### 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 72/Proctor Road/Dove Avenue Intersection Control Evaluation (ICE) - Stage 1
PROJECT:	SR 72 Project Development and Environment (PD&E) Study
LOCATION:	SR 72 from East of I-75 to Lorraine Road Sarasota County, Florida
ROADWAY ID	: 17070000

MILEPOST No: 6.516

FPID No.: 444634-1-22-01

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	NINA A. SENVILL
Engineer in Responsible Charge.	Anastasiya A. Senyushkina	No. 82191
Professional Registration No.:	82191	* *
Date:	12/7/2023	STATE OF GAS





# AIM Engineering & Surveying, Inc.

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

Date:	December 7, 2023
То:	Steven Andrews, P.E FDOT District One DEMO Project Manager
From:	Greg Root/Anastasiya Senyushkina, P.E.
Subject:	SR 72 at Proctor Road/Dove Avenue Intersection (Sarasota County) Stage 1+ Intersection Control Evaluation

#### INTRODUCTION/PROJECT BACKGROUND

This memorandum documents the Intersection Control Evaluation (ICE) conducted for the Proctor Road/Dove Avenue intersection. This analysis was conducted in support of the SR 72 Project Development & Environment (PD&E) Study from east of I-75 to Lorraine Road in Sarasota County. The length of this study corridor is approximately 2.7 miles. This PD&E study is evaluating the costs and impacts of widening (i.e., four-laning) SR 72 from Hummingbird Avenue to Lorraine Road. This PD&E study is also looking to reduce the posted speeds/target speeds within the corridor. 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). 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.

#### **EXISTING INTERSECTION CHARACTERISTICS**

This intersection is a four-legged intersection. Proctor Road is the north leg of this intersection and Dove Avenue is the south leg. Undeveloped land exists in all four quadrants of the intersection. An aerial image depicting the Proctor Road/Dove Avenue intersection is provided in **Figure 1**, which is included in **Appendix A**. Until recently, this intersection was operating under temporary signal control. A one-lane roundabout has been constructed at this location and is now open to traffic. The posted speed limit on SR 72 west of this intersection is 45 miles per hour (mph). There is a 25 mph advisory speed sign in advance of the horizontal curve located just east of the intersection. East of this horizontal curve, the posted speed limit is 55 mph. The posted speed limits on Proctor Road and Dove Avenue are 45 mph and 30 mph, respectively. SR 72 is a two-lane undivided roadway with 12-foot travel lanes and five-foot designated bicycle lanes both west and east of Proctor Road/Dove Avenue. Sidewalks exist on the north side of SR 72 (east of this intersection) and on the east side of Dove Avenue. The context classification of this roadway is C3R (Suburban Residential).

Crash data from Signal Four Analytics was provided by District One for the years 2017 through 2021. The crash data is included in **Appendix B**. The intersection has experienced 22 crashes over this five-

year period, resulting in 10 injuries and no fatalities. The most prevalent crash types are angle crashes (10), rear-end crashes (eight), and off-road/rollover crashes (four). There were no crashes involving bicyclists or pedestrians.

### INTERSECTION CONTROL EVALUATION

The proposed typical section includes four 11-foot travel lanes (two in each direction), a 22-foot median and 12-foot shared use paths on both sides of the roadway. The FDOT-approved design speeds and target speeds for the proposed SR 72 improvements are 35 mph (west of Proctor Road/Dove Avenue) and 45 mph (east of Proctor Road/Dove Avenue). These speeds are 10 mph lower than the existing posted speed limits. The following alternative intersection control strategies were initially analyzed for this intersection:

- **Conventional Traffic Signal** •
- Signalized Restricted Crossing U-Turn (RCUT) •
- Signalized Thru-Cut
- Median U-Turn (MUT)
- Partial MUT
- Bowtie
- Two-lane (SR 72) x one-lane (Proctor Road/Dove Avenue) roundabout
- Two-lane x two-lane roundabout

The opening year (2030) and design year (2050) Average Annual Daily Traffic (AADT) volumes documented in the SR 72 Project Traffic Analysis Report are provided in Appendix C along with the 2050 a.m. and p.m. peak hour volumes documented in this same report. 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 D.

Table 1: Stage 1	CE Analysis Sun	nmary - Proctor	Road/Dove A	venue Intersect	ion	
	2050 V/	C Ratios	Life-Cyc	e Crashes	SSI So	cores
					Opening	Design
Intersection Type	AM Peak Hour	PM Peak Hour	Total	Fatal & Injury	Year	Year
Conventional Signalized Intersection	0.71	0.70	148	49	97	92
Signalized RCUT (EW)	0.60	0.57	255	58	98	95
Signalized Thru-Cut (EW)	0.59	0.57	n/a	n/a	97	93
Median U-Turn (EW)	0.70	0.67	126	34	99	97
Partial Median U-Turn (NS)	0.57	0.55	n/a	n/a	n/a	n/a
Bowtie (EW)	1.39	0.98	n/a	n/a	98	95
Roundabout (2EW x 1NS)	1.06	0.96	n/a	n/a	n/a	n/a
Roundabout (2EW x 2NS)	0.85	0.74	235	42	99	98
Lowest number of crashes of all alter	natives analyzed					
. /. N. Cafato Daufamuana Europtia						

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

The signalized RCUT, signalized thru-cut, MUT, and PMUT alternatives would not provide positive speed control. Consequently, these signalized alternatives were eliminated from any further consideration. The two-lane by one-lane roundabout and the Bowtie alternatives were eliminated because they were projected to be overcapacity in the a.m. peak hour. The two-lane by two-lane roundabout is projected to have the second lowest number of fatal and injury crashes and the highest design year SSI score. This alternative is also consistent with the recent roundabout construction at this location.

Design year (2050) peak hour SIDRA analyses were subsequently conducted to determine the optimal geometry for the 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 30 seconds per vehicle during both peak hours. The design year SIDRA analysis summary sheets are provided in **Appendix E**.

Proct	or Road/Dove Ave	enue Roundaboi	ut
	AM Peak	Hour	
Intersection			
Approach	V/C Ratio <sup>(1)</sup>	Avg. Delay	LOS
Northbound	0.77	25.7	D
Southbound	0.70	26.6	D
Westbound	0.94	43.4	E
Eastbound	0.62	14.7	В
Overall	0.94	29.4	D
	PM Peak	Hour	
Intersection			
Approach	V/C Ratio <sup>(1)</sup>	Avg. Delay	LOS
Northbound	0.68	24.0	С
Southbound	0.69	19.9	С
Westbound	0.61	13.2	В
Eastbound	0.78	22.7	С
Overall	0.78	19.4	С

<sup>(1)</sup> Highest volume-to-capacity ratio of any approach movements

An initial geometric improvement concept was developed for this two-lane alternative and is provided in **Appendix F**. This roundabout alternative requires some additional right-of-way but does not result in any residential or business relocations.

### RECOMMENDED INTERSECTION CONTROL STRATEGY

The implementation of a two-lane roundabout is expected to provide positive speed control in this area and help to facilitate the transition from the approved 45 mph design speed/target speed east of this intersection to the approved 35 mph design speed/target speed west of this intersection. Reduced vehicle speeds will provide additional safety benefits for the older driving population that travels within this study corridor. The roundabout is also projected to have the highest design year SSI score and is expected to result in acceptable design year peak hour vehicle delays. The implementation of a two-lane roundabout maximizes the value of the current transportation investment that has been made at this intersection with the construction of the one-lane roundabout. Consequently, the PD&E study recommends a two-lane roundabout for the Proctor Road/Dove Avenue intersection. A Benefit/Cost analysis, required for federally funded projects, will be conducted for this intersection using updated information during the final design phase of the project.

# Appendix A

Existing Intersection Aerial

### Figure 1: Existing SR 72 / Proctor Road / Dove Avenue Intersection



Appendix B

Historic Crash Data

CRASH_YEAR ON_STREET_RO.STREET_ADDRESS_I	FEET_FROM_DIRECTIC	DN_FROM_INTERSECTION_OF	LIGHT_CONDITION	WEATHER_COND	ITION ROAD_SURF	F/ TYPE_OF_IMPACT	FIRST_HARMFUL_EVENT	LOCATION	S4_CRASH_TYPE	S4_CRASH_TYPE_	_SIN S4_
2021 CLARK RD	0	DOVE AVE	Daylight	Clear	Dry	Front to Rear	Motor Vehicle in Transport	On Roadway	Rear End	Rear End	No I
2021 CLARK RD	48 West	DOVE AVE	Daylight	Clear	Dry	Front to Rear	Motor Vehicle in Transport	On Roadway	Rear End	Rear End	Inju
2017 SR-72 (CLARK RD.)	148 West	CR-72A (PROCTOR RD.)	Dark - Lighted	Cloudy	Wet	Other	Traffic Sign Support	Off Roadway	Off Road	Off Road	Inju
2017 SR 72 (CLARK RD)	98 East	CR 72A (PROCTOR RD)	Daylight	Cloudy	Dry	Front to Rear	Motor Vehicle in Transport	On Roadway	Rear End	Rear End	No I
2017 SR 72 (CLARK RD)	148 West	CR 72A (PROCTOR RD)	Dark - Not Lighted	Other	Unknown	Other	Tree (standing)	Shoulder	Off Road	Off Road	No I
2017 CR 72A (PROCTOR ROAD)	0	STATE ROAD 72 (CLARK ROAD)	Daylight	Clear	Dry	Other	Overturn/Rollover	On Roadway	Rollover	Rollover	No I
2017 STATE ROAD 72 (CLARK ROAD)	0	PROCTOR RD	Daylight	Clear	Dry	Angle	Motor Vehicle in Transport	On Roadway	Left Rear	Left Turn	Seri
2017 PROCTOR RD	0	DOVE AVE	Daylight	Clear	Dry	Angle	Motor Vehicle in Transport	On Roadway	Left Leaving	Left Turn	Nol
2017 PROCTOR RD	0	DOVE AVE	Daylight	Clear	Dry	Front to Rear	Motor Vehicle in Transport	On Roadway	Rear End	Rear End	No I
2017 CLARK RD	0	DOVE AVE	Daylight	Clear	Dry	Other	Motor Vehicle in Transport	On Roadway	Left Leaving	Left Turn	Nol
2018 STATE ROAD 72 (CLARK ROAD)	200 West	PROCTOR ROAD	Dark - Not Lighted	Clear	Dry	Other	Curb	Off Roadway	Off Road	Off Road	No I
2018 SR-72 (CLARK RD)	0	PROCTOR RD	Daylight	Clear	Dry	Angle	Motor Vehicle in Transport	On Roadway	Right/Through/Front to Side	Right Turn	Inju
2018 SR-72 (CLARK ROAD)	0	CR-72A (PROCTOR ROAD)	Daylight	Clear	Dry	Angle	Motor Vehicle in Transport	On Roadway	Right Angle/ Front to Side	Angle	Inju
2018 CLARK RD	0	PROCTOR RD	Daylight	Clear	Dry	Angle	Motor Vehicle in Transport	On Roadway	Right/Through/ Front to Side	Right Turn	No
2018 PROCTOR RD	0	DOVE AVE	Daylight	Clear	Dry	Angle	Motor Vehicle in Transport	On Roadway	Left Leaving	Left Turn	<mark>Inju</mark>
2018 CLARK RD	66 West	DOVE AVE	Daylight	Clear	Dry	Front to Rear	Motor Vehicle in Transport	On Roadway	Rear End	Rear End	No
2018 CLARK RD	0	DOVE AVE	Daylight	Cloudy	Dry	Angle	Motor Vehicle in Transport	On Roadway	Right Angle/ Front to Side	Angle	No
2021 SR-72 (CLARK RD)	0	CR-72A (PROCTOR RD)	Daylight	Cloudy	Dry	Front to Rear	Motor Vehicle in Transport	On Roadway	Rear End	Rear End	Inju
2019 PROCTOR RD	129 North	DOVE AVE	Daylight	Cloudy	Dry	Front to Rear	Motor Vehicle in Transport	On Roadway	Rear End	Rear End	No
2019 CLARK RD	0	DOVE AVE	Daylight	Clear	Dry	Angle	Motor Vehicle in Transport	On Roadway	Left Entering	Left Turn	No
2020 CLARK RD	0	DOVE AVE	Daylight	Rain	Wet	Front to Rear	Motor Vehicle in Transport	On Roadway	Rear End	Rear End	No
2020 PROCTOR RD	81 North	DOVE AVE	Daylight	Clear	Dry	Angle	Motor Vehicle in Transport	On Roadway	Left Entering	Left Turn	No

S4_CRASH_SEVERITY S4_INJURY_COUNT	S4_BICYCLIST_COUNT	S4 PEDESTRIAN COUN	т
No Injury	0	0	0
Injury	1	0	0
Injury	2	0	0
No Injury	0	0	0
No Injury	0	0	0
No Injury	0	0	0
Serious Injury	1	0	0
No Injury	0	0	0
No Injury	0	0	0
No Injury	0	0	0
No Injury	0	0	0
Injury	1	0	0
Injury	2	0	0
No Injury	0	0	0
Injury	1	0	0
No Injury	0	0	0
No Injury	0	0	0
Injury	2	0	0
No Injury	0	0	0
No Injury	0	0	0
No Injury	0	0	0
No Injury	0	0	0
	10		

Appendix C

Opening Year and Design Year Traffic Volumes



#### FIGURE 3-4: OPENING YEAR (2030) AADT VOLUMES - BUILD ALTERNATIVE



FIGURE 3-2: DESIGN YEAR (2050) AADT VOLUMES - BUILD ALTERNATIVE



FIGURE 3-7: DESIGN YEAR (2050) AM PEAK HOUR VOLUMES - BUILD ALTERNATIVE



FIGURE 3-8: DESIGN YEAR (2050) PM PEAK HOUR VOLUMES - BUILD ALTERNATIVE

Design year weekend (i.e., Saturday) peak hour volumes were also estimated for the Twin Lakes Park entrance/exit and the Talon Boulevard/Ibis Street intersection for the Build Alternative. The methodology used to estimate the 2050 weekend peak hour volumes for these two intersections consisted of the following steps:

- Step 1 The 2022 weekday total peak hour entering volumes were calculated for both peak hours.
- Step 2 The 2050 weekday total peak hour entering volumes were calculated for both peak hours.
- Step 3 The overall growth in total peak hour weekday entering volumes was calculated for both peak hours and the average of these two values was calculated.
- Step 4 The 2022 weekend peak hour intersection approach volumes were multiplied by the average overall growth in total peak hour weekday entering volumes calculated in Step 3. This yielded estimates of the 2050 weekend peak hour intersection approach volumes.
- Step 5 The 2050 weekend peak hour intersection turning movement volumes were estimated by multiplying the 2050 weekend peak hour intersection approach volumes by the existing weekend peak hour turning movement percentages.

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			IA	И РЕАК НО	UR									
EE	3 LT	EB	TH	EB	RT	E	B APPROAC	ЭН						
Vol.	Truck %	Vol.	Truck %	Vol.	Truck %	Vol.	Truck Vol.	Truck %						
229	0.04	548	0.10	142	0.05	919	71	7.7%						
W	B LT	WE	3 TH	WE	3 RT	W	B APPROA	СН						
Vol.	Truck %	Vol.	Truck %	Vol.	Truck %	Vol.	Truck Vol.	Truck %						
186	0.05	708	0.12	303	0.02	1197	100	8.4%						
SB	3 LT	SB	TH	SB	RT	SB APPROACH								
Vol.	Truck %	Vol.	Truck %	Vol.	Truck %	Vol.	Truck Vol.	Truck %						
180	0.04	87	0.02	177	0.02	444	12	2.8%						
NE	NB LT		TH	NB	RT	N	NB APPROACH							
Vol.	Truck %	Vol.	Truck %	Vol.	Truck %	Vol.	Truck Vol.	Truck %						
240	0.00	103	0.03	244	0.05	587	15	2.6%						
	PM PEAK HOUR													
EB	LT	EB	TH	EB	RT	EB APPROACH								
Vol.	Truck %	Vol.	Truck %	Vol.	Truck %	Vol.	Truck Vol.	Truck %						
203	0.02	704	0.02	217	0.02	1124	22	2.0%						
WE	3 LT	WB TH		WE	3 RT	W	/B APPROAG	СН						
Vol.	Truck %	Vol.	Truck %	Vol.	Truck %	Vol.	Truck Vol.	Truck %						
220	0.02	547	0.05	209	0.01	976	34	3.5%						
NB	3 LT	NB	TH	NB	RT	N	B APPROAC	CH III						
Vol.	Truck %	Vol.	Truck %	Vol.	Truck %	Vol.	Truck Vol.	Truck %						
164	0.02	63	0.02	216	0.02	443	9	2.0%						
SB	LT	SB	TH	SB	RT	S	B APPROAC	Н						
Vol.	Truck %	Vol.	Truck %	Vol.	Truck %	Vol.	Truck Vol.	Truck %						
270	0.02	83	0.02	206	0.02	559	11	2.0%						

#### PROCTOR ROAD/DOVE AVENUE INTERSECTION DESIGN YEAR (2050) PEAK HOUR APPROACH TRUCK PERCENTAGES

Appendix D

CAP-X and SPICE Analysis Summary Sheets

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Project Name:	SR 72 PD&E Study from East of I-75 to Lorraine Road
Project Number:	FPID No. 444634-1-22-01
Location:	SR 72 at Proctor Road/Dove Avenue
Date:	Design Year (2050) AM Peak Hour
Number of Intersection Legs:	4
Major Street Direction:	East-West

			Tra	ffic Volume D	emand				
			Volume	(Veh/hr)			Perce	ent (%)	
	U-Turn	Le	Left Thru F			Heavy \	/ehicles	Volume Growth	
Eastbound	0	22	29	548	142	7.7	0%	0.00%	
Westbound	0	18	36	708	303	8.4	0%	0.00%	
Southbound	0	180		87	177	2.8	0%	0.00%	
Northbound	0	240		103	244	2.6	0%	0.00%	
Adjustment Factor	0.80	0.	95		0.85				
Suggested	0.80	0.	95		0.85				
	Truck to	PCE Fa	ctor		Suggested =		2.00		
FDC	OT Context Zone			C	3R-Suburban R	esidenti	al		
E-W / Cro	ssing East-West	Legs		Low	Low			Low	
N-S / Cros	sing North-South	Legs		Low	Low			Low	
			2-pha	se signal	Suggested =	1800	1800		
	Lane Volume reshold		3-pha	se signal	Suggested =	1750	1750		
			4-pha	se signal	Suggested =	1700		1700	

# Capacity Analysis for Planning of Junctions

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TYPE OF INTERSECTION	Chaot						Southbound				astb	oun	d	Westbound			
TTPE OF INTERSECTION	Sheet	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Traffic Signal	<u>FULL</u>		1	1	0	/	1	1	0	/	1	2	1	/	1	2	1
Signalized Restricted Crossing U-Turn	<u>E-W</u>		$\square$	$\square$	2	/	$\square$		2	1	1	2	1	1	1	2	1
Median U-Turn	<u>E-W</u>		$\square$	1	1	/	$\square$	1	1	1	$\backslash$	2	1	1	$\square$	2	1
Signalized ThruCut	<u>E-W</u>		1	$\checkmark$	1	/	1		1	/	1	2	1		1	2	1
Ν	lumber	of L	.ane	es f	or I	nte	rcha	ang	es								
TYPE OF INTERCHANGE	Sheet	No	orth	bou	nd	So	outh	bou	nd	E	astb	oun	d	Westbound			
	Sheet	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Capacity Analy	Capacity Analysis for Planning of Junctions																

Results for Non-roundabout Intersections														
TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3	Zone 3 (East)		Zone 4 (West)		ne 5 nter)	Overall v/c	Ped Accomm	Bicycle
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	Ratio	odations	
Traffic Signal	<u>FULL</u>	$\checkmark$	$\nearrow$	$\nearrow$	$\nearrow$	$\checkmark$	$\nearrow$	$\nearrow$	$\nearrow$	1204	<u>0.71</u>	0.71	4.80	4.58
Signalized Restricted Crossing U-Turn	<u>E-W</u>	775	<u>0.43</u>	742	<u>0.41</u>	1089	<u>0.60</u>	838	<u>0.47</u>	$\nearrow$		0.60	2.82	4.14
Median U-Turn	<u>E-W</u>	$\checkmark$	$\nearrow$	$\nearrow$	$\nearrow$	1265	<u>0.70</u>	979	<u>0.54</u>	1260	<u>0.70</u>	0.70	2.97	4.58
Signalized ThruCut	<u>E-W</u>	$\checkmark$	$\nearrow$	$\nearrow$		$\checkmark$		$\nearrow$		1029	<u>0.59</u>	0.59	3.63	4.58

# **Capacity Analysis for Planning of Junctions**

						Resul	ts for F	Rounda	abouts						
TYPE OF	Zo	one 1 (Nor	th)	Z	one 3 (Eas	st)	Zo	one 2 (Sou	th)	Zo	one 4 (We	st)	Overall v/c	Ped	Bicycle
ROUNDABOUT	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Ratio	Accomm odations	
<u>1NS X 2EW</u>	<u>0.95</u>			<u>0.56</u>	<u>0.58</u>		<u>1.06</u>			<u>0.82</u>	<u>0.85</u>		1.06	4.83	4.50
<u>2 X 2</u>	<u>0.51</u>	<u>0.50</u>		<u>0.82</u>	<u>0.85</u>	$\nearrow$	<u>0.56</u>	<u>0.56</u>		<u>0.56</u>	<u>0.58</u>		0.85	4.53	4.41

				F	Resul	ts foi	· Inte	rchar	nges							
TYPE OF INTERCHANGE	Sheet	Zone 1 Mi CLV	(Rt rg) V/C	Zone 2 Mi CLV	rg) V/C	Zor (Cti CLV		Zon (Ctr CLV	-	Zone 5 Mr CLV	rg) V/C	Zone 6 Mr CLV	(Rt g) V/C	Overall v/c Ratio	Ped Accomm odations	Bicycle Accomm odations

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Project Name:	SR 72 PD&E Study from East of I-75 to Lorraine Road
Project Number:	FPID No. 444634-1-22-01
Location:	SR 72 at Proctor Road/Dove Avenue
Date:	Design Year (2050) AM Peak Hour
Number of Intersection Legs:	4
Major Street Direction:	North-South

			Tra	ffic Volume D	emand			
			Volume	(Veh/hr)			Perce	ent (%)
	U-Turn	Le	eft	Thru	Right			
	Ŋ	4		Î		Heavy \	/ehicles	Volume Growth
Eastbound	0	22	29	548	142	7.7	0%	0.00%
Westbound	0	18	36	708	303	8.4	0%	0.00%
Southbound	0	18	30	87	177	2.8	0%	0.00%
Northbound	0	24	10	103	244	2.6	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	3R-Suburban R	esidentia	al	
E-W / Cro	W / Crossing East-West Legs			Low	Low			Low
N-S / Cros	N-S / Crossing North-South Legs			Low	Low			Low
				se signal	Suggested =	1800		1800
	Critical Lane Volume			se signal	Suggested =	1750		1750
			4-pha	se signal	Suggested =	1700		1700

### Capacity Analysis for Planning of Junctions

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Number	of Lanes	for	No	n-re	oun	dak	ooui	t Int	ers	ect	ions	S					
TYPE OF INTERSECTION	Sheet	N	orth	boui	nd	So	outh	bou	nd	E	astb	oun	d	W	lestk	our	nd
TTPE OF INTERSECTION	Sheet	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Traffic Signal	<u>FULL</u>	$\checkmark$	1	1	0	$\square$	1	1	0	$\checkmark$	1	2	1	$\square$	1	2	1
Partial Median U-Turn	<u>N-S</u>	1	$\checkmark$	1	1	1		1	1	$\square$	1	2	1		1	2	1
Bowtie	<u>N-S</u>		$\square$	1	1		$\checkmark$	1	1		$\checkmark$	2	1			2	1

	Number	of L	.ane	es f	or l	nte	rcha	ang	es								
TYPE OF INTERCHANGE	Shoot	No	orth	bou	nd	So	outh	bou	nd	E	astb	oun	d	W	est	our	ıd
TTPE OF INTERCHANGE	Sheet	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R

# **Capacity Analysis for Planning of Junctions**

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	Res	ults f	or No	on-rou	undal	bout	Inters	sectio	ons					
TYPE OF INTERSECTION	Sheet	-	ne 1 orth)	-	ne 2 uth)	Zone 3	B (East)	Zone 4	(West)	Zor (Cer	ne 5 nter)	Overall v/c Ratio	Ped Accomm	Bicycle
THE OF INTERSECTION	Sileet	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		odations	
Traffic Signal	<u>FULL</u>	$\checkmark$	$\checkmark$	$\nearrow$	$\nearrow$	$\checkmark$	$\checkmark$	$\nearrow$		1204	<u>0.71</u>	0.71	4.79	4.57
Partial Median U-Turn	<u>N-S</u>	764	<u>0.42</u>	833	<u>0.46</u>			$\nearrow$		998	<u>0.57</u>	0.57	2.89	4.57
Bowtie	<u>N-S</u>	885	<u>0.62</u>	894	<u>0.63</u>	1297	<u>1.39</u>	448	<u>0.45</u>	1260	<u>0.70</u>	1.39	4.78	4.57

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

						Resul	ts for F	Rounda	bouts						
TYPE OF	Zo	one 1 (Nort	th)	Z	one 3 (Eas	st)	Zo	one 2 (Sou	th)	Z	one 4 (Wes	,	Overall v/c Ratio	Ped Accomm	Bicycle
ROUNDABOUT	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3		odations	

				ŀ	Resul	ts foi	r Inte	rchar	nges							
TYPE OF INTERCHANGE	Sheet	Zone 1 Mi	(Rt rg)	Zone 2 Mi	g)	Zone 3 1	(Ctr. )	Zone 4 2	(Ctr. 2)	Zone 5 Mr	• •	Zone 6 Mr	(Rt g)	Overall v/c Ratio	Ped Accomm	Bicycle
THE OF INTERCHANGE	Sheet	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C			odations

Detailed Report - Page 1 of 4

Project Name:	SR 72 PD&E Study from East of I-75 to Lorraine Road
Project Number:	FPID No. 444634-1-22-01
Location:	SR 72 at Proctor Road/Dove Avenue
Date:	Design Year (2050) PM Peak Hour
Number of Intersection Legs:	4
Major Street Direction:	East-West

			Tra	ffic Volume D	emand			
		,	Volume	(Veh/hr)			Perce	ent (%)
	U-Turn	Le	eft	Thru	Right	Heavy \	/ehicles	Volume Growth
	♥							
Eastbound	0	20	03	704	217	2.0	0%	0.00%
Westbound	0	22	20	547	209	3.5	0%	0.00%
Southbound	0	27	70	83	206	2.0	0%	0.00%
Northbound	0	16	64	63	216	2.0	0%	0.00%
Adjustment Factor	0.80	0.	95		0.85			
Suggested	0.80	0.	95		0.85			
	Truck to	PCE Fa	ctor		Suggested =	2.00		2.00
FDC	T Context Zone			С	3R-Suburban R	esidenti	al	
E-W / Cro	-W / Crossing East-West Legs			Low	Low			Low
N-S / Cros	I-S / Crossing North-South Legs			Low	Low			Low
				se signal	Suggested =	1800		1800
	Critical Lane Volume			se signal	Suggested =	1750		1750
			4-pha	se signal	Suggested =	1700		1700

# Capacity Analysis for Planning of Junctions

Detailed Report - Page 2 of 4

	Ohaat	N	orth	bou	nd	Sc	outh	bou	nd	E	astb	oun	d	W	estk	oour	nd
TYPE OF INTERSECTION	Sheet	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Traffic Signal	<u>FULL</u>	$\square$	1	1	0	/	1	1	0	/	1	2	1	$\angle$	1	2	1
Signalized Restricted Crossing U-Turn	<u>E-W</u>	$\checkmark$	$\square$		2	/	$\square$	$\checkmark$	2	1	1	2	1	1	1	2	1
Median U-Turn	<u>E-W</u>	$\checkmark$	$\checkmark$	1	1	/	$\square$	1	1	1		2	1	1	$\nearrow$	2	1
Signalized ThruCut	<u>E-W</u>	$\checkmark$	1	/	1	/	1		1	$\checkmark$	1	2	1	$\angle$	1	2	1
Ν	lumber	of L	.ane	es f	or I	nte	rch	ang	es								
TYPE OF INTERCHANGE	Sheet	N	orth	boui	nd	So	outh	bou	nd	E	astb	oun	d	w	estk	oour	۱d
TTPE OF INTERCHANGE	Sneet	U	L	Т	R	υ	L	Т	R	U	L	Т	R	U	L	Т	R
Capacity Analy	/sis fo	or	Pl	an	ni	ng	0	f J	u	1C'	tio	ns	5				
[	Detailed R	epo	rt - F	Page	e 3 c	of 4											

	Res	ults f	or No	on-ro	undal	bout	Inters	sectio	ons					
TYPE OF INTERSECTION	Sheet	Zoi (No	ne 1 orth)		ne 2 outh)	Zone 3	8 (East)	Zor (We	ne 4 est)	-	ne 5 nter)	Overall v/c	Ped Accomm	Bicycle
	511661	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	Ratio	odations	
Traffic Signal	<u>FULL</u>	$\checkmark$	$\nearrow$	$\nearrow$	$\square$	$\nearrow$	$\nearrow$	$\mathbf{>}$		1188	<u>0.70</u>	0.70	4.80	4.58
Signalized Restricted Crossing U-Turn	<u>E-W</u>	702	<u>0.39</u>	762	<u>0.42</u>	794	<u>0.44</u>	1023	<u>0.57</u>	$\nearrow$		0.57	2.82	4.14
Median U-Turn	<u>E-W</u>	$\checkmark$	$\nearrow$	$\checkmark$	$\nearrow$	973	<u>0.54</u>	1202	<u>0.67</u>	1099	<u>0.61</u>	0.67	2.99	4.58
Signalized ThruCut	<u>E-W</u>	$\checkmark$	$\nearrow$	$\nearrow$	$\nearrow$	$\nearrow$	$\nearrow$	$\nearrow$		990	<u>0.57</u>	0.57	3.65	4.58

# **Capacity Analysis for Planning of Junctions**

						Resul	ts for F	Rounda	abouts						
TYPE OF	Zo	ne 1 (Nor	th)	Zo	one 3 (Eas	it)	Zo	one 2 (Sou	th)	Zo	one 4 (We	st)	Overall v/c	Ped	Bicycle
ROUNDABOUT	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Ratio	Accomm odations	
<u>1NS X 2EW</u>	<u>0.96</u>			<u>0.72</u>	<u>0.74</u>		<u>0.93</u>			<u>0.55</u>	<u>0.58</u>		0.96	4.79	4.50
<u>2 X 2</u>	<u>0.52</u>	<u>0.49</u>		<u>0.55</u>	<u>0.58</u>		<u>0.50</u>	<u>0.49</u>		<u>0.72</u>	<u>0.74</u>		0.74	4.49	4.41

				F	Resul	ts foi	<sup>-</sup> Inte	rchar	nges						
TYPE OF INTERCHANGE	Sheet	Zone 1 Mi CLV	(Rt 'g) V/C	Zone 2 Mr CLV	(Lt g) V/C	Zor (Cti CLV		Zon (Ctr CLV	-	Zone 5 Mr CLV	(Lt g) V/C	Zone 6 Mr CLV	•	Overall v/c	 Bicycle Accomm odations

Detailed Report - Page 1 of 4

Project Name:	SR 72 PD&E Study from East of I-75 to Lorraine Road
Project Number:	FPID No. 444634-1-22-01
Location:	SR 72 at Proctor Road/Dove Avenue
Date:	Design Year (2050) PM Peak Hour
Number of Intersection Legs:	4
Major Street Direction:	North-South

			Tra	ffic Volume D	emand			
			Volume	(Veh/hr)			Perce	ent (%)
	U-Turn	Le	eft	Thru	Right			
	ฦ	¢		Î		Heavy \	/ehicles	Volume Growth
Eastbound	0	20	)3	704	217	2.0	0%	0.00%
Westbound	0	22	20	547	209	3.5	0%	0.00%
Southbound	0	27	70	83	206	2.0	0%	0.00%
Northbound	0	16	64	63	216	2.0	0%	0.00%
Adjustment Factor	0.80	0.	95		0.85			
Suggested	0.80	0.	95		0.85			
	Truck to	PCE Fa	ctor		Suggested =	2.00		2.00
FDC	OT Context Zone			C	3R-Suburban R	esidentia	al	
E-W / Cro	ssing East-West	Legs		Low	Low			Low
N-S / Cros	sing North-South	Legs		Low	Low			Low
			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	No	n-re	oun	dak	ooui	t Int	ers	ect	ions	S					
TYPE OF INTERSECTION	Sheet	N	orth	boui	nd	So	outh	bou	nd	E	astb	oun	d	W	lestk	our	nd
TTPE OF INTERSECTION	Sheet	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Traffic Signal	<u>FULL</u>	$\checkmark$	1	1	0	$\square$	1	1	0	$\checkmark$	1	2	1	$\square$	1	2	1
Partial Median U-Turn	<u>N-S</u>	1	$\checkmark$	1	1	1		1	1	$\square$	1	2	1		1	2	1
Bowtie	<u>N-S</u>		$\square$	1	1		$\checkmark$	1	1		$\checkmark$	2	1			2	1

	Number	of L	.ane	es f	or l	nte	rcha	ang	es								
TYPE OF INTERCHANGE	Sheet	No	orthl	boui	nd	So	outh	bou	nd	E	astb	oun	d	W	estk	our	nd
TTPE 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

	Res	ults f	or No	on-rou	undal	oout l	nters	ectio	ons					
TYPE OF INTERSECTION	Sheet	Zoi (No	ne 1 orth)	-	ne 2 uth)	Zone 3	(East)	Zone 4	(West)	Zor (Cer		Overall v/c Ratio	Ped Accomm	Bicycle
TITE OF INTERSECTION	Sileet	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C			odations
Traffic Signal	<u>FULL</u>	$\checkmark$	$\nearrow$	$\nearrow$	$\nearrow$	$\nearrow$	$\ /$	$\mathbf{>}$		1188	<u>0.70</u>	0.70	4.79	4.57
Partial Median U-Turn	<u>N-S</u>	779	<u>0.43</u>	795	<u>0.44</u>	$\nearrow$				959	<u>0.55</u>	0.55	2.91	4.57
Bowtie	<u>N-S</u>	924	<u>0.65</u>	870	<u>0.61</u>	1010	<u>0.98</u>	580	<u>0.65</u>	1171	<u>0.65</u>	0.98	4.78	4.57

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

						Resul	ts for F	Rounda	bouts						
TYPE OF	Zo	one 1 (Nort	th)	Z	one 3 (Eas	it)	Zo	one 2 (Sout	th)	Z	one 4 (Wes	,	Overall v/c Ratio	Ped Accomm	Bicycle
ROUNDABOUT	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3			odations

				ŀ	Resu	lts foi	· Inte	rchar	nges							
TYPE OF INTERCHANGE	Sheet	Zone 1 Mi	(Rt rg)	Zone 2 Mr	rg)	Zone 3 1	(Ctr. )	Zone 4 2	(Ctr. !)	Zone 5 Mr	•	Zone 6 Mr	(Rt g)	Overall v/c Ratio	Ped Accomm	Bicycle
	oneet	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C			odations

				•	nt of Transportation					
			Safe	ty Performance for Inter		ation Tool				
				Re	sults					
				Summary of crash prediction	on results for each alternat	tive				
				Project I	nformation					
roject Name:	SR 72 PD&E Study fr	om East of I-75 to Lorrai	ne Road	Intersection Type					At-Gra	de Intersection
tersection:	Proctor Road/Dove A	Avenue		Opening Year						2030
gency:	FDOT District One			Design Year						2050
roject Reference:	FPID No.: 444634-1-2	22-01		Facility Type				C	)n Urban a	nd Suburban Arterial
ity:	Sarasota County			Number of Legs						4-leg
tate:	Florida			1-Way/2-Way						itersecting 2-way
ate:	9/11/2023			# of Major Street Lanes (both	•					or fewer
nalyst:	AIM Engineering & S	urveying, Inc.		Major Street Approach Spee	d				Less	than 55 mph
			Crash Pred	diction Summary					9	SSI Score
Control Strategy	Crash Type	Opening Year	Design Year	Total Project Life Cycle	Crash Prediction Rank	AADT Within SPF Prediction Range?	Source of Prediction	Opening Year	Design Year	Rank
Traffic Signal	Total Fatal & Injury	5.00	9.12 2.99	147.75 49.22	3	Yes	Uncalibrated SPF	97	92	6
2-lane Roundabout	Total	1.70 7.95	14.48	234.67	2	Yes	Uncalibrated SPF			1
	Fatal & Injury	1.38	2.67	42.26	Z	res	Uncalibrated SPF	<u>99</u>	<u>98</u>	L
Median U-Turn (MUT)	Total Fatal & Injury	4.25 1.19	7.75 2.09	125.59 34.46	1	N/A	CMF	<u>99</u>	<u>97</u>	2
Signalized RCUT	Total	7.67	16.98	255.37	4	Yes	Uncalibrated SPF	<u>98</u>	<u>95</u>	3
	Fatal & Injury	1.64	4.02	58.27	•					
Signalized Thru-Cut	Total Fatal & Injury	No SPF No SPF	No SPF No SPF	No SPF No SPF		N/A	N/A	<u>97</u>	<u>93</u>	5
Bowtie	Total	No SPF	No SPF	No SPF		N/A	N/A	<u>98</u>	95	4
	Fatal & Injury	No SPF	No SPF	No SPF			-	<u> </u>	<u> </u>	

-- -- ---- -- Appendix E

Design Year SIDRA Analysis Summary Sheets

### SITE LAYOUT

𝔅 Site: 101 [Proctor Road/Dove Avenue (Site Folder: General)]

Design Year (2050) Build Alternative 1 - AM Peak Hour 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: 101 [Proctor Road/Dove Avenue (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Design Year (2050) Build Alternative 1 - AM Peak Hour Site Category: (None) Roundabout

Mov	Turn	Mov		nand		rrival	Deg.	Aver.	Level of		Back Of	Prop.	Eff.	Aver.	Aver
ID		Class		and the second se	F [ Total veh/h	lows HV ] %	Satn v/c	Delay sec	Service	QL [Veh. veh	ieue Dist ] ft	Que	Stop Rate	No. of Cycles	Speed mph
South	: Dove	Avenue													
3	L2	All MCs	258	0.0	258	0.0	0.529	17.8	LOS C	2.7	66.3	0.79	0.90	1.17	26.5
8	T1	All MCs	111	3.0	111	3.0	0.766	30.4	LOS D	5.0	130.6	0.87	1.14	1.78	24.3
18	R2	All MCs	262	5.0	262	5.0	0.766	31.4	LOS D	5.0	130.6	0.87	1.14	1.78	24.1
Appro	bach		631	2.6	631	2.6	0.766	25.7	LOS D	5.0	130.6	0.84	1.04	1.53	25.1
East:	SR 72														
1	L2	All MCs	200	5.0	200	5.0	0.937	44.0	LOS E	16.9	455.2	1.00	1.69	3.17	20.7
6	T1	All MCs	761	12.0	761	12.0	0.937	44.5	LOS E	18.3	484.5	1.00	1.69	3.18	21.3
16	R2	All MCs	326	2.0	326	2.0	0.937	40.7	LOS E	18.3	484.5	1.00	1.70	3.20	21.6
Appro	ach		1287	8.4	1287	8.4	0.937	43.4	LOS E	18.3	484.5	1.00	1.69	3.18	21.3
North	Proct	or Road													
7	L2	All MCs	194	4.0	194	4.0	0.701	30.6	LOS D	3.5	89.4	0.87	1.04	1.49	23.6
4	T1	All MCs	94	2.0	94	2.0	0.701	29.1	LOS D	3.5	89.4	0.87	1.04	1.49	23.9
14	R2	All MCs	190	2.0	190	2.0	0.505	21.3	LOS C	2.1	52.9	0.83	0.91	1.15	26.9
Appro	ach		477	2.8	477	2.8	0.701	26.6	LOS D	3.5	89.4	0.86	0.99	1.36	24.8
West:	SR 72	2													
5	L2	All MCs	246	4.0	246	4.0	0.624	14.1	LOS B	5.4	142.3	0.77	0.80	1.26	28.2
2	T1	All MCs	589	10.0	589	10.0	0.624	15.1	LOS C	5.4	142.3	0.77	0.80	1.26	29.1
12	R2	All MCs	153	5.0	153	5.0	0.624	14.2	LOS B	5.3	141.2	0.77	0.80	1.26	29.3
Appro	ach		988	7.7	988	7.7	0.624	14.7	LOS B	5.4	142.3	0.77	0.80	1.26	28.9
	hicles		3384	63	3384	63	0.937	29.4	LOS D	18.3	484.5	0.88	1.21	2.06	24.3

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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Project: T:\PROJECTS\2 - DISTRICT 1\D1\_SR 72\_PD&E\Traffic\Roundabout Analysis\Design Year\Updated Analyses\Proctor\_Dove\_2050\_Build Alt 1\_AM Pk Hr\_Rev\_2\_17\_2023.sip9

### SITE LAYOUT

♥ Site: 101 [Proctor Road/Dove Avenue (Site Folder: General)]

Design Year (2050) Build Alternative 1 - PM Peak Hour 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: 101 [Proctor Road/Dove Avenue (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Design Year (2050) Build Alternative 1 - PM Peak Hour Site Category: (None) Roundabout

Mov	Turn	Mov Class	Demand		Arrival		Deg.	Aver.	Level of	95% Back Of Queue		Prop.	Eff.	Aver.	Aver.
ID					F [ Total		Sath v/c	Delay sec	Service	[ Veh. veh	Dist ] ft	Que	Stop Rate	No. of Cycles	Speed mph
South	: Dove	Avenue									1.111 (1.11)				
3	L2	All MCs	176	2.0	176	2.0	0.455	18.9	LOS C	1.8	46.4	0.81	0.88	1.09	26.1
8	T1	All MCs	68	2.0	68	2.0	0.680	26.9	LOS D	3.6	90.3	0.86	1.03	1.47	25.4
18	R2	All MCs	232	2.0	232	2.0	0.680	26.9	LOS D	3.6	90.3	0.86	1.03	1.47	25.2
Appro	ach		476	2.0	476	2.0	0.680	24.0	LOS C	3.6	90.3	0.84	0.97	1.33	25.6
East:	SR 72														
1	L2	All MCs	237	2.0	237	2.0	0.607	13.4	LOS B	5.3	136.6	0.73	0.75	1.18	28.6
6	T1	All MCs	588	5.0	588	5.0	0.607	13.5	LOS B	5.4	137.9	0.73	0.73	1.16	29.7
16	R2	All MCs	225	1.0	225	1.0	0.607	12.4	LOS B	5.4	137.9	0.72	0.72	1.15	30.1
Approach		1049	3.5	1049	3.5	0.607	13.2	LOS B	5.4	137.9	0.73	0.74	1.16	29.5	
North	Proct	or Road													
7	L2	All MCs	290	2.0	290	2.0	0.685	22.6	LOS C	4.4	111.1	0.82	1.02	1.49	25.4
4	T1	All MCs	89	2.0	89	2.0	0.685	22.6	LOS C	4.4	111.1	0.82	1.02	1.49	25.8
14	R2	All MCs	222	2.0	222	2.0	0.448	15.2	LOS C	2.0	51.0	0.74	0.83	1.02	29.0
Appro	ach		601	2.0	601	2.0	0.685	19.9	LOS C	4.4	111.1	0.79	0.95	1.32	26.6
West:	SR 72	2													
5	L2	All MCs	218	2.0	218	2.0	0.783	22.7	LOS C	9.6	242.9	0.91	1.12	1.90	25.9
2	T1	All MCs	757	2.0	757	2.0	0.783	22.7	LOS C	9.6	242.9	0.91	1.12	1.90	26.5
12	R2	All MCs	233	2.0	233	2.0	0.783	22.7	LOS C	9.6	242.9	0.91	1.12	1.90	26.6
Appro	ach		1209	2.0	1209	2.0	0.783	22.7	LOS C	9.6	242.9	0.91	1.12	1.90	26.4
All Vel	hicles		3335	2.5	3335	2.5	0.783	19.4	LOS C	9.6	242.9	0.82	0.95	1.48	27.2

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: Friday, February 17, 2023 5:06:02 PM Project: T:\PROJECTS\2 - DISTRICT 1\D1\_SR 72\_PD&E\Traffic\Roundabout Analysis\Design Year\Updated Analyses\Proctor\_Dove\_2050\_Build Alt 1\_PM Pk Hr\_Rev\_2\_17\_2023.sip9 Appendix F

Preliminary Roundabout Concept and Performance Checks





'11/2023 8:42:50 AM E1 \ORL Worksets/FD0T/44463412



023 8:42:51 AM Eric.Benson Worksets/FD0T/44463412201 SR72-PDE/roadwav/AUT(



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