142 MI			
Project Manager:	Project Manager: Template						
Version 1-P Project Grand Total Description: Roundabout 2 X 2 (4 Lane - 4 Lane)			\$1,	857,886.62			
Sequence: 1 NDR - New Construction, Divided, Rural			Net Length:	0.057 MI 301 LF			
Description: 4-Lane Approach							

EARTHWO	ORK C	OMPC	<b>NFNT</b>

User Input Data	
Description	Value
Standard Clearing and Grubbing Limits L/R	0.00 / 0.00
Incidental Clearing and Grubbing Area	0.70
Alignment Number	1
Distance	0.057
Top of Structural Course For Begin Section	100.00
Top of Structural Course For End Section	100.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items Pay item	Description	Quantity Unit	Unit Price Ext	ended Amount
110-1-1	CLEARING & GRUBBING	0.70 AC	\$25,150.58	\$17,605.41
X-Items				
Pay item	Description	Quantity Unit	Unit Price Ext	ended Amount
120-1	REGULAR EXCAVATION	500.00 CY	\$15.94	\$7,970.00
	Comment: 27000 ft X 0.5 ft deep / 2	7 = 500 CY		
120-6	EMBANKMENT	500.00 CY	\$19.58	\$9,790.00
	<b>Comment:</b> 27000 ft X 0.5 ft deep / 2	7 = 500 CY		
	Earthwork Component Total			\$35,365.41

**ROADWAY COMPONENT** 

**User Input Data** 

Description	Value
Number of Lanes	2
Roadway Pavement Width L/R	12.00 / 12.00
Structural Spread Rate	220
Friction Course Spread Rate	110

A-nems Pay item	Description	Quantity Unit	Linit Price Ex	tended Amount	
160-4	TYPE B STABILIZATION	2,200.00 SY	\$7.36	\$16,192.00	
100-4	Comment: 4-Lane Leg: 19785 sf/9=2198 SY use 2200 SY				
285-709	OPTIONAL BASE, BASE GROUP 09	1,950.00 SY	\$26.69	\$52,045.50	
	<b>Comment:</b> 4-Lane Leg: measure approx.	,		+,	
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	215.00 TN	\$122.10	\$26,251.50	
	<b>Comment:</b> 2" Superpave Traffic C (1950 = 215 TN	X 110 X 2)/2000			
337-7-82	ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22	108.00 TN	\$163.55	\$17,663.40	
	<b>Comment:</b> 1" FC-9.5 Traffic C PG 76-22 110)/2000 = 107.25 TN use 108 TN	(1950 X			
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.20 GM	\$1,004.99	\$201.00	
710-11-102	PAINTED PAVT MARK,STD,WHITE,SOLID,8"	0.04 GM	\$1,343.10	\$53.72	
710-11-123	PAINTED PAVT MARK,STD,WHITE,SOLID, 12"	115.00 LF	\$0.75	\$86.25	
710-11-124	PAINTED PAVT MARK,STD,WHITE,SOLID, 18"	30.00 LF	\$1.13	\$33.90	
710-11-125	PAINTED PAVT MARK,STD,WHITE,SOLID,24"	198.00 LF	\$1.44	\$285.12	
710-11-141	PAINTED PAVT MARK,STD,WH,DOT GUIDE, 6"	0.02 GM	\$560.34	\$11.21	
710-11-144	PAINTED PAVEMENT MARKINGS, STANDARD, WHI	0.01 GM	\$2,911.00	\$29.11	
710-11-160	PAINTED PAVT MARK,STD,WHITE, MESSAGE	2.00 EA	\$49.78	\$99.56	
710-11-170	PAINTED PAVT MARK,STD,WHITE, ARROWS	4.00 EA	\$29.55	\$118.20	
710-11-201	PAINTED PAVT MARK,STD,YELLOW,SOLID,6"	0.15 GM	\$1,010.52	\$151.58	
710-11-224	PAINTED PAVT MARK,STD,YELLOW,SOLID,18"	55.00 LF	\$1.14	\$62.70	
Pavement Marking Subcomponent					
Description		Value			
Include Thermo/ Pavement Type	Tape/Other	۱ Asphal			
	of Paint Applications		ונ 2		
Solid Stripe No.			4		
	of Paint Applications		2		
Skip Stripe No. of Stripes 0					
	Roadway Component Total			\$113,284.75	

SHOULDER COMPONENT

User Input Data	
Description	Value
Total Outside Shoulder Width L/R	10.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.67
Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	Т
Rumble Strips �No. of Sides	0

#### X-Items

Pay item	Description	Quantity Unit	Unit Price Exte	nded Amount
285-701	OPTIONAL BASE, BASE GROUP 01	154.00 SY	\$16.17	\$2,490.18
	<b>Comment:</b> 4-Lane Leg: 130 ft X 5.33 ft wid 154 SY	le X 2 sides /9 =		
337-7-82	ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22	10.00 TN	\$163.55	\$1,635.50
	Comment: 1" thick FC: (154 SY X 110)/200 use 10 TN	00 = 8.47 TN		
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	440.00 SY	\$47.24	\$20,785.60
527-2	DETECTABLE WARNINGS	104.00 SF	\$29.23	\$3,039.92
570-1-2	PERFORMANCE TURF, SOD	380.00 SY	\$3.74	\$1,421.20

#### **Erosion Control**

107-2

Pay Items		
Pay item	Description	Quantity Unit
104-10-3	SEDIMENT BARRIER	600.00 LF
107-1	LITTER REMOVAL	0.25 AC

MOWING Shoulder Component Total

\$30,494.76

\$1,098.00

\$9.24

\$15.12

**Unit Price Extended Amount** 

\$1.83

\$36.96

\$60.47

0.25 AC

#### **MEDIAN COMPONENT**

## User Input Data

Description	Value
Total Median Width	0.00
Performance Turf Width	0.00
Total Median Shoulder Width L/R	0.00 / 0.00
Paved Median Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	Т
Rumble Strips ï¿1⁄2No. of Sides	0

## X-Items

Pay item	Description	Quantity Unit	Unit Price Exte	ended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	240.00 LF	\$24.31	\$5,834.40
520-1-10	CONCRETE CURB & GUTTER, TYPE F	350.00 LF	\$27.84	\$9,744.00
527-2	DETECTABLE WARNINGS	40.00 SF	\$29.23	\$1,169.20
570-1-2	PERFORMANCE TURF, SOD	120.00 SY	\$3.74	\$448.80

\$17,196.40

## DRAINAGE COMPONENT

X-Items				
Pay item	Description	Quantity Unit	Unit Price Ext	ended Amount
425-1-361	INLETS, CURB, TYPE P-6, <10'	2.00 EA	\$5,799.60	\$11,599.20
425-2-41	MANHOLES, P-7, <10'	1.00 EA	\$4,321.64	\$4,321.64
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	224.00 LF	\$97.28	\$21,790.72
	Drainage Component Total			\$37,711.56

#### SIGNING COMPONENT

Pay Items Pay item	Description	Quantity Unit	Unit Price Ext	ended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	7.00 AS	\$351.13	\$2,457.91
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00 AS	\$4,616.27	\$4,616.27
	Signing Component Total			\$7,074.18

## LIGHTING COMPONENT

Rural Lighting Description Multiplier (Numl Pay Items	Subcomponent			Value 3
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	800.00 LF	\$7.88	\$6,304.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	4.00 EA	\$682.87	\$2,731.48
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	2,400.00 LF	\$2.22	\$5,328.00
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	4.00 EA	\$584.15	\$2,336.60
	Subcomponent Total			\$16,700.08
X-Items				
Pay item	Description	Quantity l	Jnit Unit P	rice Extended Amount
715-511-140	LIGHT POLE COMP,F&I,SGL ARM SM, AL,40'	4.00 E	EA \$14,382	2.46 \$57,529.84
	Lighting Component Total			\$74,229.92
Sequence 1 To	otal			\$315,356.98

Sequence: 2 NDR - New Construction, Divided, Rural	Net Length:	0.057 MI 301 LF
Description: Roundabout Central Island, includes landscaping and irrigation system		

# EARTHWORK COMPONENT

	g and Grubbing Limits L/R g and Grubbing Area			<b>Value</b> 0.00 / 0.00 0.50
Top of Structural Horizontal Elevat	Course For Begin Section Course For End Section ion For Begin Section ion For End Section Cross Slope L/R Cross Slope L/R			$\begin{array}{c} 1\\ 0.057\\ 100.00\\ 100.00\\ 100.00\\ 100.00\\ 6 \ to \ 1 \ / \ 6 \ to \ 1\\ 6 \ to \ 1 \ / \ 6 \ to \ 1\\ 5.00 \ \% \ / \ 5.00 \ \%\\ 6.00 \ \% \ / \ 6.00 \ \%\\ 2.00 \ \% \ / \ 2.00 \ \% \end{array}$
Pay Items				
<b>Pay item</b> 110-1-1	Description CLEARING & GRUBBING	•	<b>Unit Price</b> \$25,150.58	Extended Amount \$12,575.29
X-Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
120-1	REGULAR EXCAVATION	480.00 CY	\$15.94	\$7,651.20
	<b>Comment:</b> 26000 ft x 0.5 ft deep / 27 = 487 CY	1 CY use 480		
120-6	EMBANKMENT	480.00 CY	\$19.58	\$9,398.40
	<b>Comment:</b> 26000 ft x 0.5 ft deep / 27 = 48° CY	1 CY use 480		
	Earthwork Component Total			\$29,624.89

## **ROADWAY COMPONENT**

User Input Data	
Description	Value
Number of Lanes	2
Roadway Pavement Width L/R	12.00 / 12.00
Structural Spread Rate	220
Friction Course Spread Rate	110

#### X-Items

Pay item	Description	Quantity Unit	Unit Price Exten	ded Amount
160 <b>-</b> 4	TYPE B STABILIZATION	2,200.00 SY	\$7.36	\$16,192.00
	<b>Comment:</b> measure (25578-6175)SF /9 = 2 2200 SY	2156 SY use		
285-709	OPTIONAL BASE, BASE GROUP 09	1,300.00 SY	\$26.69	\$34,697.00
	<b>Comment:</b> measure (25578-10477)SF /9 = 1300 SY	= 1294 SY use		

Page 6 of 20

334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	143.00 TN	\$122.10	\$17,460.30
	<b>Comment:</b> 2" Superpave Traffic C (1300	0 X 110 X 2)/2000		
337-7-82	ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22	72.00 TN	\$163.55	\$11,775.60
	<b>Comment:</b> 1" FC-9.5 Traffic C PG 76-22 110)/2000	2 (1300 X		
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.05 GM	\$1,004.99	\$50.25
710-11-141	PAINTED PAVT MARK,STD,WH,DOT GUIDE, 6"	0.05 GM	\$560.34	\$28.02
710-11-170	PAINTED PAVT MARK,STD,WHITE, ARROWS	8.00 EA	\$29.55	\$236.40
710-11-201	PAINTED PAVT MARK,STD,YELLOW,SOLID,6"	0.07 GM	\$1,010.52	\$70.74
Pavement Mark	ing Subcomponent			
Description		Value	e	
Include Thermo/	/Tape/Other	١	١	
Pavement Type		Asphal	lt	
Solid Stripe No.	of Paint Applications		2	
Solid Stripe No.	-	4		
	of Paint Applications		2	
Skip Stripe No.	of Stripes	(	C	
	Roadway Component Total			\$80,510.31
	SHOULDER COM	IPONENT		
User Input Data	1			
Description		Value	9	
-	noulder Width L/R	10.00 / 10.00		
	noulder Perf. Turf Width L/R	2.67 / 2.67		
Paved Outside S	Shoulder Width L/R	5.00 / 5.00		
Structural Sprea	ld Rate	11(		
Friction Course		80	C	
Total Width (T) /		-	Г	
Rumble Strips i	<sup>1</sup> / <sub>2</sub> No. of Sides	(	C	
Erosion Contro	1			
Pay Items				
Pay item	Description	Quantity Unit	Unit Price Ex	tended Amount
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,801.75	\$2,801.75
107-1	LITTER REMOVAL	0.25 AC	\$36.96	\$9.24
107-2	MOWING	0.25 AC	\$60.47	\$15.12
	Shoulder Component Total			\$2,826.11

# **MEDIAN COMPONENT**

**Value** 0.00

User Input Data		
Description		
Total Median Width		

https://fdotwp1.dot.state.fl.us/LongRangeEstimating/estimates/LREAESR04R3E.asp

Performance Turf Width	0.00
Total Median Shoulder Width L/R	0.00 / 0.00
Paved Median Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	Т
Rumble Strips �No. of Sides	0

#### X-Items

Pay item	Description	Quantity Unit	Unit Price Ext	ended Amount
350-30-13	CONC PAVEMENT FOR ROUNDABOUT APRON, 12"	480.00 SY	\$91.15	\$43,752.00
520-2-4	CONCRETE CURB, TYPE D	280.00 LF	\$26.72	\$7,481.60
520-2-8	CONCRETE CURB, TYPE RA	370.00 LF	\$23.95	\$8,861.50
570-1-2	PERFORMANCE TURF, SOD	700.00 SY	\$3.74	\$2,618.00
	Median Component Total			\$62,713.10

## SIGNING COMPONENT

Description	Quantity Unit	Unit Price Exte	ended Amount
SINGLE POST SIGN, F&I GM, <12 SF	4.00 AS	\$351.13	\$1,404.52
Signing Component Total			\$1,404.52
	SINGLE POST SIGN, F&I GM, <12 SF	SINGLE POST SIGN, F&I GM, <12 4.00 AS SF	SINGLE POST SIGN, F&I GM, <12 4.00 AS \$351.13 SF

## LIGHTING COMPONENT

X-Items				
Pay item	Description	Quantity Unit	Unit Price Ex	tended Amount
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	1.00 AS	\$2,779.45	\$2,779.45
715-7-11	LOAD CENTER, F&I, SECONDARY VOLTAGE	1.00 EA	\$12,834.87	\$12,834.87
	Lighting Component Total			\$15,614.32
User Input Data	LANDSCAPING CO	MPONENT		

\$40,000.00

## Sequence 2 Total

\$232,693.25

Sequence: 3 NDR - New Construction, Divided, Rural	Net L

Length: 0.057 MI 301 LF

**Description:** 4-Lane Approach

	EARTHWORK COM	IPONENT		
User Input Data	a			
Description				Value
Standard Cleari	ng and Grubbing Limits L/R			0.00 / 0.00
Incidental Clear	ing and Grubbing Area			0.70
Alignment Num	ber			1
Distance				0.057
Top of Structura	I Course For Begin Section			100.00
Top of Structure	I Course For End Section			100.00
Horizontal Eleva	ation For Begin Section			100.00
Horizontal Eleva	ation For End Section			100.00
Front Slope L/R				6 to 1 / 6 to 1
Median Slope L				6 to 1 / 6 to 1
	er Cross Slope L/R			5.00 % / 5.00 %
	er Cross Slope L/R			6.00 % / 6.00 %
Roadway Cross	Slope L/R			2.00 % / 2.00 %
Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amoun
110-1-1	CLEARING & GRUBBING	0.70 AC	\$25,150.58	\$17,605.41
			<i>,</i>	<i> </i>
X-Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amoun
120-1	REGULAR EXCAVATION	500.00 CY	\$15.94	\$7,970.00
	<b>Comment:</b> 27000 ft X 0.5 ft deep / 27 = 5	500 CY		
120-6	EMBANKMENT	500.00 CY	\$19.58	\$9,790.00
	<b>Comment:</b> 27000 ft X 0.5 ft deep / 27 = 5	500 CY		
	Earthwork Component Total			\$35,365.41
	ROADWAY COMP	PONENT		
User Input Data	a			
Description		Valu		
Number of Lane			2	
Roadway Paver		12.00 / 12.00		
Structural Sprea		22		
Friction Course	Spread Rate	11	0	
X-Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	2,200.00 SY	\$7.36	\$16,192.00
	Comment: 4-Lane Leg: 19785 sf/9=2198	SY use 2200 SY		
285-709	OPTIONAL BASE, BASE GROUP 09	1,950.00 SY	\$26.69	\$52,045.50
	<b>Comment:</b> 4-Lane Leg: measure approx.			,
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	215.00 TN	\$122.10	\$26,251.50
	<b>Comment:</b> 2" Superpave Traffic C (1950) = 215 TN	X 110 X 2)/2000		

337-7-82	ASPH CONC FC, TRAFFIC C, FC-	108.00 TN	\$163.55	\$17,663.40
	9.5,PG 76-22 <b>Comment:</b> 1" FC-9.5 Traffic C PG 76-22 110)/2000 = 107.25 TN use 108 TN	(1950 X		
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.20 GM	\$1,004.99	\$201.00
710-11-102	PAINTED PAVT MARK,STD,WHITE,SOLID,8"	0.04 GM	\$1,343.10	\$53.72
710-11-123	PAINTED PAVT MARK,STD,WHITE,SOLID, 12"	115.00 LF	\$0.75	\$86.25
710-11-124	PAINTED PAVT MARK,STD,WHITE,SOLID, 18"	30.00 LF	\$1.13	\$33.90
710-11-125	PAINTED PAVT MARK,STD,WHITE,SOLID,24"	198.00 LF	\$1.44	\$285.12
710-11-141	PAINTED PAVT MARK,STD,WH,DOT GUIDE, 6"	0.02 GM	\$560.34	\$11.21
710-11-144	PAINTED PAVEMENT MARKINGS, STANDARD, WHI	0.01 GM	\$2,911.00	\$29.11
710-11-160	PAINTED PAVT MARK,STD,WHITE, MESSAGE	2.00 EA	\$49.78	\$99.56
710-11-170	PAINTED PAVT MARK,STD,WHITE, ARROWS	4.00 EA	\$29.55	\$118.20
710-11-201	PAINTED PAVT MARK,STD,YELLOW,SOLID,6"	0.15 GM	\$1,010.52	\$151.58
710-11-224	PAINTED PAVT MARK,STD,YELLOW,SOLID,18"	55.00 LF	\$1.14	\$62.70
Pavement Mark	king Subcomponent			
Description		Value	9	
Include Thermo		-	N	
Pavement Type		Asphal		
	of Paint Applications		2	
Solid Stripe No.			4	
	of Paint Applications	2 0		
Skip Stripe No.	or Stripes	(	J	
	Roadway Component Total			\$113,284.75
	SHOULDER COM	PONENT		
User Input Data	3			
Description		Value	9	
-	houlder Width L/R	10.00 / 10.00	-	
	houlder Perf. Turf Width L/R	2.67 / 2.67	-	
Paved Outside Shoulder Width L/R		5.00 / 5.00		
Structural Sprea	ad Rate	11(	)	
Friction Course		80		
Total Width (T) /			Г	
Rumble Strips i	,		) )	
X-Items				

Pay item	Description	Quantity Unit	Unit Price Exter	nded Amount
285-701	OPTIONAL BASE, BASE GROUP 01	154.00 SY	\$16.17	\$2,490.18
	<b>Comment:</b> 4-Lane Leg: 130 ft X 5.33 ft wi 154 SY	de X 2 sides /9 =		
337-7-82	ASPH CONC FC, TRAFFIC C, FC-	10.00 TN	\$163.55	\$1,635.50

	9.5,PG 76-22			
	Comment: 1" thick FC: (154 SY X 11 use 10 TN	0)/2000 = 8.47 TN		
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	440.00 SY	\$47.24	\$20,785.60
527-2	DETECTABLE WARNINGS	104.00 SF	\$29.23	\$3,039.92
570-1-2	PERFORMANCE TURF, SOD	380.00 SY	\$3.74	\$1,421.20
Erosion Contro	1			
Pay Items				
Pay item	Description	Quantity Unit	Unit Price Ext	ended Amount
104-10-3	SEDIMENT BARRIER	600.00 LF	\$1.83	\$1,098.00
107-1	LITTER REMOVAL	0.25 AC	\$36.96	\$9.24
107-2	MOWING	0.25 AC	\$60.47	\$15.12
	Shoulder Component Total			\$30,494.76

## **MEDIAN COMPONENT**

User Input Data	
Description	Value
Total Median Width	0.00
Performance Turf Width	0.00
Total Median Shoulder Width L/R	0.00 / 0.00
Paved Median Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	Т
Rumble Strips �No. of Sides	0

X-Items

Pav item	Description	Quantity Unit	Unit Price Ext	ended Amount
i ay item	•	Quantity Onit		chaca Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	240.00 LF	\$24.31	\$5,834.40
520-1-10	CONCRETE CURB & GUTTER, TYPE F	350.00 LF	\$27.84	\$9,744.00
527-2	DETECTABLE WARNINGS	40.00 SF	\$29.23	\$1,169.20
570-1-2	PERFORMANCE TURF, SOD	120.00 SY	\$3.74	\$448.80
	Median Component Total			\$17,196.40

## DRAINAGE COMPONENT

X-Items				
Pay item	Description	Quantity Unit	Unit Price Ex	tended Amount
425-1-361	INLETS, CURB, TYPE P-6, <10'	2.00 EA	\$5,799.60	\$11,599.20
425-2-41	MANHOLES, P-7, <10'	1.00 EA	\$4,321.64	\$4,321.64
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	224.00 LF	\$97.28	\$21,790.72
	Drainage Component Total			\$37,711.56

	SIGINING CO			
Pay Items				
Pay item	Description	Quantity l	Jnit Unit F	Price Extended Amoun
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	7.00 /	AS \$35	51.13 \$2,457.91
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00 A	AS \$4,61	6.27 \$4,616.27
	Signing Component Total			\$7,074.18
Pural Lighting	LIGHTING CO Subcomponent	MPONENT		
	Supcomponent			Mahua
Description Multiplier (Numb	per of Poles)			Value 3
Pay Items				5
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	800.00 LF	\$7.88	\$6,304.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	4.00 EA	\$682.87	\$2,731.48
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	2,400.00 LF	\$2.22	\$5,328.00
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	4.00 EA	\$584.15	\$2,336.60
	Subcomponent Total			\$16,700.08
X-Items				
Pay item	Description	Quantity l	Jnit Unit F	Price Extended Amount
715-511-140	LIGHT POLE COMP,F&I,SGL ARM SM, AL,40'	4.00 E	EA \$14,38	32.46 \$57,529.84
	Lighting Component Total			\$74,229.92
Sequence 3 To	otal			\$315,356.98

# SIGNING COMPONENT

Net Length: 0.057 MI 301 LF

**Description:** 4-Lane Approach

	EARTHWORK COM	IPONENT		
User Input Data				
Description				Value
Standard Cleari	ng and Grubbing Limits L/R			0.00 / 0.00
Incidental Cleari	ng and Grubbing Area			0.70
Alignment Numb	ber			1
Distance				0.057
Top of Structura	I Course For Begin Section			100.00
	Course For End Section			100.00
Horizontal Eleva	ation For Begin Section			100.00
Horizontal Eleva	ation For End Section			100.00
Front Slope L/R				6 to 1 / 6 to 1
Median Slope L				6 to 1 / 6 to 1
	er Cross Slope L/R			5.00 % / 5.00 %
	er Cross Slope L/R			6.00 % / 6.00 %
Roadway Cross	Slope L/R			2.00 % / 2.00 %
Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	0.70 AC	\$25,150.58	\$17,605.41
			<i><b>4</b>20,100100</i>	¢11,000111
X-Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
120-1	REGULAR EXCAVATION	500.00 CY	\$15.94	\$7,970.00
	<b>Comment:</b> 27000 ft X 0.5 ft deep / 27 = 5	00 CY		
120-6	EMBANKMENT	500.00 CY	\$19.58	\$9,790.00
	<b>Comment:</b> 27000 ft X 0.5 ft deep / 27 = 5	600 CY		
	Earthwork Component Total			\$35,365.41
	ROADWAY COMP	ONENT		
User Input Data	1			
Description		Value		
Number of Lane			2	
Roadway Paver		12.00 / 12.00		
Structural Sprea		220		
Friction Course	Spread Rate	110	J	
X-Items				
Pay item	Description	Quantity Unit	Unit Price	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	2,200.00 SY	\$7.36	\$16,192.00
	Comment: 4-Lane Leg: 19785 sf/9=2198	SY use 2200 SY		
285-709	OPTIONAL BASE, BASE GROUP 09	1,950.00 SY	\$26.69	\$52,045.50
	<b>Comment:</b> 4-Lane Leg: measure approx.		,	, , , , , , , , , , , , , , , , , , , ,
334-1-13	SUPERPAVE ASPHALTIC CONC,	215.00 TN	\$122.10	\$26,251.50
	TRAFFIC C		ψιΖΖ.10	Ψ20,201.00
	<b>Comment:</b> 2" Superpave Traffic C (1950 = 215 TN	X 110 X 2)/2000		

= 215 TN

337-7-82	ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22	108.00 TN	\$163.55	\$17,663.40
	<b>Comment:</b> 1" FC-9.5 Traffic C PG 76-22 110)/2000 = 107.25 TN use 108 TN	: (1950 X		
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.20 GM	\$1,004.99	\$201.00
710-11-102	PAINTED PAVT MARK,STD,WHITE,SOLID,8"	0.04 GM	\$1,343.10	\$53.72
710-11-123	PAINTED PAVT MARK,STD,WHITE,SOLID, 12"	115.00 LF	\$0.75	\$86.25
710-11-124	PAINTED PAVT MARK,STD,WHITE,SOLID, 18"	30.00 LF	\$1.13	\$33.90
710-11-125	PAINTED PAVT MARK,STD,WHITE,SOLID,24"	198.00 LF	\$1.44	\$285.12
710-11-141	PAINTED PAVT MARK,STD,WH,DOT GUIDE, 6"	0.02 GM	\$560.34	\$11.21
710-11-144	PAINTED PAVEMENT MARKINGS, STANDARD, WHI	0.01 GM	\$2,911.00	\$29.11
710-11-160	PAINTED PAVT MARK,STD,WHITE, MESSAGE	2.00 EA	\$49.78	\$99.56
710-11-170	PAINTED PAVT MARK,STD,WHITE, ARROWS	4.00 EA	\$29.55	\$118.20
710-11-201	PAINTED PAVT MARK,STD,YELLOW,SOLID,6"	0.15 GM	\$1,010.52	\$151.58
710-11-224	PAINTED PAVT MARK,STD,YELLOW,SOLID,18"	55.00 LF	\$1.14	\$62.70
Pavement Mark	ing Subcomponent			
Description		Value	e	
Include Thermo/	Tape/Other	Ν	١	
Pavement Type		Aspha	lt	
Solid Stripe No.	of Paint Applications		2	
Solid Stripe No.	of Stripes	4	1	
Skip Stripe No. o	of Paint Applications		2	
Skip Stripe No. o	of Stripes	(	)	
	Roadway Component Total			\$113,284.75
	SHOULDER COM	PONENT		
User Input Data	I			
Description		Value	2	
•	noulder Width L/R	10.00 / 10.00	-	
	houlder Perf. Turf Width L/R	2.67 / 2.67	-	
	Shoulder Width L/R	5.00 / 5.00		
Structural Sprea		3.00 / 3.00		
Friction Course 3		80		
Total Width (T) /				

Description	Va
Total Outside Shoulder Width L/R	10.00 / 10.
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.
Paved Outside Shoulder Width L/R	5.00 / 5.
Structural Spread Rate	1
Friction Course Spread Rate	
Total Width (T) / 8" Overlap (O)	
Rumble Strips �No. of Sides	

X-Items

Pay item	Description	Quantity Unit	Unit Price Exte	nded Amount
285-701	OPTIONAL BASE, BASE GROUP 01	154.00 SY	\$16.17	\$2,490.18
	<b>Comment:</b> 4-Lane Leg: 130 ft X 5.33 ft wid 154 SY	e X 2 sides /9 =		
337-7-82	ASPH CONC FC, TRAFFIC C, FC-	10.00 TN	\$163.55	\$1,635.50

Т 0

	Shoulder Component Total			\$30,494.76
107-2	MOWING	0.25 AC	\$60.47	\$15.12
107-1	LITTER REMOVAL	0.25 AC	\$36.96	\$9.24
104-10-3	SEDIMENT BARRIER	600.00 LF	\$1.83	\$1,098.00
Erosion Contro Pay Items Pay item	Description	Quantity Unit	Unit Price Ext	ended Amount
570-1-2	PERFORMANCE TURF, SOD	380.00 SY	\$3.74	\$1,421.20
527 <b>-</b> 2	DETECTABLE WARNINGS	104.00 SF	\$29.23	\$3,039.92
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	440.00 SY	\$47.24	\$20,785.60
	9.5,PG 76-22 <b>Comment:</b> 1" thick FC: (154 SY X 11 use 10 TN	0)/2000 = 8.47 TN		

#### MEDIAN COMPONENT

User Input Data	
Description	Value
Total Median Width	0.00
Performance Turf Width	0.00
Total Median Shoulder Width L/R	0.00 / 0.00
Paved Median Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	Т
Rumble Strips �No. of Sides	0

X-Items

Pay item	Description	Quantity Unit	Unit Price Exte	ended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	240.00 LF	\$24.31	\$5,834.40
520-1-10	CONCRETE CURB & GUTTER, TYPE F	350.00 LF	\$27.84	\$9,744.00
527-2	DETECTABLE WARNINGS	40.00 SF	\$29.23	\$1,169.20
570-1-2	PERFORMANCE TURF, SOD	120.00 SY	\$3.74	\$448.80
	Median Component Total			\$17,196.40

## DRAINAGE COMPONENT

X-Items				
Pay item	Description	Quantity Unit	Unit Price Ex	tended Amount
425-1-361	INLETS, CURB, TYPE P-6, <10'	2.00 EA	\$5,799.60	\$11,599.20
425-2-41	MANHOLES, P-7, <10'	1.00 EA	\$4,321.64	\$4,321.64
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	224.00 LF	\$97.28	\$21,790.72
	Drainage Component Total			\$37,711.56

Pay Items				
Pay item	Description	Quantity l	Jnit Unit	Price Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	7.00 /	AS \$3	\$51.13 \$2,457.91
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00 /	AS \$4,6	16.27 \$4,616.27
	Signing Component Total			\$7,074.18
Pural Lighting	LIGHTING CO Subcomponent	MPONENT		
	Subcomponent			\/_b
Description Multiplier (Numb	ver of Poles)			Value 3
Pay Items	Jer OF Foles)			5
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	800.00 LF	\$7.88	\$6,304.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	4.00 EA	\$682.87	\$2,731.48
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	2,400.00 LF	\$2.22	\$5,328.00
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	4.00 EA	\$584.15	\$2,336.60
	Subcomponent Total			\$16,700.08
X-Items				
Pay item	Description	Quantity l	Jnit Unit	Price Extended Amount
715-511-140	LIGHT POLE COMP,F&I,SGL ARM SM, AL,40'	4.00 E	EA \$14,3	82.46 \$57,529.84
	Lighting Component Total			\$74,229.92
Sequence 4 Tc	otal			\$315,356.98

## SIGNING COMPONENT

|--|

Net Length: 0.057 MI 301 LF

Description: 4-Lane Approach

	EARTHWORK COM	PONENT		
User Input Data				
Description				Value
-	g and Grubbing Limits L/R			0.00 / 0.00
Incidental Clearin	g and Grubbing Area			0.70
Alignment Numbe	er			1
Distance				0.057
Top of Structural	Course For Begin Section			100.00
	Course For End Section			100.00
	on For Begin Section			100.00
	on For End Section			100.00
Front Slope L/R				6 to 1 / 6 to 1
Median Slope L/F				6 to 1 / 6 to 1
Median Shoulder Outside Shoulder	-			5.00 % / 5.00 % 6.00 % / 6.00 %
Roadway Cross S	•			2.00 % / 2.00 %
Roadway Cross C				2.00 /8/ 2.00 /8
Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	0.70 AC	\$25,150.58	\$17,605.41
X-Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
120-1	REGULAR EXCAVATION	500.00 CY	\$15.94	\$7,970.00
	<b>Comment:</b> 27000 ft X 0.5 ft deep / 27 = 50			÷.,
120-6	EMBANKMENT	500.00 CY	\$19.58	\$9,790.00
120 0	<b>Comment:</b> 27000 ft X 0.5 ft deep / 27 = 50		Q10.00	\$0,700.00
	Earthwork Component Total			\$35,365.41
	ROADWAY COMP	ONENT		
User Input Data				
Description		Valu	e	
Number of Lanes			2	
Roadway Paveme		12.00 / 12.0		
Structural Spread		22		
Friction Course S	pread Rate	11	U	
X-Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	2,200.00 SY	\$7.36	\$16,192.00
	Comment: 4-Lane Leg: 19785 sf/9=2198	SY use 2200 SY		
285-709	OPTIONAL BASE, BASE GROUP 09	1,950.00 SY	\$26.69	\$52,045.50
	<b>Comment:</b> 4-Lane Leg: measure approx.			
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	215.00 TN	\$122.10	\$26,251.50

Comment: 2" Superpave Traffic C (1950 X 110 X 2)/2000

= 215 TN

337-7-82	ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22	108.00 TN	\$163.55	\$17,663.40
	<b>Comment:</b> 1" FC-9.5 Traffic C PG 76-22 110)/2000 = 107.25 TN use 108 TN	(1950 X		
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.20 GM	\$1,004.99	\$201.00
710-11-102	PAINTED PAVT MARK,STD,WHITE,SOLID,8"	0.04 GM	\$1,343.10	\$53.72
710-11-123	PAINTED PAVT MARK,STD,WHITE,SOLID, 12"	115.00 LF	\$0.75	\$86.25
710-11-124	PAINTED PAVT MARK,STD,WHITE,SOLID, 18"	30.00 LF	\$1.13	\$33.90
710-11-125	PAINTED PAVT MARK,STD,WHITE,SOLID,24"	198.00 LF	\$1.44	\$285.12
710-11-141	PAINTED PAVT MARK,STD,WH,DOT GUIDE, 6"	0.02 GM	\$560.34	\$11.21
710-11-144	PAINTED PAVEMENT MARKINGS, STANDARD, WHI	0.01 GM	\$2,911.00	\$29.11
710-11-160	PAINTED PAVT MARK,STD,WHITE, MESSAGE	2.00 EA	\$49.78	\$99.56
710-11-170	PAINTED PAVT MARK,STD,WHITE, ARROWS	4.00 EA	\$29.55	\$118.20
710-11-201	PAINTED PAVT MARK,STD,YELLOW,SOLID,6"	0.15 GM	\$1,010.52	\$151.58
710-11-224	PAINTED PAVT MARK,STD,YELLOW,SOLID,18"	55.00 LF	\$1.14	\$62.70
Pavement Mark	king Subcomponent			
Description		Value	•	
Include Thermo	/Tape/Other	Ν	1	
Pavement Type		Asphal	t	
Solid Stripe No.	of Paint Applications	2	2	
Solid Stripe No.	-	2		
	of Paint Applications		2	
Skip Stripe No.	of Stripes	(	)	
	Roadway Component Total			\$113,284.75
	SHOULDER COM	PONENT		
User Input Data	а			
Description		Value	-	
	houlder Width L/R	10.00 / 10.00	-	
	houlder Perf. Turf Width L/R	2.67 / 2.67		
	Shoulder Width L/R	5.00 / 5.00		
Structural Sprea		11(		
Friction Course	•	80		
Total Width (T)	/ 8" Overlap (O)	٦	Γ	
" مساسل ملما مسير ا		(	۱ ۱	

X-Items

Rumble Strips ï¿1/2No. of Sides

Pay item	Description	Quantity Unit	Unit Price Extend	ded Amount
285-701	OPTIONAL BASE, BASE GROUP 01	154.00 SY	\$16.17	\$2,490.18
	<b>Comment:</b> 4-Lane Leg: 130 ft X 5.33 ft wid 154 SY	e X 2 sides /9 =		
337-7-82	ASPH CONC FC, TRAFFIC C, FC-	10.00 TN	\$163.55	\$1,635.50

0

	9.5,PG 76-22			
	Comment: 1" thick FC: (154 SY X 11 use 10 TN	0)/2000 = 8.47 TN		
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	440.00 SY	\$47.24	\$20,785.60
527-2	DETECTABLE WARNINGS	104.00 SF	\$29.23	\$3,039.92
570-1-2	PERFORMANCE TURF, SOD	380.00 SY	\$3.74	\$1,421.20
Erosion Control				
Pay Items				
Pay item	Description	Quantity Unit	Unit Price Ext	ended Amount
104-10-3	SEDIMENT BARRIER	600.00 LF	\$1.83	\$1,098.00
107-1	LITTER REMOVAL	0.25 AC	\$36.96	\$9.24
107-2	MOWING	0.25 AC	\$60.47	\$15.12
	Shoulder Component Total			\$30,494.76

## **MEDIAN COMPONENT**

User Input Data	
Description	Value
Total Median Width	0.00
Performance Turf Width	0.00
Total Median Shoulder Width L/R	0.00 / 0.00
Paved Median Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	Т
Rumble Strips �No. of Sides	0

X-Items

Pay item	Description	Quantity Unit	Unit Price Exte	ended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	240.00 LF	\$24.31	\$5,834.40
520-1-10	CONCRETE CURB & GUTTER, TYPE F	350.00 LF	\$27.84	\$9,744.00
527-2	DETECTABLE WARNINGS	40.00 SF	\$29.23	\$1,169.20
570-1-2	PERFORMANCE TURF, SOD	120.00 SY	\$3.74	\$448.80
	Median Component Total			\$17,196.40

## DRAINAGE COMPONENT

X-Items				
Pay item	Description	Quantity Unit	Unit Price Ex	tended Amount
425-1-361	INLETS, CURB, TYPE P-6, <10'	2.00 EA	\$5,799.60	\$11,599.20
425-2-41	MANHOLES, P-7, <10'	1.00 EA	\$4,321.64	\$4,321.64
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	224.00 LF	\$97.28	\$21,790.72
	Drainage Component Total			\$37,711.56

Pay Items				
Pay item	Description	Quantity l	Jnit Unit P	rice Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	7.00 /	AS \$35	1.13 \$2,457.91
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00 /	AS \$4,61	6.27 \$4,616.27
	Signing Component Total			\$7,074.18
Pural Lighting	LIGHTING CO	MPONENT		
	Subcomponent			Mahaa
<b>Description</b> Multiplier (Numb	per of Poles)			Value 3
Pay Items	Jer of Foles)			5
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	800.00 LF	\$7.88	\$6,304.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	4.00 EA	\$682.87	\$2,731.48
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	2,400.00 LF	\$2.22	\$5,328.00
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	4.00 EA	\$584.15	\$2,336.60
	Subcomponent Total			\$16,700.08
X-Items				
Pay item	Description	-		rice Extended Amount
715-511-140	LIGHT POLE COMP,F&I,SGL ARM SM, AL,40'	4.00 E	EA \$14,38	2.46 \$57,529.84
	Lighting Component Total			\$74,229.92
Sequence 5 Tc	otal			\$315,356.98

# SIGNING COMPONENT

Date: 10/8/2019 FDC	9 4:43:24 PM OT Long Range Estimation R3: Project Details by S	• •	
Project: TEMF	PLT-R-00-03		Letting Date: 01/2099
Description:	Roundabout 2 X 2 (4 Lane - 4 Lane)		
District: 09 Contract Clas	County: 99 DISTRICT/STATE WIDE s: Lump Sum Project: N	Market Area: 99 Design/Build: N	Units: English Project Length: 0.142 MI
Project Manag	ger: Template		
	roject Grand Total coundabout 2 X 2 (4 Lane - 4 Lane)		\$1,857,886.62
Project Seque	ences Subtotal		\$1,494,121.17
102-1	Maintenance of Traffic	10.00 %	\$149,412.12
101-1	Mobilization	10.00 %	\$164,353.33
Project Seque	ences Total		\$1,807,886.62
Project Unknov	wns	0.00 %	\$0.00
Design/Build		0.00 %	\$0.00
Non-Bid Com	ponents:		
Pay item	Description	Quantity Unit U	nit Price Extended Amount
999-25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)	LS \$50	0,000.00 \$50,000.00
Project Non-E	Bid Subtotal		\$50,000.00
Version 1-P P	roject Grand Total		\$1,857,886.62

Segment	Description	Sequence	Version 1	Signalization Component	Version 2
	MLK to Ave Y (Includes MLK/SR 544 Signal)	1	\$ 2,666,232.33		\$ 2,903,508.31
1	Mini Roundabout (Includes SR 544/Ave Y Signal)	2	\$ 676,231.71	\$ 394,822.05	\$ 683,984.43
1	2 Lane Approach	3	\$ 285,615.79		\$ 302,349.73
	2 Lane Approach	4	\$ 241,381.05		\$ 261,804.47
2	Ave Y to Lake Conine Canal	5	\$ 6,543,751.44		\$ 6,691,679.66
	Lake Conine Canal to OLP West (Includes SR 544/OLP West Signal)	6	\$ 10,727,987.27	\$ 295,825.99	\$ 10,727,987.27
3	OLP West Roundabout	7	\$ 316,219.29		\$ 316,219.29
3	2 Lane Approach	8	\$ 287,433.84		\$ 287,433.84
	2 Lane Approach	9	\$ 285,615.79		\$ 285,615.79
	OLP West to Lake Hamilton Canal (Includes both signal alternatives)	10	\$ 25,649,732.12	\$ 591,651.98	\$ 25,649,732.12
	Lucerne Loop Roundabout	11	\$ 430,030.50		\$ 430,030.50
	(3) 2 Lane Approach	12	\$ 431,150.76		\$ 431,150.76
4	(3) 2 Lane Approach	13	\$ 431,150.76		\$ 431,150.76
	OLP East Roundabout	14	\$ 295,623.36		\$ 295,623.36
	2 Lane Approach	15	\$ 287,433.84		\$ 287,433.84
	2 Lane Approach	16	\$ 287,433.84		\$ 287,433.84
	Lake Hamilton Canal to Brenton Manor (Includes both signal alternatives)	17	\$ 6,351,297.28	\$ 591,651.98	\$ 6,351,297.28
5	Brenton Manor Roundabout	18	\$ 310,766.41		\$ 310,766.41
5	2 Lane Approach	19	\$ 287,433.84		\$ 287,433.84
	2 Lane Approach	20	\$ 287,433.84		\$ 287,433.84
	Brenton Manor to La Vista Drive (Includes US 27/SR 544 Signal)	21	\$ 12,141,700.26	\$ 496,052.51	\$ 12,141,700.26
6	NW Quadrant Roadway (Includes NW Quadrant & US 27 Signal)	22	\$ 2,709,083.51		\$ 2,709,083.51
0	US 27 Frontage Roads (Includes SPUI Signal)	23	\$ 4,651,930.98		\$ 4,651,930.98
	US 27 Overpass/Bridge (SPUI)	24	\$ 16,164,523.65		\$ 16,164,523.65
	La Vista Drive to SR 17 (Includes SR 17/SR 544 Signal)	25	\$ 4,376,330.69	\$ 295,825.99	\$ 4,376,330.69
7	SR 17 Roundabout	26	\$ 327,398.31		\$ 327,398.31
	2 Lane Approach	27	\$ 276,086.44		\$ 276,086.44
	2 Lane Approach	28	\$ 314,902.30		\$ 314,902.30

Total	\$ 98,041,911.20	Total	\$ 98,472,025.48
MOT (10%)	\$ 9,804,191.12	MOT (10%)	\$ 9,847,202.55
MOB (8%)	\$ 8,627,688.19	MOB (8%)	\$ 8,665,538.24
Total	\$ 116,473,790.51	Total	\$ 116,984,766.27
Project Unknowns (5%)	\$ 5,823,689.53	Project Unknowns (5%)	\$ 5,849,238.31
Initial Contingency	\$ 150,000.00	Initial Contingency	\$ 150,000.00
Grand Total	\$ 122,447,480.03	Grand Total	\$ 122,984,004.58

Old Lucerne Park Road (east e	Old Lucerne Park Road (east end) Cost Estimate			
Description	Т	raffic Signal		
Roadway Cost	\$	295,825.99		
Maintenance of Traffic (10%)	\$	29,582.60		
Mobilization (8%)	\$	26,032.69		
Sub Total	\$	351,441.28		
Project Unknowns (5%)	\$	17,572.06		
Roadway Construction Total	\$	369,013.34		
Rounded Value (Nearest 100)	\$	369,000.00		
<u></u>	•			

Appendix F3

Preliminary Utility Relocation Cost Estimates

	Impacted Utility Facilities for Each SR 544 Alternative											
Intersection	Old Lucerne Park Road (east end)											
Alternative	Roundabout						Signalized Intersection					
Utility	Non-Reimbursable (in ROW)	Unit Price	Total	Reimbursable (in Easement)	Unit Price	Total	Non-Reimbursable (in ROW)	Unit Price	Total	Reimbursable (in Easement)	Unit Price	Total
Winter Haven 12" Water Main	1112	\$85	\$94,520	0	\$85	\$0	1112	\$85	\$94,520	0	\$85	\$0
Winter Haven 8" Water Main	432	\$65	\$28,080	0	\$65	\$0	432	\$65	\$28,080	0	\$65	\$0
Winter Haven City Fiber	617	\$50	\$30,850	75	\$50	\$3,750	617	\$50	\$30,850	75	\$50	\$3,750
Winter Haven Gravity Sewer	175	\$130	\$22,750	170	\$130	\$22,100	175	\$130	\$22,750	0	\$130	\$0
Winter Haven 8" Force Main	852	\$65	\$55,380	0	\$65	\$0	852	\$65	\$55,380	0	\$65	\$0
Frontier Buried Fiber Optic Cables	680	\$100	\$68,000	0	\$100	\$0	1388	\$100	\$138,800	0	\$100	\$0
Dist. Poles	6	\$10,000	\$60,000	0	\$10,000	\$0	4	\$10,000	\$40,000	0	\$10,000	\$0
Total Relocation Cost			\$359,580			\$25,850			\$410,380			\$3,750

Appendix G

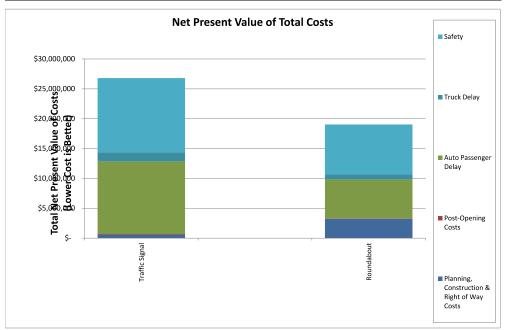
Benefit/Cost and Net Present Costs Summary Sheet

Agency:	FDOT District One
Project Name:	SR 544 PD&E Study
Project Reference:	FPID No. 440273-1-22-01
Intersection:	SR 544 at Old Lucerne Park Road (East End)
City:	Winter Haven
State:	Florida
Performing Department or Organization:	AIM Engineering & Surveying, Inc.
Date:	3/14/2023
Analyst:	GSR
Analysis Type	At-Grade Intersection

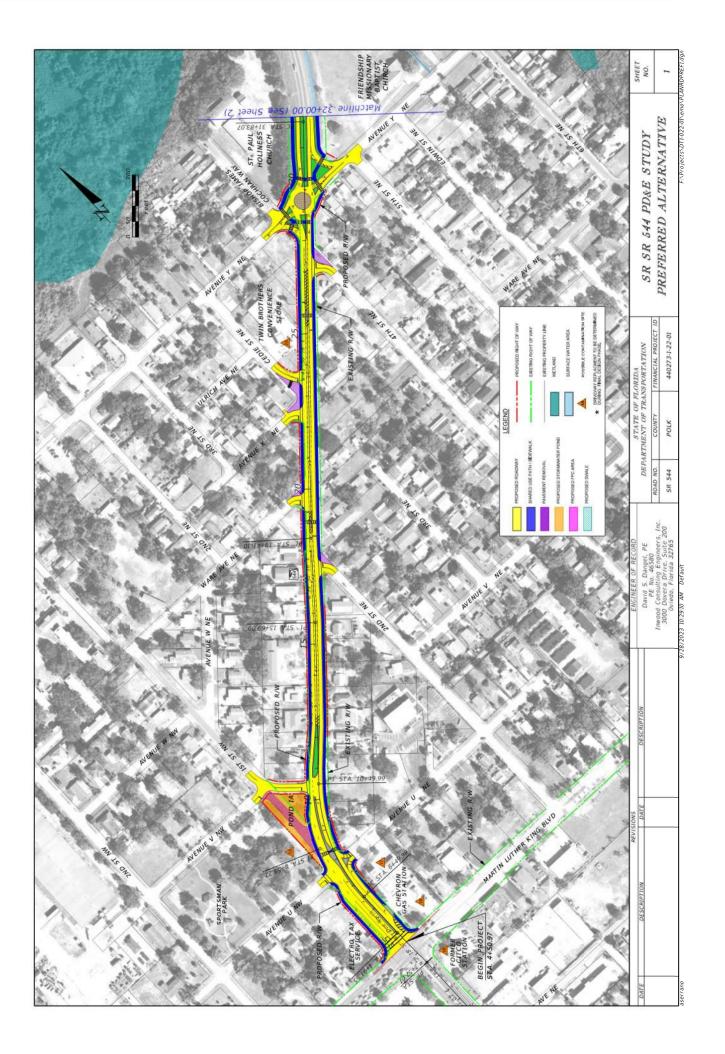
## Analysis Summary

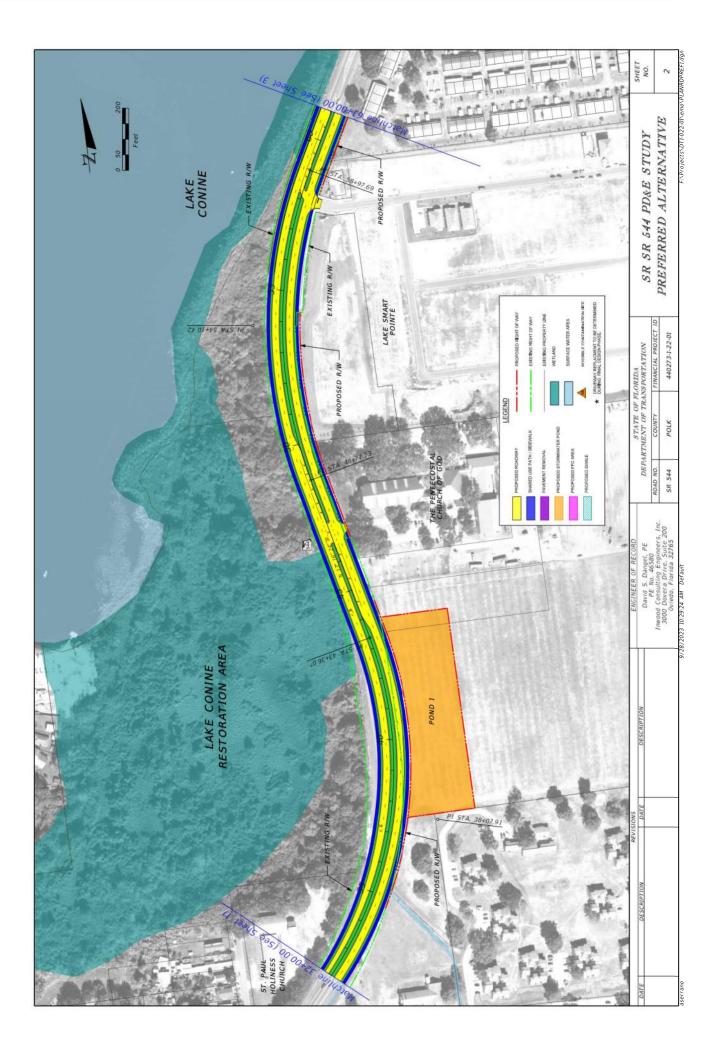
Cost Categories		Net Present Value of Costs							
		Base Case - Traffic Signal		Traffic Signal		Roundabout			
Planning, Construction & Right of Way Costs	\$	589,300	\$	589,300		\$	3,244,400		
Post-Opening Costs	\$	98,229	\$	98,229		\$	72,952		
Auto Passenger Delay	\$	12,177,590	\$	12,177,590		\$	6,519,554		
Truck Delay	\$	1,507,825	\$	1,507,825		\$	807,069		
Safety	\$	12,432,928	\$	12,432,928		\$	8,387,633		
Total cost		\$26,805,872		\$26,805,872			\$19,031,608		

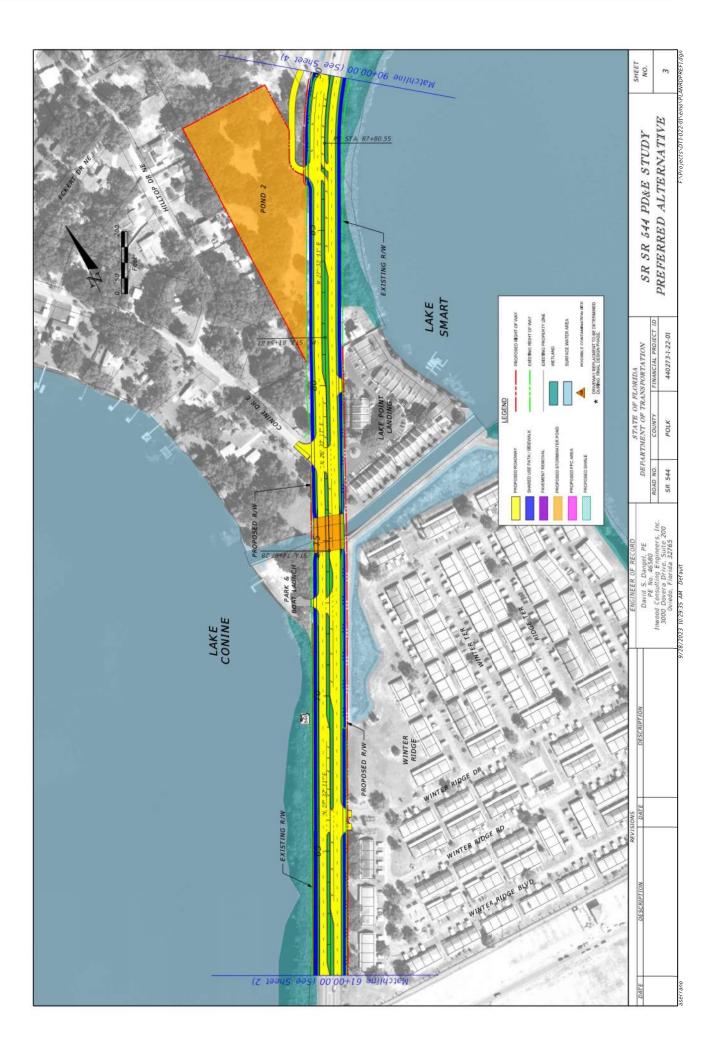
Select Base Case for Benefit-Cost Comparison: (Choose from list)	Traffic Signal						
	Net Present Value of Benefits Relative to Base Case						
Benefit Categories	Traffic Signal		Roundabout				
Auto Passenger Delay			\$ 5,658,035				
Truck Delay			\$ 700,756				
Safety			\$ 4,045,295				
Net Present Value of Benefits			\$ 10,404,087				
Net Present Value of Costs			\$ 2,629,823				
Net Present Value of Improvement			\$ 7,774,263				
Benefit-Cost (B/C) Ratio			3.96				
Delay B/C			2.42				
Safety B/C			1.54				

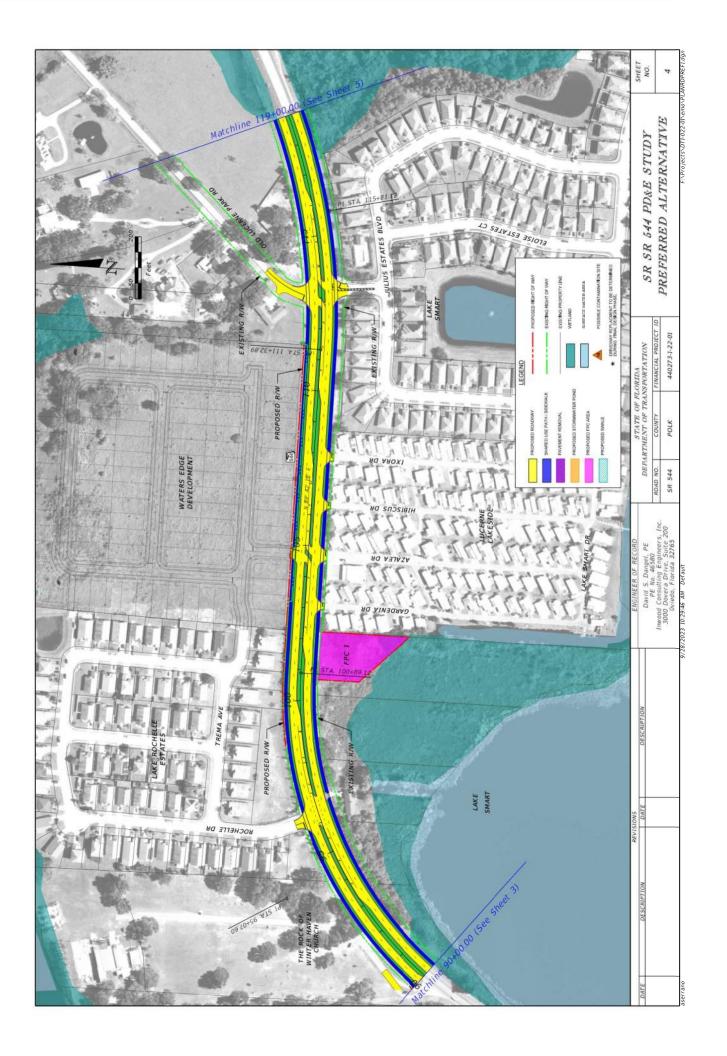


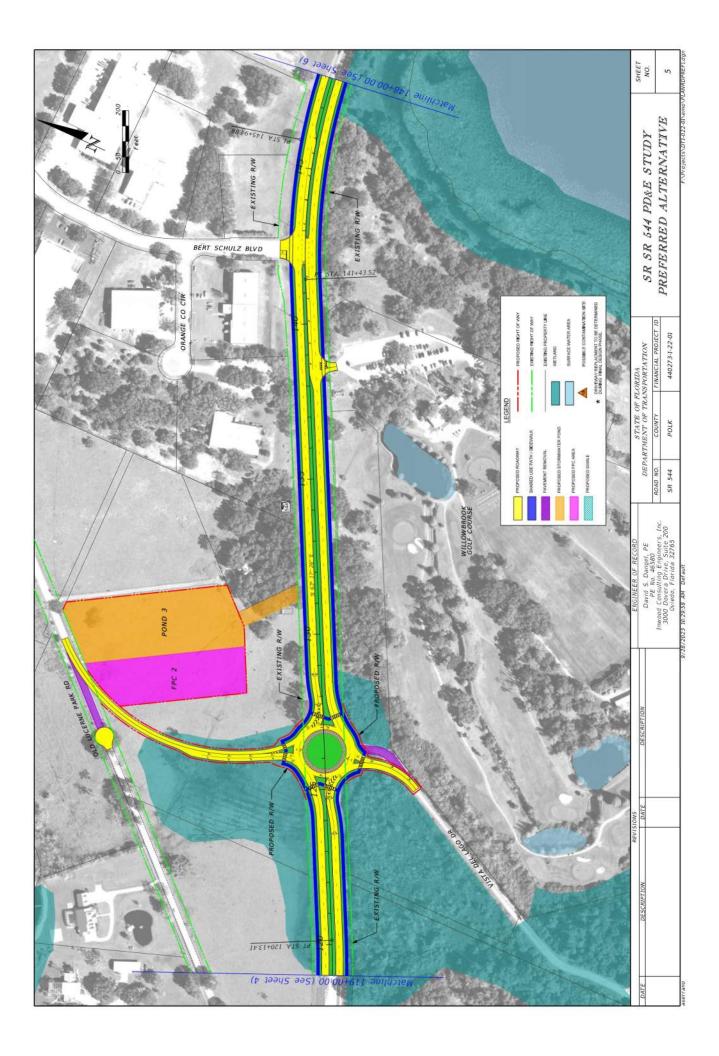
Appendix B Preliminary Concept Plans

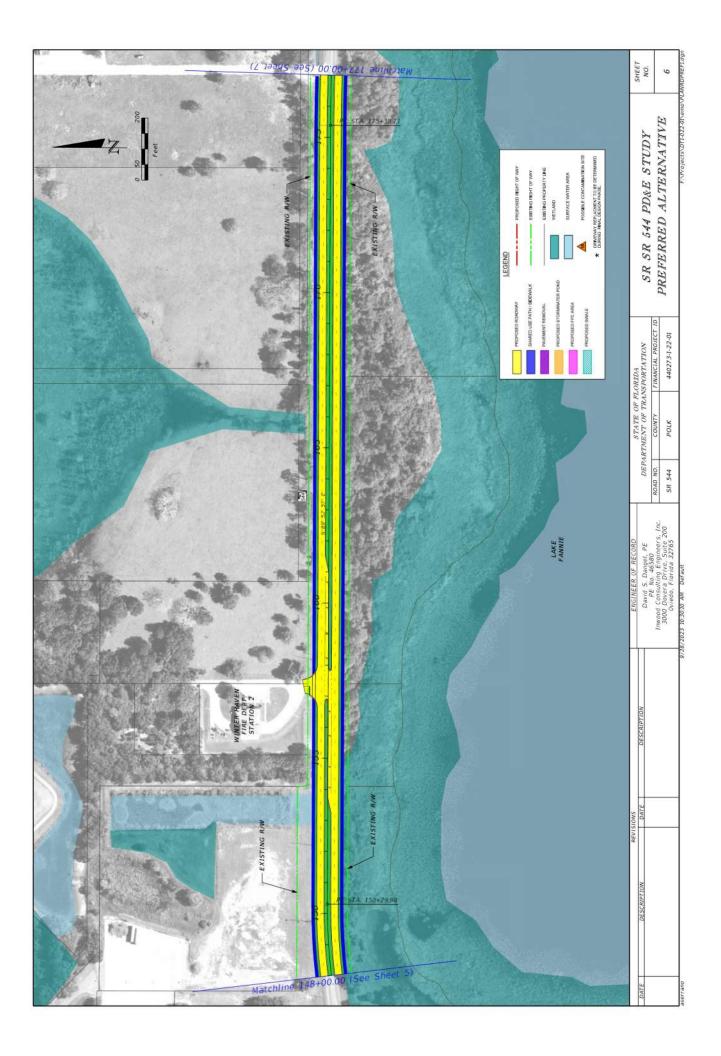


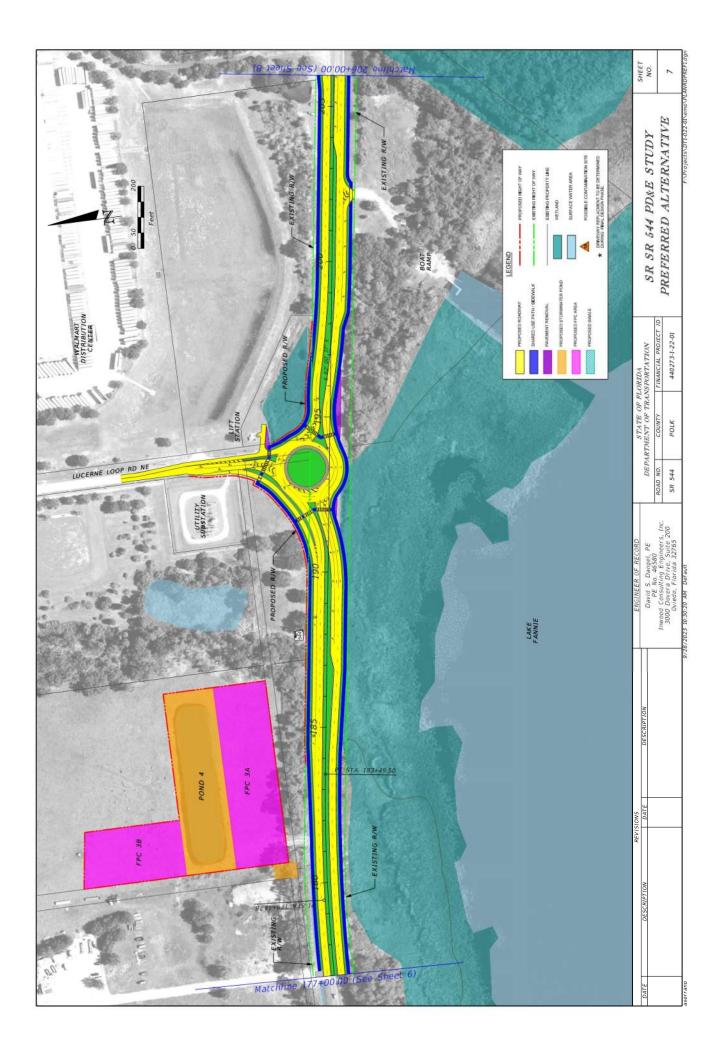


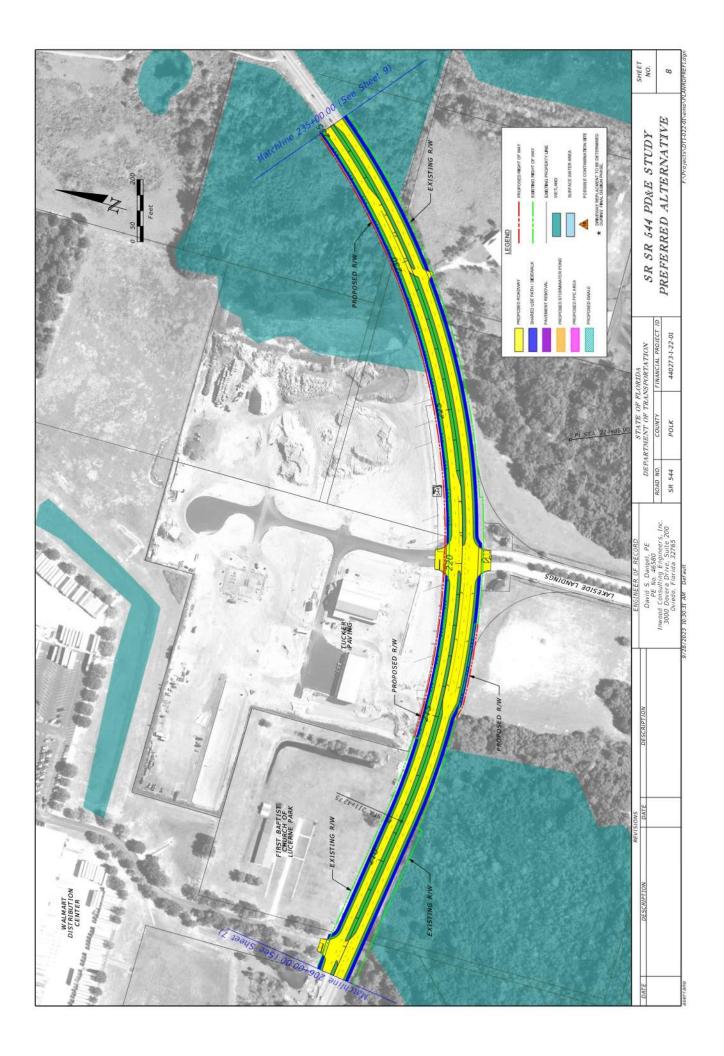


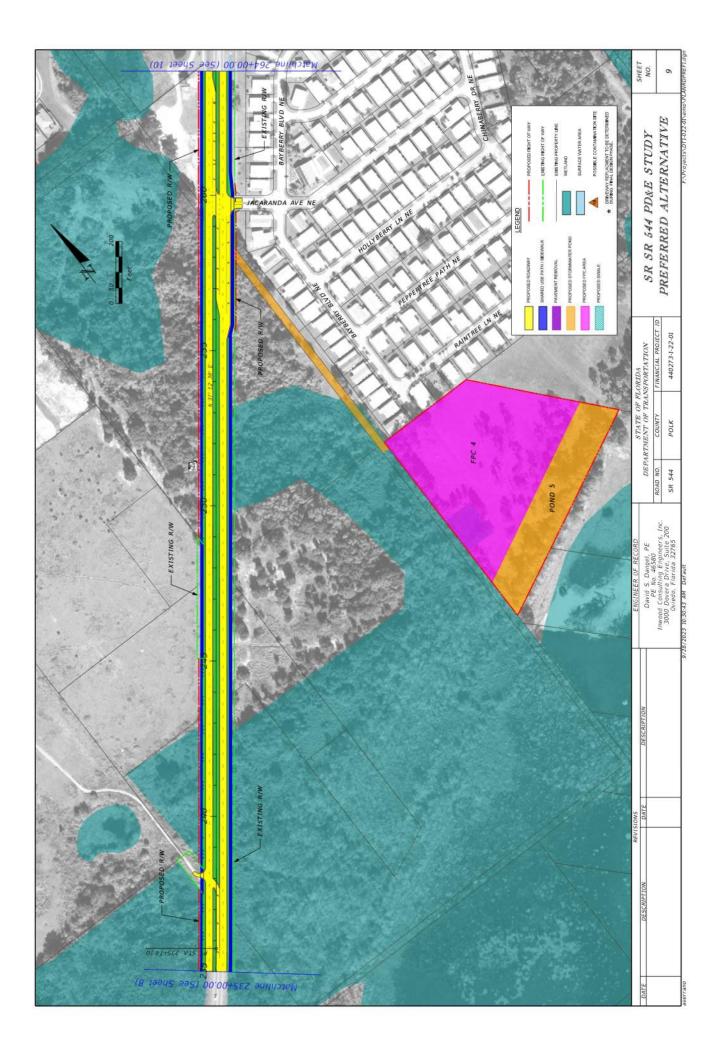


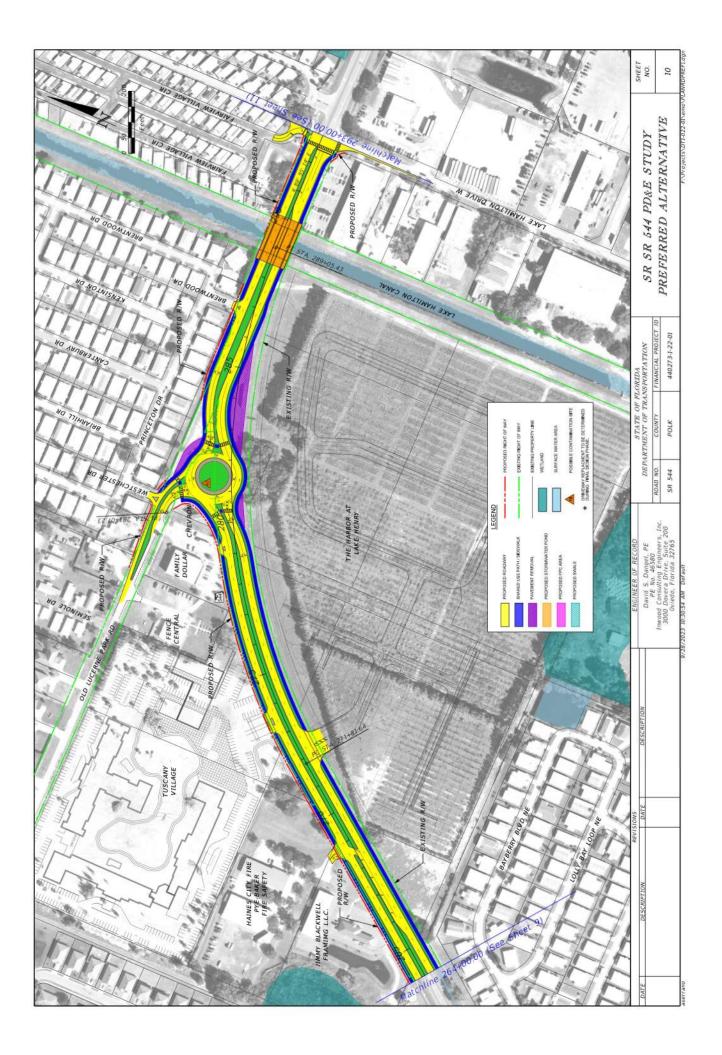


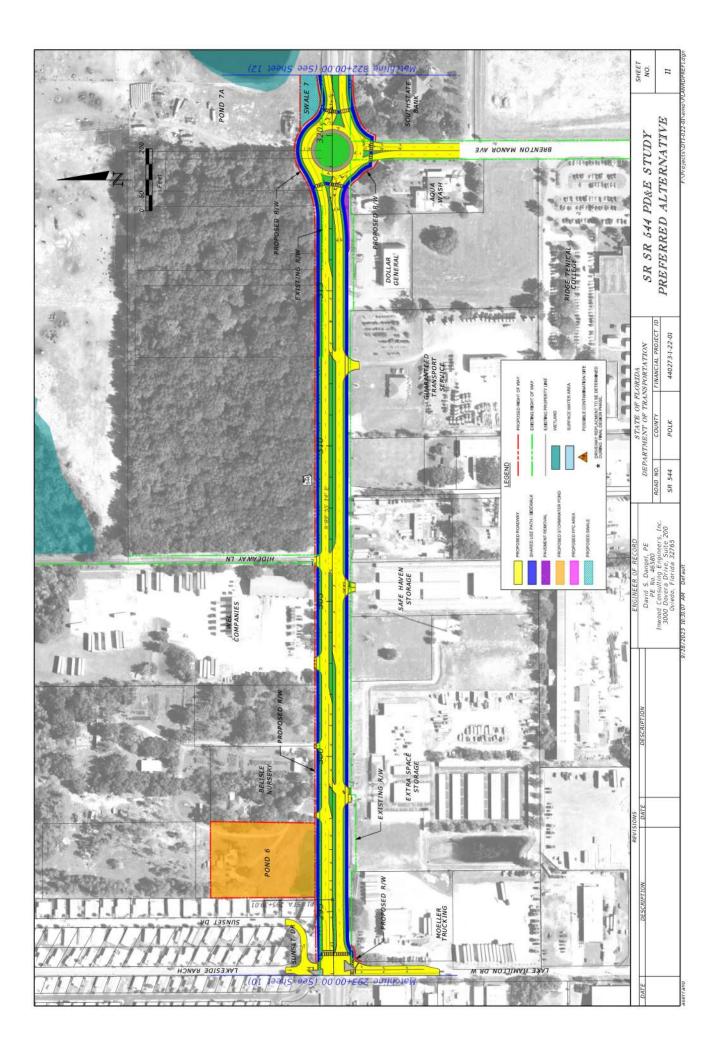


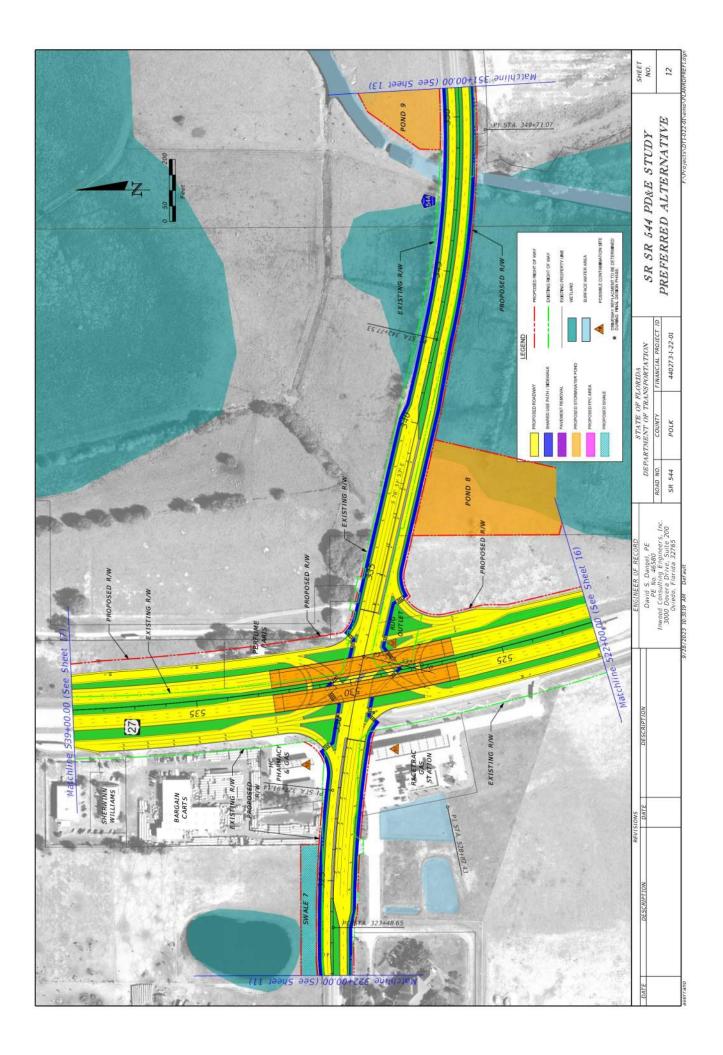


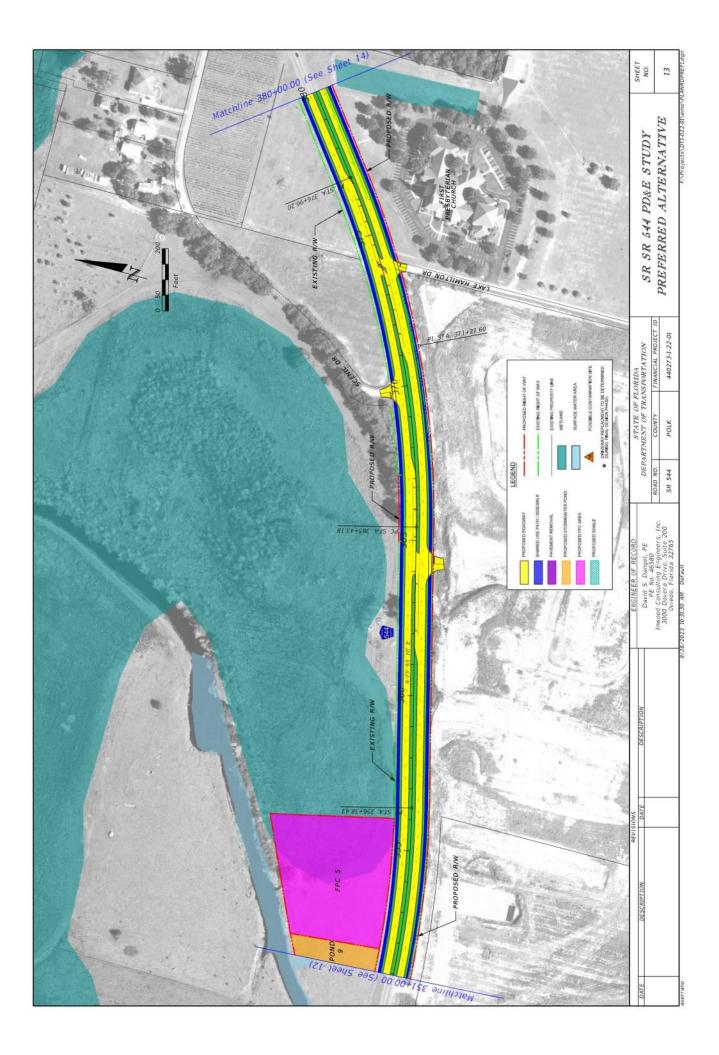


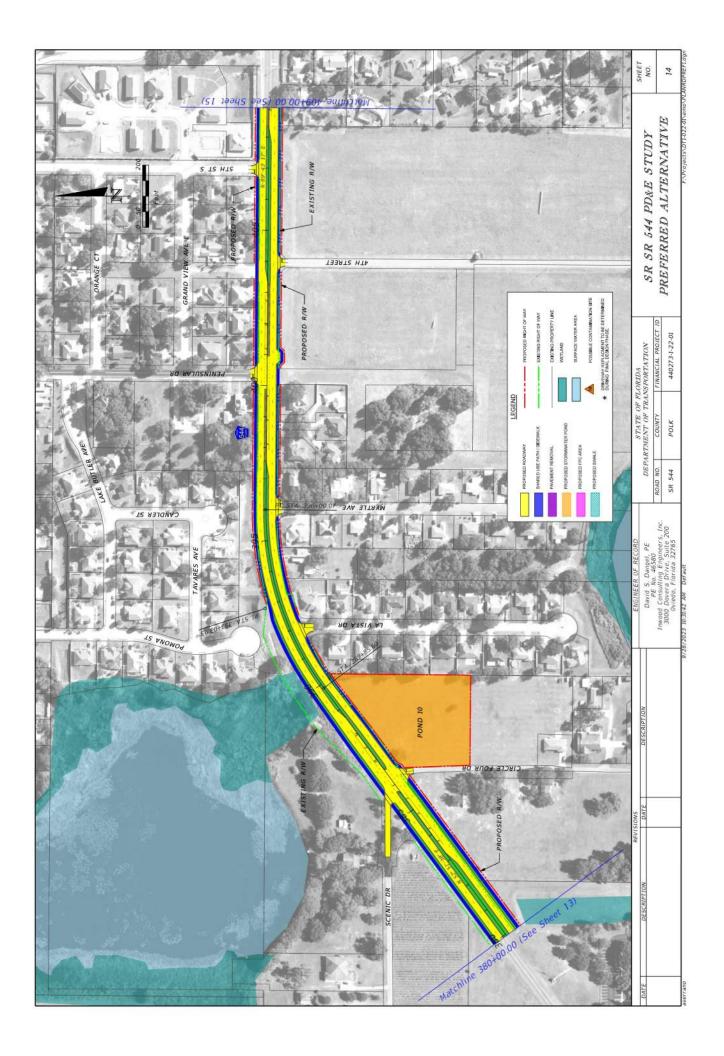


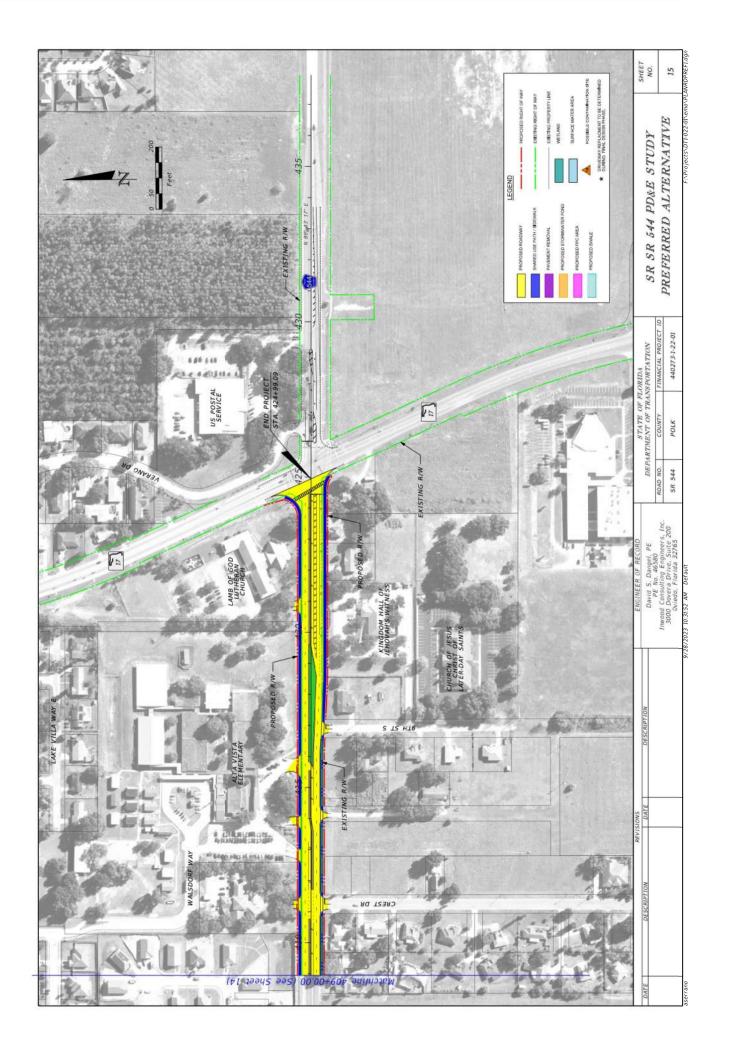


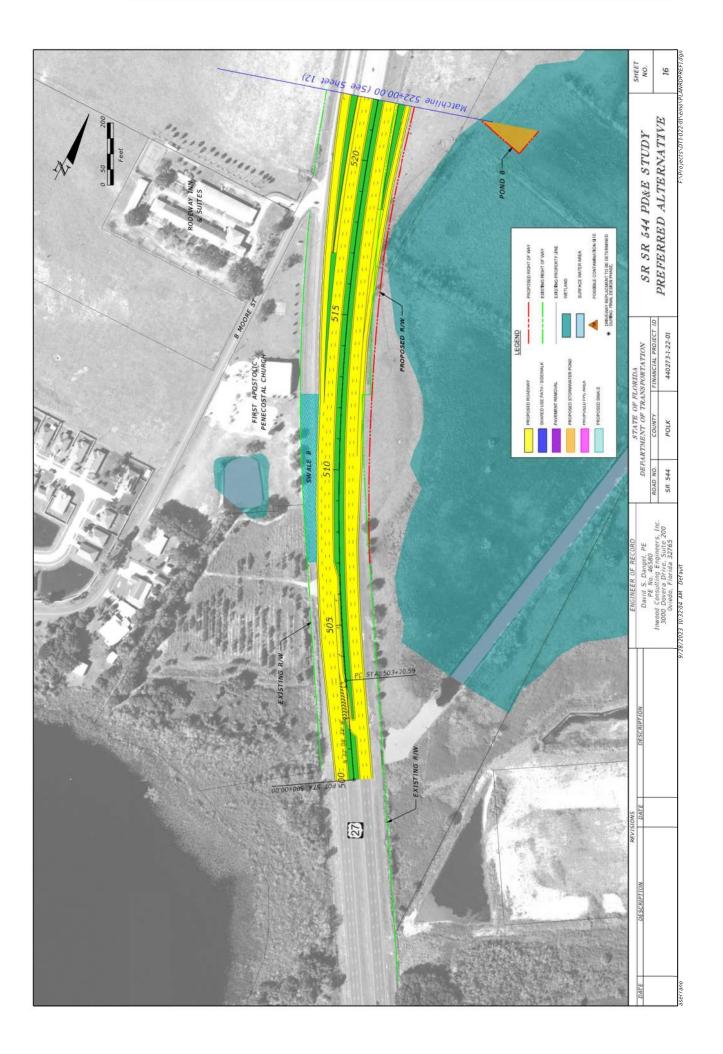


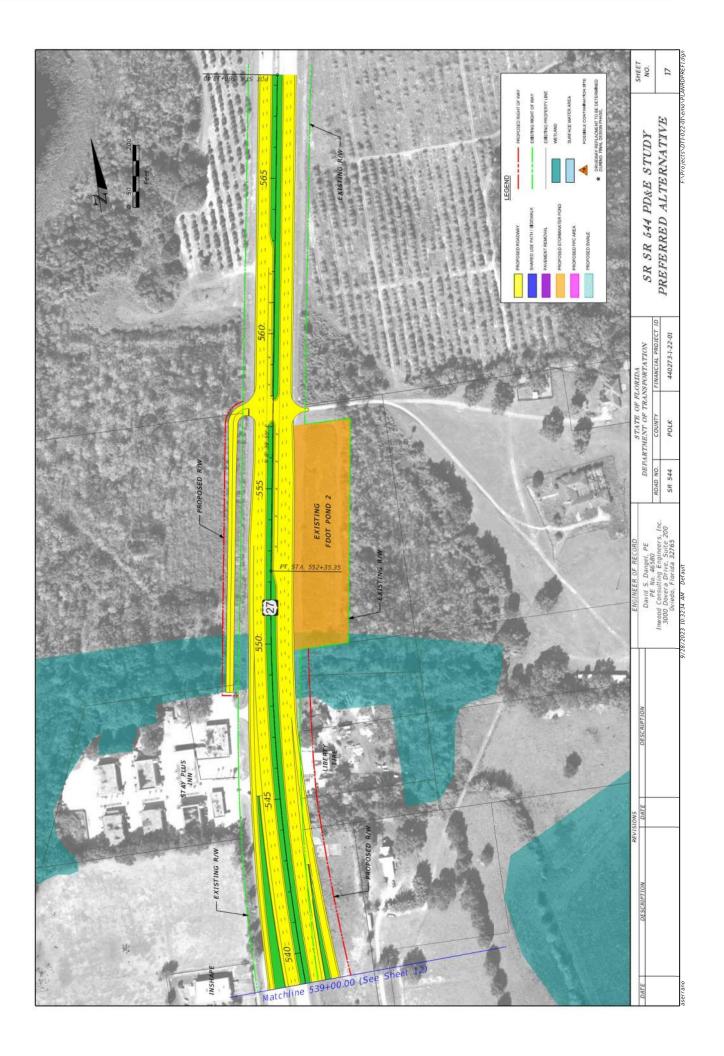












Appendix C Design Variation Memo

To: Kevin S. Ingle, P.E.	Date: <sup>08/31/2023</sup>
District or Turnpike Design Engineer	
Financial Project ID: 440273-1-22-01 New Const.	RRR  Other
Federal Aid Number: <u>N/A</u>	
Project Name: SR 544 from Martin Luther King Blvd. to SR	17
State Road Number: SR 544 Co./Sec./Sub. Polk (161	40)
Begin Project MP: 3.693 End Project MP: 11.647	
Request for: Design Variation	
Design Element MP: Beg-End Existing Proposed Reg	uired Attr. Crashes Approved Denied Addl. Docum.
1. Bike Lanes $3.693-4.169 \longrightarrow 4' \\ 11.034-11.647 \longrightarrow 0' 0' 7'$	
Justification:	

# Project Design Variation Memorandum Form 122-B

Mile Post 3.693 to MP 4.169

The existing typical section consists of a two-lane, two-way roadway with 4-foot bike lanes, curb and gutter, and 6-foot back of curb sidewalks. The proposed typical section (Appendix A) is a three-lane typical section with 12-foot travel lanes, a 12-foot bi-directional left turn lane, no bike lanes, curb and gutter, and a wider 8-foot back of curb sidewalk. The existing and proposed speed is 35 mph.

Per FDM criteria 223.2.1.1, the width of the bicycle facility for new construction projects is a standard 7-foot buffered bicycle lane with a double-6-inch white edge line separating the bicycle lane and the adjacent travel lane. Although R/W is being proposed (See concept plan – Appendix B) to accommodate these improvements, consideration was given to not physically impact residences, churches, and businesses within this historic minority neighborhood.

Three bicycle crashes have been identified in the past five years (Appendix C), from MP 3.693 to MP 4.169. The first crash occurred at the conflict point between SR 544 and the Chevron driveway, where bike lanes are not present in the existing condition (HSMV Crash Report # 24049531). The second crash occurred when a bicyclist failed to stop at a stop sign at the intersection of Avenue Y and SR 544 (HSMV Crash Report # 25108522). The third crash also occurred at the Avenue Y and SR 544 intersection when a bicyclist entered the intersection, failing to yield to a vehicle traveling north on SR 544 (HSMV Crash Report # 89841847).

The proposed 8-foot sidewalks on both sides of the roadway, raised median refuge areas at the mid-block crosswalk locations, 'T-ing' up 1st Street NW to SR 544, and the proposed mini-roundabout at Avenue Y will enhance overall safety.

#### Mile Post 11.034 to MP 11.647

The existing typical section consists of a four-lane, undivided roadway, no bike lanes (See FDM 223.2.1.1), curb and gutter, and intermittent 5-foot sidewalks. The existing posted speed is 45 mph. The proposed typical section (Appendix A) is a four-lane divided roadway with 11-foot travel lanes, a 15.5-foot median, no bike lanes, curb and gutter, and a wider 8-foot back of curb sidewalk. The proposed design speed is 40 mph.

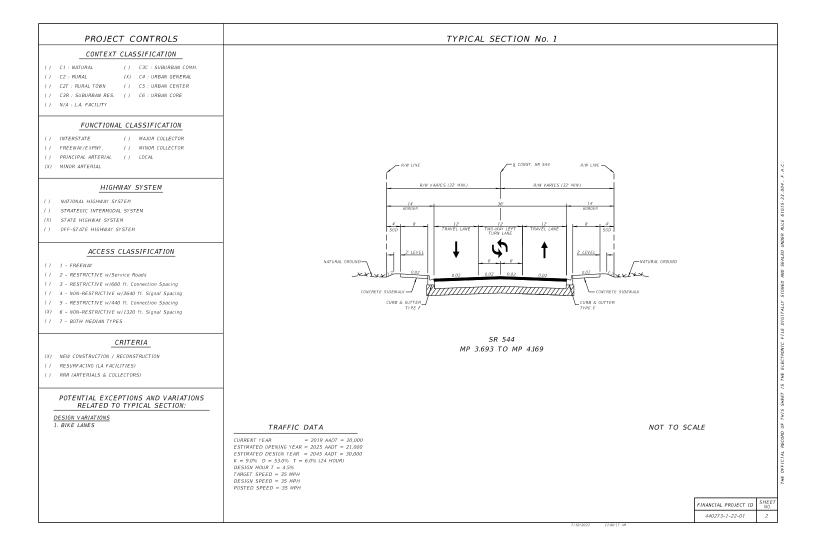
Per FDM criteria 223.2.1.1, the width of the bicycle facility for new construction projects is a standard 7-foot buffered bicycle lane with a double-6-inch white edge line separating the bicycle lane and the adjacent travel lane. Although R/W is being proposed (See concept plan – Appendix B), to accommodate these improvements, consideration was given to not physically impact residences, churches, and businesses along this segment of SR 544.

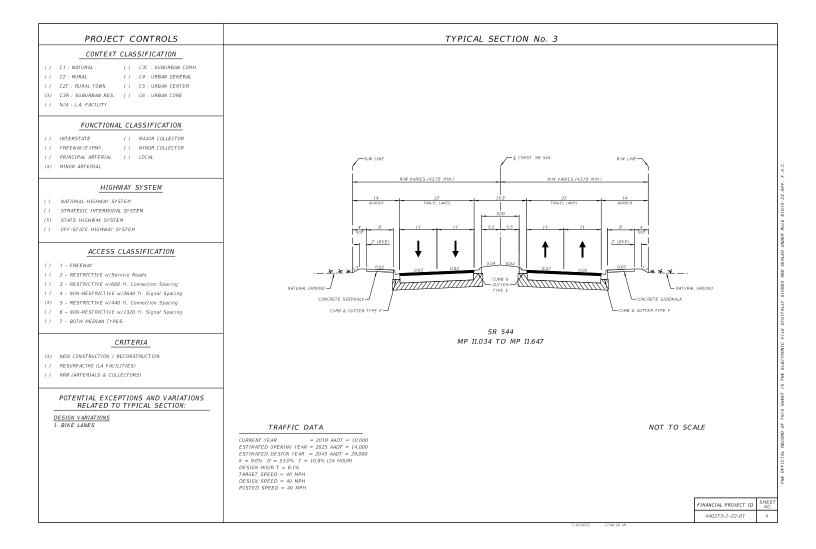
In the previous five years, no bicycle-related crashes were identified within this segment of SR 544.

The proposed 8-foot sidewalks on both sides of the roadway, raised median, and slower speeds will enhance overall safety.

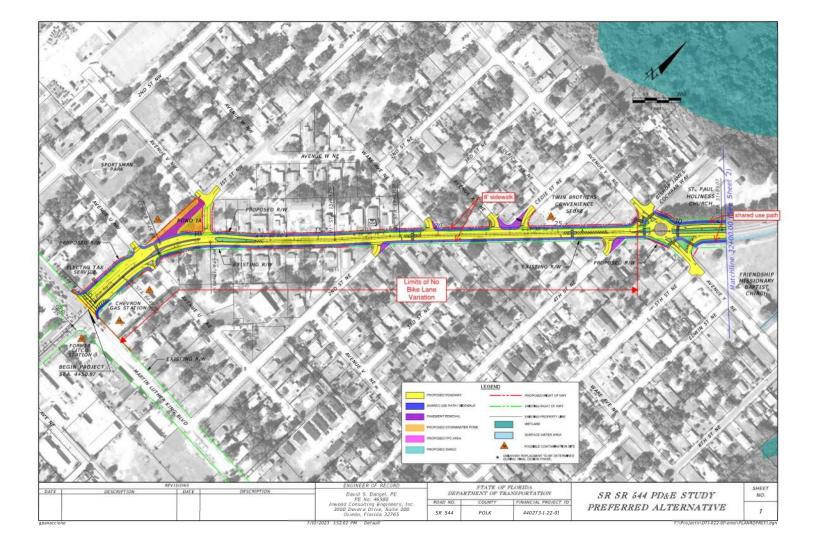
Design Element	MP: Beg-End	Existing Propos	ed Required	Attr. Crashe	s Appro	oved Denied	Addl. Docum.
2	<u> </u>						
Justification:							
Appendices: Ye Recommended by: Mark Hales, I Name: Responsible Professi	Dau		oncept Plan) rash Data - Lc	ong Forms)		(Seal)	
202	raffic Operations En in Ingle 3.09.13 20:58-04'00' Date		The second secon	RK D. HA ICENS No 62430 * STATE OF CORID STONAL ENG	11111111111111111111111111111111111111	SIGNED AND S Mark D I 2023.09 08:38:37 ON THE DATE PRINTED COPI NOT CONSIDE AND THE SIGN ON ANY ELECT INWOOD CONS 3000 DOVERA OVIEDO, FLOR	Hales .13 7-04'00' adjacent to the seal red signed and sealed ature must be verifie ronic copies. Sulting engineers drive, suite 200

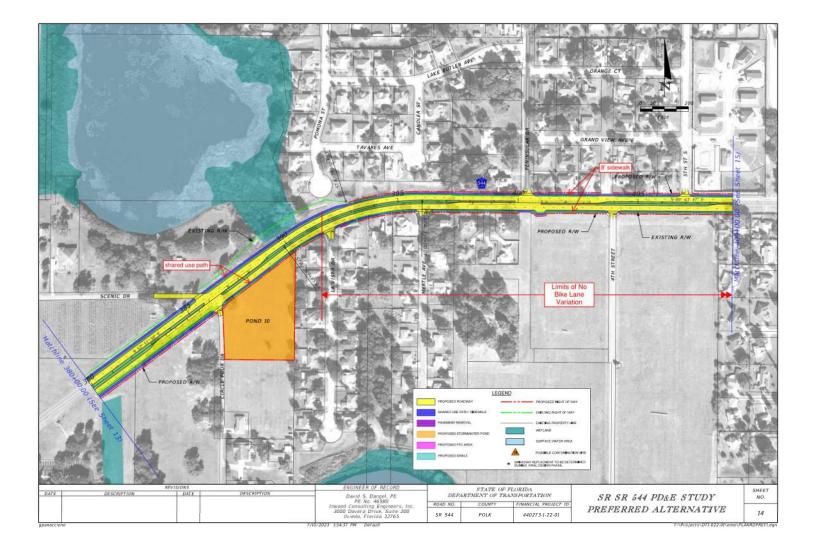
Appendix A (Draft Typical Section)

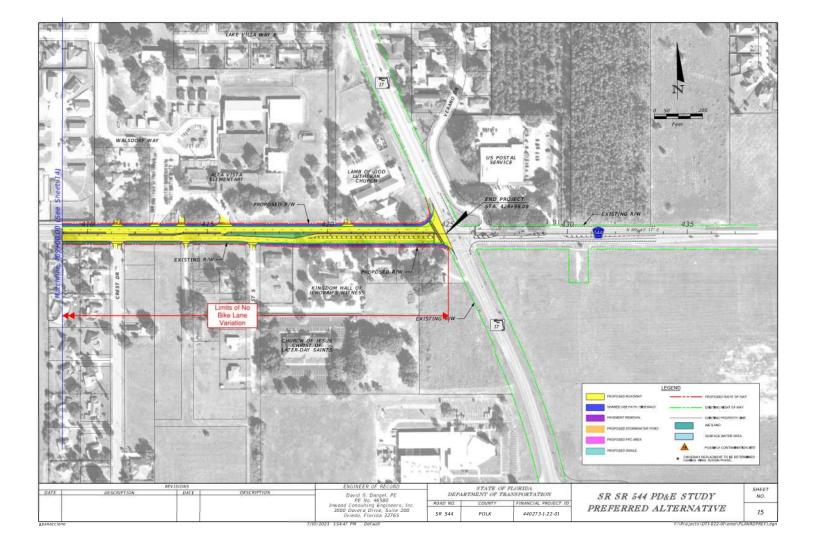




Appendix B (Concept Plan)







Appendix C (Crash Data - Long Forms)

# 

# **HIGHWAY SAFETY & MOTOR VEHICLES,** TRAFFIC CRASH RECORDS NEIL KIRKMAN BUILDING, TALLAHASSEE, FL 32399-0537

	ic Version)		NI BOILDING, TALLAHASSEE, FL 32399	-0337
Date of Crash Time of Crash 14/Jul/2020 10:13 AM 14/Jul/2020 10	Date of Report 14/Jul/2020 12:00 AM	Invest. Agency Report Number 2020-03496	HSMV Crash Report Number 24049531	
CRASH IDENTIFIERS	1	·		
County Code City Code County of 62	POLK	Place or City of Crash WINTER HAVEN	Yes 14/Jul/2020 1 10:14 AM	e Dispatched 4/Jul/2020 10:16 AM
14/Jul/2020 14/Jul/2020 10:23 AM 11:08 AM	npleted Reason (if Investigation N Yes	OT Completed)	Notified By Law Enford	cement
ROADWAY INFORMATION Crash Occured On Street, Road, Highway		At Street Address#	At Lattitude and Long	gitude
	TREET N			
105 No	orth	MLK BLVD NE	Or From Mile	post #
Road System Identifier 5 Local	Type Of Shoulder	1 Paved	Type Of Intersection 1 Not at Intersection	
<b>CRASH INFORMATION (Check if Pict</b>	tures Taken)			
light Condition Weather Cor 1 Daylight	ndition Roadway Surfac		Manner Of Collision 77 Other, Explain in N	larrative
		t Harmful Event Location With	n Interchange First Harmful Event Relation to	Junction
Contributing Circumstances: Road	Contributing Circum	1 On Roadway stances: Road	No 1 Non.Junction Contributing Circumstances: Road	
1 None Contributing Circumstances: Environment	Contributing Circum	stances: Environment	Contributing Circumstances: Environment	
1 None Work Zone Related Crash In Work Zone	Type Of W	Vork Zone W	orkers In Work Zone Law Enforcement In Wo	ork Zone
1 No VEHICLE (Check if Commercial)				
Vehicle Motor Vehicle Type Hit and I	Run Veh License Number	State Reg. Expires F	ermanent Reg. VIN	
	No ZI05C Color Extent of Damage	FL 22/Jan/2021 Est. Damage Towed Due To Da	1B7HF16Y5TJ1187	
1996 DODG LARAMIE PK	MAR Minor	250 No		Driver
		Insurance Policy Number	109911024694001	7.0
Name of Vehicle Owner (Check Box If Busine JOHN WILLIAM LOWE JR	613	ess (Number and Street) WEST BLVD N	City and State DAVENPORT FL	Zip Code <b>33837</b>
Trailer License Number State Re	eg. Expires Permanent Reg. VI	N	Year Make Length	Axles
Trailer License Number State Re Two:	eg. Expires Permanent Reg. VI	N	Year Make Length	Axles
Vehicle Direction On Street, Road,			At Est. Speed Posted Speed	Total Lanes
Traveling: North CMV Configuration	Cargo Body Type	REET N Area	of Initial Impact Most Damaged A	rea 1
Comm GVWR/GCWR	Trailer Type (trailer one)	Trailer Type (trailer two)	18. Undercarriage	18. Undercarriage
Haz. Mat. Release Haz Mat. Placard N	lumber Cla	ss 1 (15 (( 16		19. Overturn 20. Windshield
Motor Carrier Name	US DO	T Number	11 10 9 21. Trailer 14 13 12 11 10 9 2	21. Trailer
Motor Carrier Address	3	City and State	Zip Code Phon	e Number
		•	·	
Comm/Non-Commercial Vehicle Body Typ 3 Pick	up 1 None	Vehicle Defects (two)		ial Function
Vehicle Maneuver Action 5 Turning Right 4 Two-Way,	Roadway Grade Divided, 1 Level	Roadway Alignment Most H 1 Straight	armful Event Most Harmful Event I 2 Collision with 10 Pedest	
Traffic Control Device For This Vehicle First		ond (2) Sequence of Events Third (3)	Non-Fixed Object Sequence of Events Fourth (4) Sequence of	of Events
1 No Controls	2 Collision with Non-Fixed Object			
	10 Pedestrian			
PERSON RECORD Person# Description Veh	icle # Name	Date	of Birth Sex Phone Number	Re-Exam
1 1 Driver Address			/Jan/1967 1 Male 8639683830 Zip Code	
613 WEST BLVD N	DAVENPORT	FL	33837	
Driver License Number State	FL Expires 22/Jan/2022	DL Type Req. End. 5 E/Operator 2 No		Ejected
Restraint System Air Bag Deployed 3 Shoulder and 2 Not Deplo	Helmet Use Ey	e Protection Seating Location Seating Location Seating Location		tion Other <b>pplicable</b>
Lap Belt Used Drivers Actions at Time of Crash (first)		ime of Crash (second)	Driver Distracted By Vision Obstruction	on
77 Other Contributing Actio Drivers Actions at Time of Crash (third)		ime of Crash (fourth)	1 Not Distracted 1 Vision Not Drivers Condition at Time of Crash	Obscured
Suspected Alcohol Use Alcohol Tested	Alcohol Test Type Alcohol Tes	t Result BAC Suspected Drug Us	e Drug Tested Drug Test Type Drug	Test Result
1 No Source of Transport to Medical Facility	EMS Agency Name or ID	EMS Run Number	Medical Facility Transported To	
1 Not Transported				
PERSON RECORD Person# Description Name		Date of Birth	Sex Injury Severity Phone N	umber
2 2 Non-Motorist	JOSEPH J SAINT ELO	01/Nov/1944	1 Male 4 Incapacitating	
Address 3RD ST NE	City WINTER HAVEN	State	Zip Code 33881	
Non-Motorist Description Detail <b>3 Bicyclist</b>		Cycling Along Roadway Against	Non-Motorist Location at Time of Crash 77 Other, Explain in Narrative	
Non-Motorist Actions/Circumstance (First)		(in or adjacent to travel lane)	•	
2 Dart/Dash	12 Wrong-Way Riding or V			

Date of Report	Invest. Agency Report Number	HSMV Crash Report Number
14/Jul/2020 12:00 AM	2020-03496	24049531
d Alcohol Test Type Alcohol Test I	Result BAC Suspected Drug Use	Drug Tested Drug Test Type Drug Test Re
EMS Agency Name or ID POLK COUNTY FIRE RESC	EMS Run Number UE MD329	Medical Facility Transported To LAKELAND REGIONAL MEDICAL CENTEI
Address 929 GLOUCESTER CT	City KISSIMMEE	State Zip Code FL 34758
	14/Jul/2020 12:00 AM d Alcohol Test Type Alcohol Test I EMS Agency Name or ID POLK COUNTY FIRE RESC	14/Jul/2020 12:00 AM     2020-03496       Id     Alcohol Test Type     Alcohol Test Result     BAC     Suspected Drug Use       EMS Agency Name or ID     EMS Run Number     MD329       Address     City

#### NARRATIVE

On 07/14/2020 at approximately 1016 hours I responded to the area of 1st Street N/MLK Blvd NE in Winter Haven, Polk County, Florida in reference to a report of a traffic crash. PCSO Dispatch advised that it involved a truck versus a pedestrian (bicyclist) and occurred right in front of the Chevron located at 2100 1st Street N, Winter Haven, FL. Upon arrival, I made contact with the driver of the vehicle while EMS tended to the bicyclist.

The driver of the 1996 Dodge Laramie advised that he was exiting the Chevron turning right onto 1st Street N. He advised that he edged out as he looked both ways multiple times to ensure he was clear to turn. He advised that upon seeing a clearing in traffic he turned right and as he was turning he heard a thump. He advised that he immediately reversed his vehicle some so he could exit his vehicle and check what he had struck. He advised that upon exiting his vehicle to check what it was he saw the cyclist on the ground. He advised that he never saw anyone on the sidewalk or in the roadway as he was turning.

I then made contact with a witness, Amy Velazquez, who advised that she did not observe what happened leading up to the incident. She advised that she was pumping gas at Pump 3 at the Chevron when she heard someone scream. She advised she immediately looked over and observed a truck turning out of the gas station run over a cyclist and then reverse back over the cyclist. She advised that it appeared as if the driver of the vehicle did not initially realize they had struck something.

I collected photographs of the scene of the crash. I then obtained video footage from Chevron. Upon reviewing footage, I observed the truck edging out from the Chevron to make a right hand turn onto 1st Street N. For a short period of time, I observed the truck stopped in the way of the sidewalk with the front end slightly in the roadway waiting to make the turn. I observed the bicyclist coming southbound on the sidewalk against the direction of traffic at a steady speed. As the truck goes to make the right hand turn, I observed the cyclist exit the sidewalk onto the roadway in front of the truck still heading southbound against traffic as if to quickly go around the truck. At this point, I observe the front passenger side of the truck collide with the rear wheel of the bicycle. The bicycle and cyclist then go under the front passenger wheel of the truck and are dragged momentarily. The truck is then observed reversing back over the bicycle and cyclist before it comes to a stop.

I was unable to speak with the bicyclist as he was transported to Lakeland Regional Medical Center (LRMC) and upon my arrival later at LRMC he was intubated. I spoke with the trauma surgeon, Doctor Sontchi, who advised that the bicyclist incurred a broken pelvis and one broken rib on the right side from the accident along with multiple abrasions. Dr. Sontchi further advised that the bicyclist had an internal bleed occurring either in his belly or near where his pelvis was broken. At this time, his condition was considered guarded meaning that he was not stable but was not critical. The bicyclist was relocated to room C2264 in TICU prior to my departure.

The bicyclist's phone rang multiple times while at LRMC in which I obtained several phone numbers from in hopes to reach a family member. I was able to make contact via landline with his daughter, Afania Saint Eloi, and notified her that her father was currently in the TICU at LRMC due to an accident he was involved in.

This crash report is complete however there is further investigation to be completed regarding the condition of the bicyclist and needing to conduct an interview with him.

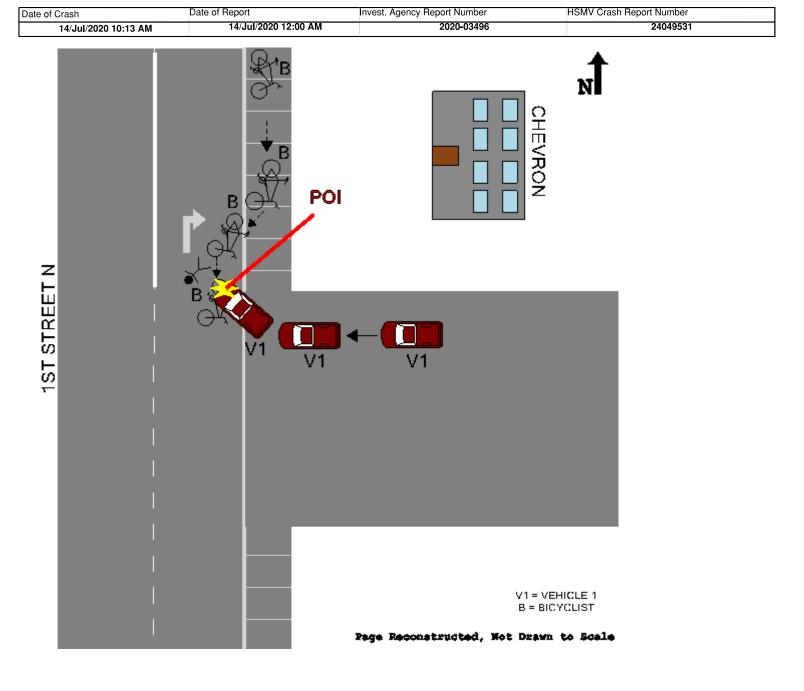
\*\*\*\*\*

On Thursday, July 23, 2020, at approximately 1039 hours I responded to Lakeland Regional Medical Center in an attempt to conduct an interview with the bicyclist (Joseph Saint Eloi). I had been advised that Saint Eloi had been transferred to a regular room at the hospital (room C3222).

Upon arrival, Saint Eloi was sitting in a chair in the room groaning in pain. I made contact with Saint Eloi's assigned registered nurse, Melissa Rothman, who advised that some days he is completely alert and can hold a conversation while other days he is in a lot of pain. Due to the amount of pain Saint Eloi was in, the nurse administered him pain medication which rendered him unable to be interviewed. It is unknown at this time when Saint Eloi will be discharged from the hospital. His current injuries are still consistent with what was originally reported.

#### **REPORTING OFFICER**

ID/Badge #	Rank and Name	Department	Type of Department
W645	Off. Austynn Clark	Winter Haven Police Dept	PD



# FLORIDA TRAFFIC CRASH REPORT

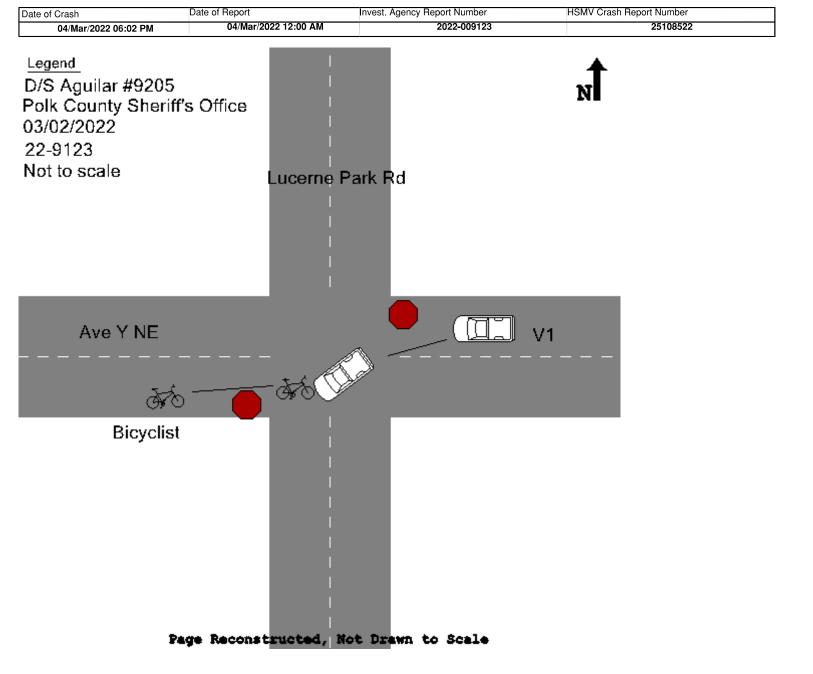
#### HIGHWAY SAFETY & MOTOR VEHICLES, TRAFFIC CRASH RECORDS NEIL KIRKMAN BUILDING, TALLAHASSEE, FL 32399-0537

		(Elec	tronic Versio	on)								022,123	2000-0007
Date of Crash 04/Mar/202	h 22 06:02 PM	Time of Cras 04/Mar/20	sh 22 06:02 PM	Date of 04/Ma	Report ar/2022 12:00 /	Invest. Age	ency Repo 20	rt Numbe 22-0091	er 23	HSMV (	Crash Repo	rt Number 25108522	
CRASH IDE									-				
County Code 05	City Coo	le Cou 0	unty of Crash	POLK		Place or City UI	of Crash NINCORP	ORATED		nin City Limits <b>No</b>	04	Reported /Mar/2022 6:02 PM	Time Dispatched 04/Mar/2022 06:04 PM
Time on Scer 04/Mar/20 06:07 PM	22 04	eared Scene /Mar/2022 7:27 PM	Completed Yes	Reason	(if Investigation	NOT Complete	ed)				Ν	Notified By Law E	nforcement
ROADWAY							t Otro ot Ar	ldvo o o #			udo	and	Longitudo
Crash Occure		ĽUC	ÉRNE PARK				t Street Ac	aress#		At Lattit	ude		Longitude
At Feet 0	Or Miles	s Dire	ection			Street, Road, H		E Y NE				Or From	Milepost #
Road System		5 Local		Ту	pe Of Shoulder	1 Pave	ed		Туре	Of Intersectic 2		Intersectio	n
CRASH INF	ORMATIO	N (Check if	Pictures Ta	aken)	X								
light Condition	n Daylight	Weathe	r Condition 1 Clear			face Condition 1 Dry	School	Bus Rela	ated 1 No		Manner Of ( 77 Ot		n in Narrative
First Harmful		F	irst Harmful E	vent 10		irst Harmful Ev			Within Interc			Event Relati	on to Junction
Contributing (					ontributing Circu	umstances: Roa	<b>Roadway</b> ad	y	No Contri	<b>b</b> buting Circur	nstances: F	2 Intersec load	tion
Contributing (	Circumstance		nt	Cc	ontributing Circu	umstances: Env	ironment		Contri	buting Circur	nstances: E	nvironment	
Work Zone R 1 No	elated Cra	1 None sh In Work Zo	one		Туре О	f Work Zone			Workers I	n Work Zone	Law E	nforcement	In Work Zone
VEHICLE (0	Check if Co	ommercial)											
Vehicle Moto	or Vehicle Ty <b>Vehicle in T</b> r		and Run 1 No	Veh Lice	ense Number 36CAAE	State		g. Expire 13/Jan/2		ent Reg. VIN		TFX1ET0DF	D54893
Year Mak		Style	Color	NHI E	xtent of Damag Minor	e Est. Dam			ue To Damage No	Vehicle Re		R	otation Driver
Insurance Co	mpany						isurance P	olicy Nur		D355198			Driver
Name of Vehi	icle Owner (C	heck Box If B	AL AUTOMOI Susiness)		Current Ac	dress (Number				City a	nd State		Zip Code
	ANDREW DA nse Number	State	Reg. Expir	res Per	2302 DC rmanent Reg.	ovewood es <sup>-</sup> Vin	IATES CI			VALH Year	Make	Length	33594 Axles
One: Trailer Lice Two:	nse Number	State	Reg. Expir	res Per	rmanent Reg.	VIN				Year	Make	Length	Axles
	Direction West	On Street, R	oad, Highway	/	۸	ve Y NE				At Est	. Speed F	Posted Spee	d Total Lanes 2
CMV Configu				Cargo B	Body Type	VETNE			Area of Initia	Impact		Most Damag	
Comm GVWF	R/GCWR		Tr	ailer Type	e (trailer one)	Trailer Type	(trailer two	<u>,</u>		7 18. Under	arriage	3 4 5 6	7 18. Undercarriage
Haz Mat Re	ease Haz	Mat. Placard	Number		0	Class			15 16 17	8 19. Overtu 20. Winds		5 16 17	8 19. Overturn 20. Windshield
Motor Carrier	Name				USI	OT Number		<sup>1</sup>	4 13 12 11 10	9 21. Traile	r 14 1	3 12 11 10	9 21. Trailer
	Мо	tor Carrier Ad	dress				City a	and State	1		Zip C	ode	Phone Number
Comm/Non-C		Vehicle Body		Vob	icle Defects (or	20)	Vehicle De			Emorgonov			Function of MV
		3	Pickup		1 Noi	ne			,		1 No	1 No 9	Special Function
	ing Left		ay, Not Divid	ed	dway Grade 1 Level		ay Alignme 1 Straig	ht	Non-F	Ilision with ixed Object			edestrian
Traffic Contro	ol Device For 6 Stop Sign		2 C Non-	ollision v Fixed Ob	with bject	econd (2) Seque 10 Peo	ence of Ev destrian	rents	Third (3) Sequei	nce of Events	s Four	th (4) Seque	ence of Events
PERSON R	FCORD		14 Motor V	enicle in	Transport								
Person# Des	cription		Vehicle #	Name					Date of Birth	Sex		e Number	Re-Exam
1 Address	1 Dri	ver	1 City		AND	DREW D SPICE	tate		13/Jan/19		a <b>le</b> Code		
2302 D Driver Licens		ESTATES CT Sta		Evr	VALRICO Dires	DL Type		Reg. E	FL nd	Injury Sever		33594 Ejectior	
	26004980130	)	FL	Helmet	13/Jan/2030	5 E/O	perator	En	3 No Req dorsement cation Seat		None	1	Not Ejected
3 Shou	Ider and Ider and It Used	Air Bag Dep <b>2 Not I</b>	oyea Deployed		No Helmet	3 Not Applic			<b>Left</b>		Front		Location Other Iot Applicable
Drivers Action	ns at Time of	Crash (first) ntributing Ac	tion	D	rivers Actions a	at Time of Crash	ו (second)		Drive	r Distracted 1 Not Dist		Vision Obs 1 Vision	truction n Not Obscured
Drivers Action				D	rivers Actions a	at Time of Crash	n (fourth)		Drive	ers Condition	at Time of (		
Suspected Al	cohol Use <b>No</b>	Alcohol Test	ed Alcohol	Test Type	e Alcohol T	est Result B	AC Su		Drug Use Drug <b>No</b>	g Tested	Drug Te		Drug Test Result
Source of Tra			EMS Ag	gency Nar	me or ID	E	MS Run N			Medical Fac	ility Transpo	orted To	
PERSON R													
Person# Des 2	cription 3 Passe	enger	Vehicle # 1	Name	CAR	SON WALLA	CE		Date of Birth 13/Aug/19	98 Sex		Severity 1 None	Ejection 1 Not Ejected
Address		407 57 17			City						State		Zip Code
	item Ider and It Used	127 PRAD Air Bag Dep 2 Not I		Helmet 3 N	Use <b>No Helmet</b>	Eye Protection 3 Not Applic	Se	LAKELA ating Loc	AND cation Seat 3	Seating Loc	ation Row 1	FL Seating	33803 Location Other 1

Date of Crash	Invest. Agency	Report Number	HSM	HSMV Crash Report Number			
04/Mar/2022 06:02 PM	04/Mar/2022 12:00 AM		2022-009123		25108522		
Source of Transport to Medical Facility 1 Not Transported	EMS Agency Name or ID	EMS	Run Number	Medical F	acility Transported To	)	
PERSON RECORD	· · · ·						
3 2 Non-Motorist	ame TODD DAVIS		Date of Birth 06/Jan/1966	1 Male	jury Severity <b>2 Possible</b>	Phone Number 8638778769	
Address 2414 1ST ST NE	City WINTER HAVEN	State		Z	Zip Code 33	3881	
Non-Motorist Description Detail <b>3 Bicyclist</b>	3 Walk	tion Prior to Crash king/Cycling Along ic (in or adiacent t	Roadway with		ocation at Time of Cra ersection - Unmarke		
Non-Motorist Actions/Circumstance (Firs 3 Failure to Yield Right-of-Way		nce (Second) No raffic	on-Motorist Safety Equip 1 None	oment (One)	Non-Motorist Safety	Equipment (Two)	
Suspected Alcohol Use Alcohol Teste 1 No	ed Alcohol Test Type Alcohol T	est Result BAC	Suspected Drug Use 1 No	U U	Drug Test Type	Ŭ	
Source of Transport to Medical Facility <b>2 EMS</b>	EMS Agency Name or ID POLK COUNTY EM		Run Number FS220021159	Medical Fa	acility Transported To WINTER HAVEN		
WITNESSES							
Name ANDRESEA ALLEN	Address 510 AVE K NW APT 4	City	WINTER HA	VEN	State FL	Zip Code 33881	
NARRATIVE					• -		
On 03/02/2022 at approximately 1802	hours, I responded to Lucerne Park	Rd/Avenue Y NE,	Winter Haven, in refer	ence to a vehicle	e crash.		
Andrew Spicer (D1) is the driver of a v	vhite 2013 Ford F150 tag #36CAAE	(V1). V1 was carry	ing boat #FL5704MM t	railer tag #03980	az.		
Todd Davis (P3) is the bicyclist.							
Prior to my arrival EMS was on scene	assisting P3 with his back pain.						
V1 was at a complete stop at the inter sign and proceeded to travel eastbou bicycle in the rear tire, causing P3 to	ind on Ave Y NE. V1 attempted to a	void striking the b	icycle, but there was a	l on Lucerne Pai nother vehicle ir	rk Rd when P3 failed n the northbound la	d to stop at the stop nd. V1 struck the	
I made contact with witness Andresea Allen stated the bicyclist traveling ea						Lucerne Park Rd.	
EMS transported P3 to the Winter Hav	en Hospital with minor injuries.						
A check was conducted through the C license.	Crime Information Center (CIC) of V	1, D1, and P3 for a	ny wants/warrants. All	searches result	ed in negative. D1 h	ad a valid driver's	
Nine photos were taken of the inciden	it and uploaded to photo lab.						
P3 is at fault.							

#### **REPORTING OFFICER**

ID/Badge #	Rank and Name	Department	Type of Department
9205	Kimberly Aguilar	Polk County SO	SO



# FLORIDA TRAFFIC CRASH REPORT

LONG FORM X SHORT FORM UPDATE

#### **HIGHWAY SAFETY & MOTOR VEHICLES, TRAFFIC CRASH RECORDS** NEIL KIRKMAN BUILDING, TALLAHASSEE, FL 32399-0537

	nic Version)						
Date of Crash Time of Crash 04/Mar/2020 06:35 PM 04/Mar/2020 0		e of Report <b>I/Mar/2020 12:00 AM</b>	Invest. Agency Rep	oort Number 2020-011225	HSMV Crash	Report Number 89841847	
CRASH IDENTIFIERS							
	of Crash <b>POI</b>		Place or City of Crash UNINCORPORATE	D (WINTER HAVEN)	Within City Limits <b>No</b>	04/Mar/2020	Time Dispatched 04/Mar/2020
Time on Scene Time Cleared Scene Co 04/Mar/2020 04/Mar/2020	mpleted Rea <b>Yes</b>	son (if Investigation N	OT Completed)	. ,		06:42 PM Notified By	06:48 PM
07:05 PM 07:48 PM  ROADWAY INFORMATION							
Crash Occured On Street, Road, Highway			At Street A	Address#	At Lattitude	and	Longitude
	ERNE PARK R	<b>D)</b> n Intersection With Sti					Milepost #
0					<u> </u>		
Road System Identifier 3 State		Type Of Shoulder	1 Paved	I	ype Of Intersection 2 Fou	r-Way Intersection	n
CRASH INFORMATION (Check if Pic	tures Taken)	) X					
light Condition Weather Co	ndition 1 Clear	Roadway Surfac		ol Bus Related 1 No		er Of Collision	in Newstine
	Harmful Event		t Harmful Event Loca	tion Within I	nterchange First Ha	77 Other, Explain armful Event Relation	on to Junction
Contributing Circumstances: Road	11	Contributing Circums	1 On Roadw stances: Road		No Contributing Circumstar	2 Intersec ices: Road	tion
1 None Contributing Circumstances: Environment					-		
1 None		, i i i i i i i i i i i i i i i i i i i	stances: Environmen		contributing Circumstar		
Work Zone Related Crash In Work Zone		Type Of W	/ork Zone	Work	ers In Work Zone	Law Enforcement I	n Work Zone
VEHICLE (Check if Commercial)	]	I					
Vehicle Motor Vehicle Type Hit and		License Number			manent Reg. VIN		470755
21 Vehicle in Transport2YearMakeModelStyle	2 Yes Color	Z019VL Extent of Damage	FL Est. Damage	02/Nov/2020 Towed Due To Dama	age Vehicle Remove	3FAFP07Z16R ed By Ro	170750 Ditation
2006 FORD FUS 4D	MAR	Functional	1000	No Policy Number		IVER	Driver
	CE INSURANC			,	ABFL-26236		
Name of Vehicle Owner (Check Box If Busir MIKAYLA SIERRA KEELAN	iess)		ess (Number and Str 20 4TH ST NE	eet)	City and St WINTER HAV		Zip Code <b>33881</b>
	Reg. Expires	Permanent Reg. VI	N		Year Mał	ke Length	Axles
	Reg. Expires	Permanent Reg. VIN	N		Year Mał	ke Length	Axles
Vehicle Direction On Street, Road	, Highway				At Est. Spe		
Traveling: North CMV Configuration	Card	SR 544 (Luce go Body Type	erne Park Rd).	Area of	Initial Impact	45 Most Damag	ed Area
			Tueilen Turee (tueilen tu	0 3 4 5			<ul> <li>18. Undercarriage</li> </ul>
Comm GVWR/GCWR		<b>,</b>	Trailer Type (trailer tv		17 8 19. Overturn	1 (15)(16 17	8 19. Overturn
Haz. Mat. Release Haz Mat. Placard	Number	Clas	SS	14 13 12 11	20. Windshield 10 9 21. Trailer	14 13 12 11 10	20. Windshield 9 21. Trailer
Motor Carrier Name		US DO	T Number				
Motor Carrier Addres	S		City	v and State		Zip Code	Phone Number
Comm/Non-Commercial Vehicle Body Ty	pe	Vehicle Defects (one)	Vehicle	Defects (two)	Emergency Vehi	cle Use Special F	Function of MV
Vehicle Maneuver Action Trafficway	ger Car	1 None Roadway Grade	Roadway Alignr	ment Most Har	mful Event	Most Harmful Ev	vent Detail
1 Straight Ahead 1 Two-Way,		1 Level	1 Strai	ight	2 Collision with		dalcycle
Traffic Control Device For This Vehicle Firs			ond (2) Sequence of I		on-Fixed Object equence of Events	Fourth (4) Seque	nce of Events
1 No Controls	2 Collisio Non-Fixed						
	11 Peda						
PERSON RECORD	biolo #				Disth O	Dhane Numb	D
Person# Description Ve 2 1 Driver	hicle # Nam 2		LA S KEELAN	Date of E <b>02/No</b>	Birth Sex Dv/1998 2 Female	Phone Number 8138302561	Re-Exam
Address 2220 4TH ST NE	City	WINTER HAVEN	State	FL	Zip Code	9 33881	
Driver License Number State	EI	Expires	DL Type	Req. End.	Injury Severity	Ejection	
K450557989020	FL	02/Nov/2023	5 E/Operator	3 No Req Endorsemen			Not Ejected
Restraint System Air Bag Deploye <b>3 Shoulder and 2 Not Dep</b>			e Protection S 3 Not Applicable	Seating Location Seat <b>1 Left</b>	Seating Location 1 Fron		_ocation Other ot Applicable
Lap Belt Used Drivers Actions at Time of Crash (first)			ime of Crash (secon		Driver Distracted By	Vision Obst	••
1 No Contributing Action	1		,	,	1 Not Distracte	d 1 Visior	Not Obscured
Drivers Actions at Time of Crash (third)			ime of Crash (fourth)			pparently Normal	
Suspected Alcohol Use Alcohol Tested 1 No	Alcohol Test	Type Alcohol Test	t Result BAC S	Suspected Drug Use 1 No	Drug Tested D	rug Test Type	Drug Test Result
Source of Transport to Medical Facility 1 Not Transported	EMS Agency	Name or ID	EMS Run		Medical Facility T	ransported To	
PERSON RECORD							
Person# Description Name				ate of Birth Se	ex Injury Se	verity Pho	ne Number
1 2 Non-Motorist Address	UN City	KNOWN UNKNOW	N State		1 Male 1 Zip Code	None	
UNKNOWN	Uniy	UK			•		
Non-Motorist Description Detail 3 Bicyclist		Non-Motorist Actior	Prior to Crash 1 Crossing Roadwa		Non-Motorist Location <b>3 In</b>	at Time of Crash tersection - Other	
Non-Motorist Actions/Circumstance (First)	Non-Motorist	Actions/Circumstance		lotorist Safety Equipm 1 None	nent (One) Non-M	lotorist Safety Equi	pment (Two)

Date of Crash		Date of Report		Invest. Ager	icy Re	port Number		HSMV Crash Report Number		
04/Mar/2020 06	:35 PM	04/Mar/2020 12:	00 AM			2020-011225		89841847		17
Suspected Alcohol Use 1 No	Alcohol Teste	d Alcohol Test Type	Alcohol Test I	Result BA	C	Suspected Drug Use 1 No	Drug Tes	sted	Drug Test Type	Drug Test Result
Source of Transport to Me 1 Not Trans		EMS Agency Name c	or ID	EM	IS Ru	n Number	Med	ical Facility	/ Transported To	
WITNESSES										
Name ROBERT WHITC	HARD	Address 1107 3RD ST	SW STE #5	Cit	у	WINTER HAVE	IN	S	State FL	Zip Code <b>33880</b>
NARRATIVE								· · · · ·		
		Road 544 (Lucerne Park Road 544 (Lucerne Park					on Avenu	ie Y NE., W	Vinter Haven, FL	33881. Person 1
Person 1 struck vehicle	2 on the front	passenger fender causir	na damage to t	he windshie	eld of	vehicle 2. Vehicle 2 ir	nmediate	elv stopped	d to attempt to re	nder aid to persor

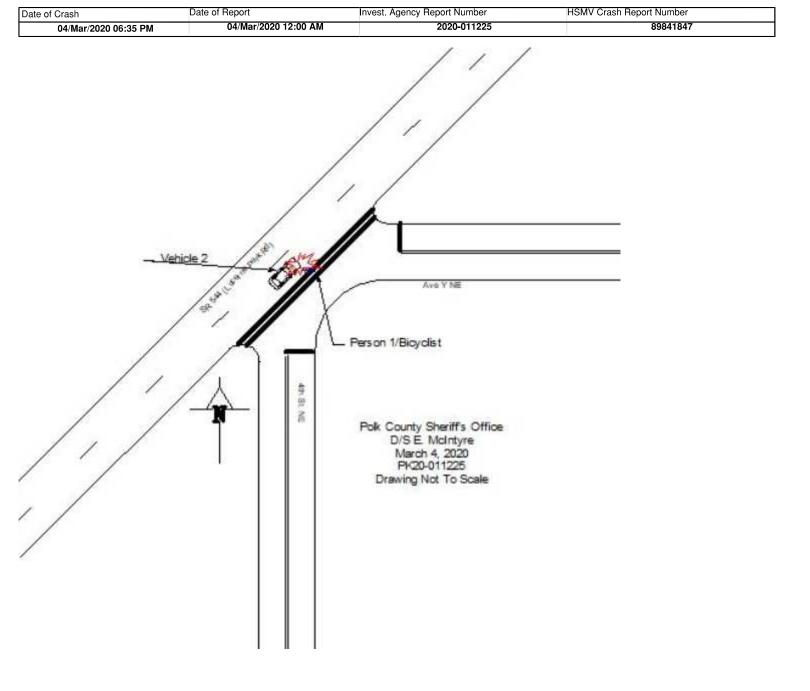
Person 1 struck vehicle 2 on the front passenger fender causing damage to the windshield of vehicle 2. Vehicle 2 immediately stopped to attempt to render aid to person 1. Person 1 stated he was fine and left the scene. Person 1 was described as a young black male, approximately 12 to 16 years of age, unknown clothing.

A witness observed the incident. The witness attempted to catch up to person 1, but was unsuccessful and stated he lost sight of person 1 on Avenue Y, NE. Polk County EMS responded to the scene and assisted in the search for person 1. The search was conducted with negative results. Local hospitals were contacted in an attempt to locate person 1. Local hospitals advised there were no persons fitting this description of at their facilities.

Person 1/Bicyclist was the violator in this crash but could not be located.

#### REPORTING OFFICER

ID/Badge #	Rank and Name	Department	Type of Department
6364	Dep. ELBERT MCINTYRE	Polk County SO	SO



Appendix D FDOT Long Range Estimates

# FDOT Long Range Estimating System - Production R3: Project Details by Sequence Report

<b>Project:</b> 440273-4	4-52-01			Le	etting Da	<b>te</b> : 07/2027
Description: SR	544 (LUCERNE PARK) FROM MI	_K BLVD TO AVENU	ΕY			
District: 01 Contract Class:	County: 16 POLK 1 Lump Sum Project: N	<b>Market Area:</b> 08 Design/Build: N		s: English ect Length:	0.619 MI	
Project Manager	: NEM-KSJ-JLF					
Version 5 Project Description: Marc		\$13,	309,808.01			
-	J - New Construction, Divided, Urb	ban		Net L	ength:	0.104 MI 550 LF
Description: MLK	Intersection to 1st St.					
	EARTHWO	ORK COMPONENT				
User Input Data	_,					
<b>Description</b> Standard Clearing	g and Grubbing Limits L/R g and Grubbing Area				69.0	<b>Value</b> 0 / 32.00 0.00
Top of Structural Horizontal Elevati	Course For Begin Section Course For End Section ion For Begin Section ion For End Section Cross Slope L/R				4.00 % 2.00 %	1 0.104 102.00 100.00 100.00 1/6 to 1 / 4.00 % / 2.00 % / 2.00 %
Pay Items Pay item 110-1-1 120-6	<b>Description</b> CLEARING & GRUBBING EMBANKMENT	<b>Quantity</b> 1.27 3,291.47	AC	<b>Unit Price</b> \$56,512.73 \$15.04	9	e <b>d Amount</b> \$71,771.17 \$49,503.71
	Earthwork Component Total				\$	121,274.88
	ROADWA	AY COMPONENT				
User Input Data Description Number of Lanes Roadway Paveme Structural Spread Friction Course S	ent Width L/R I Rate	55.00 /	Value 6 24.00 275 165			
Pay Items Pay item 160-4 285-709	<b>Description</b> TYPE B STABILIZATION OPTIONAL BASE,BASE GROUF	5,460.19	SY	Unit Price \$15.74 \$23.27	\$	ed Amount \$85,943.39 112,378.28

334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	664.03 TN	\$192.26	\$127,666.41
337-7-83	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	398.42 TN	\$208.69	\$83,146.27

# Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	4

#### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-1-3	RAISED PAVMT MARK, TYPE B	70.00 EA	\$4.35	\$304.50
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.42 GM	\$1,261.74	\$529.93
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	0.42 GM	\$544.18	\$228.56
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	0.42 GM	\$5,295.89	\$2,224.27
711-16-131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	0.42 GM	\$1,568.63	\$658.82
	Roadway Component Total			\$413,080.43

#### SHOULDER COMPONENT

User Input Data	
Description	Value
Total Outside Shoulder Width L/R	14.25 / 14.25
Total Outside Shoulder Perf. Turf Width L/R	4.00 / 4.00
Sidewalk Width L/R	8.00 / 8.00

# Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	550.18 LF	\$46.28	\$25,462.33
520-1-10	CONCRETE CURB & GUTTER, TYPE F	550.18 LF	\$46.28	\$25,462.33
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	978.09 SY	\$71.53	\$69,962.78
570-1-1	PERFORMANCE TURF	489.05 SY	\$4.80	\$2,347.44

## **Erosion Control**

Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	1,100.35 LF	\$2.70	\$2,970.94
104-11	FLOATING TURBIDITY BARRIER	26.05 LF	\$12.79	\$333.18
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	26.05 LF	\$6.43	\$167.50
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,689.06	\$2,689.06
104-18	INLET PROTECTION SYSTEM	6.00 EA	\$123.06	\$738.36
107-1	LITTER REMOVAL	2.65 AC	\$50.09	\$132.74

MEDIAN COMPONENT							
User Input Data							
Description		Value					
Total Median Wie	dth	22.00					
Performance Tu	f Width	0.00	1				
Pay Items							
Pay item	Description	Quantity Unit	Unit Price	Extended Amount			
520-1-7	CONCRETE CURB & GUTTER, TYPE E	1,100.35 LF	\$38.76	\$42,649.57			
520-5-11	TRAF SEP CONC-TYPE I, 4' WIDE	550.00 LF	\$88.18	\$48,499.00			
	Median Component Total			\$91,148.57			

#### DRAINAGE COMPONENT

Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
425-1-351	INLETS, CURB, TYPE P-5, <10'	4.00 EA	\$7,474.89	\$29,899.56
425-1-451	INLETS, CURB, TYPE J-5, <10'	2.00 EA	\$11,817.04	\$23,634.08
425-1-521	INLETS, DT BOT, TYPE C, <10'	1.00 EA	\$7,391.69	\$7,391.69
425-2-41	MANHOLES, P-7, <10'	1.00 EA	\$6,130.30	\$6,130.30
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	280.00 LF	\$189.12	\$52,953.60
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	24.00 LF	\$306.37	\$7,352.88
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	528.00 LF	\$318.06	\$167,935.68
570-1-1	PERFORMANCE TURF	31.68 SY	\$4.80	\$152.06
	Drainage Component Total			\$295,449.85

#### SIGNING COMPONENT

Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	3.00 AS	\$449.95	\$1,349.85
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	1.00 AS	\$1,607.97	\$1,607.97
700-2-15	MULTI- POST SIGN, F&I GM, 51- 100 SF	1.00 AS	\$7,587.77	\$7,587.77
700-2-16	MULTI- POST SIGN, F&I GM, 101- 200 SF	1.00 AS	\$16,710.53	\$16,710.53
	Signing Component Total			\$27,256.12

SIGNALIZATIONS COMPONENT

Type Multiplier Description

MLK and 544

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	750.00 LF	\$19.30	\$14,475.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	250.00 LF	\$36.03	\$9,007.50
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00 Pl	\$10,834.31	\$10,834.31
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	16.00 EA	\$1,363.63	\$21,818.08
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	1.00 AS	\$3,860.30	\$3,860.30
639-2-1	ELECTRICAL SERVICE WIRE, F&I	60.00 LF	\$9.92	\$595.20
649-21-10	STEEL MAST ARM ASSEMBLY, F&I, 60'	4.00 EA	\$81,339.84	\$325,359.36
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	12.00 AS	\$1,499.43	\$17,993.16
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	8.00 AS	\$770.15	\$6,161.20
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	12.00 EA	\$639.54	\$7,674.48
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	12.00 AS	\$1,368.89	\$16,426.68
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	8.00 EA	\$239.20	\$1,913.60
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	1.00 AS	\$51,964.94	\$51,964.94
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	4.00 EA	\$299.79	\$1,199.16
	Signalizations Component Total			\$489,282.97

#### LIGHTING COMPONENT

# **Conventional Lighting Subcomponent**

Description Spacing Pay Items				<b>Value</b> MIN
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	550.18 LF	\$19.30	\$10,618.47
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	109.20 LF	\$36.03	\$3,934.48
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	4.00 EA	\$1,363.63	\$5,454.52
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	2,009.39 LF	\$3.77	\$7,575.40
715-61-342	LIGHT POLE CMPLT,STD,F&I, 40'MH,12'ARM L	4.00 EA	\$8,402.83	\$33,611.32
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	4.00 EA	\$768.21	\$3,072.84
	Subcomponent Total			\$64,267.03
	Lighting Component Total			\$64,267.03

#### EARTHWORK COMPONENT

User Input Data	
Description	Value
Standard Clearing and Grubbing Limits L/R	32.00 / 32.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.339
Top of Structural Course For Begin Section	102.00
Top of Structural Course For End Section	102.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	2 to 1 / 2 to 1
Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

#### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	2.63 AC	\$56,512.73	\$148,628.48
120-6	EMBANKMENT	6,475.53 CY	\$15.04	\$97,391.97
	Earthwork Component Total			\$246,020.45

#### **ROADWAY COMPONENT**

User Input Data	
Description	Value
Number of Lanes	3
Roadway Pavement Width L/R	18.00 / 18.00
Structural Spread Rate	275
Friction Course Spread Rate	165

#### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160 <b>-</b> 4	TYPE B STABILIZATION	8,185.90 SY	\$15.74	\$128,846.07
285-709	OPTIONAL BASE, BASE GROUP 09	7,159.68 SY	\$23.27	\$166,605.75
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	984.46 TN	\$192.26	\$189,272.28
337-7-83	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	590.67 TN	\$208.69	\$123,266.92

#### **Pavement Marking Subcomponent**

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	2

#### Pay Items

Pay item	Description
706-1-3	RAISED PAVMT MARK, TYPE B

Quantity Unit	Unit Price	Extended Amount
183.00 EA	\$4.35	\$796.05

	Roadway Component Total			\$619,142.16
711-16-131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	0.68 GM	\$1,568.63	\$1,066.67
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	1.36 GM	\$5,295.89	\$7,202.41
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	0.68 GM	\$544.18	\$370.04
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	1.36 GM	\$1,261.74	\$1,715.97

### SHOULDER COMPONENT

User Input Data	
Description	Value
Total Outside Shoulder Width L/R	14.25 / 14.25
Total Outside Shoulder Perf. Turf Width L/R	4.00 / 4.00
Sidewalk Width L/R	8.00 / 8.00

### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	1,789.92 LF	\$46.28	\$82,837.50
520-1-10	CONCRETE CURB & GUTTER, TYPE F	1,789.92 LF	\$46.28	\$82,837.50
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	3,182.08 SY	\$71.53	\$227,614.18
570-1-1	PERFORMANCE TURF	1,591.04 SY	\$4.80	\$7,636.99

## **Erosion Control**

Pay Items	
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Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	3,579.84 LF	\$2.70	\$9,665.57
104-11	FLOATING TURBIDITY BARRIER	84.75 LF	\$12.79	\$1,083.95
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	84.75 LF	\$6.43	\$544.94
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,689.06	\$2,689.06
104-18	INLET PROTECTION SYSTEM	18.00 EA	\$123.06	\$2,215.08
107-1	LITTER REMOVAL	4.11 AC	\$50.09	\$205.87
107-2	MOWING	4.11 AC	\$83.03	\$341.25
	Shoulder Component Total			\$417,671.89

#### DRAINAGE COMPONENT

Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
425-1-351	INLETS, CURB, TYPE P-5, <10'	13.00 EA	\$7,474.89	\$97,173.57
425-1-451	INLETS, CURB, TYPE J-5, <10'	4.00 EA	\$11,817.04	\$47,268.16
425-1-521	INLETS, DT BOT, TYPE C, <10'	2.00 EA	\$7,391.69	\$14,783.38
425-2-41	MANHOLES, P-7, <10'	2.00 EA	\$6,130.30	\$12,260.60
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	792.00 LF	\$189.12	\$149,783.04
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	72.00 LF	\$306.37	\$22,058.64

430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	1,696.00 LF	\$318.06	\$539,429.76	
Retention Basi	n 1				
Description		Value	e		
Size		.5 AC			
Multiplier	1				
Depth Description	3.50 Pond 1A				
Description	Folia IA				
Pay Items					
Pay item	Description	Quantity Unit	Unit Price	Extended Amount	
110-1-1	CLEARING & GRUBBING	0.50 AC	\$56,512.73	\$28,256.36	
120-1	REGULAR EXCAVATION	2,823.33 CY	\$18.27	\$51,582.24	
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00 EA	\$6,465.04	\$6,465.04	
425-2-71	MANHOLES, J <b>-</b> 7, <10'	1.00 EA	\$7,689.71	\$7,689.71	
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00 LF	\$355.79	\$19,924.24	
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00 LF	\$715.27	\$143,054.00	
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	600.00 LF	\$33.16	\$19,896.00	
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00 EA	\$4,668.52	\$4,668.52	
570-1-1	PERFORMANCE TURF	2,420.00 SY	\$4.80	\$11,616.00	
	Drainage Component Total			\$1,175,909.27	

#### SIGNING COMPONENT

Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	7.00 AS	\$449.95	\$3,149.65
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	1.00 AS	\$1,607.97	\$1,607.97
700-2-15	MULTI- POST SIGN, F&I GM, 51- 100 SF	1.00 AS	\$7,587.77	\$7,587.77
	Signing Component Total			\$12,345.39

#### LIGHTING COMPONENT

Conventional Lighting Subcomponent				
Description Spacing Pay Items				Value MIN
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	1,789.92 LF	\$19.30	\$34,545.46
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	355.27 LF	\$36.03	\$12,800.38
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	12.00 EA	\$1,363.63	\$16,363.56
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	6,537.28 LF	\$3.77	\$24,645.55
715-61-342	LIGHT POLE CMPLT,STD,F&I, 40'MH,12'ARM L	12.00 EA	\$8,402.83	\$100,833.96

715-500-1	POLE CABLE DIST SYS, CONVENTIONAL Subcomponent Total	12.00 EA	\$768.21	\$9,218.52 \$198,407.42
,	Lighting Component Total			\$198,407.43
Sequence 2	Total			\$2,669,496.59

## EARTHWORK COMPONENT

	EARTHWORK CO	MPONENT		
User Input Data	I			
Description				Value
-	ng and Grubbing Limits L/R			68.00 / 68.00
Incidental Cleari	ng and Grubbing Area			0.00
Alignment Numb	ber			1
Distance				0.036
	l Course For Begin Section l Course For End Section			102.00 102.00
	ition For Begin Section			100.00
	ition For End Section			100.00
Front Slope L/R				2 to 1 / 2 to 1
Median Shoulde	r Cross Slope L/R			2.00 % / 2.00 %
	er Cross Slope L/R			2.00 % / 2.00 %
Roadway Cross	Slope L/R			2.00 % / 2.00 %
Pay Items				
Pay item	Description	-		Extended Amount
110-1-1	CLEARING & GRUBBING	0.59 AC	\$56,512.73	\$33,342.51
120-6	EMBANKMENT	819.74 CY	\$15.04	\$12,328.89
X-Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
120-1	REGULAR EXCAVATION	320.00 CY	\$18.27	
	Earthwork Component Total			\$51,517.80
,	ROADWAY COM	PONENT		
User Input Data				
Description		Value	9	
Number of Lane	S	2		
Roadway Paven	nent Width L/R	12.00 / 12.00	)	
Structural Sprea		275		
Friction Course	Spread Rate	165	i	
Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160 <b>-</b> 4	TYPE B STABILIZATION	724.84 SY	\$15.74	\$11,408.98
285-709	OPTIONAL BASE, BASE GROUP 09	506.88 SY	\$23.27	\$11,795.10
	SUPERPAVE ASPHALTIC CONC,			
334-1-13	TRAFFIC C	69.70 TN	\$192.26	\$13,400.52
337-7-83	ASPH CONC FC, TRAFFIC C, FC-	41.82 TN	\$208.69	\$8,727.42
	12.5,PG 76-22		+==0.00	¥0,1 21112
X-Items				
A-ILCIIIS		<b>_</b>		

Pay item	Description	Quantity Unit	Unit Price Ext	ended Amount
160-4	TYPE B STABILIZATION	960.00 SY	\$15.74	\$15,110.40
285-709	OPTIONAL BASE, BASE GROUP 09	680.00 SY	\$23.27	\$15,823.60
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	75.00 TN	\$192.26	\$14,419.50

337-7-83	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	38.00 TN	\$208.69	\$7,930.22
710-11-201	PAINTED PAVT MARK,STD,YELLOW,SOLID,6"	0.07 GM	\$1,299.67	\$90.98
Pavement Mar	king Subcomponent			
Description		Value		
Include Thermo	•	Y		
Pavement Type		Asphalt		
Solid Stripe No.	of Paint Applications	1		
	of Paint Applications	1		
Skip Stripe No.		0		
Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-1-3	RAISED PAVMT MARK, TYPE B	5.00 EA	\$4.35	\$21.75
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.14 GM	\$1,261.74	\$176.64
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.14 GM	\$5,999.99	\$840.00
	Roadway Component Total			\$99,745.11
	houlder Width L/R houlder Perf. Turf Width L/R h L/R	19.25 / 19.25 9.00 / 9.00		
Pay Items		8.00 / 8.00		
		8.00 / 8.00		
Pay item			Unit Price	Extended Amount
<b>Pay item</b> 520-1-10	<b>Description</b> CONCRETE CURB & GUTTER, TYPE F		<b>Unit Price</b> \$46.28	
520-1-10	<b>Description</b> CONCRETE CURB & GUTTER,	Quantity Unit		\$8,796.90
520-1-10 520-1-10	<b>Description</b> CONCRETE CURB & GUTTER, TYPE F CONCRETE CURB & GUTTER,	<b>Quantity Unit</b> 190.08 LF	\$46.28	\$8,796.90 \$8,796.90
520-1-10 520-1-10 522-1	<b>Description</b> CONCRETE CURB & GUTTER, TYPE F CONCRETE CURB & GUTTER, TYPE F CONCRETE SIDEWALK AND	<b>Quantity Unit</b> 190.08 LF 190.08 LF	\$46.28 \$46.28	\$8,796.90 \$8,796.90 \$24,171.42
520-1-10 520-1-10 522-1 570-1-1 <b>Erosion Contro</b>	<b>Description</b> CONCRETE CURB & GUTTER, TYPE F CONCRETE CURB & GUTTER, TYPE F CONCRETE SIDEWALK AND DRIVEWAYS, 4" PERFORMANCE TURF	<b>Quantity Unit</b> 190.08 LF 190.08 LF 337.92 SY	\$46.28 \$46.28 \$71.53	\$8,796.90 \$8,796.90 \$24,171.42
520-1-10 520-1-10 522-1 570-1-1 Erosion Contro Pay Items	Description CONCRETE CURB & GUTTER, TYPE F CONCRETE CURB & GUTTER, TYPE F CONCRETE SIDEWALK AND DRIVEWAYS, 4" PERFORMANCE TURF	Quantity Unit 190.08 LF 190.08 LF 337.92 SY 380.16 SY	\$46.28 \$46.28 \$71.53 \$4.80	\$8,796.90 \$8,796.90 \$24,171.42 \$1,824.77
520-1-10 520-1-10 522-1 570-1-1 Erosion Contro Pay Items Pay item	Description CONCRETE CURB & GUTTER, TYPE F CONCRETE CURB & GUTTER, TYPE F CONCRETE SIDEWALK AND DRIVEWAYS, 4" PERFORMANCE TURF ol Description	<b>Quantity Unit</b> 190.08 LF 190.08 LF 337.92 SY 380.16 SY <b>Quantity Unit</b>	\$46.28 \$46.28 \$71.53 \$4.80 Unit Price	\$8,796.90 \$8,796.90 \$24,171.42 \$1,824.77 Extended Amount
520-1-10 520-1-10 522-1 570-1-1 Erosion Contro Pay Items Pay item 104-10-3	Description CONCRETE CURB & GUTTER, TYPE F CONCRETE CURB & GUTTER, TYPE F CONCRETE SIDEWALK AND DRIVEWAYS, 4" PERFORMANCE TURF ol Description SEDIMENT BARRIER	<b>Quantity Unit</b> 190.08 LF 190.08 LF 337.92 SY 380.16 SY <b>Quantity Unit</b> 380.16 LF	\$46.28 \$46.28 \$71.53 \$4.80 Unit Price \$2.70	\$8,796.90 \$8,796.90 \$24,171.42 \$1,824.77 Extended Amount \$1,026.43
520-1-10 520-1-10 522-1 570-1-1 Erosion Contro Pay Items	Description CONCRETE CURB & GUTTER, TYPE F CONCRETE CURB & GUTTER, TYPE F CONCRETE SIDEWALK AND DRIVEWAYS, 4" PERFORMANCE TURF ol Description SEDIMENT BARRIER FLOATING TURBIDITY BARRIER STAKED TURBIDITY BARRIER-	<b>Quantity Unit</b> 190.08 LF 190.08 LF 337.92 SY 380.16 SY <b>Quantity Unit</b>	\$46.28 \$46.28 \$71.53 \$4.80 Unit Price	\$8,796.90 \$8,796.90 \$24,171.42 \$1,824.77 <b>Extended Amount</b> \$1,026.43 \$115.11
520-1-10 520-1-10 522-1 570-1-1 Erosion Contro Pay Items Pay item 104-10-3 104-11	Description CONCRETE CURB & GUTTER, TYPE F CONCRETE CURB & GUTTER, TYPE F CONCRETE SIDEWALK AND DRIVEWAYS, 4" PERFORMANCE TURF ol Description SEDIMENT BARRIER FLOATING TURBIDITY BARRIER STAKED TURBIDITY BARRIER NYL REINF PVC SOIL TRACKING PREVENTION	<b>Quantity Unit</b> 190.08 LF 190.08 LF 337.92 SY 380.16 SY <b>Quantity Unit</b> 380.16 LF 9.00 LF	\$46.28 \$46.28 \$71.53 \$4.80 <b>Unit Price</b> \$2.70 \$12.79	\$8,796.90 \$8,796.90 \$24,171.42 \$1,824.77 Extended Amount \$1,026.43 \$115.11 \$57.87
520-1-10 520-1-10 522-1 570-1-1 <b>Erosion Contro</b> <b>Pay Items</b> 104-10-3 104-11 104-12	DescriptionCONCRETE CURB & GUTTER, TYPE FCONCRETE CURB & GUTTER, TYPE FCONCRETE SIDEWALK AND DRIVEWAYS, 4" PERFORMANCE TURFOIDescriptionSEDIMENT BARRIER FLOATING TURBIDITY BARRIER STAKED TURBIDITY BARRIER- NYL REINF PVC SOIL TRACKING PREVENTION DEVICE	Quantity Unit 190.08 LF 190.08 LF 337.92 SY 380.16 SY Quantity Unit 380.16 LF 9.00 LF 9.00 LF 1.00 EA	\$46.28 \$46.28 \$71.53 \$4.80 <b>Unit Price</b> \$2.70 \$12.79 \$6.43 \$2,689.06	Extended Amount \$8,796.90 \$24,171.42 \$1,824.77 Extended Amount \$1,026.43 \$115.11 \$57.87 \$2,689.06 \$246.12
520-1-10 520-1-10 522-1 570-1-1 <b>Erosion Contro</b> <b>Pay Items</b> <b>Pay item</b> 104-10-3 104-11 104-12 104-15	Description CONCRETE CURB & GUTTER, TYPE F CONCRETE CURB & GUTTER, TYPE F CONCRETE SIDEWALK AND DRIVEWAYS, 4" PERFORMANCE TURF ol Description SEDIMENT BARRIER FLOATING TURBIDITY BARRIER STAKED TURBIDITY BARRIER NYL REINF PVC SOIL TRACKING PREVENTION	Quantity Unit 190.08 LF 190.08 LF 337.92 SY 380.16 SY Quantity Unit 380.16 LF 9.00 LF 9.00 LF	\$46.28 \$46.28 \$71.53 \$4.80 <b>Unit Price</b> \$2.70 \$12.79 \$6.43	\$8,796.90 \$8,796.90 \$24,171.42 \$1,824.77 Extended Amount \$1,026.43 \$115.11 \$57.87

Shoulder Component Total

#### **MEDIAN COMPONENT**

User Input Data	a			
Description		Value		
Total Median W	idth	0.00		
Performance Tu	ırf Width	0.00		
X-Items				
Pay item	Description	Quantity Unit	Unit Price Exte	ended Amount
350-30-13	CONC PAVEMENT FOR ROUNDABOUT APRON. 12"	270.00 SY	\$316.70	\$85,509.00

	Median Component Total			\$85,509.00
350-30-13	CONC PAVEMENT FOR ROUNDABOUT APRON, 12"	270.00 SY	\$316.70	\$85,509.00

## DRAINAGE COMPONENT

Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
425-1-351	INLETS, CURB, TYPE P-5, <10'	2.00 EA	\$7,474.89	\$14,949.78
425-1-451	INLETS, CURB, TYPE J-5, <10'	1.00 EA	\$11,817.04	\$11,817.04
425-1-521	INLETS, DT BOT, TYPE C, <10'	1.00 EA	\$7,391.69	\$7,391.69
425-2-41	MANHOLES, P-7, <10'	1.00 EA	\$6,130.30	\$6,130.30
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	96.00 LF	\$189.12	\$18,155.52
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	16.00 LF	\$306.37	\$4,901.92
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	184.00 LF	\$318.06	\$58,523.04
570-1-1	PERFORMANCE TURF	10.94 SY	\$4.80	\$52.51
	Drainage Component Total			\$121,921.80

#### SIGNING COMPONENT

Pay Items				
Pay item	Description	Quantity Unit	Unit Price Ext	ended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	4.00 AS	\$449.95	\$1,799.80
	Signing Component Total			\$1,799.80

#### LIGHTING COMPONENT

#### **Conventional Lighting Subcomponent**

Description	Value
Spacing	MIN

#### X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	1.00 AS	\$3,860.30	\$3,860.30
715-7-11	LOAD CENTER, F&I, SECONDARY VOLTAGE	1.00 EA	\$17,701.36	\$17,701.36
				<b>•</b> • · · • • · • •

Lighting Component Total

\$21,561.66

## LANDSCAPING COMPONENT

User Input Data		
Description	Value	
Lump Sum	40,000.00	
Cost %	0.00	
Component Detail	N	
Landscaping Component Total		

Sequence 3 Total

\$40,000.00

\$469,902.22

Description: 2-Lane Approach (Ave. Y)

# EARTHWORK COMPONENT

User Input Data	
Description	Value
Standard Clearing and Grubbing Limits L/R	0.00 / 0.00
Incidental Clearing and Grubbing Area	0.50
Alignment Number	1
Distance	0.026
Top of Structural Course For Begin Section	102.00
Top of Structural Course For End Section	102.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

## Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	0.50 AC	\$56,512.73	\$28,256.36
120-6	EMBANKMENT	256.76 CY	\$15.04	\$3,861.67
	Earthwork Component Total			\$32,118.04

#### **ROADWAY COMPONENT**

User Input Data	
Description	Value
Number of Lanes	2
Roadway Pavement Width L/R	12.00 / 12.00
Structural Spread Rate	275
Friction Course Spread Rate	165

Pay Items

Pay item	Description	Quantity Unit	Unit Price Ex	tended Amount
160 <b>-</b> 4	TYPE B STABILIZATION	671.15 SY	\$15.74	\$10,563.90
285 <b>-</b> 709	OPTIONAL BASE, BASE GROUP 09	376.15 SY	\$23.27	\$8,753.01
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	50.34 TN	\$192.26	\$9,678.37
337-7-81	ASPH CONC FC,TRAFFIC B,FC- 12.5,PG 76-22	30.20 TN	\$789.82	\$23,852.56

## X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.15 GM	\$1,261.74	\$189.26
710-11-123	PAINTED PAVT MARK,STD,WHITE,SOLID, 12"	60.00 LF	\$1.07	\$64.20
710-11-125	PAINTED PAVT MARK,STD,WHITE,SOLID,24"	90.00 LF	\$2.01	\$180.90
710-11-141	PAINTED PAVT MARK,STD,WH,DOT GUIDE, 6"	0.02 GM	\$693.88	\$13.88
710-11-144	PAINTED PAVEMENT MARKINGS, STANDARD, WHI	0.01 GM	\$1,175.81	\$11.76

710-11-160	PAINTED PAVT MARK,STD,WHITE, MESSAGE	1.00 EA	\$59.36	\$59.36
710-11-201	PAINTED PAVT MARK,STD,YELLOW,SOLID,6"	0.15 GM	\$1,299.67	\$194.95
710-11-224	PAINTED PAVT MARK,STD,YELLOW,SOLID,18"	50.00 LF	\$1.66	\$83.00

# Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	1

# Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-1-3	RAISED PAVMT MARK, TYPE B	4.00 EA	\$4.35	\$17.40
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.05 GM	\$1,261.74	\$63.09
710-11-231	PAINTED PAVT MARK,STD,YELLOW,SKIP,6"	0.03 GM	\$560.16	\$16.80
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	0.05 GM	\$5,295.89	\$264.79
711-16-231	THERMOPLASTIC, STD-OTH, YELLOW, SKIP, 6"	0.03 GM	\$1,890.90	\$56.73
	Roadway Component Total			\$54,063.96

# SHOULDER COMPONENT

# User Input Data

Description	Value
Total Outside Shoulder Width L/R	10.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.67
Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	275
Friction Course Spread Rate	165
Total Width (T) / 8" Overlap (O)	Т
Rumble Strips �No. of Sides	0

# Pay Items

Pay item	Description	Quantity Unit	Unit Price E	xtended Amount
285-704	OPTIONAL BASE, BASE GROUP 04	162.60 SY	\$64.97	\$10,564.12
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	20.97 TN	\$192.26	\$4,031.69
337-7-82	ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22	12.58 TN	\$1,326.97	\$16,693.28
570-1-1	PERFORMANCE TURF	81.45 SY	\$4.80	\$390.96

X-Items

Pay item	Description	Quantity Unit	Unit Price Exte	ended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	375.00 LF	\$46.28	\$17,355.00
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	440.00 SY	\$71.53	\$31,473.20
527-2	DETECTABLE WARNINGS	104.00 SF	\$35.35	\$3,676.40

Erosion Contro	I			
Pay Items				
Pay item	Description	Quantity Unit	Unit Price I	Extended Amount
104-10-3	SEDIMENT BARRIER	356.93 LF	\$2.70	\$963.71
104-11	FLOATING TURBIDITY BARRIER	6.50 LF	\$12.79	\$83.14
104 <b>-</b> 12	STAKED TURBIDITY BARRIER- NYL REINF PVC	6.50 LF	\$6.43	\$41.80
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,689.06	\$2,689.06
107-1	LITTER REMOVAL	0.32 AC	\$50.09	\$16.03
107-2	MOWING	0.32 AC	\$83.03	\$26.57
	Shoulder Component Total			\$88,004.96

## DRAINAGE COMPONENT

Pay Items				
Pay item	Description	Quantity Unit	Unit Price Ext	tended Amount
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	24.00 LF	\$487.61	\$11,702.64
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	8.00 LF	\$306.37	\$2,450.96
570-1-1	PERFORMANCE TURF	18.30 SY	\$4.80	\$87.84
X-Items Pay item	Description	Quantity Unit	Unit Price Ext	tended Amount
425-1-361	INLETS, CURB, TYPE P-6, <10'	2.00 EA	\$9,440.85	\$18,881.70
	Drainage Component Total			\$33,123.14

#### SIGNING COMPONENT

Pay Items				
Pay item	Description	Quantity Unit	Unit Price E	xtended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00 AS	\$449.95	\$449.95
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	1.00 AS	\$1,607.97	\$1,607.97
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00 AS	\$5,718.61	\$5,718.61
	Signing Component Total			\$7,776.53

Sequence 4 Total

\$215,086.63

Description: 2-Lane Approach (Ave. Y)

# EARTHWORK COMPONENT

User Input Data	
Description	Value
Standard Clearing and Grubbing Limits L/R	0.00 / 0.00
Incidental Clearing and Grubbing Area	0.50
Alignment Number	1
Distance	0.026
Top of Structural Course For Begin Section	102.00
Top of Structural Course For End Section	102.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

## Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	0.50 AC	\$56,512.73	\$28,256.36
120-6	EMBANKMENT	256.76 CY	\$15.04	\$3,861.67
	Earthwork Component Total			\$32,118.04

#### **ROADWAY COMPONENT**

User Input Data	
Description	Value
Number of Lanes	2
Roadway Pavement Width L/R	12.00 / 12.00
Structural Spread Rate	275
Friction Course Spread Rate	165

Pay Items

Pay item	Description	Quantity Unit	Unit Price Ex	tended Amount
160 <b>-</b> 4	TYPE B STABILIZATION	671.15 SY	\$15.74	\$10,563.90
285 <b>-</b> 709	OPTIONAL BASE, BASE GROUP 09	376.15 SY	\$23.27	\$8,753.01
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	50.34 TN	\$192.26	\$9,678.37
337-7-81	ASPH CONC FC,TRAFFIC B,FC- 12.5,PG 76-22	30.20 TN	\$789.82	\$23,852.56

#### X-Items

Pay item	Description	Quantity Unit	Unit Price E	Extended Amount
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.15 GM	\$1,261.74	\$189.26
710-11-123	PAINTED PAVT MARK,STD,WHITE,SOLID, 12"	60.00 LF	\$1.07	\$64.20
710-11-125	PAINTED PAVT MARK,STD,WHITE,SOLID,24"	90.00 LF	\$2.01	\$180.90
710-11-141	PAINTED PAVT MARK,STD,WH,DOT GUIDE, 6"	0.02 GM	\$693.88	\$13.88
710-11-144	PAINTED PAVEMENT MARKINGS, STANDARD, WHI	0.01 GM	\$1,175.81	\$11.76

710-11-160	PAINTED PAVT MARK,STD,WHITE, MESSAGE	1.00 EA	\$59.36	\$59.36
710-11-201	PAINTED PAVT MARK,STD,YELLOW,SOLID,6"	0.15 GM	\$1,299.67	\$194.95
710-11-224	PAINTED PAVT MARK,STD,YELLOW,SOLID,18"	50.00 LF	\$1.66	\$83.00

# Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	1

# Pay Items

Pay item	Description	Quantity Unit	Unit Price Exter	nded Amount
706-1-3	RAISED PAVMT MARK, TYPE B	4.00 EA	\$4.35	\$17.40
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.05 GM	\$1,261.74	\$63.09
710-11-231	PAINTED PAVT MARK,STD,YELLOW,SKIP,6"	0.03 GM	\$560.16	\$16.80
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	0.05 GM	\$5,295.89	\$264.79
711-16-231	THERMOPLASTIC, STD-OTH, YELLOW, SKIP, 6"	0.03 GM	\$1,890.90	\$56.73
	Roadway Component Total			\$54,063.96

# SHOULDER COMPONENT

# User Input Data

Description	Value
Total Outside Shoulder Width L/R	10.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.67
Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	275
Friction Course Spread Rate	165
Total Width (T) / 8" Overlap (O)	Т
Rumble Strips �No. of Sides	0

# Pay Items

Pay item	Description	Quantity Unit	Unit Price E	xtended Amount
285-704	OPTIONAL BASE, BASE GROUP 04	162.60 SY	\$64.97	\$10,564.12
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	20.97 TN	\$192.26	\$4,031.69
337-7-82	ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22	12.58 TN	\$1,326.97	\$16,693.28
570-1-1	PERFORMANCE TURF	81.45 SY	\$4.80	\$390.96

X-Items

Pay item	Description	Quantity Unit	Unit Price Exte	ended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	375.00 LF	\$46.28	\$17,355.00
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	440.00 SY	\$71.53	\$31,473.20
527-2	DETECTABLE WARNINGS	104.00 SF	\$35.35	\$3,676.40

Erosion Contro	l			
Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	356.93 LF	\$2.70	\$963.71
104-11	FLOATING TURBIDITY BARRIER	6.50 LF	\$12.79	\$83.14
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	6.50 LF	\$6.43	\$41.80
104 <b>-</b> 15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,689.06	\$2,689.06
107-1	LITTER REMOVAL	0.32 AC	\$50.09	\$16.03
107-2	MOWING	0.32 AC	\$83.03	\$26.57
	Shoulder Component Total			\$88,004.96

## DRAINAGE COMPONENT

Pay Items				
Pay item	Description	Quantity Unit	Unit Price Ext	ended Amount
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	24.00 LF	\$487.61	\$11,702.64
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	8.00 LF	\$306.37	\$2,450.96
570-1-1	PERFORMANCE TURF	18.30 SY	\$4.80	\$87.84
X-Items Pay item	Description	Quantity Unit	Unit Price Ext	ended Amount
425-1-361	INLETS, CURB, TYPE P-6, <10'	2.00 EA	\$9.440.85	\$18.881.70
	Drainage Component Total		<i>,</i>	\$33,123.14

#### SIGNING COMPONENT

Pay Items				
Pay item	Description	Quantity Unit	Unit Price E	xtended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00 AS	\$449.95	\$449.95
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	1.00 AS	\$1,607.97	\$1,607.97
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00 AS	\$5,718.61	\$5,718.61
	Signing Component Total			\$7,776.53

Sequence 5 Total

\$215,086.63

\$509,944.23

Description: 4 Lane Approach (SR 544) to N. of Ave Y (Pentecostal Church)

#### EARTHWORK COMPONENT

User Input Data	
Description	Value
Standard Clearing and Grubbing Limits L/R	56.00 / 56.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.383
Top of Structural Course For Begin Section	102.00
Top of Structural Course For End Section	102.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	2 to 1 / 2 to 1
Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	5.20 AC	\$56,512.73	\$293,866.20
120-6	EMBANKMENT	14,366.89 CY	\$15.04	\$216,078.03

#### Earthwork Component Total

# ROADWAY COMPONENT

#### User Input Data

Description	Value
Number of Lanes	4
Roadway Pavement Width L/R	23.00 / 23.00
Structural Spread Rate	275
Friction Course Spread Rate	165

#### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	12,654.73 SY	\$15.74	\$199,185.45
285-709	OPTIONAL BASE, BASE GROUP 09	10,335.89 SY	\$23.27	\$240,516.16
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	1,421.19 TN	\$192.26	\$273,237.99
337-7-83	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	852.71 TN	\$208.69	\$177,952.05

## **Pavement Marking Subcomponent**

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	2

## Pay Items

Pay item Description

706-1-3	RAISED PAVMT MARK, TYPE B	155.00 EA	\$4.35	\$674.25
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	1.53 GM	\$1,261.74	\$1,930.46
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	0.77 GM	\$544.18	\$419.02
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	1.53 GM	\$5,295.89	\$8,102.71
711-16-131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	0.77 GM	\$1,568.63	\$1,207.85
	Roadway Component Total			\$903,225.94

## SHOULDER COMPONENT

# User Input Data

Description	Value
Total Outside Shoulder Width L/R	22.25 / 22.25
Total Outside Shoulder Perf. Turf Width L/R	10.00 / 10.00
Sidewalk Width L/R	10.00 / 10.00

# Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	2,022.24 LF	\$46.28	\$93,589.27
520-1-10	CONCRETE CURB & GUTTER, TYPE F	2,022.24 LF	\$46.28	\$93,589.27
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	4,493.87 SY	\$71.53	\$321,446.52
570-1-1	PERFORMANCE TURF	4,493.87 SY	\$4.80	\$21,570.58

## **Erosion Control**

Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	4,044.48 LF	\$2.70	\$10,920.10
104-11	FLOATING TURBIDITY BARRIER	95.75 LF	\$12.79	\$1,224.64
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	95.75 LF	\$6.43	\$615.67
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,689.06	\$2,689.06
104-18	INLET PROTECTION SYSTEM	20.00 EA	\$123.06	\$2,461.20
107-1	LITTER REMOVAL	9.75 AC	\$50.09	\$488.38
107-2	MOWING	9.75 AC	\$83.03	\$809.54
	Shoulder Component Total			\$549,404.23

#### **MEDIAN COMPONENT**

## User Input Data

Description	Value
Total Median Width	22.00
Performance Turf Width	17.50

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	4,044.48 LF	\$38.76	\$156,764.04
570-1-1	PERFORMANCE TURF	3,932.13 SY	\$4.80	\$18,874.22

PIPE CULV, OPT MATL, ROUND,

FENCING, TYPE B, 5.1-6.0',

B,SLIDE/CANT,18.1-20'OPEN PERFORMANCE TURF

Drainage Component Total

60"S/CD

STANDARD FENCE GATE, TYP

430-175-160

550-10-220

550-60-234

570-1-1

Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
425-1-351	INLETS, CURB, TYPE P-5, <10'	14.00 EA	\$7,474.89	\$104,648.46
425-1-451	INLETS, CURB, TYPE J-5, <10'	4.00 EA	\$11,817.04	\$47,268.16
425-1-521	INLETS, DT BOT, TYPE C, <10'	2.00 EA	\$7,391.69	\$14,783.38
425-2-41	MANHOLES, P <b>-</b> 7, <10'	2.00 EA	\$6,130.30	\$12,260.60
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	1,016.00 LF	\$189.12	\$192,145.92
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	96.00 LF	\$306.37	\$29,411.52
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	1,920.00 LF	\$318.06	\$610,675.20
570-1-1	PERFORMANCE TURF	116.43 SY	\$4.80	\$558.86
Retention Basi	n 1			
Description		Value	e	
Size		1 AC	2	
Multiplier			3	
Depth		5.00	)	
Description	Pond 1			
Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	3.00 AC	\$56,512.73	\$169,538.19
120-1	REGULAR EXCAVATION	24,200.01 CY	\$18.27	\$442,134.18
425-1-541	INLETS, DT BOT, TYPE D, <10'	3.00 EA	\$6,465.04	\$19,395.12
425-2-71	MANHOLES, J-7, <10'	3.00 EA	\$7,689.71	\$23,069.13
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	168.00 LF	\$355.79	\$59,772.72

#### DRAINAGE COMPONENT

#### SIGNING COMPONENT

600.00 LF

2,520.00 LF

14,520.00 SY

3.00 EA

\$715.27

\$33.16

\$4.80

\$4,668.52

\$429,162.00

\$83,563.20

\$14,005.56

\$69,696.00

\$2,322,088.20

Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	10.00 AS	\$449.95	\$4,499.50
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	1.00 AS	\$1,607.97	\$1,607.97
700-2-15	MULTI- POST SIGN, F&I GM, 51- 100 SF	1.00 AS	\$7,587.77	\$7,587.77
700-2-16	MULTI- POST SIGN, F&I GM, 101- 200 SF	1.00 AS	\$16,710.53	\$16,710.53

Conventional	Lighting Subcomponent			
<b>Description</b> Spacing				<b>Value</b> MIN
Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	2,022.24 LF	\$19.30	\$39,029.23
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	401.38 LF	\$36.03	\$14,461.72
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	14.00 EA	\$1,363.63	\$19,090.82
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	7,385.77 LF	\$3.77	\$27,844.35
715-61-342	LIGHT POLE CMPLT,STD,F&I, 40'MH,12'ARM L	14.00 EA	\$8,402.83	\$117,639.62
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	14.00 EA	\$768.21	\$10,754.94
	Subcomponent Total			\$228,820.69
	Lighting Component Total			\$228,820.68
r				

#### LIGHTING COMPONENT

Sequence 6 Total

\$4,719,527.31

# FDOT Long Range Estimating System - Production R3: Project Details by Sequence Report

Project: 440273	Project: 440273-4-52-01 Letting Date: 07/2027				
Description: SR 544 (LUCERNE PARK) FROM MLK BLVD TO AVENUE Y					
District: 01 Contract Class	County: 16 POLK s: 1 Lump Sum Project: N	Market Area: 08 Design/Build: N	Units: Er Project L	•	0.619 MI
Project Manag	er: NEM-KSJ-JLF				
Version 5 Proje Description: Ma	e <b>ct Grand Total</b> arch 2024 Unit Cost Updates from Ve	ersion 4P - 3/5/24			\$13,309,808.01
Project Seque	nces Subtotal				\$9,921,345.93
102-1	Maintenance of Traffic	15.00 %			\$1,488,201.89
101-1	Mobilization	10.00 %			\$1,140,954.78
Project Seque	nces Total				\$12,550,502.60
Project Unknow	ns	5.00 %			\$627,525.13
Design/Build		0.00 %			\$0.00
Non-Bid Comp	oonents:				
Pay item	Description	Quantity U	nit Unit	Price	Extended Amount
999-25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)	LS	5 \$131,7	80.28	\$131,780.28
Project Non-B	id Subtotal				\$131,780.28
Version 5 Proj	ect Grand Total				\$13,309,808.01

# FDOT Long Range Estimating System - Production R3: Project Details by Sequence Report

Project: 440273-	1-22-01			Le	etting Da	ate: 01/2099
Description: SR	8 544 (LUCERNE PARK RD) FRO	OM MARTIN LUTHER	KING	BLVD TO SF	R 17	
District: 01 Contract Class:	County: 16 POLK 4 Lump Sum Project: N	Market Area: 08 Design/Build: N		s: English ect Length:	7.950 M	I
Project Manage	r: JMK-AEH-DCT					
Version 33 Proje Description: <sup>Seg</sup> Brid	e <b>ct Grand Total</b> gment 2-N. of Ave. Y to east side lge) - June 2024 Unit Cost Updat	of Lake Conine Canal es from Version 32 - 6	(inc <b>l</b> uc /3/24	ding the Lake	<b>\$9</b> Conine	, <b>457,953.58</b> Canal
Sequence: 5 ND	U - New Construction, Divided, U	rban		Net L	ength:	0.598 MI 3,157 LF
Description: Sec	gment 2-N. of Ave. Y to east side lge)	of Lake Conine Canal	(inc <b>l</b> uo	ding the Lake	e Conine	Canal
,	EARTHW	ORK COMPONENT				
User Input Data						
Description						Value
	ng and Grubbing Limits L/R				56.0	0 / 56.00
Incidental Cleari	ng and Grubbing Area					0.00
Alignment Numb	er					1
Distance						0.598
Top of Structural	Course For Begin Section					102.00
	Course For End Section					102.00
	tion For Begin Section					100.00
	tion For End Section				<b>.</b>	100.00
Front Slope L/R 2 to 1						
	r Cross Clana L /D				4 00 0/	
Median Shoulde	r Cross Slope L/R					5 / 4.00 %
Median Shoulde	r Cross Slope L/R				2.00 %	5 / 4.00 % 5 / 2.00 % 5 / 2.00 %
Median Shoulde Outside Shoulde	r Cross Slope L/R				2.00 %	o / 2.00 %
Median Shoulde Outside Shoulde Roadway Cross	r Cross Slope L/R	Quantity	<sup>,</sup> Unit	Unit Price	2.00 % 2.00 %	o / 2.00 % o / 2.00 %
Median Shoulde Outside Shoulde Roadway Cross Pay Items	r Cross Slope L/R Slope L/R	Quantity 8.12		<b>Unit Price</b> \$56,017.69	2.00 % 2.00 %	o / 2.00 % o / 2.00 %

#### **ROADWAY COMPONENT**

User Input Data	
Description	Value
Number of Lanes	4
Roadway Pavement Width L/R	23.00 / 23.00
Structural Spread Rate	275
Friction Course Spread Rate	165

## Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160 <b>-</b> 4	TYPE B STABILIZATION	19,755.25 SY	\$10.73	\$211,973.83
285-709	OPTIONAL BASE, BASE GROUP 09	16,135.33 SY	\$20.06	\$323,674.72
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	2,218.61 TN	\$193.64	\$429,611.64
337-7-83	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	1,331.16 TN	\$207.93	\$276,788.10

#### X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
339-1	MISCELLANEOUS ASPHALT PAVEMENT	50.00 TN	\$433.49	\$21,674.50
455-133-3	SHEET PILING STEEL, F&I PERMANENT	10,000.00 SF	\$65.80	\$658,000.00
515-2-111	PED/BICYCLE RAILING,NS, 42" TYPE 1	1,500.00 LF	\$110.70	\$166,050.00
536-1-1	GUARDRAIL- ROADWAY, GEN TL-3	1,500.00 LF	\$27.96	\$41,940.00

## Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	2

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-1-3	RAISED PAVMT MARK, TYPE B	242.00 EA	\$4.36	\$1,055.12

	Roadway Component Total			\$2,149,657.84
711-16-131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	1.20 GM	\$1,616.01	\$1,939.21
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	2.39 GM	\$5,558.07	\$13,283.79
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	1.20 GM	\$546.91	\$656.29
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	2.39 GM	\$1,259.68	\$3,010.64

## SHOULDER COMPONENT

## User Input Data

Description	Value
Total Outside Shoulder Width L/R	22.25 / 22.25
Total Outside Shoulder Perf. Turf Width L/R	10.00 / 10.00
Sidewalk Width L/R	10.00 / 10.00

# Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	3,156.91 LF	\$46.67	\$147,332.99
520-1-10	CONCRETE CURB & GUTTER, TYPE F	3,156.91 LF	\$46.67	\$147,332.99
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	7,015.36 SY	\$65.70	\$460,909.15
570-1-1	PERFORMANCE TURF	7,015.36 SY	\$4.62	\$32,410.96

## **Erosion Control**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	6,313.82 LF	\$2.71	\$17,110.45
104-11	FLOATING TURBIDITY BARRIER	149.48 LF	\$15.46	\$2,310.96
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	149.48 LF	\$6.67	\$997.03
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,689.06	\$2,689.06
104-18	INLET PROTECTION SYSTEM	31.00 EA	\$123.06	\$3,814.86
107-1	LITTER REMOVAL	15.22 AC	\$48.53	\$738.63
107-2	MOWING	15.22 AC	\$84.04	\$1,279.09

#### MEDIAN COMPONENT

User Input Data	
Description	Value
Total Median Width	22.00
Performance Turf Width	17.50

## Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	6,313.82 LF	\$41.59	\$262,591.77
570-1-1	PERFORMANCE TURF	6,138.44 SY	\$4.62	\$28,359.59
	Median Component Total			\$290,951.36

# DRAINAGE COMPONENT

## Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
425-1-351	INLETS, CURB, TYPE P-5, <10'	22.00 EA	\$7,474.89	\$164,447.58
425-1-451	INLETS, CURB, TYPE J-5, <10'	6.00 EA	\$14,168.32	\$85,009.92
425-1-521	INLETS, DT BOT, TYPE C, <10'	3.00 EA	\$6,847.68	\$20,543.04
425-2-41	MANHOLES, P-7, <10'	3.00 EA	\$6,130.30	\$18,390.90
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	1,584.00 LF	\$156.39	\$247,721.76
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	144.00 LF	\$237.81	\$34,244.64
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	2,992.00 LF	\$299.07	\$894,817.44
570-1-1	PERFORMANCE TURF	181.76 SY	\$4.62	\$839.73
	Drainage Component Total			\$1,466,015.01

## SIGNING COMPONENT

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	15.00 AS	\$462.47	\$6,937.05
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	2.00 AS	\$1,578.08	\$3,156.16

	Signing Component Total			\$56,621.69
700-2-16	MULTI- POST SIGN, F&I GM, 101- 200 SF	2.00 AS	\$15,571.98	\$31,143.96
700-2-15	MULTI- POST SIGN, F&I GM, 51- 100 SF	2.00 AS	\$7,692.26	\$15,384.52

#### LIGHTING COMPONENT

## Conventional Lighting Subcomponent

Description				Value
Spacing				MIN
Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	3,156.91 LF	\$19.26	\$60,802.09
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	626.60 LF	\$36.22	\$22,695.45
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	21.00 EA	\$1,374.06	\$28,855.26
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	11,529.90 LF	\$3.77	\$43,467.72
715-61-342	LIGHT POLE CMPLT,STD,F&I, 40'MH,12'ARM L	21.00 EA	\$8,402.83	\$176,459.43
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	21.00 EA	\$768.21	\$16,132.41
	Subcomponent Total			\$348,412.36
	Lighting Component Total			\$348,412.36

#### **BRIDGES COMPONENT**

Bridge 1	
Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	52.00
Width (LF)	98.58
Туре	Low Level
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	\$114.00
Factored Cost per SF	\$142.50
Final Cost per SF	\$178.07
Basic Bridge Cost	\$730,477.80

Description

Bridge Pay Iter Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	219.07 CY	\$597.85	\$130,971.00
415-1-9	REINF STEEL- APPROACH SLABS	38,337.25 LB	\$1.34	\$51,371.92
	Bridge 1 Total			\$912,820.72
	Bridges Component Total			\$912,820.72
Sequence 5 To	otal			\$7,050,111.41

# FDOT Long Range Estimating System - Production R3: Project Details by Sequence Report

Project: 440273-1-22-01 Letting Date: 01/2099							
Description: SR	544 (LUCERNE PARK RD) FROM	MARTIN LUTHER	KING	BLVD TO SP	R 17		
District: 01 Contract Class:	County: 16 POLK 4 Lump Sum Project: N	Market Area: 08 Design/Build: N		ts: English ject Length:	7.950 MI		
Project Manage	r: JMK-AEH-DCT						
Version 33 Project Grand Total\$9,457,953.58Description:Segment 2-N. of Ave. Y to east side of Lake Conine Canal (including the Lake Conine Canal Bridge) - June 2024 Unit Cost Updates from Version 32 - 6/3/24							
Project Sequences Subtotal \$7,050,111.41							
102-1 N	Maintenance of Traffic	15.00 %	6		\$1,057,516.71		
101-1	Mobilization	10.00 %	6		\$810,762.81		
Project Sequence	ces Total				\$8,918,390.93		
Project Unknown	S	5.00 %	6		\$445,919.55		
Design/Build		0.00 %	6		\$0.00		
Non-Bid Compo	nents:						
Pay item I	Description	Quantity L	Jnit	Unit Price	Extended Amount		
<u>uuu_76</u>	NITIAL CONTINGENCY AMOUNT DO NOT BID)	L	.S	\$93,643.10	\$93,643.10		
	Project Non-Bid Subtotal \$93,643.10						
Version 33 Proje	ect Grand Total				\$9,457,953.58		

# FDOT Long Range Estimating System - Production R3: Project Details by Sequence Report

Project: 440273-1-	-22-01		Letting Da	te: 01/2099
-	44 (LUCERNE PARK RD) FR		-	
·	· · ·			
District: 01	County: 16 POLK	Market Area: 08	Units: English	
Contract Class: 4	Lump Sum Project: N	Design/Build: N	Project Length: 7.950 M	
Project Manager:	JMK-AEH-DCT			
Version 34 Project Description: <sup>Segm</sup> 2024	t Grand Total ent 3-East side of Lake Conin Unit Cost Updates from Versio	ne Canal to east of Old L on 26 - 6/3/24	<b>\$11,</b> Lucerne Park Rd. (west end)	<b>654,541.34</b> ) - June
Sequence: 6 NDU	- New Construction, Divided,	Urban	Net Length:	0.730 MI 3,854 LF
Description: Segm	nent 3-East side of Lake Conir	ne Canal to east of Old I	Lucerne Park Rd. (west end)	)
-	FARTH			
User Input Data				
Description				Value
•	and Grubbing Limits L/R		56.0	0 / 56.00
•	and Grubbing Area		0010	0.00
-	-			
Alignment Number				1
Distance				0.730
	ourse For Begin Section			102.00
	ourse For End Section			102.00
	n For Begin Section			100.00
Horizontal Elevatio	in For End Section		0.4-	100.00
Front Slope L/R	Cross Slope L/D			1/2 to 1
Median Shoulder C	•			/ 4.00 %
Outside Shoulder (	•			/ 2.00 % / 2.00 %
Roadway Cross Sl			2.00 %	/ 2.00 70

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	9.91 AC	\$56,017.69	\$555,135.31
120-6	EMBANKMENT	27,383.37 CY	\$24.69	\$676,095.41

#### **ROADWAY COMPONENT**

User Input Data	
Description	Value
Number of Lanes	4
Roadway Pavement Width L/R	23.00 / 23.00
Structural Spread Rate	275
Friction Course Spread Rate	165

# Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	24,119.98 SY	\$10.73	\$258,807.39
285-709	OPTIONAL BASE, BASE GROUP 09	19,700.27 SY	\$20.06	\$395,187.42
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	2,708.79 TN	\$193.64	\$524,530.10
337-7-83	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	1,625.27 TN	\$207.93	\$337,942.39

## Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	2

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-1-3	RAISED PAVMT MARK, TYPE B	296.00 EA	\$4.36	\$1,290.56
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	2.92 GM	\$1,259.68	\$3,678.27
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	1.46 GM	\$546.91	\$798.49
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	2.92 GM	\$5,558.07	\$16,229.56
711-16-131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	1.46 GM	\$1,616.01	\$2,359.37
	Roadway Component Total			\$1,540,823.55

#### SHOULDER COMPONENT

## User Input Data

Description	Value
Total Outside Shoulder Width L/R	22.25 / 22.25
Total Outside Shoulder Perf. Turf Width L/R	10.00 / 10.00
Sidewalk Width L/R	10.00 / 10.00

## Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	3,854.40 LF	\$46.67	\$179,884.85
520-1-10	CONCRETE CURB & GUTTER, TYPE F	3,854.40 LF	\$46.67	\$179,884.85
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	8,565.33 SY	\$65.70	\$562,742.18
570-1-1	PERFORMANCE TURF	8,565.33 SY	\$3.85	\$32,976.52

# **Erosion Control**

#### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	7,708.80 LF	\$2.71	\$20,890.85
104-11	FLOATING TURBIDITY BARRIER	182.50 LF	\$15.46	\$2,821.45
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	182.50 LF	\$6.67	\$1,217.28
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,689.06	\$2,689.06
104-18	INLET PROTECTION SYSTEM	38.00 EA	\$123.06	\$4,676.28
107-1	LITTER REMOVAL	18.58 AC	\$48.53	\$901.69
107-2	MOWING	18.58 AC	\$84.04	\$1,561.46
	Shoulder Component Total			\$990,246.47

#### MEDIAN COMPONENT

#### User Input Data

Description	Value
Total Median Width	22.00
Performance Turf Width	17.50

## Pay Items

Pay item Description

520-1-7	CONCRETE CURB & GUTTER, TYPE E	7,708.80 LF	\$41.59	\$320,608.99
570-1-1	PERFORMANCE TURF	7,494.67 SY	\$3.85	\$28,854.48
	Median Component Total			\$349,463.47

#### DRAINAGE COMPONENT

# Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
425-1-351	INLETS, CURB, TYPE P-5, <10'	27.00 EA	\$7,474.89	\$201,822.03
425-1-451	INLETS, CURB, TYPE J-5, <10'	8.00 EA	\$14,168.32	\$113,346.56
425-1-521	INLETS, DT BOT, TYPE C, <10'	4.00 EA	\$6,847.68	\$27,390.72
425-2-41	MANHOLES, P-7, <10'	4.00 EA	\$6,130.30	\$24,521.20
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	1,936.00 LF	\$156.39	\$302,771.04
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	176.00 LF	\$237.81	\$41,854.56
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	3,656.00 LF	\$299.07	\$1,093,399.92
570-1-1	PERFORMANCE TURF	221.92 SY	\$3.85	\$854.39

#### **Retention Basin 1**

Description		Value
Size		5 AC
Multiplier		1
Depth		9.00
Description	Pond 2	

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	5.00 AC	\$56,017 <u>.</u> 69	\$280,088.45
120-1	REGULAR EXCAVATION	72,600.00 CY	\$15.28	\$1,109,328.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00 EA	\$6,465.04	\$6,465.04
425-2-71	MANHOLES, J-7, <10'	2.00 EA	\$14,177.00	\$28,354.00
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00 LF	\$348.14	\$19,495.84
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	400.00 LF	\$660.28	\$264,112.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,860.00 LF	\$34.73	\$64,597.80
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	2.00 EA	\$4,525.31	\$9,050.62

\$3.85

Retention Basin 2	
Description	Value
Size	1 AC
Multiplier	1
Depth	1.90
Description	Floodplain Compensation Pond (FPC1)

## Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.00 AC	\$56,017.69	\$56,017.69
120-1	REGULAR EXCAVATION	3,065.33 CY	\$15.28	\$46,838.24
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00 EA	\$6,465.04	\$6,465.04
425-2-71	MANHOLES, J-7, <10'	1.00 EA	\$14,177.00	\$14,177.00
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00 LF	\$348.14	\$19,495.84
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00 LF	\$660.28	\$132,056.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	840.00 LF	\$34.73	\$29,173.20
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00 EA	\$4,525.31	\$4,525.31
570-1-1	PERFORMANCE TURF	4,840.00 SY	\$3.85	\$18,634.00
	Drainage Component Total			\$4,008,004.49

#### SIGNING COMPONENT

Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	18.00 AS	\$462.47	\$8,324.46
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	2.00 AS	\$1,578.08	\$3,156.16
700-2-15	MULTI- POST SIGN, F&I GM, 51- 100 SF	2.00 AS	\$7,692.26	\$15,384.52
700-2-16	MULTI- POST SIGN, F&I GM, 101- 200 SF	2.00 AS	\$15,571.98	\$31,143.96
	Signing Component Total			\$58,009.10

## LIGHTING COMPONENT

**Conventional Lighting Subcomponent** 

Description Spacing				<b>Value</b> MIN
Pay Items Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	3,854.40 LF	\$19.26	\$74,235.74
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	765.04 LF	\$36.22	\$27,709.75
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	26.00 EA	\$1,374.06	\$35,725.56
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	14,077.32 LF	\$3.77	\$53,071.50
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	26.00 EA	\$768.21	\$19,973.46
X-Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
715-61-321	LIGHT POLE CMPLT,STD,F&I, 40'MH,10'ARM L	26.00 EA	\$11,499.60	\$298,989.60
	Subcomponent Total			\$509,705.61
	Lighting Component Total			\$509,705.61
Sequence 6 <sup>-</sup>	Total			\$8,687,483.41

# FDOT Long Range Estimating System - Production R3: Project Details by Sequence Report

Project: 440273-	Project: 440273-1-22-01 Letting Date: 01/2099					
Description: SR	544 (LUCERNE PARK RD) FROM	MARTIN LUTHER I	KING	BLVD TO SE	R 17	
District: 01 Contract Class:	County: 16 POLK 4 Lump Sum Project: N	Market Area: 08 Design/Build: N		t <b>s:</b> English ject Length:	7.950 MI	
Project Manager: JMK-AEH-DCT						
Version 34 Project Grand Total\$11,654,541.34Description:Segment 3-East side of Lake Conine Canal to east of Old Lucerne Park Rd. (west end) - June 2024 Unit Cost Updates from Version 26 - 6/3/24						
Project Sequence	ces Subtotal				\$8,687,483.41	
102-1 N	Naintenance of Traffic	15.00 %	þ		\$1,303,122.51	
101 <b>-</b> 1 N	Nobilization	10.00 %	D		\$999,060.59	
Project Sequence	ces Total				\$10,989,666.51	
Project Unknown	S	5.00 %	D		\$549,483.33	
Design/Build		0.00 %	D		\$0.00	
Non-Bid Compo	Non-Bid Components:					
-	Description	Quantity U	nit	Unit Price	Extended Amount	
	NITIAL CONTINGENCY AMOUNT DO NOT BID)	LS	S \$	115,391.50	\$115,391.50	
Project Non-Bid Subtotal \$115,391.50						
Version 34 Proje	Version 34 Project Grand Total \$11,654,541.34					

# FDOT Long Range Estimating System - Production R3: Project Details by Sequence Report

Project: 440273	3-1-22-01		L	_etting Da	<b>te:</b> 01/2099
Description: S	R 544 (LUCERNE PARK RD) FRC	M MARTIN LUTHER	KING BLVD TO S	R 17	
District: 01 Contract Class	County: 16 POLK a: 4 Lump Sum Project: N	Market Area: 08 Design/Build: N	Units: English Project Length:	: 7.950 MI	
Project Manag	er: JMK-AEH-DCT				
Beenington Se	j <b>ect Grand Total</b> egment 4-East of Old Lucerne Park ost Updates from Version 27 - 6/3/2	: Rd (west end) to Eas 24	t of Lucerne Loop		<b>034,954.97</b> e 2024 Unit
Sequence: 10 N	IDU - New Construction, Divided, I	Jrban	Net	Length:	1.630 MI 8,606 LF
Description: S	Segment 4-East of Old Lucerne Pa	rk Rd (west end) to Ea	st of Lucerne Loo	p Rd.	0,000 EI
·					
		ORK COMPONENT			
User Input Dat	а				Malara
Description Standard Clear	ing and Grubbing Limits L/R			56.0	<b>Value</b> 0 / 56.00
	ring and Grubbing Area			00.0	0.00
Alignment Num Distance	ber				1 1.630
	al Course For Begin Section				102.00
	al Course For End Section				102.00
•	ation For Begin Section				100.00
Horizontal Elev	ation For End Section				100.00
Front Slope L/F				2 to	1 / 2 to 1
	er Cross Slope L/R				/ 4.00 %
	er Cross Slope L/R				/ 2.00 %
Roadway Cross	s Slope L/R			2.00 %	/ 2.00 %
Pay Items					
Pay item	Description	Quantity	Unit Unit Price	Extende	ed Amount
110-1-1	CLEARING & GRUBBING	22.13	AC \$46,017.69	\$1,0	018,371.48
120-6	EMBANKMENT	61,143.69	CY \$17.66	\$1,0	079,797.57

#### **ROADWAY COMPONENT**

User Input Data	
Description	Value
Number of Lanes	4
Roadway Pavement Width L/R	23.00 / 23.00
Structural Spread Rate	275
Friction Course Spread Rate	165

# Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	53,856.94 SY	\$8.44	\$454,552.57
285-709	OPTIONAL BASE, BASE GROUP 09	43,988.27 SY	\$20.06	\$882,404.70
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	6,048.39 TN	\$180.14	\$1,089,556.97
337-7-83	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	3,629.03 TN	\$207.93	\$754,584.21

## Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	2

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-1-3	RAISED PAVMT MARK, TYPE B	660.00 EA	\$4.36	\$2,877.60
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	6.52 GM	\$1,259.68	\$8,213.11
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	3.26 GM	\$546.91	\$1,782.93
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	6.52 GM	\$5,558.07	\$36,238.62
711-16-131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	3.26 GM	\$1,616.01	\$5,268.19
	Roadway Component Total			\$3,235,478.90

#### SHOULDER COMPONENT

## User Input Data

Description	Value
Total Outside Shoulder Width L/R	22.25 / 22.25
Total Outside Shoulder Perf. Turf Width L/R	10.00 / 10.00
Sidewalk Width L/R	10.00 / 10.00

## Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	8,606.40 LF	\$46.67	\$401,660.69
520-1-10	CONCRETE CURB & GUTTER, TYPE F	8,606.40 LF	\$46.67	\$401,660.69
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	19,125.33 SY	\$65.70	\$1,256,534.18
570-1-1	PERFORMANCE TURF	19,125.33 SY	\$3.85	\$73,632.52

# **Erosion Control**

#### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	17,212.80 LF	\$2.59	\$44,581.15
104-11	FLOATING TURBIDITY BARRIER	407.50 LF	\$15.46	\$6,299.95
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	407.50 LF	\$6.67	\$2,718.02
104-15	SOIL TRACKING PREVENTION DEVICE	2.00 EA	\$2,689.06	\$5,378.12
104-18	INLET PROTECTION SYSTEM	84.00 EA	\$123.06	\$10,337.04
107-1	LITTER REMOVAL	41.48 AC	\$48.53	\$2,013.02
107-2	MOWING	41.48 AC	\$84.04	\$3,485.98
	Shoulder Component Total			\$2,208,301.37

#### MEDIAN COMPONENT

#### User Input Data

Description	Value
Total Median Width	22.00
Performance Turf Width	17.50

## Pay Items

Pay item Description

520-1-7 570-1-1	CONCRETE CURB & GUTTER, TYPE E PERFORMANCE TURF	17,212.80 LF 16.734.67 SY	\$41.59 \$3.85	\$715,880.35 \$64.428.48
575 1 1	Median Component Total	10,704.01 01	<b>40.00</b>	\$780,308.83

#### DRAINAGE COMPONENT

# Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
425-1-351	INLETS, CURB, TYPE P-5, <10'	59.00 EA	\$7,474.89	\$441,018.51
425-1-451	INLETS, CURB, TYPE J-5, <10'	17.00 EA	\$14,168.32	\$240,861.44
425-1-521	INLETS, DT BOT, TYPE C, <10'	9.00 EA	\$6,847.68	\$61,629.12
425-2-41	MANHOLES, P-7, <10'	9.00 EA	\$6,130.30	\$55,172.70
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	4,312.00 LF	\$156.39	\$674,353.68
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	384.00 LF	\$237.81	\$91,319.04
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	8,152.00 LF	\$299.07	\$2,438,018.64
570-1-1	PERFORMANCE TURF	495.52 SY	\$3.85	\$1,907.75

#### **Retention Basin 1**

Description		Value
Size		2.5 AC
Multiplier		1
Depth		9.50
Description	Pond 3	

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	2.50 AC	\$46,017.69	\$115,044.22
120-1	REGULAR EXCAVATION	38,316.67 CY	\$15.28	\$585,478.72
425-1-361	INLETS, CURB, TYPE P-6, <10'	1.00 EA	\$11,175.07	\$11,175.07
425-2-71	MANHOLES, J-7, <10'	1.00 EA	\$14,177.00	\$14,177.00
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00 LF	\$348.14	\$19,495.84
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00 LF	\$660.28	\$132,056.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,335.00 LF	\$34.73	\$46,364.55
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00 EA	\$4,525.31	\$4,525.31

\$3.85

Retention Basin 2		
Description	Value	
Size	2.5 AC	
Multiplier	1	
Depth	10.00	
Description	Pond 4	

# Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	2.50 AC	\$46,017.69	\$115,044.22
120-1	REGULAR EXCAVATION	40,333.33 CY	\$15.28	\$616,293.28
425-1-361	INLETS, CURB, TYPE P-6, <10'	1.00 EA	\$11,175.07	\$11,175.07
425-2-71	MANHOLES, J-7, <10'	1.00 EA	\$14,177.00	\$14,177.00
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00 LF	\$348.14	\$19,495.84
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00 LF	\$660.28	\$132,056.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,335.00 LF	\$34.73	\$46,364.55
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00 EA	\$4,525.31	\$4,525.31
570-1-1	PERFORMANCE TURF	12,100.00 SY	\$3.85	\$46,585.00

#### **Retention Basin 4**

Description		Value
Size		2 AC
Multiplier		1
Depth		3.10
Description	FPC 2	

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	2.00 AC	\$46,017.69	\$92,035.38
120-1	REGULAR EXCAVATION	10,002.67 CY	\$15.28	\$152,840.80
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00 EA	\$6,465.04	\$6,465.04
425-2-71	MANHOLES, J-7, <10'	1.00 EA	\$14,177.00	\$14,177.00
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00 LF	\$348.14	\$19,495.84
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00 LF	\$660.28	\$132,056.00

550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,180.00 LF	\$34.73	\$40,981.40
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00 EA	\$4,525.31	\$4,525.31
570-1-1	PERFORMANCE TURF	9,680.00 SY	\$3.85	\$37,268.00

Value
2.5 AC
1
3.70
FPC 3A

# Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	2.50 AC	\$46,017.69	\$115,044.22
120-1	REGULAR EXCAVATION	14,923.33 CY	\$15.28	\$228,028.48
425-1-361	INLETS, CURB, TYPE P-6, <10'	1.00 EA	\$11,175.07	\$11,175.07
425-2-71	MANHOLES, J-7, <10'	1.00 EA	\$14,177.00	\$14,177.00
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00 LF	\$348.14	\$19,495.84
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00 LF	\$660.28	\$132,056.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,335.00 LF	\$34.73	\$46,364.55
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00 EA	\$4,525.31	\$4,525.31
570-1-1	PERFORMANCE TURF	12,100.00 SY	\$3.85	\$46,585.00

#### **Retention Basin 6**

Description		Value
Size		1.5 AC
Multiplier		1
Depth		3.70
Description	FPC 3B	

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.50 AC	\$46,017.69	\$69,026.54
120-1	REGULAR EXCAVATION	8,954.00 CY	\$15.28	\$136,817.12
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00 EA	\$6,465.04	\$6,465.04
425-2-71	MANHOLES, J-7, <10'	1.00 EA	\$14,177.00	\$14,177.00

430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00 LF	\$348.14	\$19,495.84
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00 LF	\$660.28	\$132,056.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,025.00 LF	\$34.73	\$35,598.25
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00 EA	\$4,525.31	\$4,525.31
570-1-1	PERFORMANCE TURF	7,260.00 SY	\$3.85	\$27,951.00
	Drainage Component Total			\$7,548,307.23

#### SIGNING COMPONENT

# Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	40.00 AS	\$462.47	\$18,498.80
700-1-12	SINGLE POST SIGN, F&I GM, 12- 20 SF	4.00 AS	\$1,578.08	\$6,312.32
700-2-15	MULTI- POST SIGN, F&I GM, 51- 100 SF	4.00 AS	\$7,692.26	\$30,769.04
700-2-16	MULTI- POST SIGN, F&I GM, 101- 200 SF	4.00 AS	\$15,571.98	\$62,287.92
	Signing Component Total			\$117,868.08

# LIGHTING COMPONENT

# **Conventional Lighting Subcomponent**

Description Spacing				<b>Value</b> MIN
Pay Items Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	8,606.40 LF	\$19.26	\$165,759.26
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	1,708.24 LF	\$36.22	\$61,872.45
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	58.00 EA	\$1,374.06	\$79,695.48
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	31,432.92 LF	\$3.77	\$118,502.11
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	58.00 EA	\$768.21	\$44,556.18

Pay item	Description	Quantity Unit Unit Price	Extended Amount
715-61-321	LIGHT POLE CMPLT,STD,F&I, 40'MH,10'ARM L	58.00 EA \$11,499.60	\$666,976.80
Subcomponent Total			\$1,137,362.29
	Lighting Component Total		\$1,137,362.28
Sequence 10	Total		\$17,125,795.74

Description: Old Lucerne (West) 4-Lane Approach 1

#### EARTHWORK COMPONENT

User Input Data	
Description	Value
Standard Clearing and Grubbing Limits L/R	0.00 / 0.00
Incidental Clearing and Grubbing Area	0.70
Alignment Number	1
Distance	0.057
Top of Structural Course For Begin Section	100.00
Top of Structural Course For End Section	100.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %
Pay Items	

#### Description Quantity Unit Unit Price Extended Amount Pay item 0.70 AC \$46,017.69 \$32,212.38 110-1-1 **CLEARING & GRUBBING** X-Items Pay item Description Quantity Unit Unit Price Extended Amount 500.00 CY 120-1 **REGULAR EXCAVATION** \$15.28 \$7,640.00 Comment: 27000 ft X 0.5 ft deep / 27 = 500 CY EMBANKMENT 120-6 500.00 CY \$17.66 \$8,830.00 Comment: 27000 ft X 0.5 ft deep / 27 = 500 CY Earthwork Component Total \$48,682.38

User Input Data	
Description	Value
Number of Lanes	2
Roadway Pavement Width L/R	12.00 / 12.00
Structural Spread Rate	220
Friction Course Spread Rate	110

X-Items				
Pay item	Description	Quantity Unit	Unit Price Ex	tended Amount
160 <b>-</b> 4	TYPE B STABILIZATION	2,200.00 SY	\$8.44	\$18,568.00
	Comment: 4-Lane Leg: 19785 sf/9=2198	3 SY use 2200 SY		
285-709	OPTIONAL BASE, BASE GROUP 09	1,950.00 SY	\$20.06	\$39,117.00
	Comment: 4-Lane Leg: measure approx	. 1950 SY		
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	215.00 TN	\$180.14	\$38,730.10
	<b>Comment:</b> 2" Superpave Traffic C (1950 = 215 TN	X 110 X 2)/2000		
337-7-82	ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22	108.00 TN	\$218.00	\$23,544.00
	<b>Comment:</b> 1" FC-9.5 Traffic C PG 76-22 110)/2000 = 107.25 TN use 108 TN	(1950 X		
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.20 GM	\$1,259.68	\$251.94
710-11-102	PAINTED PAVT MARK,STD,WHITE,SOLID,8"	0.04 GM	\$1,716.71	\$68.67
710-11-123	PAINTED PAVT MARK,STD,WHITE,SOLID, 12"	115.00 LF	\$1.07	\$123.05
710-11-124	PAINTED PAVT MARK,STD,WHITE,SOLID, 18"	30.00 LF	\$1.44	\$43.20
710-11-125	PAINTED PAVT MARK,STD,WHITE,SOLID,24"	198.00 LF	\$1.92	\$380.16
710-11-141	PAINTED PAVT MARK,STD,WH,DOT GUIDE, 6"	0.02 GM	\$707.41	\$14.15
710-11-144	PAINTED PAVEMENT MARKINGS, STANDARD, WHI	0.01 GM	\$1,262.94	\$12.63
710-11-160	PAINTED PAVT MARK,STD,WHITE, MESSAGE	2.00 EA	\$63.83	\$127.66
710-11-170	PAINTED PAVT MARK,STD,WHITE, ARROWS	4.00 EA	\$35.35	\$141.40
710-11-201	PAINTED PAVT MARK,STD,YELLOW,SOLID,6"	0.15 GM	\$1,345.62	\$201.84
710-11-224	PAINTED PAVT MARK,STD,YELLOW,SOLID,18"	55.00 LF	\$1.73	\$95.15
Pavement Mark	ing Subcomponent			

Description	Value
Include Thermo/Tape/Other	N
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	2
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	2

0

## \$121,418.95

# Roadway Component Total

## SHOULDER COMPONENT

User Input Data	
Description	Value
Total Outside Shoulder Width L/R	10.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.67
Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	Т
Rumble Strips �No. of Sides	0

### X-Items

Pay item	Description	Quantity Unit	Unit Price Ext	ended Amount
285-701	OPTIONAL BASE, BASE GROUP 01	154.00 SY	\$30.81	\$4,744.74
	<b>Comment:</b> 4-Lane Leg: 130 ft X 5.33 ft wi 154 SY	de X 2 sides /9 =		
337-7-82	ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22	10.00 TN	\$218.00	\$2,180.00
	Comment: 1" thick FC: (154 SY X 110)/20 use 10 TN	000 = 8.47 TN		
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	440.00 SY	\$65.70	\$28,908.00
527 <b>-</b> 2	DETECTABLE WARNINGS	104.00 SF	\$35.46	\$3,687.84
570-1-2	PERFORMANCE TURF, SOD	380.00 SY	\$5.40	\$2,052.00

#### **Erosion Control**

Pay Items				
Pay item	Description	Quantity Unit	Unit Price Ex	tended Amount
104-10-3	SEDIMENT BARRIER	600.00 LF	\$2.59	\$1,554.00
107-1	LITTER REMOVAL	0.25 AC	\$48.53	\$12.13
107-2	MOWING	0.25 AC	\$84.04	\$21.01
	Shoulder Component Total			\$43,159.72

Description	Value
Total Median Width	0.00
Performance Turf Width	0.00
Total Median Shoulder Width L/R	0.00 / 0.00
Paved Median Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	Т
Rumble Strips �No. of Sides	0

#### X-Items

Pay item	Description	Quantity Unit	Unit Price Ext	ended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	240.00 LF	\$41.59	\$9,981.60
520-1-10	CONCRETE CURB & GUTTER, TYPE F	350.00 LF	\$46.67	\$16,334.50
527-2	DETECTABLE WARNINGS	40.00 SF	\$35.46	\$1,418.40
570-1-2	PERFORMANCE TURF, SOD	120.00 SY	\$5.40	\$648.00
	Median Component Total			\$28,382.50

#### DRAINAGE COMPONENT

#### X-Items Pay item Description Quantity Unit Unit Price Extended Amount 425-1-361 INLETS, CURB, TYPE P-6, <10' 2.00 EA \$11,175.07 \$22,350.14 425-2-41 MANHOLES, P-7, <10' 1.00 EA \$6,130.30 \$6,130.30 PIPE CULV, OPT MATL, ROUND, 430-175-124 224.00 LF \$156.39 \$35,031.36 24"S/CD **Drainage Component Total** \$63,511.80

#### SIGNING COMPONENT

Pay Items				
Pay item	Description	Quantity Unit	Unit Price E	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	7.00 AS	\$462.47	\$3,237.29
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00 AS	\$5,727.04	\$5,727.04
	Signing Component Total			\$8,964.33

**Description:** Old Lucerne (West) 4-Lane Approach 2

# EARTHWORK COMPONENT

User Input Data	
Description	Value
Standard Clearing and Grubbing Limits L/R	0.00 / 0.00
Incidental Clearing and Grubbing Area	0.70
Alignment Number	1
Distance	0.057
Top of Structural Course For Begin Section	100.00
Top of Structural Course For End Section	100.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %
Pay Items	

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	0.70 AC	\$46,017.69	\$32,212.38
X-Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
120-1	REGULAR EXCAVATION	500.00 CY	\$15.28	\$7,640.00
	<b>Comment:</b> 27000 ft X 0.5 ft deep / 27 = 50	0 CY		
120-6	EMBANKMENT	500.00 CY	\$17.66	\$8,830.00
	<b>Comment:</b> 27000 ft X 0.5 ft deep / 27 = 50	0 CY		
	Earthwork Component Total			\$48,682.38

User Input Data	
Description	Value
Number of Lanes	2
Roadway Pavement Width L/R	12.00 / 12.00
Structural Spread Rate	220
Friction Course Spread Rate	110

X-Items				
Pay item	Description	Quantity Unit	Unit Price Ex	tended Amount
160 <b>-</b> 4	TYPE B STABILIZATION	2,200.00 SY	\$8.44	\$18,568.00
	Comment: 4-Lane Leg: 19785 sf/9=219	98 SY use 2200 SY		
285-709	OPTIONAL BASE, BASE GROUP 09	1,950.00 SY	\$20.06	\$39,117.00
	Comment: 4-Lane Leg: measure appro	x. 1950 SY		
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	215.00 TN	\$180.14	\$38,730.10
	<b>Comment:</b> 2" Superpave Traffic C (195 = 215 TN	0 X 110 X 2)/2000		
337-7-82	ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22	108.00 TN	\$218.00	\$23,544.00
	<b>Comment:</b> 1" FC-9.5 Traffic C PG 76-22 110)/2000 = 107.25 TN use 108 TN	2 (1950 X		
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.20 GM	\$1,259.68	\$251.94
710-11-102	PAINTED PAVT MARK,STD,WHITE,SOLID,8"	0.04 GM	\$1,716.71	\$68.67
710-11-123	PAINTED PAVT MARK,STD,WHITE,SOLID, 12"	115.00 LF	\$1.07	\$123.05
710-11-124	PAINTED PAVT MARK,STD,WHITE,SOLID, 18"	30.00 LF	\$1.44	\$43.20
710-11-125	PAINTED PAVT MARK,STD,WHITE,SOLID,24"	198.00 LF	\$1.92	\$380.16
710-11-141	PAINTED PAVT MARK,STD,WH,DOT GUIDE, 6"	0.02 GM	\$707.41	\$14.15
710-11-144	PAINTED PAVEMENT MARKINGS, STANDARD, WHI	0.01 GM	\$1,262.94	\$12.63
710-11-160	PAINTED PAVT MARK,STD,WHITE, MESSAGE	2.00 EA	\$63.83	\$127.66
710-11-170	PAINTED PAVT MARK,STD,WHITE, ARROWS	4.00 EA	\$35.35	\$141.40
710-11-201	PAINTED PAVT MARK,STD,YELLOW,SOLID,6"	0.15 GM	\$1,345.62	\$201.84
710-11-224	PAINTED PAVT MARK,STD,YELLOW,SOLID,18"	55.00 LF	\$1.73	\$95.15
_				
Pavement Mark	ing Subcomponent			
		Value		

Description	Value
Include Thermo/Tape/Other	Ν
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	2
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	2

0

## \$121,418.95

# Roadway Component Total

## SHOULDER COMPONENT

User Input Data	
Description	Value
Total Outside Shoulder Width L/R	10.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.67
Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	Т
Rumble Strips �No. of Sides	0

### X-Items

Pay item	Description	Quantity Unit	Unit Price Ext	ended Amount
285-701	OPTIONAL BASE, BASE GROUP 01	154.00 SY	\$30.81	\$4,744.74
	<b>Comment:</b> 4-Lane Leg: 130 ft X 5.33 ft wi 154 SY	de X 2 sides /9 =		
337-7-82	ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22	10.00 TN	\$218.00	\$2,180.00
	Comment: 1" thick FC: (154 SY X 110)/20 use 10 TN	000 = 8.47 TN		
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	440.00 SY	\$65.70	\$28,908.00
527 <b>-</b> 2	DETECTABLE WARNINGS	104.00 SF	\$35.46	\$3,687.84
570-1-2	PERFORMANCE TURF, SOD	380.00 SY	\$5.40	\$2,052.00

#### **Erosion Control**

Pay Items				
Pay item	Description	Quantity Unit	Unit Price Ex	tended Amount
104-10-3	SEDIMENT BARRIER	600.00 LF	\$2.59	\$1,554.00
107-1	LITTER REMOVAL	0.25 AC	\$48.53	\$12.13
107-2	MOWING	0.25 AC	\$84.04	\$21.01
	Shoulder Component Total			\$43,159.72

Description	Value
Total Median Width	0.00
Performance Turf Width	0.00
Total Median Shoulder Width L/R	0.00 / 0.00
Paved Median Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	Т
Rumble Strips �No. of Sides	0

#### X-Items

Pay item	Description	Quantity Unit	Unit Price Ext	ended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	240.00 LF	\$41.59	\$9,981.60
520-1-10	CONCRETE CURB & GUTTER, TYPE F	350.00 LF	\$46.67	\$16,334.50
527-2	DETECTABLE WARNINGS	40.00 SF	\$35.46	\$1,418.40
570-1-2	PERFORMANCE TURF, SOD	120.00 SY	\$5.40	\$648.00
	Median Component Total			\$28,382.50

#### DRAINAGE COMPONENT

#### X-Items Pay item Description Quantity Unit Unit Price Extended Amount 425-1-361 INLETS, CURB, TYPE P-6, <10' 2.00 EA \$11,175.07 \$22,350.14 425-2-41 MANHOLES, P-7, <10' 1.00 EA \$6,130.30 \$6,130.30 PIPE CULV, OPT MATL, ROUND, 430-175-124 224.00 LF \$156.39 \$35,031.36 24"S/CD **Drainage Component Total** \$63,511.80

#### SIGNING COMPONENT

Pay Items				
Pay item	Description	Quantity Unit	Unit Price E	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	7.00 AS	\$462.47	\$3,237.29
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00 AS	\$5,727.04	\$5,727.04
	Signing Component Total			\$8,964.33

Description: Old Lucerne (West) Roundabout Central Island

# EARTHWORK COMPONENT

User Input Data	
Description	Value
Standard Clearing and Grubbing Limits L/R	0.00 / 0.00
Incidental Clearing and Grubbing Area	0.50
Alignment Number	1
Distance	0.057
Top of Structural Course For Begin Section	100.00
Top of Structural Course For End Section	100.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

# Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	0.50 AC	\$46,017.69	\$23,008.84
X-Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
120-1	REGULAR EXCAVATION	480.00 CY	\$15.28	\$7,334.40
	<b>Comment:</b> 26000 ft x 0.5 ft deep / 27 = 48 CY	1 CY use 480		
120-6	EMBANKMENT	480.00 CY	\$17.66	\$8,476.80
	<b>Comment:</b> 26000 ft x 0.5 ft deep / 27 = 48 CY	1 CY use 480		
	Earthwork Component Total			\$38,820.05

User Input Data	
Description	Value
Number of Lanes	2
Roadway Pavement Width L/R	12.00 / 12.00

Structural Spread Rate	220
Friction Course Spread Rate	110

X-Items				
Pay item	Description	Quantity Unit	Unit Price Ex	tended Amount
160-4	TYPE B STABILIZATION	2,200.00 SY	\$8.44	\$18,568.00
	Comment: measure (25578-6175)SF /9 2200 SY	= 2156 SY use		
285 <b>-</b> 709	OPTIONAL BASE, BASE GROUP 09	1,300.00 SY	\$20.06	\$26,078.00
	Comment: measure (25578-10477)SF /S 1300 SY	9 = 1294 SY use		
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	143.00 TN	\$180.14	\$25,760.02
	Comment: 2" Superpave Traffic C (1300	X 110 X 2)/2000		
337-7-82	ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22	72.00 TN	\$218.00	\$15,696.00
	<b>Comment:</b> 1" FC-9.5 Traffic C PG 76-22 110)/2000	(1300 X		
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.05 GM	\$1,259.68	\$62.98
710-11-141	PAINTED PAVT MARK,STD,WH,DOT GUIDE, 6"	0.05 GM	\$707.41	\$35.37
710-11-170	PAINTED PAVT MARK,STD,WHITE, ARROWS	8.00 EA	\$35.35	\$282.80
710-11-201	PAINTED PAVT MARK,STD,YELLOW,SOLID,6"	0.07 GM	\$1,345.62	\$94.19
Pavement Mark	king Subcomponent			
Description		Value		
Include Thermo/Tape/Other		N		
Pavement Type		Asphalt		
•	of Paint Applications	2 4		
Solid Stripe No. of Stripes Skip Stripe No. of Paint Applications		4		
Skip Surpe No. Of Paint Applications		2		

Roadway Component Total

\$86,577.36

# SHOULDER COMPONENT

0

# User Input Data

Skip Stripe No. of Stripes

Description	Value
Total Outside Shoulder Width L/R	10.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.67

Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	Т
Rumble Strips �No. of Sides	0

# Erosion Control

Pay Items Pay item	Description	Quantity Unit	Unit Price E	xtended Amount
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,689.06	\$2,689.06
107-1	LITTER REMOVAL	0.25 AC	\$48.53	\$12.13
107-2	MOWING	0.25 AC	\$84.04	\$21.01
	Shoulder Component Total			\$2,722.20

User Input Data	
Description	Value
Total Median Width	0.00
Performance Turf Width	0.00
Total Median Shoulder Width L/R	0.00 / 0.00
Paved Median Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	Т
Rumble Strips �No. of Sides	0

X-Items				
Pay item	Description	Quantity Unit	Unit Price Ex	tended Amount
350-30-13	CONC PAVEMENT FOR ROUNDABOUT APRON, 12"	480.00 SY	\$335.92	\$161,241.60
520-2-4	CONCRETE CURB, TYPE D	280.00 LF	\$47.14	\$13,199.20
520-2-8	CONCRETE CURB, TYPE RA	370.00 LF	\$68.39	\$25,304.30
570-1-2	PERFORMANCE TURF, SOD	700.00 SY	\$5.40	\$3,780.00
	Median Component Total			\$203,525.10

Pay item	Description	Quantity Unit	Unit Price Ex	tended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	4.00 AS	\$462.47	\$1,849.88
	Signing Component Total			\$1,849.88
Sequence 13 T	otal			\$333,494.59

**Description:** Lucerne Loop 4-Lane Approach 1

# EARTHWORK COMPONENT

<b>Value</b> 0.00 / 0.00
0.70
0.70
1
0.057
100.00
100.00
100.00
100.00
6 to 1 / 6 to 1
6 to 1 / 6 to 1
5.00 % / 5.00 %
6.00 % / 6.00 %
2.00 % / 2.00 %

# Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	0.70 AC	\$46,017.69	\$32,212.38
X-Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
120-1	REGULAR EXCAVATION	500.00 CY	\$15.28	\$7,640.00
	<b>Comment:</b> 27000 ft X 0.5 ft deep / 27 = 50	0 CY		
120-6	EMBANKMENT	500.00 CY	\$17.66	\$8,830.00
	<b>Comment:</b> 27000 ft X 0.5 ft deep / 27 = 50	0 CY		
	Earthwork Component Total			\$48,682.38

User Input Data	
Description	Value
Number of Lanes	2
Roadway Pavement Width L/R	12.00 / 12.00
Structural Spread Rate	220
Friction Course Spread Rate	110

X-Items				
Pay item	Description	Quantity Unit	Unit Price Ex	tended Amount
160 <b>-</b> 4	TYPE B STABILIZATION	2,200.00 SY	\$8.44	\$18,568.00
	Comment: 4-Lane Leg: 19785 sf/9=219	98 SY use 2200 SY		
285-709	OPTIONAL BASE, BASE GROUP 09	1,950.00 SY	\$20.06	\$39,117.00
	Comment: 4-Lane Leg: measure appro	x. 1950 SY		
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	215.00 TN	\$180.14	\$38,730.10
	<b>Comment:</b> 2" Superpave Traffic C (195 = 215 TN	0 X 110 X 2)/2000		
337-7-82	ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22	108.00 TN	\$218.00	\$23,544.00
	<b>Comment:</b> 1" FC-9.5 Traffic C PG 76-22 110)/2000 = 107.25 TN use 108 TN	2 (1950 X		
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.20 GM	\$1,259.68	\$251.94
710-11-102	PAINTED PAVT MARK,STD,WHITE,SOLID,8"	0.04 GM	\$1,716.71	\$68.67
710-11-123	PAINTED PAVT MARK,STD,WHITE,SOLID, 12"	115.00 LF	\$1.07	\$123.05
710-11-124	PAINTED PAVT MARK,STD,WHITE,SOLID, 18"	30.00 LF	\$1.44	\$43.20
710-11-125	PAINTED PAVT MARK,STD,WHITE,SOLID,24"	198.00 LF	\$1.92	\$380.16
710-11-141	PAINTED PAVT MARK,STD,WH,DOT GUIDE, 6"	0.02 GM	\$707.41	\$14.15
710-11-144	PAINTED PAVEMENT MARKINGS, STANDARD, WHI	0.01 GM	\$1,262.94	\$12.63
710-11-160	PAINTED PAVT MARK,STD,WHITE, MESSAGE	2.00 EA	\$63.83	\$127.66
710-11-170	PAINTED PAVT MARK,STD,WHITE, ARROWS	4.00 EA	\$35.35	\$141.40
710-11-201	PAINTED PAVT MARK,STD,YELLOW,SOLID,6"	0.15 GM	\$1,345.62	\$201.84
710-11-224	PAINTED PAVT MARK,STD,YELLOW,SOLID,18"	55.00 LF	\$1.73	\$95.15
_				
Pavement Mark	ing Subcomponent			
		Value		

Description	Value
Include Thermo/Tape/Other	Ν
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	2
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	2

0

## \$121,418.95

# Roadway Component Total

## SHOULDER COMPONENT

User Input Data	
Description	Value
Total Outside Shoulder Width L/R	10.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.67
Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	Т
Rumble Strips �No. of Sides	0

### X-Items

Pay item	Description	Quantity Unit	Unit Price Ext	ended Amount
285-701	OPTIONAL BASE, BASE GROUP 01	154.00 SY	\$30.81	\$4,744.74
	<b>Comment:</b> 4-Lane Leg: 130 ft X 5.33 ft wi 154 SY	de X 2 sides /9 =		
337-7-82	ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22	10.00 TN	\$218.00	\$2,180.00
	Comment: 1" thick FC: (154 SY X 110)/20 use 10 TN	000 = 8.47 TN		
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	440.00 SY	\$65.70	\$28,908.00
527 <b>-</b> 2	DETECTABLE WARNINGS	104.00 SF	\$35.46	\$3,687.84
570-1-2	PERFORMANCE TURF, SOD	380.00 SY	\$5.40	\$2,052.00

#### **Erosion Control**

Pay Items				
Pay item	Description	Quantity Unit	Unit Price Ex	tended Amount
104-10-3	SEDIMENT BARRIER	600.00 LF	\$2.59	\$1,554.00
107-1	LITTER REMOVAL	0.25 AC	\$48.53	\$12.13
107-2	MOWING	0.25 AC	\$84.04	\$21.01
	Shoulder Component Total			\$43,159.72

Description	Value
Total Median Width	0.00
Performance Turf Width	0.00
Total Median Shoulder Width L/R	0.00 / 0.00
Paved Median Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	Т
Rumble Strips �No. of Sides	0

#### X-Items

Pay item	Description	Quantity Unit	Unit Price Ext	ended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	240.00 LF	\$41.59	\$9,981.60
520-1-10	CONCRETE CURB & GUTTER, TYPE F	350.00 LF	\$46.67	\$16,334.50
527-2	DETECTABLE WARNINGS	40.00 SF	\$35.46	\$1,418.40
570-1-2	PERFORMANCE TURF, SOD	120.00 SY	\$5.40	\$648.00
	Median Component Total			\$28,382.50

#### DRAINAGE COMPONENT

#### X-Items Pay item Description Quantity Unit Unit Price Extended Amount 425-1-361 INLETS, CURB, TYPE P-6, <10' 2.00 EA \$11,175.07 \$22,350.14 425-2-41 MANHOLES, P-7, <10' 1.00 EA \$6,130.30 \$6,130.30 PIPE CULV, OPT MATL, ROUND, 430-175-124 224.00 LF \$156.39 \$35,031.36 24"S/CD **Drainage Component Total** \$63,511.80

#### SIGNING COMPONENT

Pay Items				
Pay item	Description	Quantity Unit	Unit Price E	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	7.00 AS	\$462.47	\$3,237.29
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00 AS	\$5,727.04	\$5,727.04
	Signing Component Total			\$8,964.33

**Description:** Lucerne Loop Roundabout Central Island

# EARTHWORK COMPONENT

Description	Value
Standard Clearing and Grubbing Limits L/R	0.00 / 0.00
Incidental Clearing and Grubbing Area	0.50
Alignment Number	1
Distance	0.057
Top of Structural Course For Begin Section	100.00
Top of Structural Course For End Section	100.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

# Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	0.50 AC	\$46,017.69	\$23,008.84
X-Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
120-1	REGULAR EXCAVATION	480.00 CY	\$15.28	\$7,334.40
	<b>Comment:</b> 26000 ft x 0.5 ft deep / 27 = 48 CY	1 CY use 480		
120-6	EMBANKMENT	480.00 CY	\$17.66	\$8,476.80
	<b>Comment:</b> 26000 ft x 0.5 ft deep / 27 = 48 CY	1 CY use 480		
	Earthwork Component Total			\$38,820.05

User Input Data	
Description	Value
Number of Lanes	2
Roadway Pavement Width L/R	12.00 / 12.00

Structural Spread Rate	220
Friction Course Spread Rate	110

X-Items				
Pay item	Description	Quantity Unit	Unit Price Ex	tended Amount
160-4	TYPE B STABILIZATION	2,200.00 SY	\$8.44	\$18,568.00
	Comment: measure (25578-6175)SF /9 2200 SY	= 2156 SY use		
285 <b>-</b> 709	OPTIONAL BASE, BASE GROUP 09	1,300.00 SY	\$20.06	\$26,078.00
	Comment: measure (25578-10477)SF /S 1300 SY	9 = 1294 SY use		
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	143.00 TN	\$180.14	\$25,760.02
	Comment: 2" Superpave Traffic C (1300	X 110 X 2)/2000		
337-7-82	ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22	72.00 TN	\$218.00	\$15,696.00
	<b>Comment:</b> 1" FC-9.5 Traffic C PG 76-22 110)/2000	(1300 X		
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.05 GM	\$1,259.68	\$62.98
710-11-141	PAINTED PAVT MARK,STD,WH,DOT GUIDE, 6"	0.05 GM	\$707.41	\$35.37
710-11-170	PAINTED PAVT MARK,STD,WHITE, ARROWS	8.00 EA	\$35.35	\$282.80
710-11-201	PAINTED PAVT MARK,STD,YELLOW,SOLID,6"	0.07 GM	\$1,345.62	\$94.19
Pavement Mark	king Subcomponent			
Description		Value		
Include Thermo/Tape/Other		Ν		
Pavement Type		Asphalt		
Solid Stripe No. Solid Stripe No.	of Paint Applications	2 4		
•	•	4		
	Skip Stripe No. of Paint Applications			

Roadway Component Total

\$86,577.36

# SHOULDER COMPONENT

0

# User Input Data

Skip Stripe No. of Stripes

Description	Value
Total Outside Shoulder Width L/R	10.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.67

Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	Т
Rumble Strips �No. of Sides	0

# Erosion Control

Pay Items Pay item	Description	Quantity Unit	Unit Price E	xtended Amount
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,689.06	\$2,689.06
107-1	LITTER REMOVAL	0.25 AC	\$48.53	\$12.13
107-2	MOWING	0.25 AC	\$84.04	\$21.01
	Shoulder Component Total			\$2,722.20

User Input Data	
Description	Value
Total Median Width	0.00
Performance Turf Width	0.00
Total Median Shoulder Width L/R	0.00 / 0.00
Paved Median Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	Т
Rumble Strips �No. of Sides	0

X-Items				
Pay item	Description	Quantity Unit	Unit Price Ex	tended Amount
350-30-13	CONC PAVEMENT FOR ROUNDABOUT APRON, 12"	480.00 SY	\$335.92	\$161,241.60
520-2-4	CONCRETE CURB, TYPE D	280.00 LF	\$47.14	\$13,199.20
520-2-8	CONCRETE CURB, TYPE RA	370.00 LF	\$68.39	\$25,304.30
570-1-2	PERFORMANCE TURF, SOD	700.00 SY	\$5.40	\$3,780.00
	Median Component Total			\$203,525.10

Pay item	Description	Quantity Unit	Unit Price Extended Amount		
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	4.00 AS	\$462.47	\$1,849.88	
	Signing Component Total			\$1,849.88	
Sequence 16 T	otal			\$333,494.59	

# FDOT Long Range Estimating System - Production R3: Project Details by Sequence Report

Project: 4402	273-1-22-01		L	_etting Date: 01/2099	
Description: SR 544 (LUCERNE PARK RD) FROM MARTIN LUTHER KING BLVD TO SR 17					
District: 01 Contract Cla	County: 16 POLK ass: 4 Lump Sum Project: N	Market Area: 08 Design/Build: N	Units: English Project Length	: 7.950 MI	
Project Man	ager: JMK-AEH-DCT				
	Project Grand Total Segment 4-East of Old Lucerne F Cost Updates from Version 27 - 6	Park Rd (west end) to East /3/24	of Lucerne Loop	<b>\$25,034,954.97</b> Rd June 2024 Unit	
Project Seq	uences Subtotal			\$18,735,143.96	
102-1	Maintenance of Traffic	15.00 %		\$2,810,271.59	
101-1	Mobilization	10.00 %		\$2,154,541.56	
Project Seq	uences Total			\$23,699,957.11	
Project Unkn	owns	5.00 %		\$1,184,997.86	
Design/Build		0.00 %		\$0.00	
Non-Bid Co	mponents:				
Pay item	Description	Quantity Ur	it Unit Price	Extended Amount	
999-25	INITIAL CONTINGENCY AMC (DO NOT BID)	UNT LS	\$150,000.00	\$150,000.00	
Project Non	-Bid Subtotal			\$150,000.00	
Version 35 F	Project Grand Total			\$25,034,954 <u>.</u> 97	

# FDOT Long Range Estimating System - Production R3: Project Details by Sequence Report

Project: 440273-1-	Project: 440273-1-22-01 Letting Date: 01/2099				
Description: SR 5	44 (LUCERNE PARK RD) FROM	MARTIN LUTHER	KING BLVD TO SI	R 17	
District: 01 Contract Class: 4	County: 16 POLK Lump Sum Project: N	Market Area: 08 Design/Build: N	Units: English Project Length:	7.950 MI	
Project Manager:	JMK-AEH-DCT				
Version 36 Projec Description: Segm Upda	<b>t Grand Total</b> nent 5-East of Lucernce Loop Rd. tes from Version 28 - 6/3/24	to West of Lk. Hami	lton Canal - June		9 <b>40,795.90</b> Cost
Sequence: 10 NDL	J - New Construction, Divided, Urt	ban	Net	Length:	1.450 MI 7,656 LF
Description: Seg	ment 5-East of Lucernce Loop Rd	. to West of Lk. Han	nilton Canal		7,000 LI
P					
User Input Data	EARTHWO	RK COMPONENT			
Incidental Clearing Alignment Number Distance Top of Structural C Top of Structural C Horizontal Elevatio	and Grubbing Limits L/R and Grubbing Area course For Begin Section course For End Section on For Begin Section on For End Section				Value ) / 56.00 0.00 1 1.450 102.00 102.00 100.00 100.00 / 2 to 1
Median Shoulder ( Outside Shoulder ( Roadway Cross Sl	Cross Slope L/R			4.00 % / 2.00 % / 2.00 % /	/ 4.00 % / 2.00 %
<b>Pay item  I</b> 110-1-1	Description CLEARING & GRUBBING EMBANKMENT	Quantity 19.68 54,391.63	··· • • • • • • • • • • • • • • • • • •	\$9	<b>d Amount</b> 05,628.14 60,556.19

## **ROADWAY COMPONENT**

User Input Data	
Description	Value
Number of Lanes	4
Roadway Pavement Width L/R	23.00 / 23.00
Structural Spread Rate	275
Friction Course Spread Rate	165

# Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	47,909.55 SY	\$8.44	\$404,356.60
285-709	OPTIONAL BASE, BASE GROUP 09	39,130.67 SY	\$20.06	\$784,961.24
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	5,380.47 TN	\$180.14	\$969,237.87
337-7-83	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	3,228.28 TN	\$207.93	\$671,256.26

# Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	2

# Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-1-3	RAISED PAVMT MARK, TYPE B	587.00 EA	\$4.36	\$2,559.32
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	5.80 GM	\$1,259.68	\$7,306.14
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	2.90 GM	\$546.91	\$1,586.04
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	5.80 GM	\$5,558.07	\$32,236.81
711-16-131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	2.90 GM	\$1,616.01	\$4,686.43
	Roadway Component Total			\$2,878,186.71

#### SHOULDER COMPONENT

# User Input Data

Description	Value
Total Outside Shoulder Width L/R	22.25 / 22.25
Total Outside Shoulder Perf. Turf Width L/R	10.00 / 10.00
Sidewalk Width L/R	10.00 / 10.00

# Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	7,656.00 LF	\$46.67	\$357,305.52
520-1-10	CONCRETE CURB & GUTTER, TYPE F	7,656.00 LF	\$46.67	\$357,305.52
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	17,013.33 SY	\$65.70	\$1,117,775.78
570-1-1	PERFORMANCE TURF	17,013.33 SY	\$3.85	\$65,501.32

# **Erosion Control**

#### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	15,312.00 LF	\$2.71	\$41,495.52
104-11	FLOATING TURBIDITY BARRIER	362.50 LF	\$15.46	\$5,604.25
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	362.50 LF	\$6.67	\$2,417.88
104-15	SOIL TRACKING PREVENTION DEVICE	2.00 EA	\$2,689.06	\$5,378.12
104-18	INLET PROTECTION SYSTEM	74.00 EA	\$123.06	\$9,106.44
107-1	LITTER REMOVAL	36.90 AC	\$48.53	\$1,790.76
107-2	MOWING	36.90 AC	\$84.04	\$3,101.08
	Shoulder Component Total			\$1,966,782.19

#### MEDIAN COMPONENT

#### User Input Data

Description	Value
Total Median Width	22.00
Performance Turf Width	17.50

# Pay Items

Pay item Description

520-1-7 570-1-1	CONCRETE CURB & GUTTER, TYPE E PERFORMANCE TURF	15,312.00 LF 14.886.67 SY	\$41.59 \$3.85	\$636,826.08 \$57.313.68
	Median Component Total	. ,		\$694,139.76

# DRAINAGE COMPONENT

# Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
425-1-351	INLETS, CURB, TYPE P-5, <10'	53.00 EA	\$7,474.89	\$396,169.17
425-1-451	INLETS, CURB, TYPE J-5, <10'	15.00 EA	\$14,168.32	\$212,524.80
425-1-521	INLETS, DT BOT, TYPE C, <10'	8.00 EA	\$6,847.68	\$54,781.44
425-2-41	MANHOLES, P-7, <10'	8.00 EA	\$6,130.30	\$49,042.40
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	3,840.00 LF	\$156.39	\$600,537.60
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	344.00 LF	\$237.81	\$81,806.64
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	7,256.00 LF	\$299.07	\$2,170,051.92
570-1-1	PERFORMANCE TURF	440.80 SY	\$3.85	\$1,697.08

# **Retention Basin 3**

Description		Value
Size		2 AC
Multiplier		1
Depth		9.00
Description	Pond 5	

# Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	2.00 AC	\$46,017.69	\$92,035.38
120-1	REGULAR EXCAVATION	29,040.00 CY	\$15.28	\$443,731.20
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00 EA	\$6,465.04	\$6,465.04
425-2-71	MANHOLES, J-7, <10'	1.00 EA	\$14,177.00	\$14,177.00
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00 LF	\$348.14	\$19,495.84
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00 LF	\$660.28	\$132,056.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,180.00 LF	\$34.73	\$40,981.40
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00 EA	\$4,525.31	\$4,525.31

570-1-1	PERFORMANCE TURF	9,680

\$3.85

Retention Basin 7		
Description	Va	alue
Size	5	5 AC
Multiplier		1
Depth		1.30
Description	FPC 4	

# Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	5.00 AC	\$46,017.69	\$230,088.45
120-1	REGULAR EXCAVATION	10,486.67 CY	\$15.28	\$160,236.32
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00 EA	\$6,465.04	\$6,465.04
425-2-71	MANHOLES, J-7, <10'	2.00 EA	\$14,177.00	\$28,354.00
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00 LF	\$348.14	\$19,495.84
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	400.00 LF	\$660.28	\$264,112.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,860.00 LF	\$34.73	\$64,597.80
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	2.00 EA	\$4,525.31	\$9,050.62
570-1-1	PERFORMANCE TURF	24,200.00 SY	\$3.85	\$93,170.00
	Drainage Component Total			\$5,232,916.29

# SIGNING COMPONENT

Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	35.00 AS	\$462.47	\$16,186.45
700-1-12	SINGLE POST SIGN, F&I GM, 12- 20 SF	3.00 AS	\$1,578.08	\$4,734.24
700-2-15	MULTI- POST SIGN, F&I GM, 51- 100 SF	3.00 AS	\$7,692.26	\$23,076.78
700-2-16	MULTI- POST SIGN, F&I GM, 101- 200 SF	3.00 AS	\$15,571.98	\$46,715.94
	Signing Component Total			\$90,713.41

#### LIGHTING COMPONENT

Conventional	Lighting Subcomponent			
<b>Description</b> Spacing				Value MIN
Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	7,656.00 LF	\$19.26	\$147,454.56
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	1,519.60 LF	\$36.22	\$55,039.91
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	51.00 EA	\$1,374.06	\$70,077.06
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	27,961.80 LF	\$3.77	\$105,415.99
715-61-342	LIGHT POLE CMPLT,STD,F&I, 40'MH,12'ARM L	51.00 EA	\$8,402.83	\$428,544.33
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	51.00 EA	\$768.21	\$39,178.71
	Subcomponent Total			\$845,710.56
	Lighting Component Total			\$845,710.56
Sequence 10	Total			\$13,574,633.25

**Description:** Old Lucerne (East) 4-Lane Approach

# EARTHWORK COMPONENT

User Input Data	
Description	Value
Standard Clearing and Grubbing Limits L/R	0.00 / 0.00
Incidental Clearing and Grubbing Area	0.70
Alignment Number	1
Distance	0.057
Top of Structural Course For Begin Section	100.00
Top of Structural Course For End Section	100.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

# Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	0.70 AC	\$46,017.69	\$32,212.38
X-Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
120-1	REGULAR EXCAVATION	500.00 CY	\$15.28	\$7,640.00
	<b>Comment:</b> 27000 ft X 0.5 ft deep / 27 = 50	0 CY		
120-6	EMBANKMENT	500.00 CY	\$17.66	\$8,830.00
	<b>Comment:</b> 27000 ft X 0.5 ft deep / 27 = 50	0 CY		
	Earthwork Component Total			\$48,682.38

User Input Data	
Description	Value
Number of Lanes	2
Roadway Pavement Width L/R	12.00 / 12.00
Structural Spread Rate	220
Friction Course Spread Rate	110

X-Items				
Pay item	Description	Quantity Unit	Unit Price Ex	tended Amount
160 <b>-</b> 4	TYPE B STABILIZATION	2,200.00 SY	\$8.44	\$18,568.00
	Comment: 4-Lane Leg: 19785 sf/9=219	98 SY use 2200 SY		
285-709	OPTIONAL BASE, BASE GROUP 09	1,950.00 SY	\$20.06	\$39,117.00
	Comment: 4-Lane Leg: measure approx. 1950 SY			
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	215.00 TN	\$180.14	\$38,730.10
	<b>Comment:</b> 2" Superpave Traffic C (195 = 215 TN	0 X 110 X 2)/2000		
337-7-82	ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22	108.00 TN	\$218.00	\$23,544.00
	<b>Comment:</b> 1" FC-9.5 Traffic C PG 76-22 110)/2000 = 107.25 TN use 108 TN	2 (1950 X		
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.20 GM	\$1,259.68	\$251.94
710-11-102	PAINTED PAVT MARK,STD,WHITE,SOLID,8"	0.04 GM	\$1,716.71	\$68.67
710-11-123	PAINTED PAVT MARK,STD,WHITE,SOLID, 12"	115.00 LF	\$1.07	\$123.05
710-11-124	PAINTED PAVT MARK,STD,WHITE,SOLID, 18"	30.00 LF	\$1.44	\$43.20
710-11-125	PAINTED PAVT MARK,STD,WHITE,SOLID,24"	198.00 LF	\$1.92	\$380.16
710-11-141	PAINTED PAVT MARK,STD,WH,DOT GUIDE, 6"	0.02 GM	\$707.41	\$14.15
710-11-144	PAINTED PAVEMENT MARKINGS, STANDARD, WHI	0.01 GM	\$1,262.94	\$12.63
710-11-160	PAINTED PAVT MARK,STD,WHITE, MESSAGE	2.00 EA	\$63.83	\$127.66
710-11-170	PAINTED PAVT MARK,STD,WHITE, ARROWS	4.00 EA	\$35.35	\$141.40
710-11-201	PAINTED PAVT MARK,STD,YELLOW,SOLID,6"	0.15 GM	\$1,345.62	\$201.84
710-11-224	PAINTED PAVT MARK,STD,YELLOW,SOLID,18"	55.00 LF	\$1.73	\$95.15
_				
Pavement Mark	ing Subcomponent			
		Value		

Description	Value
Include Thermo/Tape/Other	Ν
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	2
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	2

0

## \$121,418.95

# Roadway Component Total

## SHOULDER COMPONENT

User Input Data	
Description	Value
Total Outside Shoulder Width L/R	10.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.67
Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	Т
Rumble Strips �No. of Sides	0

### X-Items

Pay item	Description	Quantity Unit	Unit Price Ext	ended Amount
285-701	OPTIONAL BASE, BASE GROUP 01	154.00 SY	\$30.81	\$4,744.74
	<b>Comment:</b> 4-Lane Leg: 130 ft X 5.33 ft wid 154 SY	de X 2 sides /9 =		
337-7-82	ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22	10.00 TN	\$218.00	\$2,180.00
	Comment: 1" thick FC: (154 SY X 110)/20 use 10 TN	00 = 8.47 TN		
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	440.00 SY	\$65.70	\$28,908.00
527-2	DETECTABLE WARNINGS	104.00 SF	\$35.46	\$3,687.84
570-1-2	PERFORMANCE TURF, SOD	380.00 SY	\$5.40	\$2,052.00

## **Erosion Control**

Pay Items				
Pay item	Description	Quantity Unit	Unit Price Ex	tended Amount
104-10-3	SEDIMENT BARRIER	600.00 LF	\$2.71	\$1,626.00
107-1	LITTER REMOVAL	0.25 AC	\$48.53	\$12.13
107-2	MOWING	0.25 AC	\$84.04	\$21.01
	Shoulder Component Total			\$43,231.72

Description	Value
Total Median Width	0.00
Performance Turf Width	0.00
Total Median Shoulder Width L/R	0.00 / 0.00
Paved Median Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	Т
Rumble Strips ï¿1⁄2No. of Sides	0

#### X-Items

Pay item	Description	Quantity Unit	Unit Price Ext	ended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	240.00 LF	\$41.59	\$9,981.60
520-1-10	CONCRETE CURB & GUTTER, TYPE F	350.00 LF	\$46.67	\$16,334.50
527-2	DETECTABLE WARNINGS	40.00 SF	\$35.46	\$1,418.40
570-1-2	PERFORMANCE TURF, SOD	120.00 SY	\$5.40	\$648.00
	Median Component Total			\$28,382.50

#### DRAINAGE COMPONENT

#### X-Items Pay item Description Quantity Unit Unit Price Extended Amount 425-1-361 INLETS, CURB, TYPE P-6, <10' 2.00 EA \$11,175.07 \$22,350.14 425-2-41 MANHOLES, P-7, <10' 1.00 EA \$6,130.30 \$6,130.30 PIPE CULV, OPT MATL, ROUND, 430-175-124 224.00 LF \$156.39 \$35,031.36 24"S/CD **Drainage Component Total** \$63,511.80

#### SIGNING COMPONENT

Pay Items				
Pay item	Description	Quantity Unit	Unit Price E	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	7.00 AS	\$462.47	\$3,237.29
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00 AS	\$5,727.04	\$5,727.04
	Signing Component Total			\$8,964.33

Description: Old Lucerne (East) Roundabout Central Island

# EARTHWORK COMPONENT

User Input Data	
Description	Value
Standard Clearing and Grubbing Limits L/R	0.00 / 0.00
Incidental Clearing and Grubbing Area	0.50
Alignment Number	1
Distance	0.057
Top of Structural Course For Begin Section	100.00
Top of Structural Course For End Section	100.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

#### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	0.50 AC	\$46,017.69	\$23,008.84
X-Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
120-1	REGULAR EXCAVATION	480.00 CY	\$15.28	\$7,334.40
	<b>Comment:</b> 26000 ft x 0.5 ft deep / 27 = 48 CY	1 CY use 480		
120-6	EMBANKMENT	480.00 CY	\$17.66	\$8,476.80
	<b>Comment:</b> 26000 ft x 0.5 ft deep / 27 = 48 CY	1 CY use 480		
	Earthwork Component Total			\$38,820.05

#### ROADWAY COMPONENT

User Input Data	
Description	Value
Number of Lanes	2
Roadway Pavement Width L/R	12.00 / 12.00

Structural Spread Rate	220
Friction Course Spread Rate	110

X-Items					
Pay item	Description	Quantity Unit	Unit Price Ex	tended Amount	
160-4	TYPE B STABILIZATION	2,200.00 SY	\$8.44	\$18,568.00	
	Comment: measure (25578-6175)SF /9 2200 SY	= 2156 SY use			
285 <b>-</b> 709	OPTIONAL BASE, BASE GROUP 09	1,300.00 SY	\$20.06	\$26,078.00	
	Comment: measure (25578-10477)SF /S 1300 SY	9 = 1294 SY use			
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	143.00 TN	\$180.14	\$25,760.02	
	Comment: 2" Superpave Traffic C (1300	X 110 X 2)/2000			
337-7-82	ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22	72.00 TN	\$218.00	\$15,696.00	
	<b>Comment:</b> 1" FC-9.5 Traffic C PG 76-22 110)/2000	(1300 X			
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.05 GM	\$1,259.68	\$62.98	
710-11-141	PAINTED PAVT MARK,STD,WH,DOT GUIDE, 6"	0.05 GM	\$707.41	\$35.37	
710-11-170	PAINTED PAVT MARK,STD,WHITE, ARROWS	8.00 EA	\$35.35	\$282.80	
710-11-201	PAINTED PAVT MARK,STD,YELLOW,SOLID,6"	0.07 GM	\$1,345.62	\$94.19	
Pavement Marking Subcomponent					
Description		Value			
Include Thermo/Tape/Other		Ν			
Pavement Type		Asphalt			
Solid Stripe No. of Paint Applications		2 4			
Solid Stripe No. of Stripes Skip Stripe No. of Paint Applications		4			
	Skip Stripe No. of Paint Applications				

Roadway Component Total

\$86,577.36

# SHOULDER COMPONENT

0

#### User Input Data

Skip Stripe No. of Stripes

Description	Value
Total Outside Shoulder Width L/R	10.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.67

Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	Т
Rumble Strips ï¿1/2No. of Sides	0

# Erosion Control

Pay Items Pay item	Description	Quantity Unit	Unit Price E	extended Amount
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,689.06	\$2,689.06
107-1	LITTER REMOVAL	0.25 AC	\$48.53	\$12.13
107-2	MOWING	0.25 AC	\$84.04	\$21.01
	Shoulder Component Total			\$2,722.20

# MEDIAN COMPONENT

User Input Data	
Description	Value
Total Median Width	0.00
Performance Turf Width	0.00
Total Median Shoulder Width L/R	0.00 / 0.00
Paved Median Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	Т
Rumble Strips �No. of Sides	0

X-Items				
Pay item	Description	Quantity Unit	Unit Price Ex	tended Amount
350-30-13	CONC PAVEMENT FOR ROUNDABOUT APRON, 12"	480.00 SY	\$335.92	\$161,241.60
520-2-4	CONCRETE CURB, TYPE D	280.00 LF	\$47.14	\$13,199.20
520 <b>-</b> 2-8	CONCRETE CURB, TYPE RA	370.00 LF	\$68.39	\$25,304.30
570-1-2	PERFORMANCE TURF, SOD	700.00 SY	\$5.40	\$3,780.00
	Median Component Total			\$203,525.10

Pay item	Description	Quantity Unit	Unit Price Ex	tended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	4.00 AS	\$462.47	\$1,849.88
	Signing Component Total			\$1,849.88
Sequence 12 T	otal			\$333,494.59

# FDOT Long Range Estimating System - Production R3: Project Details by Sequence Report

Project: 440273-1-22-01 Letting Date: 01/2099					
Description: SR	544 (LUCERNE PARK RD) FROM	I MARTIN LUTHER I	KING BLVD TO S	R 17	
District: 01 Contract Class: 4	County: 16 POLK 4 Lump Sum Project: N	<b>Market Area:</b> 08 Design/Build: N	Units: English Project Length	: 7.950 MI	
Project Manager	: JMK-AEH-DCT				
Version 36 Projec Description: <sup>Segr</sup> Upd	<b>ct Grand Total</b> ment 5-East of Lucernce Loop Rd. ates from Version 28 - 6/3/24	to West of Lk. Hamil	ton Canal - June	<b>\$19,040,795.90</b> 2024 Unit Cost	
Project Sequenc	es Subtotal			\$14,222,319.52	
102-1 N	laintenance of Traffic	15.00 %		\$2,133,347.93	
101-1 N	lobilization	10.00 %		\$1,635,566.74	
Project Sequenc	es Total			\$17,991,234.19	
Project Unknowns	6	5.00 %		\$899,561.71	
Design/Build		0.00 %		\$0.00	
Non-Bid Components:					
Pay item D	escription	Quantity U	nit Unit Price	Extended Amount	
uuu_96	NITIAL CONTINGENCY AMOUNT	LS	\$150,000.00	\$150,000.00	
Project Non-Bid Subtotal \$150,000.00					
Version 36 Project Grand Total \$19,040,795.90					

# FDOT Long Range Estimating System - Production R3: Project Details by Sequence Report

Project: 440273-	1-22-01			L	etting Da	<b>te:</b> 01/2099
-	544 (LUCERNE PARK RD) FR	OM MARTIN LUTHER	KING		-	
District: 01	County: 16 POLK 4 Lump Sum Project: N	Market Area: 08 Design/Build: N	Unit	s: English ect Length:		
Project Manage	r: JMK-AEH-DCT					
Version 37 Proje Description: Seg Upd	<b>ct Grand Total</b> ment 6-West side of Lk Hamilto ates from Version 29 - 6/3/24	n Canal to west of Brer	iton M	anor Ave J	<b>\$10,</b> une 2024	<b>619,201.91</b> Unit Cost
Sequence: 17 NE	U - New Construction, Divided,	Urban		Net L	.ength:	0.540 MI 2,851 LF
Description: Se	gment 6-West side of Lk Hamilt	on Canal to west of Bre	enton I	Manor Ave.		2,001 EI
User Input Data	EARTH	WORK COMPONENT				
	g and Grubbing Limits L/R ng and Grubbing Area				56.0	<b>Value</b> 0 / 56.00 0.00
Top of Structural Horizontal Elevat Horizontal Elevat Front Slope L/R Median Shoulder	Course For Begin Section Course For End Section ion For Begin Section ion For End Section <sup>c</sup> Cross Slope L/R r Cross Slope L/R				4.00 % 2.00 %	1 0.540 102.00 100.00 100.00 1 / 2 to 1 / 4.00 % / 2.00 %
Pay Items Pay item 110-1-1 120-6	<b>Description</b> CLEARING & GRUBBING EMBANKMENT	-	B AC	<b>Unit Price</b> \$56,017.69 \$24.69	\$4	<b>ed Amount</b> 410,609.67 500,125 <b>.</b> 33

#### **ROADWAY COMPONENT**

User Input Data	
Description	Value
Number of Lanes	4
Roadway Pavement Width L/R	23.00 / 23.00
Structural Spread Rate	275
Friction Course Spread Rate	165

# Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	17,842.18 SY	\$10.73	\$191,446.59
285-709	OPTIONAL BASE, BASE GROUP 09	14,572.80 SY	\$20.06	\$292,330.37
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	2,003.76 TN	\$193.64	\$388,008.09
337-7-83	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	1,202.26 TN	\$207.93	\$249,985.92

#### Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	2

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-1-3	RAISED PAVMT MARK, TYPE B	219.00 EA	\$4.36	\$954.84
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	2.16 GM	\$1,259.68	\$2,720.91
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	1.08 GM	\$546.91	\$590.66
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	2.16 GM	\$5,558.07	\$12,005.43
711-16-131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	1.08 GM	\$1,616.01	\$1,745.29
	Roadway Component Total			\$1,139,788.10

#### SHOULDER COMPONENT

#### User Input Data

Description	Value
Total Outside Shoulder Width L/R	22.25 / 22.25
Total Outside Shoulder Perf. Turf Width L/R	10.00 / 10.00
Sidewalk Width L/R	10.00 / 10.00

#### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	2,851.20 LF	\$46.67	\$133,065.50
520-1-10	CONCRETE CURB & GUTTER, TYPE F	2,851.20 LF	\$46.67	\$133,065.50
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	6,336.00 SY	\$65.70	\$416,275.20
570-1-1	PERFORMANCE TURF	6,336.00 SY	\$3.85	\$24,393.60

# **Erosion Control**

#### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	5,702.40 LF	\$2.71	\$15,453.50
104-11	FLOATING TURBIDITY BARRIER	135.00 LF	\$15.46	\$2,087.10
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	135.00 LF	\$6.67	\$900.45
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,689.06	\$2,689.06
104-18	INLET PROTECTION SYSTEM	28.00 EA	\$123.06	\$3,445.68
107-1	LITTER REMOVAL	13.74 AC	\$48.53	\$666.80
107 <b>-</b> 2	MOWING	13.74 AC	\$84.04	\$1,154.71
	Shoulder Component Total			\$733,197.10

#### MEDIAN COMPONENT

#### User Input Data

Description	Value
Total Median Width	22.00
Performance Turf Width	17.50

#### Pay Items

Pay item Description

520-1-7	CONCRETE CURB & GUTTER, TYPE E	5,702.40 LF	\$41.59	\$237,162.82
570-1-1	PERFORMANCE TURF	5,544.00 SY	\$3.85	\$21,344.40
	Median Component Total			\$258,507.22

#### DRAINAGE COMPONENT

# Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
425-1-351	INLETS, CURB, TYPE P-5, <10'	20.00 EA	\$7,474.89	\$149,497.80
425-1-451	INLETS, CURB, TYPE J-5, <10'	6.00 EA	\$14,168.32	\$85,009.92
425-1-521	INLETS, DT BOT, TYPE C, <10'	3.00 EA	\$6,847.68	\$20,543.04
425-2-41	MANHOLES, P-7, <10'	3.00 EA	\$6,130.30	\$18,390.90
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	1,432.00 LF	\$156.39	\$223,950.48
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	128.00 LF	\$237.81	\$30,439.68
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	2,704.00 LF	\$299.07	\$808,685.28
570-1-1	PERFORMANCE TURF	164.16 SY	\$3.85	\$632.02

#### **Retention Basin 1**

Description		Value
Size		2 AC
Multiplier		1
Depth		9.00
Description	Pond 6	

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	2.00 AC	\$56,017.69	\$112,035.38
120-1	REGULAR EXCAVATION	29,040.00 CY	\$17.28	\$501,811.20
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00 EA	\$6,465.04	\$6,465.04
425-2-71	MANHOLES, J-7, <10'	1.00 EA	\$14,177.00	\$14,177.00
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00 LF	\$348.14	\$19,495.84
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00 LF	\$660.28	\$132,056.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,180.00 LF	\$34.73	\$40,981.40
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00 EA	\$4,525.31	\$4,525.31

Drainage Component Total

#### SIGNING COMPONENT

Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	13.00 AS	\$462.47	\$6,012.11
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	2.00 AS	\$1,578.08	\$3,156.16
700-2-15	MULTI- POST SIGN, F&I GM, 51- 100 SF	2.00 AS	\$7,692.26	\$15,384.52
700-2-16	MULTI- POST SIGN, F&I GM, 101- 200 SF	2.00 AS	\$15,571.98	\$31,143.96
	Signing Component Total			\$55,696.75

#### SIGNALIZATIONS COMPONENT

Signalization 1	
Description	Value
Туре	4 Lane Mast Arm
Multiplier	1
Description	Lake Hamilton Drive

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	750.00 LF	\$19.26	\$14,445.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	250.00 LF	\$36.22	\$9,055.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00 PI	\$10,834.31	\$10,834.31
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	16.00 EA	\$1,374 <u>.</u> 06	\$21,984.96
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	1.00 AS	\$3,747.93	\$3,747.93
639-2-1	ELECTRICAL SERVICE WIRE, F&I	60.00 LF	\$9.92	\$595.20
649-21-10	STEEL MAST ARM ASSEMBLY, F&I, 60'	4.00 EA	\$81,339.84	\$325,359.36
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	12.00 AS	\$1,499.43	\$17,993.16

	Signalizations Component Total			\$485,339.17
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	4.00 EA	\$277.68	\$1,110.72
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	1.00 AS	\$47,427.85	\$47,427.85
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	8.00 EA	\$239.20	\$1,913.60
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	12.00 AS	\$1,354.74	\$16,256.88
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	12.00 EA	\$704.50	\$8,454.00
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	8.00 AS	\$770.15	\$6,161.20

#### LIGHTING COMPONENT

Conventional	Lighting Subcomponent			
Description Spacing Pay Items				<b>Value</b> MIN
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	2,851.20 LF	\$19.26	\$54,914.11
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	565.92 LF	\$36.22	\$20,497.62
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	19.00 EA	\$1,374.06	\$26,107.14
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	10,413.36 LF	\$3.77	\$39,258.37
715-61-342	LIGHT POLE CMPLT,STD,F&I, 40'MH,12'ARM L	19.00 EA	\$8,402.83	\$159,653.77
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	19.00 EA	\$768.21	\$14,595.99
	Subcomponent Total			\$315,027.00
	Lighting Component Total			\$315,027.00

#### **BRIDGES COMPONENT**

Bridge 1	
Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	100.00
Width (LF)	97.67
Туре	Low Level

Cost Factor		1.25
Structure No.		
Removal of Existing Structures area		4,030.00
Default Cost per SF		\$114.00
Factored Cost per SF		\$142.50
Final Cost per SF		\$161.00
Basic Bridge Cost		\$1,391,797.50
Description	LAKE HAMILTON CANAL BRIDGE	

# Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	4,030.00 SF	\$59.31	\$239,019.30
400-2-10	CONC CLASS II, APPROACH SLABS	217.04 CY	\$597.85	\$129,757.36
415-1-9	REINF STEEL- APPROACH SLABS	37,982.00 LB	\$1.34	\$50,895.88
	Bridge 1 Total			\$1,811,470.04
	Bridges Component Total			\$1,811,470.04
,				
Sequence 17	<b>Fotal</b>			\$7,915,724.67

# FDOT Long Range Estimating System - Production R3: Project Details by Sequence Report

Project: 44027	Project: 440273-1-22-01 Letting Date: 01/2099					
Description: S	R 544 (LUCERNE PARK RD) FROM	MARTIN LUTHER	KING BLVD TO SI	R 17		
District: 01 Contract Class	County: 16 POLK s: 4 Lump Sum Project: N	<b>Market Area:</b> 08 Design/Build: N	Units: English Project Length:	7.950 MI		
Project Manager: JMK-AEH-DCT						
Version 37 Project Grand Total\$10,619,201.91Description:Segment 6-West side of Lk Hamilton Canal to west of Brenton Manor Ave June 2024 Unit Cost Updates from Version 29 - 6/3/24						
Project Seque	nces Subtotal			\$7,915,724.67		
102-1	Maintenance of Traffic	15.00 %		\$1,187,358.70		
101-1	Mobilization	10.00 %		\$910,308.34		
Project Seque	nces Total			\$10,013,391.71		
Project Unknov	vns	5.00 %		\$500,669.59		
Design/Build		0.00 %		\$0.00		
Non-Bid Com	oonents:					
Pay item	Description	Quantity U	nit Unit Price	Extended Amount		
999-25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)	LS	S \$105,140.61	\$105,140.61		
Project Non-Bid Subtotal \$105,140.61						
Version 37 Pro	oject Grand Total			\$10,619,201.91		

# FDOT Long Range Estimating System - Production R3: Project Details by Sequence Report

Project: 440273	-1-22-01		l	Letting Date: 01/2099		
Description: SI	R 544 (LUCERNE PARK RD) FR	OM MARTIN LUTHER	KING BLVD TO S	R 17		
District: 01 Contract Class	County: 16 POLK : 4 Lump Sum Project: N	Market Area: 08 Design/Build: N	Units: English Project Length	: 7.950 MI		
Project Manage	er: JMK-AEH-DCT					
Version 38 Proj Description: <sup>Se</sup> Ve	<b>ect Grand Total</b> gment 7-West of Brenton Manor rsion 30 - 6/3/24	Ave. to La Vista Drive -	June 2024 Unit C		<b>525,900.1</b> 9 es from	
Sequence: 21 N	IDU - New Construction, Divided	, Urban	Net	Length:	1.370 M	
Description: S	egment 7-West of Brenton Manc	or Ave. to La Vista Drive		-	7,234 LF	
l la ca la suit Dat		WORK COMPONENT				
User Input Data Description	3				Value	
•	ng and Grubbing Limits L/R			56.0	0 / 56.00	
	ing and Grubbing Area			0010	0.00	
	h				4	
Alignment Num Distance	Jer				1 1.370	
	I Course For Begin Section				102.00	
	Course For End Section				102.00	
	ation For Begin Section				100.00	
Horizontal Eleva	ation For End Section				100.00	
Front Slope L/R				2 to	1 / 2 to 1	
Median Shoulder Cross Slope L/R					/ 4.00 %	
Outside Shoulder Cross Slope L/R					/ 2.00 %	
Roadway Cross	Slope L/R			2.00 %	/ 2.00 %	
Pay Items						
Pay Items Pay item	Description	Quantity	Unit Unit Price	Extende	ed Amount	
-	<b>Description</b> CLEARING & GRUBBING	<b>Quantity</b> 18.60			ed Amount 483,929.03	

#### **ROADWAY COMPONENT**

User Input Data	
Description	Value
Number of Lanes	4
Roadway Pavement Width L/R	23.00 / 23.00
Structural Spread Rate	275
Friction Course Spread Rate	165

# Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	45,266.26 SY	\$8.44	\$382,047.23
285-709	OPTIONAL BASE, BASE GROUP 09	36,971.73 SY	\$17.06	\$630,737.71
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	5,083.61 TN	\$180.14	\$915,761.51
337-7-83	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	3,050.17 TN	\$207.93	\$634,221.85

#### Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	2

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-1-3	RAISED PAVMT MARK, TYPE B	555.00 EA	\$4.36	\$2,419.80
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	5.48 GM	\$1,259.68	\$6,903.05
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	2.74 GM	\$546.91	\$1,498.53
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	5.48 GM	\$5,558.07	\$30,458.22
711-16-131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	2.74 GM	\$1,616.01	\$4,427.87
	Roadway Component Total			\$2,608,475.77

#### SHOULDER COMPONENT

#### User Input Data

Description	Value
Total Outside Shoulder Width L/R	22.25 / 22.25
Total Outside Shoulder Perf. Turf Width L/R	10.00 / 10.00
Sidewalk Width L/R	10.00 / 10.00

#### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	7,233.60 LF	\$46.67	\$337,592.11
520-1-10	CONCRETE CURB & GUTTER, TYPE F	7,233.60 LF	\$46.67	\$337,592.11
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	16,074.67 SY	\$65.70	\$1,056,105.82
570-1-1	PERFORMANCE TURF	16,074.67 SY	\$3.85	\$61,887.48

# **Erosion Control**

#### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	14,467.20 LF	\$2.59	\$37,470.05
104-11	FLOATING TURBIDITY BARRIER	342.50 LF	\$15.46	\$5,295.05
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	342.50 LF	\$6.67	\$2,284.48
104-15	SOIL TRACKING PREVENTION DEVICE	2.00 EA	\$2,689.06	\$5,378.12
104-18	INLET PROTECTION SYSTEM	70.00 EA	\$123.06	\$8,614.20
107-1	LITTER REMOVAL	34.87 AC	\$48.53	\$1,692.24
107-2	MOWING	34.87 AC	\$84.04	\$2,930.47
	Shoulder Component Total			\$1,856,842.13

#### MEDIAN COMPONENT

#### User Input Data

Description	Value
Total Median Width	22.00
Performance Turf Width	17.50

#### Pay Items

Pay item Description

	Median Component Total			\$655,842.37
570-1-1	PERFORMANCE TURF	14,065.33 SY	\$3.85	\$54,151.52
520-1-7	CONCRETE CURB & GUTTER, TYPE E	14,467.20 LF	\$41.59	\$601,690.85

#### DRAINAGE COMPONENT

#### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
425-1-351	INLETS, CURB, TYPE P-5, <10'	50.00 EA	\$7,474.89	\$373,744.50
425-1-451	INLETS, CURB, TYPE J-5, <10'	14.00 EA	\$14,168.32	\$198,356.48
425-1-521	INLETS, DT BOT, TYPE C, <10'	7.00 EA	\$6,847.68	\$47,933.76
425-2-41	MANHOLES, P-7, <10'	7.00 EA	\$6,130.30	\$42,912.10
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	3,632.00 LF	\$156.39	\$568,008.48
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	328.00 LF	\$237.81	\$78,001.68
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	6,856.00 LF	\$299.07	\$2,050,423.92
570-1-1	PERFORMANCE TURF	416.48 SY	\$3.85	\$1,603.45

#### Box Culvert 1

Description	Value
Size	10 x 8
Length	103.00
Multiplier	1

# Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-4-1	CONC CLASS IV, CULVERTS	149.40 CY	\$1,464.01	\$218,723.09
415-1-1	REINF STEEL- ROADWAY	16,878.75 LB	\$1.43	\$24,136.61
Retention Basin 2				

Description		Value
Size		.5 AC
Multiplier		1
Depth		1.00
Description	Pond 7	

#### Pay Items

Pay item Description

110-1-1	CLEARING & GRUBBING	0.50 AC	\$26,017.69	\$13,008.84
120-1	REGULAR EXCAVATION	806.67 CY	\$15.28	\$12,325.92
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00 EA	\$6,465.04	\$6,465.04
425-2-71	MANHOLES, J-7, <10'	1.00 EA	\$14,177.00	\$14,177.00
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00 LF	\$348.14	\$19,495.84
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00 LF	\$660.28	\$132,056.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	600.00 LF	\$34.73	\$20,838.00
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00 EA	\$4,525.31	\$4,525.31
570-1-1	PERFORMANCE TURF	2,420.00 SY	\$3.85	\$9,317.00

Retention Basin 3		
Description		Value
Size		.5 AC
Multiplier		1
Depth		12.00
Description	Pond 8	

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	0.50 AC	\$26,017.69	\$13,008.84
120-1	REGULAR EXCAVATION	9,680.00 CY	\$15.28	\$147,910.40
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00 EA	\$6,465.04	\$6,465.04
425-2-71	MANHOLES, J-7, <10'	1.00 EA	\$14,177.00	\$14,177.00
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00 LF	\$348.14	\$19,495.84
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00 LF	\$660.28	\$132,056.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	600.00 LF	\$34.73	\$20,838.00
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00 EA	\$4,525.31	\$4,525.31
570-1-1	PERFORMANCE TURF	2,420.00 SY	\$3.85	\$9,317.00

#### **Retention Basin 4**

Description		Value
Size		1 AC
Multiplier		1
Depth		11.00
Description	Pond 9	

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.00 AC	\$26,017.69	\$26,017.69
120-1	REGULAR EXCAVATION	17,746.67 CY	\$15.28	\$271,169.12
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00 EA	\$6,465.04	\$6,465.04
425-2-71	MANHOLES, J-7, <10'	1.00 EA	\$14,177.00	\$14,177.00
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00 LF	\$348.14	\$19,495.84
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00 LF	\$660.28	\$132,056.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	840.00 LF	\$34.73	\$29,173.20
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00 EA	\$4,525.31	\$4,525.31
570-1-1	PERFORMANCE TURF	4,840.00 SY	\$3.85	\$18,634.00

# **Retention Basin 5**

Description	Value	е
Size	2.5 A0	С
Multiplier		1
Depth	5.0	0
Description	Pond 10	

#### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	2.50 AC	\$26,017.69	\$65,044.22
120-1	REGULAR EXCAVATION	20,166.67 CY	\$15.28	\$308,146.72
425-1-361	INLETS, CURB, TYPE P-6, <10'	1.00 EA	\$11,175.07	\$11,175.07
425-2-71	MANHOLES, J-7, <10'	1.00 EA	\$14,177.00	\$14,177.00
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00 LF	\$348.14	\$19,495.84
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00 LF	\$660.28	\$132,056.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,335.00 LF	\$34.73	\$46,364.55
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00 EA	\$4,525.31	\$4,525.31
570-1-1	PERFORMANCE TURF	12,100.00 SY	\$3.85	\$46,585.00

#### **Retention Basin 6**

Description	Value
Size	1.5 AC

Multiplier	1
Depth	1.30
Description	FPC 5

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.50 AC	\$26,017.69	\$39,026.54
120-1	REGULAR EXCAVATION	3,146.00 CY	\$15.28	\$48,070.88
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00 EA	\$6,465.04	\$6,465.04
425-2-71	MANHOLES, J <b>-</b> 7, <10'	1.00 EA	\$14,177.00	\$14,177.00
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00 LF	\$348.14	\$19,495.84
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00 LF	\$660.28	\$132,056.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,025.00 LF	\$34.73	\$35,598.25
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00 EA	\$4,525.31	\$4,525.31
570-1-1	PERFORMANCE TURF	7,260.00 SY	\$3.85	\$27,951.00
	Drainage Component Total			\$5,700,495.25

#### SIGNING COMPONENT

Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	33.00 AS	\$462.47	\$15,261.51
700-1-12	SINGLE POST SIGN, F&I GM, 12- 20 SF	3.00 AS	\$1,578.08	\$4,734.24
700-2-15	MULTI- POST SIGN, F&I GM, 51- 100 SF	3.00 AS	\$7,692.26	\$23,076.78
700-2-16	MULTI- POST SIGN, F&I GM, 101- 200 SF	3.00 AS	\$15,571.98	\$46,715.94
	Signing Component Total			\$89,788.47

#### LIGHTING COMPONENT

Conventional Lighting Subcomponent Description Spacing Pay Items

**Value** MIN

Pay item	Description	Quantity Unit		Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	7,233.60 LF	\$19.26	\$139,319.14
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	1,435.76 LF	\$36.22	\$52,003.23
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	48.00 EA	\$1,374.06	\$65,954.88
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	26,419.08 LF	\$3.77	\$99,599.93
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	48.00 EA	\$768.21	\$36,874.08
X-Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
715-61-321	LIGHT POLE CMPLT,STD,F&I, 40'MH,10'ARM L	48.00 EA	\$11,499.60	\$551,980.80
	Subcomponent Total			\$945,732.05
,	Lighting Component Total			\$945,732.06
Sequence 21	Total			\$13,145,883.60

**Description:** US27 Frontage Roads

#### EARTHWORK COMPONENT

User Input Data	1				
Description				Value	
Standard Cleari	ng and Grubbing Limits L/R			50.00 / 50.00	
Incidental Cleari	ng and Grubbing Area			0.00	
Alignment Numb	Der			1	
Distance				0.966	
Top of Structura	Course For Begin Section			102.00	
Top of Structura	Course For End Section		102.00		
Horizontal Eleva	tion For Begin Section		100.00		
Horizontal Eleva	tion For End Section		100.00		
Front Slope L/R			2 to 1 / 2 to 1		
Median Shoulde	r Cross Slope L/R		4.00 % / 4.00 %		
Outside Shoulde	er Cross Slope L/R		2.00 % / 2.00 %		
Roadway Cross Slope L/R				2.00 % / 2.00 %	
Pay Items					
Pay item	Description	Quantity Unit	Unit Price	Extended Amount	
110-1-1	CLEARING & GRUBBING	11.71 AC	\$26,017.69	\$304,667.15	

Earthwork Component Total

EMBANKMENT

#### \$871,709.96

\$567,042.81

#### **ROADWAY COMPONENT**

36,209.63 CY

\$15.66

User Input Data	
Description	Value
Number of Lanes	4
Roadway Pavement Width L/R	24.00 / 24.00
Structural Spread Rate	275
Friction Course Spread Rate	165

#### Pay Items

120-6

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160 <b>-</b> 4	TYPE B STABILIZATION	33,047.69 SY	\$8.44	\$278,922.50
285-709	OPTIONAL BASE, BASE GROUP 09	27,199.74 SY	\$17.06	\$464,027.56
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	3,739.96 TN	\$180.14	\$673,716.39

337-7-83	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	2,243.98 TN	\$207.93	\$466,590.76
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# Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	2

# Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-1-3	RAISED PAVMT MARK, TYPE B	391.00 EA	\$4.36	\$1,704.76
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	3.86 GM	\$1,259.68	\$4,862.36
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	1.93 GM	\$546.91	\$1,055.54
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	3.86 GM	\$5,558.07	\$21,454.15
711-16-131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	1.93 GM	\$1,616.01	\$3,118.90
	Roadway Component Total			\$1,915,452.92

#### SHOULDER COMPONENT

#### User Input Data

Description	Value
Total Outside Shoulder Width L/R	22.25 / 22.25
Total Outside Shoulder Perf. Turf Width L/R	20.00 / 20.00
Sidewalk Width L/R	0.00 / 0.00

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	5,099.95 LF	\$46.67	\$238,014.67
520-1-10	CONCRETE CURB & GUTTER, TYPE F	5,099.95 LF	\$46.67	\$238,014.67
570-1-1	PERFORMANCE TURF	22,666.45 SY	\$3.85	\$87,265.83

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	10,199.90 LF	\$2.59	\$26,417.74
104-11	FLOATING TURBIDITY BARRIER	241.48 LF	\$15.46	\$3,733.28
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	241.48 LF	\$6.67	\$1,610.67
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,689.06	\$2,689.06
104-18	INLET PROTECTION SYSTEM	50.00 EA	\$123.06	\$6,153.00
107-1	LITTER REMOVAL	24.58 AC	\$48.53	\$1,192.87
107-2	MOWING	24.58 AC	\$84.04	\$2,065.70
	Shoulder Component Total			\$607,157.49

MEDIAN COMPONENT						
User Input Data						
Description		Value	)			
Total Median Wie	dth	22.00	)			
Performance Turf Width 20.00						
Pay Items						
Pay item	Description	Quantity Unit	Unit Price	Extended Amount		
520-1-7	CONCRETE CURB & GUTTER, TYPE E	10,199.90 LF	\$41.59	\$424,213.84		
570-1-1	PERFORMANCE TURF	11,333.23 SY	\$3.85	\$43,632.94		
	Median Component Total			\$467,846.78		

# DRAINAGE COMPONENT

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
425-1-351	INLETS, CURB, TYPE P-5, <10'	35.00 EA	\$7,474.89	\$261,621.15
425-1-451	INLETS, CURB, TYPE J-5, <10'	10.00 EA	\$14,168.32	\$141,683.20
425-1-521	INLETS, DT BOT, TYPE C, <10'	5.00 EA	\$6,847.68	\$34,238.40
425-2-41	MANHOLES, P-7, <10'	5.00 EA	\$6,130.30	\$30,651.50
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	2,560.00 LF	\$156.39	\$400,358.40
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	232.00 LF	\$237.81	\$55,171.92

430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	4,832.00 LF	\$299.07	\$1,445,106.24
570-1-1	PERFORMANCE TURF	293.63 SY	\$3.85	\$1,130.48
	Drainage Component Total			\$2,369,961.29

#### SIGNING COMPONENT

Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	24.00 AS	\$462.47	\$11,099.28
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	2.00 AS	\$1,578.08	\$3,156.16
700-2-15	MULTI- POST SIGN, F&I GM, 51- 100 SF	2.00 AS	\$7,692.26	\$15,384.52
700-2-16	MULTI- POST SIGN, F&I GM, 101- 200 SF	2.00 AS	\$15,571.98	\$31,143.96
	Signing Component Total			\$60,783.92

#### SIGNALIZATIONS COMPONENT

Signalization 1	
Description	Value
Туре	4 Lane Mast Arm
Multiplier	2
Description	US 27 & 544 Intersection

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	1,500.00 LF	\$19.26	\$28,890.00
630 <b>-2-</b> 12	CONDUIT, F& I, DIRECTIONAL BORE	500.00 LF	\$36.22	\$18,110.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	2.00 PI	\$10,834.31	\$21,668.62
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	32.00 EA	\$1,374.06	\$43,969.92
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	2.00 AS	\$3,747.93	\$7,495.86
639-2-1	ELECTRICAL SERVICE WIRE, F&I	120.00 LF	\$9.92	\$1,190.40
649-21-10	STEEL MAST ARM ASSEMBLY, F&I, 60'	8.00 EA	\$81,339.84	\$650,718.72

	Signalizations Component Total			\$970,678.34
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	8.00 EA	\$277.68	\$2,221.44
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	2.00 AS	\$47,427.85	\$94,855.70
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	16.00 EA	\$239.20	\$3,827.20
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	24.00 AS	\$1,354.74	\$32,513.76
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	24.00 EA	\$704.50	\$16,908.00
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	16.00 AS	\$770.15	\$12,322.40
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	24.00 AS	\$1,499.43	\$35,986.32

#### LIGHTING COMPONENT

Conventional	Lighting Subcomponent			
<b>Description</b> Spacing <b>Pay Items</b>				Value MIN
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	5,099.95 LF	\$19.26	\$98,225.04
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	1,012.26 LF	\$36.22	\$36,664.06
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	34.00 EA	\$1,374.06	\$46,718.04
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	18,626.42 LF	\$3.77	\$70,221.60
715-61-342	LIGHT POLE CMPLT,STD,F&I, 40'MH,12'ARM L	34.00 EA	\$8,402.83	\$285,696.22
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	34.00 EA	\$768.21	\$26,119.14
	Subcomponent Total			\$563,644.10
	Lighting Component Total			\$563,644.10
Sequence 23	Total			\$7,827,234.80

**Description:** US 27 Overpass/Bridge

#### EARTHWORK COMPONENT

User Input Dat	a			
Description				Value
Standard Clear	ing and Grubbing Limits L/R			105.00 / 105.00
	ring and Grubbing Area			0.00
Alignment Num	ber			1
Distance				1.200
Top of Structura	al Course For Begin Section			105.00
Top of Structura	al Course For End Section			105.00
Horizontal Elev	ation For Begin Section			100.00
Horizontal Elev	ation For End Section			100.00
Front Slope L/F	R			2 to 1 / 2 to 1
Median Slope L	_/R			2 to 1 / 2 to 1
	er Cross Slope L/R			4.00 % / 4.00 %
Outside Should	ler Cross Slope L/R			5.00 % / 5.00 %
Roadway Cross	s Slope L/R			2.00 % / 2.00 %
Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	30.55 AC	\$26,017.69	\$794,840.43
120-6	EMBANKMENT	121,660.59 CY	\$15.66	\$1,905,204.84
X-Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
120-6	EMBANKMENT	50,000.00 CY	\$15.66	\$783,000.00
	Earthwork Component Total			\$3,483,045.27

#### **ROADWAY COMPONENT**

6

#### **User Input Data** Description Value Number of Lanes Roadway Pavement Width L/R 36.00 / 36.00 Structural Spread Rate 275 165 Friction Course Spread Rate

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	76,032.00 SY	\$8.44	\$641,710.08
285-709	OPTIONAL BASE, BASE GROUP 09	51,617.28 SY	\$17.06	\$880,590.80
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	6,969.60 TN	\$180.14	\$1,255,503.74
337-7-83	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	4,181.76 TN	\$207.93	\$869,513.36

### Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	4

# Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-1-3	RAISED PAVMT MARK, TYPE B	810.00 EA	\$4.36	\$3,531.60
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	4.80 GM	\$1,259.68	\$6,046.46
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	4.80 GM	\$546.91	\$2,625.17
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	4.80 GM	\$5,646.57	\$27,103.54
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	4.80 GM	\$1,982.10	\$9,514.08
	Roadway Component Total			\$3,696,138.83

### SHOULDER COMPONENT

User Input Data	
Description	Value
Total Outside Shoulder Width L/R	10.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Paved Outside Shoulder Width L/R	10.00 / 10.00
Structural Spread Rate	275
Friction Course Spread Rate	165
Total Width (T) / 8" Overlap (O)	0
Rumble Strips ï¿1⁄2No. of Sides	1

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
285 <b>-</b> 704	OPTIONAL BASE, BASE GROUP 04	14,544.64 SY	\$17.75	\$258,167.36
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	1,936.00 TN	\$180.14	\$348,751.04
337-7-25	ASPH CONC FC,INC BIT,FC- 5,PG76-22	76.67 TN	\$188.51	\$14,453.06
546-72-1	GROUND-IN RUMBLE STRIPS, 16"	1.20 GM	\$1,447 <u>.</u> 76	\$1,737.31

# **Erosion Control**

# Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	16,473.60 LF	\$2.59	\$42,666.62
104-11	FLOATING TURBIDITY BARRIER	300.00 LF	\$15.46	\$4,638.00
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	300.00 LF	\$6.67	\$2,001.00
104-15	SOIL TRACKING PREVENTION DEVICE	2.00 EA	\$2,689.06	\$5,378.12
104-18	INLET PROTECTION SYSTEM	8.00 EA	\$123.06	\$984.48
107-1	LITTER REMOVAL	29.09 AC	\$48.53	\$1,411.74
107-2	MOWING	29.09 AC	\$84.04	\$2,444.72
	Shoulder Component Total			\$682,633.45

### MEDIAN COMPONENT

User Input Data	
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Description	Value
Total Median Width	42.00
Performance Turf Width	32.00
Total Median Shoulder Width L/R	8.00 / 8.00
Paved Median Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	275
Friction Course Spread Rate	165
Total Width (T) / 8" Overlap (O)	0
Rumble Strips �No. of Sides	1

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE, BASE GROUP 04	7,504.64 SY	\$17.75	\$133,207.36
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	968.00 TN	\$180.14	\$174,375.52

	Median Component Total			\$410,216.50
570-1-1	PERFORMANCE TURF	22,528.00 SY	\$3.85	\$86,732.80
546 <b>-</b> 72 <b>-</b> 1	GROUND-IN RUMBLE STRIPS, 16"	1.00 GM	\$1,447.76	\$1,447.76
337-7-25	ASPH CONC FC,INC BIT,FC- 5,PG76-22	76.67 TN	\$188.51	\$14,453.06

#### DRAINAGE COMPONENT

Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
425-1-551	INLETS, DT BOT, TYPE E, <10'	8.00 EA	\$5,480.28	\$43,842.24
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	960.00 LF	\$196.18	\$188,332.80
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	416.00 LF	\$156.39	\$65,058.24
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	360.00 LF	\$237.81	\$85,611.60
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	48.00 EA	\$3,331.11	\$159,893.28
524-1-1	CONCRETE DITCH PAVT, NR, 3"	2,400.00 SY	\$102.32	\$245,568.00
570-1-1	PERFORMANCE TURF	844.80 SY	\$3.85	\$3,252.48
	Drainage Component Total			\$791,558.64

#### SIGNING COMPONENT

Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	29.00 AS	\$462.47	\$13,411.63
700-1-12	SINGLE POST SIGN, F&I GM, 12- 20 SF	3.00 AS	\$1,578.08	\$4,734.24
700-2-15	MULTI- POST SIGN, F&I GM, 51- 100 SF	3.00 AS	\$7,692.26	\$23,076.78
X-Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-2-16	MULTI- POST SIGN, F&I GM, 101- 200 SF	3.00 AS	\$15,571.98	\$46,715.94
	Signing Component Total			\$87,938.59

# LIGHTING COMPONENT

Rural Lighting	y Subcomponent			
Description				Value
Multiplier (Num	ber of Poles)			1
Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	6,336.00 LF	\$19.26	\$122,031.36
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	1,257.60 LF	\$36.22	\$45,550.27
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	42.00 EA	\$1,374.06	\$57,710.52
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	23,140.80 LF	\$3.77	\$87,240.82
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	42.00 EA	\$768.21	\$32,264.82
	Subcomponent Total			\$344,797.79
X-Items				
Pay item	Description	Quantity	Unit Unit Price	Extended Amount
715-61-321	LIGHT POLE CMPLT,STD,F&I, 40'MH,10'ARM L	42.00	EA \$11,499.60	\$482,983.20
	Lighting Component Total			\$827,780.99

#### BRIDGES COMPONENT

Bridge 1		
Description		Value
Estimate Type		SF Estimate
Primary Estimate		YES
Length (LF)		540.00
Width (LF)		58.67
Туре		High Level
Cost Factor		1.25
Structure No.		
Removal of Existing Structures area		0.00
Default Cost per SF		\$140.00
Factored Cost per SF		\$175.00
Final Cost per SF		\$187.55
Basic Bridge Cost		\$5,544,315.00
Description	US 27 BRIDGE OVER SR 544	

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH	130.38 CY	\$597.85	
	SLABS			\$77,947.68
415-1-9	REINF STEEL- APPROACH SLABS	22,816.50 LB	\$1.34	\$30,574.11
Bridge X-Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
521-5-13	CONC TRAF RAIL- BRIDGE, 36" SING SLOPE	2,400.00 LF	\$120.45	\$289,080.00
	Bridge 1 Total			\$5,941,916.79
Bridge 2 Description Estimate Type Primary Estimate Length (LF) Width (LF) Type Cost Factor Structure No. Removal of Exis Default Cost per Factored Cost per Final Cost per S Basic Bridge C Description	ting Structures area <sup>.</sup> SF er SF <b>SF</b>			Value SF Estimate YES 540.00 58.67 High Level 1.25 0.00 \$140.00 \$175.00 <b>\$178.43</b> \$5,544,315.00
Bridge Pay Item	ıs			
Pay item		Quantity Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	130.38 CY	\$597.85	\$77,947.68
415-1-9	REINF STEEL- APPROACH SLABS	22,816.50 LB	\$1.34	\$30,574.11
	Bridge 2 Total			\$5,652,836.79
Bridge 3 Description Estimate Type Primary Estimate Length (LF) Width (LF) Type	e			Value SF Estimate YES 105.00 20.00 Low Level

Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	1,260.00
Default Cost per SF	\$114.00
Factored Cost per SF	\$142.50
Final Cost per SF	\$160.11
Basic Bridge Cost	\$299,250 <u>.</u> 00
Description	

#### Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	1,260.00 SF	\$59.31	\$74,730.60
400-2-10	CONC CLASS II, APPROACH SLABS	44.44 CY	\$597.85	\$26,568.45
415-1-9	REINF STEEL- APPROACH SLABS	7,777.00 LB	\$1.34	\$10,421.18
	Bridge 3 Total			\$410,970.23
	Bridges Component Total			\$12,005,723.81

#### **RETAINING WALLS COMPONENT**

X-Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
521-8-7	CONC BARRIER, W/JUNCT SL, 36 SS	4,000.00 LF	\$382.52	\$1,530,080.00
548-12	RET WALL SYSTEM, PERM, EX BARRIER	12,638.00 SF	\$51.06	\$645,296.28
	Retaining Walls Component Total			\$2,175,376.28
Sequence 24	Total			\$24,160,412.36

**Description:** SR 544 under US 27 Overpass

# EARTHWORK COMPONENT

User Input Data	1				
Description				Value	
Standard Cleari	ng and Grubbing Limits L/R			105.00 / 105.00	
Incidental Cleari	ng and Grubbing Area			0.00	
Alignment Numb	Der			1	
Distance				0.303	
Top of Structura	Course For Begin Section			102.00	
Top of Structura	Course For End Section			102.00	
	tion For Begin Section			100.00	
Horizontal Elevation For End Section				100.00	
Front Slope L/R			2 to 1 / 2 to 1		
Median Shoulder Cross Slope L/R				4.00 % / 4.00 %	
Outside Shoulder Cross Slope L/R				2.00 % / 2.00 %	
Roadway Cross Slope L/R				2.00 % / 2.00 %	
Pay Items					
Pay item	Description	Quantity Unit	Unit Price	Extended Amount	
110-1-1	CLEARING & GRUBBING	7.71 AC	\$26,017.69	\$200,596.39	
120-6	EMBANKMENT	10,502.65 CY	\$15.66	\$164,471.50	
	Earthwork Component Total			\$365,067.89	

#### **ROADWAY COMPONENT**

User Input Data	
Description	Value
Number of Lanes	7
Roadway Pavement Width L/R	23.00 / 59.00
Structural Spread Rate	275
Friction Course Spread Rate	165

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160 <b>-</b> 4	TYPE B STABILIZATION	16,410.80 SY	\$8.44	\$138,507.15
285-709	OPTIONAL BASE, BASE GROUP 09	14,576.32 SY	\$17.06	\$248,672.02
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	2,004.24 TN	\$180.14	\$361,043.79

337-7-83	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22

#### Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	5

#### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-1-3	RAISED PAVMT MARK, TYPE B	245.00 EA	\$4.36	\$1,068.20
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	1.21 GM	\$1,259.68	\$1,524.21
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	1.52 GM	\$546.91	\$831.30
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	1.21 GM	\$5,558.07	\$6,725.26
711-16-131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	1.52 GM	\$1,616.01	\$2,456.34
	Roadway Component Total			\$1,010,874.49

#### SHOULDER COMPONENT

#### User Input Data

Description	Value
Total Outside Shoulder Width L/R	22.25 / 22.25
Total Outside Shoulder Perf. Turf Width L/R	20.00 / 20.00
Sidewalk Width L/R	0.00 / 0.00

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	1,599.84 LF	\$46.67	\$74,664.53
520-1-10	CONCRETE CURB & GUTTER, TYPE F	1,599.84 LF	\$46.67	\$74,664.53
570-1-1	PERFORMANCE TURF	7,110.40 SY	\$3.85	\$27,375.04

#### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	3,199.68 LF	\$2.59	\$8,287.17
104-11	FLOATING TURBIDITY BARRIER	75.75 LF	\$15.46	\$1,171.10
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	75.75 LF	\$6.67	\$505.25
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,689.06	\$2,689.06
104-18	INLET PROTECTION SYSTEM	16.00 EA	\$123.06	\$1,968.96
107-1	LITTER REMOVAL	7.71 AC	\$48.53	\$374.17
107-2	MOWING	7.71 AC	\$84.04	\$647.95
	Shoulder Component Total			\$192,347.76

MEDIAN COMPONENT					
User Input Data					
Description		Value			
Total Median Wi	dth	22.00			
Performance Turf Width		20.00			
Pay Items					
Pay item	Description	Quantity Unit	Unit Price	Extended Amount	
520-1-7	CONCRETE CURB & GUTTER, TYPE E	3,199.68 LF	\$41.59	\$133,074.69	
570-1-1	PERFORMANCE TURF	3,555.20 SY	\$3.85	\$13,687.52	
	Median Component Total			\$146,762.21	

#### DRAINAGE COMPONENT

#### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
425-1-351	INLETS, CURB, TYPE P-5, <10'	11.00 EA	\$7,474.89	\$82,223.79
425-1-451	INLETS, CURB, TYPE J-5, <10'	4.00 EA	\$14,168.32	\$56,673.28
425-1-521	INLETS, DT BOT, TYPE C, <10'	2.00 EA	\$6,847.68	\$13,695.36
425-2-41	MANHOLES, P-7, <10'	2.00 EA	\$6,130.30	\$12,260.60
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	808.00 LF	\$156.39	\$126,363.12
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	72.00 LF	\$237.81	\$17,122.32

430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	1,520.00 LF	\$299.07	\$454,586.40
570-1-1	PERFORMANCE TURF	92.11 SY	\$3.85	\$354.62
	Drainage Component Total			\$763,279.49

#### SIGNING COMPONENT

Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	8.00 AS	\$462.47	\$3,699.76
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	1.00 AS	\$1,578.08	\$1,578.08
700-2-15	MULTI- POST SIGN, F&I GM, 51- 100 SF	1.00 AS	\$7,692.26	\$7,692.26
700-2-16	MULTI- POST SIGN, F&I GM, 101- 200 SF	1.00 AS	\$15,571.98	\$15,571.98
	Signing Component Total			\$28,542.08

#### LIGHTING COMPONENT

Description Spacing				<b>Value</b> MIN
Pay Items Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	1,599.84 LF	\$19.26	\$30,812.92
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	317.54 LF	\$36.22	\$11,501.30
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	11.00 EA	\$1,374.06	\$15,114.66
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	5,843.05 LF	\$3.77	\$22,028.30
715-61-342	LIGHT POLE CMPLT,STD,F&I, 40'MH,12'ARM L	11.00 EA	\$8,402.83	\$92,431.13
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	11.00 EA	\$768.21	\$8,450.31
	Subcomponent Total			\$180,338.62
	Lighting Component Total			\$180,338.62

**Description:** Brenton Manor- Roundabout Central Island, includes landscaping and irrigation system

#### EARTHWORK COMPONENT

User Input Data	
Description	Value
Standard Clearing and Grubbing Limits L/R	0.00 / 0.00
Incidental Clearing and Grubbing Area	0.50
Alignment Number	1
Distance	0.057
Top of Structural Course For Begin Section	100.00
Top of Structural Course For End Section	100.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %
Pay Items	

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	0.50 AC	\$26,017.69	\$13,008.84
X-Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
120-1	REGULAR EXCAVATION	400.00 CY	\$15.28	\$6,112.00
	<b>Comment:</b> 22000 ft x 0.5 ft deep / 27 = 40 CY	07 CY use 400		
120-6	EMBANKMENT	400.00 CY	\$15.66	\$6,264.00
	<b>Comment:</b> 22000 ft x 0.5 ft deep / 27 = 40 CY	07 CY use 400		
	Earthwork Component Total			\$25,384.85

#### ROADWAY COMPONENT

User Input Data	
Description	Value
Number of Lanes	2
Roadway Pavement Width L/R	12.00 / 12.00

Structural Spread Rate	220
Friction Course Spread Rate	110

X-Items				
Pay item	Description	Quantity Unit	Unit Price Ex	tended Amount
160-4	TYPE B STABILIZATION	1,800.00 SY	\$8.44	\$15,192.00
	Comment: measure (22121-6175)SF /9 1800 SY	= 1772 SY use		
285-709	OPTIONAL BASE, BASE GROUP 09	1,300.00 SY	\$17.06	\$22,178.00
	Comment: measure (22121-10477)SF /9 1300 SY	9 = 1294 SY use		
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	143.00 TN	\$180.14	\$25,760.02
	Comment: 2" Superpave Traffic C (1300	X 110 X 2)/2000		
337-7-82	ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22	72.00 TN	\$218.00	\$15,696.00
	<b>Comment:</b> 1" FC-9.5 Traffic C PG 76-22 110)/2000	(1300 X		
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.05 GM	\$1,259.68	\$62.98
710-11-141	PAINTED PAVT MARK,STD,WH,DOT GUIDE, 6"	0.02 GM	\$707.41	\$14.15
710-11-170	PAINTED PAVT MARK,STD,WHITE, ARROWS	6.00 EA	\$35.35	\$212.10
710-11-201	PAINTED PAVT MARK,STD,YELLOW,SOLID,6"	0.07 GM	\$1,345.62	\$94.19
Pavement Mark	ing Subcomponent			
Description		Value		
Include Thermo/Tape/Other		N		
Pavement Type		Asphalt		
•	of Paint Applications	2		
Solid Stripe No.		4 2		
Skip Stripe No. (	of Paint Applications	2		

#### Roadway Component Total

\$79,209.44

#### SHOULDER COMPONENT

0

#### User Input Data

Skip Stripe No. of Stripes

Description	Value
Total Outside Shoulder Width L/R	10.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.67

Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	Т
Rumble Strips �No. of Sides	0

#### Erosion Control

Pay Items Pay item	Description	Quantity Unit	Unit Price E	xtended Amount
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,689.06	\$2,689.06
107-1	LITTER REMOVAL	0.25 AC	\$48.53	\$12.13
107-2	MOWING	0.25 AC	\$84.04	\$21.01
	Shoulder Component Total			\$2,722.20

#### MEDIAN COMPONENT

User Input Data	
Description	Value
Total Median Width	0.00
Performance Turf Width	0.00
Total Median Shoulder Width L/R	0.00 / 0.00
Paved Median Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	Т
Rumble Strips �No. of Sides	0

X-Items				
Pay item	Description	Quantity Unit	Unit Price Ex	tended Amount
350-30-13	CONC PAVEMENT FOR ROUNDABOUT APRON, 12"	480.00 SY	\$335.92	\$161,241.60
520-2-4	CONCRETE CURB, TYPE D	280.00 LF	\$47.14	\$13,199.20
520-2-8	CONCRETE CURB, TYPE RA	370.00 LF	\$68.39	\$25,304.30
570-1-2	PERFORMANCE TURF, SOD	700.00 SY	\$5.40	\$3,780.00
	Median Component Total			\$203,525.10

Pay item Description		Quantity Unit Unit P		Price Extended Amount	
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	4.00 AS	\$462.47	\$1,849.88	
	Signing Component Total			\$1,849.88	
lleer Input Data		OMPONENT			
User Input Data					
Description		Value			
Lump Sum Cost %		40,000.00 0.00			
Component Deta	ail	N			
	Landscaping Component Total			\$40,000.00	

**Description:** Brenton Manor-4-Lane Approach

#### EARTHWORK COMPONENT

User Input Data	
Description	Value
Standard Clearing and Grubbing Limits L/R	0.00 / 0.00
Incidental Clearing and Grubbing Area	0.70
Alignment Number	1
Distance	0.057
Top of Structural Course For Begin Section	100.00
Top of Structural Course For End Section	100.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

#### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	0.70 AC	\$26,017.69	\$18,212.38
X-Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
120-1	REGULAR EXCAVATION	500.00 CY	\$15.28	\$7,640.00
	<b>Comment:</b> 27000 ft X 0.5 ft deep / 27 = 50	0 CY		
120-6	EMBANKMENT	500.00 CY	\$15.66	\$7,830.00
	<b>Comment:</b> 27000 ft X 0.5 ft deep / 27 = 50	0 CY		
	Earthwork Component Total			\$33,682.38

#### ROADWAY COMPONENT

User Input Data	
Description	Value
Number of Lanes	2
Roadway Pavement Width L/R	12.00 / 12.00
Structural Spread Rate	220
Friction Course Spread Rate	110

X-Items					
Pay item	Description	Quantity Unit	Unit Price Ex	tended Amount	
160-4	TYPE B STABILIZATION	2,200.00 SY	\$8.44	\$18,568.00	
	Comment: 4-Lane Leg: 19785 sf/9=2198 SY use 2200 SY				
285-709	OPTIONAL BASE, BASE GROUP 09	1,950.00 SY	\$17.06	\$33,267.00	
	Comment: 4-Lane Leg: measure approx	k. 1950 SY			
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	215.00 TN	\$180.14	\$38,730.10	
	<b>Comment:</b> 2" Superpave Traffic C (1950) = 215 TN	) X 110 X 2)/2000			
337-7-82	ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22	108.00 TN	\$218.00	\$23,544.00	
	<b>Comment:</b> 1" FC-9.5 Traffic C PG 76-22 110)/2000 = 107.25 TN use 108 TN	2 (1950 X			
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.20 GM	\$1,259.68	\$251.94	
710-11-102	PAINTED PAVT MARK,STD,WHITE,SOLID,8"	0.04 GM	\$1,716.71	\$68.67	
710-11-123	PAINTED PAVT MARK,STD,WHITE,SOLID, 12"	115.00 LF	\$1.07	\$123.05	
710-11-124	PAINTED PAVT MARK,STD,WHITE,SOLID, 18"	30.00 LF	\$1.44	\$43.20	
710-11-125	PAINTED PAVT MARK,STD,WHITE,SOLID,24"	198.00 LF	\$1.92	\$380.16	
710-11-141	PAINTED PAVT MARK,STD,WH,DOT GUIDE, 6"	0.02 GM	\$707.41	\$14.15	
710-11-144	PAINTED PAVEMENT MARKINGS, STANDARD, WHI	0.01 GM	\$1,262.94	\$12.63	
710-11-160	PAINTED PAVT MARK,STD,WHITE, MESSAGE	2.00 EA	\$63.83	\$127.66	
710-11-170	PAINTED PAVT MARK,STD,WHITE, ARROWS	4.00 EA	\$35.35	\$141.40	
710-11-201	PAINTED PAVT MARK,STD,YELLOW,SOLID,6"	0.15 GM	\$1,345.62	\$201.84	
710-11-224	PAINTED PAVT MARK,STD,YELLOW,SOLID,18"	55.00 LF	\$1.73	\$95.15	
Pavement Marl	king Subcomponent				
Description		Value			

Description	value	
Include Thermo/Tape/Other	N	
Pavement Type	Asphalt	
Solid Stripe No. of Paint Applications	2	
Solid Stripe No. of Stripes	4	
Skip Stripe No. of Paint Applications	2	

#### \$115,568.95

#### SHOULDER COMPONENT

User Input Data	
Description	Value
Total Outside Shoulder Width L/R	10.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.67
Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	Т
Rumble Strips �No. of Sides	0

#### X-Items

Pay item	Description	Quantity Unit	Unit Price Exte	ended Amount
285-701	OPTIONAL BASE, BASE GROUP 01	154.00 SY	\$30.81	\$4,744.74
	<b>Comment:</b> 4-Lane Leg: 130 ft X 5.33 ft wir 154 SY	de X 2 sides /9 =		
337-7-82	ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22	10.00 TN	\$218.00	\$2,180.00
	Comment: 1" thick FC: (154 SY X 110)/20 use 10 TN	00 = 8.47 TN		
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	440.00 SY	\$65.70	\$28,908.00
527-2	DETECTABLE WARNINGS	104.00 SF	\$35.46	\$3,687.84
570-1-2	PERFORMANCE TURF, SOD	380.00 SY	\$5.40	\$2,052.00

#### **Erosion Control**

Pay Items				
Pay item	Description	Quantity Unit	Unit Price Ex	tended Amount
104-10-3	SEDIMENT BARRIER	600.00 LF	\$2.59	\$1,554.00
107-1	LITTER REMOVAL	0.25 AC	\$48.53	\$12.13
107-2	MOWING	0.25 AC	\$84.04	\$21.01
	Shoulder Component Total			\$43,159.72

#### MEDIAN COMPONENT

Description	Value
Total Median Width	0.00
Performance Turf Width	0.00
Total Median Shoulder Width L/R	0.00 / 0.00
Paved Median Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	Т
Rumble Strips �No. of Sides	0

#### X-Items

Pay item	Description	Quantity Unit	Unit Price Ext	ended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	240.00 LF	\$41.59	\$9,981.60
520-1-10	CONCRETE CURB & GUTTER, TYPE F	350.00 LF	\$46.67	\$16,334.50
527-2	DETECTABLE WARNINGS	40.00 SF	\$35.46	\$1,418.40
570-1-2	PERFORMANCE TURF, SOD	120.00 SY	\$5.40	\$648.00
	Median Component Total			\$28,382.50

#### DRAINAGE COMPONENT

#### X-Items Pay item Description Quantity Unit Unit Price Extended Amount 425-1-361 INLETS, CURB, TYPE P-6, <10' 2.00 EA \$11,175.07 \$22,350.14 425-2-41 MANHOLES, P-7, <10' 1.00 EA \$6,130.30 \$6,130.30 PIPE CULV, OPT MATL, ROUND, 430-175-124 224.00 LF \$156.39 \$35,031.36 24"S/CD **Drainage Component Total** \$63,511.80

#### SIGNING COMPONENT

Pay Items				
Pay item	Description	Quantity Unit	Unit Price E	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	7.00 AS	\$462.47	\$3,237.29
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00 AS	\$5,727.04	\$5,727.04
	Signing Component Total			\$8,964.33

## FDOT Long Range Estimating System - Production R3: Project Details by Sequence Report

Project: 440273-1-22-01 Letting Date: 01/2099					
Description: SR 544 (LUCERNE PARK RD) FROM MARTIN LUTHER KING BLVD TO SR 17					
District: 01 Contract Class	County: 16 POLK : 4 Lump Sum Project: N	<b>Market Area:</b> 08 Design/Build: N		: English ct Length:	7.950 MI
Project Manage	er: JMK-AEH-DCT				
Version 38 Project Grand Total \$64,525,900.19 Segment 7-West of Brenton Manor Ave. to La Vista Drive - June 2024 Unit Cost Updates from Version 30 - 6/3/24					
Project Sequences Subtotal \$48,466,704.45					
102-1	Maintenance of Traffic	15.00 %			\$7,270,005.67
101-1	Mobilization	10.00 %			\$5,573,671.01
Project Sequer	ices Total				\$61,310,381.13
Project Unknow	ns	5.00 %			\$3,065,519.06
Design/Build		0.00 %			\$0.00
Non-Bid Comp	onents:				
	Description	Quantity U	nit U	nit Price	Extended Amount
uuu_25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)	LS	S \$15	0,000.00	\$150,000.00
Project Non-Bi	Project Non-Bid Subtotal \$150,000.00				
Version 38 Proj	Version 38 Project Grand Total \$64,525,900.19				

## FDOT Long Range Estimating System - Production R3: Project Details by Sequence Report

Project: 440273-1-	22-01			L	etting Da	te: 01/2099
Description: SR 5	44 (LUCERNE PARK RD) FR	OM MARTIN LUTHER	KING E	BLVD TO SF	R 17	
District: 01 Contract Class: 4	County: 16 POLK Lump Sum Project: N	Market Area: 08 Design/Build: N		: English <b>ct Length</b> :	7.950 M	I
Project Manager:	JMK-AEH-DCT					
Version 39 Project Description: Segm	: <b>Grand Total</b> ent 8-LaVista Drive to SR 17 -	June 2024 Unit Cost L	Ipdates	from Versio	-	. <b>480,190.88</b> 3/24
Sequence: 25 NDL	J - New Construction, Divided,	Urban		Net L	ength:	0.710 MI 3.749 LF
Description: Seg	ment 8-LaVista Drive to SR 17					
	EARTHV	VORK COMPONENT				
User Input Data						
Description						Value
	and Grubbing Limits L/R				56.0	0 / 56.00
Incidental Clearing	and Grubbing Area					0.00
Alignment Number						1
Distance						0.710
	ourse For Begin Section					102.00
	ourse For End Section					102.00
	n For Begin Section					100.00
Horizontal Elevatio	n For End Section				2 to	100.00 1 / 2 to 1
Front Slope L/R Median Shoulder C	Cross Slope L/P					/ 4.00 %
Outside Shoulder (	•					/ 2.00 %
Roadway Cross SI	•					/ 2.00 %
Pay Items						
-	Description	Quantity	Unit	Unit Price	Extende	ed Amount
110-1-1 (	CLEARING & GRUBBING	9.64	AC	\$56,017.69	\$	540,010.53
120 <b>-</b> 6	EMBANKMENT	18,635.70	CY	\$24.69	\$	460,115.43

Earthwork Component Total

#### **ROADWAY COMPONENT**

User Input Data	
Description	Value
Number of Lanes	4
Roadway Pavement Width L/R	22.00 / 22.00
Structural Spread Rate	275
Friction Course Spread Rate	165

#### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	22,626.09 SY	\$10.73	\$242,777.95
285-709	OPTIONAL BASE, BASE GROUP 09	18,327.47 SY	\$20.06	\$367,649.05
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	2,520.03 TN	\$193.64	\$487,978.61
337-7-83	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	1,512.02 TN	\$207.93	\$314,394.32

#### Pavement Marking Subcomponent

Description	Value	
Include Thermo/Tape/Other	Y	
Pavement Type	Asphalt	
Solid Stripe No. of Paint Applications	1	
Solid Stripe No. of Stripes	4	
Skip Stripe No. of Paint Applications	1	
Skip Stripe No. of Stripes	2	

Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-1-3	RAISED PAVMT MARK, TYPE B	288.00 EA	\$4.36	\$1,255.68
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	2.84 GM	\$1,259.68	\$3,577.49
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	1.42 GM	\$546.91	\$776.61
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	2.84 GM	\$5,558.07	\$15,784.92
711-16-131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	1.42 GM	\$1,616.01	\$2,294.73
	Roadway Component Total			\$1,436,489.36

#### SHOULDER COMPONENT

# User Input DataValueDescriptionValueTotal Outside Shoulder Width L/R14.25 / 14.25Total Outside Shoulder Perf. Turf Width L/R4.00 / 4.00Sidewalk Width L/R8.00 / 8.00

#### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	3,748.80 LF	\$46.67	\$174,956.50
520-1-10	CONCRETE CURB & GUTTER, TYPE F	3,748.80 LF	\$46.67	\$174,956.50
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	6,664.53 SY	\$65.70	\$437,859.62
570-1-1	PERFORMANCE TURF	3,332.27 SY	\$4.62	\$15,395.09

#### **Erosion Control**

#### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	7,497.60 LF	\$2.71	\$20,318.50
104-11	FLOATING TURBIDITY BARRIER	177.50 LF	\$15.46	\$2,744.15
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	177.50 LF	\$6.67	\$1,183.92
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,689.06	\$2,689.06
104-18	INLET PROTECTION SYSTEM	37.00 EA	\$123.06	\$4,553.22
107-1	LITTER REMOVAL	18.07 AC	\$48.53	\$876.94
107-2	MOWING	18.07 AC	\$84.04	\$1,518.60
	Shoulder Component Total			\$837,052.11

#### MEDIAN COMPONENT

#### User Input Data

Description	Value
Total Median Width	15.50
Performance Turf Width	11.00

#### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-1-7	CONCRETE CURB & GUTTER,	7,497.60 LF	\$41.59	\$311,825.18

TYPE E

570-1-1	PERFORMANCE TURF	4,581.87 SY	\$4.62	\$21,168.24

Median Component Total

\$332,993.42

#### DRAINAGE COMPONENT

Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
425-1-351	INLETS, CURB, TYPE P-5, <10'	26.00 EA	\$7,474.89	\$194,347.14
425-1-451	INLETS, CURB, TYPE J-5, <10'	8.00 EA	\$14,168.32	\$113,346.56
425-1-521	INLETS, DT BOT, TYPE C, <10'	4.00 EA	\$6,847.68	\$27,390.72
425-2-41	MANHOLES, P-7, <10'	4.00 EA	\$6,130.30	\$24,521.20
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	1,880.00 LF	\$156.39	\$294,013.20
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	168.00 LF	\$237.81	\$39,952.08
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	3,552.00 LF	\$299.07	\$1,062,296.64
570-1-1	PERFORMANCE TURF	215.84 SY	\$4.62	\$997.18
	Drainage Component Total			\$1,756,864.72

#### SIGNING COMPONENT

Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	18.00 AS	\$462.47	\$8,324.46
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	2.00 AS	\$1,578.08	\$3,156.16
700-2-15	MULTI- POST SIGN, F&I GM, 51- 100 SF	2.00 AS	\$7,692.26	\$15,384.52
700-2-16	MULTI- POST SIGN, F&I GM, 101- 200 SF	2.00 AS	\$15,571.98	\$31,143.96
	Signing Component Total			\$58,009.10

SIGNALIZATIONS COMPONENT

Туре		
Multiplier		
Description		

4 Lane Mast Arm

1

### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	750.00 LF	\$19.26	\$14,445.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	250.00 LF	\$36.22	\$9,055.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00 PI	\$10,834.31	\$10,834.31
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	16.00 EA	\$1,374.06	\$21,984.96
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	1.00 AS	\$3,747.93	\$3,747.93
639-2-1	ELECTRICAL SERVICE WIRE, F&I	60.00 LF	\$9.92	\$595.20
649-21-10	STEEL MAST ARM ASSEMBLY, F&I, 60'	4.00 EA	\$81,339.84	\$325,359.36
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	12.00 AS	\$1,499.43	\$17,993.16
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	8.00 AS	\$770.15	\$6,161.20
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	12.00 EA	\$704.50	\$8,454.00
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	12.00 AS	\$1,354.74	\$16,256.88
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	8.00 EA	\$239.20	\$1,913.60
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	1.00 AS	\$47,427.85	\$47,427.85
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	4.00 EA	\$277.68	\$1,110.72
	Signalizations Component Total			\$485,339.17

SR 17

#### LIGHTING COMPONENT

#### **Conventional Lighting Subcomponent**

<b>Description</b> Spacing <b>Pay Items</b>				<b>Value</b> MIN
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	3,748.80 LF	\$19.26	\$72,201.89
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	744.08 LF	\$36.22	\$26,950.58
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	25.00 EA	\$1,374.06	\$34,351.50

Sequence 25	5 Total			\$6,321,271.29
	Lighting Component Total			\$414,397.45
	Subcomponent Total			\$414,397.45
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	25.00 EA	\$768.21	\$19,205.25
715-61-342	LIGHT POLE CMPLT,STD,F&I, 40'MH,12'ARM L	25.00 EA	\$8,402.83	\$210,070.75
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	13,691.64 LF	\$3.77	\$51,617.48

## FDOT Long Range Estimating System - Production R3: Project Details by Sequence Report

Project: 440273-1-22-01 Letting Date: 01/2099					
Description: SR	544 (LUCERNE PARK RD) FROM	MARTIN LUTHER M	KING	BLVD TO SI	R 17
District: 01 Contract Class:	County: 16 POLK 4 Lump Sum Project: N	Market Area: 08 Design/Build: N		ts: English ject Length:	7.950 MI
Project Manage	r: JMK-AEH-DCT				
Version 39 Project Grand Total\$8,480,190.88Description: Segment 8-LaVista Drive to SR 17 - June 2024 Unit Cost Updates from Version 31 - 6/3/24					
Project Sequen	ces Subtotal				\$6,321,271.29
102-1	Maintenance of Traffic	15.00 %	/ 0		\$948,190.69
101-1	Mobilization	10.00 %	0		\$726,946.20
Project Sequen	ces Total				\$7,996,408.18
Project Unknown	S	5.00 %	/ 0		\$399,820.41
Design/Build		0.00 %	0		\$0.00
Non-Bid Compo	nents:				
-	Description	Quantity U	Init	Unit Price	Extended Amount
uuu 26	NITIAL CONTINGENCY AMOUNT (DO NOT BID)	L	S	\$83,962.29	\$83,962.29
	Project Non-Bid Subtotal \$83,962.29				
Version 39 Proje	Version 39 Project Grand Total \$8,480,190.88				