US 41 AT CR 340 STAGE 2 ICE

Alachua County (26030000; MP 25.586)

Prepared by | Peters and Yaffee, Inc. Prepared for | FDOT District Two



Professional Engineer Certificate

I, Austin Chapman, PE 72474, certify that I currently hold an active license in the State of Florida and am competent through education or experience to provide engineering services in the civil discipline contained in this plan, print, specification, or report.

Project US 41 at CR 340 Stage 2 ICE

Location Alachua, Florida

Client FDOT District Two

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY

ON THE DATE ADJACENT TO THE SEAL

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

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US 41 AT CR 340 STAGE 2ICE

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Background

FDOT District Two Traffic Operations initiated an investigation into whether the US 41/CR 340 intersection met warrants for signalization. US 41 is a two-lane undivided rural principial arterial that runs in a north/south alignment, with a posted speed limit of 40 mph, which reduces to 30 mph approximately 300 feet north of the intersection. US 41 is in the C3C context classification south of CR 340 and the C2T context classification north of CR 340. The intersection was found to meet MUTCD Warrant 1 (eight-hour) and Warrant 2 (four-hour) at the 70% threshold for signalization. Warrant 1 was met at the 100% threshold even if a turn lane was added to CR 340. A delay study identified a level of service "E" for eastbound CR 340 vehicles during the AM and PM peak period. There were seven potentially correctable crashes from 1/1/2019 until 8/16/2024. The maximum number of potentially correctable crashes that occurred within a 12-month period was three collisions between April 2023 and March 2024. There were no fatal crashes. Following the signal warrant analysis, a Stage 1 Intersection Control Evaluation (ICE) was completed. It was determined that a Traffic Signal and one-lane roundabout should be advanced to Stage 2 for further analysis.

ICE Purpose

The purpose of ICE is to consider the projected safety and operations of multiple context-sensitive control strategies for new or modified intersections. This analysis promotes thoughtful consideration of alternative intersection types using quantitative analysis for each control type. Stage 1 is a screening stage and uses FHWA's Capacity Analysis for Planning of Junctions (CAP-X) for operational analysis and FHWA's Safety Performance of Intersection Control Evaluations (SPICE) for safety analysis to determine which options proceed to Stage 2. Stage 2 utilizes more detailed project data and analysis to perform a benefit to cost calculation which considers both projected safety and operational data.

Stage 2 ICE Key Variables

The annual traffic growth rates determined in Stage 1 (1% for US 41, 2% for CR 340) were used to determine the 2036 Design Year volumes for the traffic operations analysis. The critical peak hour was determined to be the PM peak hour (5:00 PM – 6:00 PM). The opening year for the modified intersection is projected to be 2026 with a design year of 2036.

Stage 2 ICE Evaluation

Conceptual designs were created for the Traffic Signal and One-lane Roundabout options. These were used to establish the intersection alignment, geometry, lane requirements and right-of-way (ROW) requirements. A review of potential ROW and utility impacts of traffic control options was conducted using readily available information, R/W maps and Phase II Roadway Plans (FPI 207779-3-52-01) provided by FDOT. No design, survey, or subsurface utility exploration was completed. Therefore, this is preliminary and will need to be confirmed in design.

For the Traffic Signal option, right-of-way acquisition is not anticipated. However, installing a sidewalk on the southwest corner would require relocating the electric pole at that corner. The design recommends reconstructing part of the existing sidewalk and adding pedestrian signalization on the northwest quadrant. The design also includes lane shifts through the intersection with a deflection angle of 1.5 degrees which is acceptable for the 40 mph design speed.

For the One-lane Roundabout option, the concept design shows impact to properties on the northwest and southwest quadrants; therefore, right-of-way acquisition is anticipated. Two parcels in the northwest quadrant will be impacted. According to the Alachua County Property Appraiser website, these parcels were sold in 2016 for \$160,000 each, so \$300,000 is considered for the acquisition of half of each parcel. One parcel in the southwest quadrant is also anticipated to be impacted, and it was sold in 2024 for \$275,000, so \$400,000 is considered for its acquisition. The total anticipated cost for right-of-way acquisition for the One-lane Roundabout is \$700,000. The

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roundabout would cut access to the southernmost Sam's Pizza and Subs driveway. This concept does not address access to the southern driveway but should be addressed during final design. Attempting to place the roundabout solely on the northwest parcels was not feasible because the approach alignment would impact an additional parcel to the west of NW 237th Street, exclude the existing east approach, and fail to accommodate the WB-62FL design vehicle.

Preliminary construction cost estimates were developed based on the concepts and design knowledge. It is estimated that the Signalized Control will cost \$1,162,322.61 to construct, and the One-lane Roundabout will cost \$1,858,993.46 for both construction and right-of-way acquisition.

Synchro 11 software using Highway Capacity Manual (HCM) methodologies was used to evaluate critical peak hour operations at the intersection under each control type. The Signalized Control option is expected to operate with an average delay of 19.5 seconds (LOS B) during the Design Year AM peak hour, and the One-lane Roundabout option is expected to operate with an average delay of 8.0 seconds (LOS A) during the Design Year PM peak hour. All turning movement queues can be accommodated within the proposed turn lane lengths for the Traffic Signal option. The average delays for the Signalized Control option and the One-lane Roundabout comes directly from Synchro.

The SPICE Tool was used to determine the anticipated safety performance of the two options. The One-lane Roundabout received the better Crash Prediction Rank and the Safe System Intersection (SSI) rank than the Traffic Signal.

The benefit to cost (B/C) analysis indicates that, as compared to Signalized Control, the One-lane Roundabout is expected to have a B/C ratio of 10.93.

Stage 2 ICE Results

Based on the Stage 2 ICE Analysis, it is recommended that a One-lane Roundabout be installed at the US 41/CR 340 intersection. The One-lane Roundabout received a better B/C ratio, a better Crash Prediction Rank, and a better Safe System Intersection rating compared to the Traffic Signal option. It is also expected to operate with an acceptable level of service during the PM peak hour of the 2026 Design Year. Attached are the FDOT Stage 2 ICE Forms, SPICE Worksheets, FDOT Economic Analysis Tool for ICE Worksheets, Concept Designs, Cost Estimates and Synchro Capacity Analysis Worksheets. The Stage 1 ICE Analysis is also attached.

Appendix A

FDOT Stage 2 ICE Forms

Florida Department of Transportation Intersection Control Evaluation (ICE) Form Stage 2: Initial Control Strategy Assessment

To fulfill the requirements of Stage 2 (Intersection Control Strategy) of FDOT's ICE procedures, complete the following form and append all supporting documentation. A selection must be made in the "Project Funding Source" cell below for the Stage 2 form to fully populate. Completed forms are to be submitted to the District Traffic Operations Engineer (DTOE) and District Design Engineer (DDE) for the project's approval.

Project Name	US 17 at CR 340 Stage 2	2 ICE	FDOT Proje	ct#		Date	01/10/25
Submitted By	Denis Monyo	Agency	//Company	Peters ar	id Yaffee Er	mail dmonyo@p	petersandyaffee.com
					Project Funding Sou	urce N	lon-federal
List all viable inte	rsection control strategies identified in Sta	ge 1 (Screening):					
	Signalized Control	Roun	idabout (1-lane)				

			Ope	rational Analyse	S	
Summarize the re 19-8 of the <i>High</i> v	esults of the peak hour analysis vay Capacity Manual, 6th Editic	performed for on (HCM6) to d	each control strate etermine the appro	gy. Select analy opriate LOS bas	sis year based on guida ed on intersection delay	ance in the ICE procedures document. Refer to Exhibit (hover over this cell for Exhibit 19-8).
Design Vehicle	Florida Inte	erstate Semitrai	ler (WB-62FL)		Control Vehicle	Florida Interstate Semitrailer (WB-62FL)
Opening Year	2026					
	Control Stratogy	Cri	tical Peak Hour			
	Control Strategy	LOS	Delay (sec.)	All Queue	es Accommodated?	
	Signalized Control	В	19.5		Yes	
	Roundabout (1-lane)	Α	8.0		Yes	
Provide any addi discussion neces regarding the res the operational analysis:	Critical peak hour for s tional isary ults of	ignalized contro	ol was the 2036 AM	I peak hour and	critical peak hour for th	e roundabout control was the 2036 PM peak hour.

			Safety P	erformance						
Enter the most recent five (5)	ears of crash data from th	ne CAR System.			Most rec	ent year of cr	ash dat	a available		
Crash T	уре								Total	
	Total									
Combined	Fatal/Injury									
	PDO									
	Total									
Single-Vehicle	Fatal/Injury									
	PDO									
	Total									
Multi-Vehicle	Fatal/Injury									
	PDO									
Vehicle-Pedestrian	Fatal/Injury									
Vehicle-Bicycle	Fatal/Injury									
Total	All									
Apply the FDOT SPICE Tool to modification factors detailed in	o model anticipated safety the ICE procedures docu	odel anticipated safety performance of each control strategy. For intersection types not an ICE procedures document or qualitatively describe anticipated safety impacts.		commodated	in the t	ool, manua	lly apply crash	h		
					0	pening Year		E	lesign Year	-
Control Strategy	Antici	pated Impact on S	afety Perforr	mance	Predicted Total Crashes	Predicted Fatal+Injury Crashes	SSI Score	Predicted Total Crashes	Predicted Fatal+Injury Crashes	SSI Score
Signalized Control					6.74	2.19	97	7.58	2.48	97
Roundabout (1-lane)					2.22	0.43	100	2.38	0.47	100

		Multimodal Accommodat	ons	
Note the existing/anticipated l	evel of pedestrian/bicyclist activity at the st	udy intersection during a t	pical day. After filling in	the daily number of pedestrians crossing, the activity
level field will auto-populate.				
Da	ily # of peds. crossing (all approaches):		Peo	lestrian Volume by Activity Level
Daily #	# of bicyclists crossing (all approaches):			
Summarize the ability of each	viable control strategy to accommodate the	e existing/anticipated leve	of:	
Control Strategy	Pedestrians and Bicyclists	Transit	Services	Freight Needs
Signalized Control	No anticipated issues.	No anticipated issues.		No anticipated issues.
Roundabout (1-lane)	No anticipated issues.	No anticipated issues.		No anticipated issues.

	Environmental, Utility, and Right-of-Way Impacts
Summarize any issues related	to environmental, utility, or right-of-way (including relocation) impacts specific to each control strategy. Be sure to consider the NEPA
requirements for each control t	ype.
Signalized Control	Pedestrian features on the southwest corner of the intersection would require relocating the electric pole at the same corner. It is anticipated that the utility owner will move the pole at the utility's expense.
Roundabout (1-lane)	Widening the pavement on the southwest corner of the intersection would require relocating the electric pole at the same corner. It is anticipated that the utility owner will move the pole at the utility's expense.

Public Input/Feedback (if appropriate)

Summarize any agency or public input regarding the control strategies:

		Control Strategy Evaluation
Provide a brief justification as t advanced.	o why each of the	following is either viable or not viable. If a single control strategy is recommended, select it as the only strategy to be
Control Strategy	Strategy to be Advanced?	Justification
Signalized Control	No	This alternative is not expected to require right of way and has a lower construction cost, but when factoring in future delays and safety performance, has a higher Total Net Present Cost than a One-lane Roundabout.
Roundabout (1-lane)	Yes	When considering construction cost, cost of delays and safety performance, this alternative has a lower Total Net Present Cost and a higher benefit-cost (B/C) ratio of 10.93 relative to Signalized Control.
Recommendation		A single control strategy is recommended

		Resolu	ution		
To be filled out b	y FDOT District Traffic Operations Engineer and Dist	trict Design Enginee	r		
	Accept Recor	mmendation (Reject Recommendation	
DTOE Name	James F. Hannigan, Jr. PE	Signature		Date	
DTOE Comments					
DDE Name	Kathryn D. Thomas, PE	Signature		Date	
DDE Comments					



SPICE Worksheets

	Control Strategy Selec	tion and Inputs
Specify the Facil	ity Level Inputs and the Control Strat	egies to be included in the SPICE Analysis.
Intersection Type	At-Grade Intersection	
Analysis Year	Opening and Design Year	
Opening Year	2026	
Design Year	2036	
Facility Type	On Urban and Suburban Arterial	
Number of Legs	4-leg	
1-Way/2-Way	2-way Intersecting 2-way	For more information on how to determine these values, see the "Definitions" worksheet
# of Major Street Lanes (both directions)	5 or fewer	
Major Street Approach Speed	Less than 50 mph	
Opening Year - Major Road AADT	11,847	
Opening Year - Minor Road AADT	6,959	
Design Year - Major Road AADT	13,009	
Design Year - Minor Road AADT	7,642	

Control Strategy	Include	Base Intersection	Comment 1	Comment 2
Traffic Signal	Yes			
Traffic Signal (Alternative Configuration)	No			
Minor Road Stop Control	No		Opening Year AADT Outside of SPF Development Range	Design Year AADT Outside of SPF Development Range
All Way Stop Control	No			
1-Lane Roundabout	Yes			
2-Lane Roundabout	No			
Partial Displaced Left Turn (PDLT)	No	Traffic Signal		
Full Median U-Turn (MUT)	No	Traffic Signal		
Signalized Restricted Crossing U-Turn (RCUT)	No			
Unsignalized Restricted Crossing U-Turn (RCUT)	No			
Signalized Thru-Cut*	No		*SSI Only, No Crash Prediction Available	
Unsignalized Thru-Cut*	No		*SSI Only, No Crash Prediction Available	
Bowtie*	No		*SSI Only, No Crash Prediction Available	
Continuous Green-T Intersection	No	Traffic Signal		
Jughandle	No	Traffic Signal		
Other 1	No	Traffic Signal	Please Select the Base Intersection Type	
Other 2	No	Minor Road Stop	Please Select the Base Intersection Type	

At-Grade Intersection Inputs				
Provide inputs needed to compute and apply Part C CMFs.				
		Contro	ol Strategy	
Input		Traffic Signal	1-lane Roundabout	
Opening Year Major Road AADT		11847	11847	
Opening Year Minor Road AADT	Optional AADT	6959	6959	All strategies will have the same AADT as the
Design Year Major Road AADT	Overrides	13009	13009	Base Conditions unless overridden by user.
Design Year Minor Road AADT		7642	7642	
Number of Approaches with Left-Turn Lanes		0		
Number of Approaches with Right-Turn Lanes	Additional Required	0		Do not include stop controlled approaches
Number of Uncontrolled Approaches with Left-Turn Lanes	Inputs			for minor stop
Number of Uncontrolled Approaches with Right-Turn Lanes				
Keep default values below here for pl	anning-level analysis,	, override with a	ctual values for full	HSM Analysis
	Part C C	MFs		
	Optional For Stage 1	ICE, Required for		
	Stage 2	ICE		
Skew Angle		N/A		
Lighting Present		Yes		
# of Approaches Permissive LT Signal Phasing		4		
# of Approaches Perm/Prot LT Signal Phasing		0		
# of Approaches Protected LT Signal Phasing		0]	
Number of Approaches with Right-Turn-on-Red Prohibited		0		
Red Light Cameras Present	All yellow cells will	No	1	All so the second line of the second second line the
Number of Major Street Through Lanes	be automatically	0	Scroll Down for	All yellow cells will be automatically
Number of Minor Street Lanes	populated by a	0	Roundabout CMF	populated by a macro. If users want to do a
# of Major St Approaches w/ Right-Turn Channelization	macro. If users want	0	Inputs	automatic inputs as-is
Number of Approaches with U-Turn Prohibited	to do a planning-level	0	1	
Pedestrian Volume by Activity Level	analysis, they can leave the automatic inputs as-is.	Low (20)		
User Specified Sum of all daily pedestrian crossing volumes		50		
Max # of Lanes Crossed by Pedestrians		5		
Number of Bus Stops within 1000' of Intersection		0]	
Schools within 1000' of intersection		No		
Number of Alcohol Sales Establishments within 1000' of Intersection		0		
			Roundabout CMF Inputs	
Inscribed Circle Diameter (ft)			130	
Leg 1 (Major Leg #1)			Leg 1 (Major Leg #1)	
Opening Year Entering AADT			5,924	
Leg has Right-Turn Bypass			No	
# of Access Points within 250' of Yield Line			0	
Entering Width (ft)				
# of Entering Lanes			-	
# of Circulating Lanes			L	l
Leg 2 (IVIajor Leg #2)			Leg 2 (Major Leg #2)	
Upening Year Entering AADT			5,924	
Leg nas Right-Turn Bypass				
# OF ACCESS POINTS WITHIN 200 OF FIEld Line			0	
Entering width (ft)				

of Entering Lanes # of Circulating Lanes Opening Year Entering AADT Leg has Right-Turn Bypass # of Access Points within 250' of Yield Line Entering Width (ft) # of Entering Lanes # of Circulating Lanes

Opening Year Entering AADT

Entering Width (ft) # of Entering Lanes # of Circulating Lanes

Leg has Right-Turn Bypass # of Access Points within 250' of Yield Line

Leg 3 (Minor Leg #1)

Leg 4 (Minor Leg #2)

N/A

Leg 3 (Minor Leg #1) 3479.5

No 0

Leg 4 (Minor Leg #2)

3,480

No 0

# U-Turns			
# of Major Roadway Lanes (one direction)			
# of Minor Roadway Lanes (one direction)			
Total Offset Distance (ft)			
Number of Driveways			
Total Deceleration Lane Length (ft)	N/A	N/A	N/A
Total Acceleration Lane Length (ft)			
Number of Left-Turn Lanes From Major Road			
Major Road Speed Limit (mph)			
Total Median Width (ft)			
Maximum Median Width (ft)			

				Sa	ite System for	intersed		si) inputs						
			Specify the	geomtric, exposure	e, severity, and con	flicting traff	ic complexi	ty inputs requ	iired for an SS	l analysis.				
1 Roadway Geomet	ny .	lanes	Major Stre	et Designation						Required In	nuts			
Major number thru la	nes (one direction)	1	Select mai	or street direction	n	N-S			Default Available. Override Ontional					
Minor number thru la	anes (one direction)	1	Median Pr	esence on Major	 Road	No				Planning-Le	vel Default	Innut		
Madian Processor on Million Road No.										Computed	Value Over	rido Ontional		
2 Complete the "Eve	ocure" inputs These i	oputs will apr	ly to all interesections	elected for analy	reie	140				Computed	Value - No C	werride		
3 Complete the "Sev	vority" inputs	iputs will app	iny to an interesections.	selected for analy	/313.					Disabled Ce	all (Often ha	sed on input selection	c)	
A complete the "confliction Traffic Comparing" inputs														
complete the <u>con</u>	traine compie													
					2. Expo	sure - All I	ntersecti	ons						
Average Daily Traffic	(veh/day) Open	Design		ADT Dire	ctional Split	-			Nonmotori	ized Total A	DBP (ped-bi	ke/day)	Activity Level	ADBP Value (pe
Major	<u>11,847</u>	<u>13,009</u>		Major	0.50				Open Year	Total Interse	ection NM		Low (20)	20
Minor	6,959	7,642		Minor	0.50				Design Yea	r Total Inter	section NM		Low (20)	20
			-			-			(or overwri	te ped move	ement ADBP.	s below)		
Are turning moveme	turning movement ADT values are available? No If "Yes", input values in Table 2-A Nonmotorized Movement ADBP (ped-bike/day)							oed-bike/day)	Open	Design				
Are peak hour turnin	g movement counts ava	ailable?	Yes If "Yes", in	put values in Tab	le 2-B				Major NM	1 (NM mvm	t crossing M	aj1)	5	5
If no turning movmer	urning movment volumes or counts are available, a user can Major NM 2						5	5						
optionally override th	ne planning-level defau	It turning mov	vment						Minor NM	1			5	5
proportions in Table	<u>2-C</u>								Minor NM	2			5	5
Table 2-A: Turning M	lovement (vol/day)	٦	Table 2-B: Turning Mo	ovement Counts ((Optional)							Table 2-C: Turning Pr	oportions (optional)	
	Open Design		-	Mvmt	AM Peak	AM %	PM	I Peak	PM %	Avg %				Decimal
Major Thru 1	3376 3708		Major Thru 1	NBT	287		0.89	273	0.76	0.83		Major Thru 1		0.57
Major Left Turn 1	1066 1171		Major Left Turn 1	NBL	37		0.11	85	0.24	0.18		Major Left Turn 1		0.18
Major Right Turn 1	1481 1626		Major Right Turn 1	NBR	0		0		0.002786	0		Major Right Turn 1		0.25
Maior Thru 2	2770 750 2042 52	r	Major Thru 2	CDT	259		0.65	250	0.46720	0.56		Maior Thru 2		0 467757000
Major Triru Z	2770.759 3042.52		Najor Infu 2	561	200		0.05	250	0.46729	0.50		Major Infu Z		0.467757009
Major Left Turn 2	290.1/5 325.225	;	Major Left Turn 2	SDL	10		0.05	2.	0.050407	0.05		Major Left Turn 2		0.05
wajor kight fulli z	2850.500 5150.75	,		JDN	123		0.51	2.30	0.482243	0.4				0.482242331
Minor Thru 1	83.91735 92.1535	3	Minor Thru 1	EBT	16		0.06	٤	0.047059	0.05		Minor Thru 1		0.024117647
Minor Left Turn 1	2331.265 2560.07	7	Minor Left Turn 1	EBL	174		0.7	110	0.647059	0.67		Minor Left Turn 1		0.67
Minor Right Turn 1	1064.318 1168.77	6	Minor Right Turn 1	EBR	57		0.23	52	0.305882	0.27		Minor Right Turn 1		0.305882353
Minor Thru 2	1720 75 1010 5	-	Minor Thru 2	WPT	0	1	0	1	0 270270	0.10		Minor Thru 2		0.5
Minor Left Turn ?	860.875 055 25	-	Minor Left Turn ?	WBI	0	-	0	14	0.576576	0.19		Minor Left Turn ?		0.5
Minor Dight Turn 2	960 975 055 25	-	Minor Right Turn 2	WBL	25	-	1	2.	0.567568	0.03		Minor Right Turn 2		0.25

3. Severity 4. Conflicting Traffic Complexity

Vehicle Sneeds	mph
Major Bostod Spood Limit	40
Minor Posted Speed Limit	40
Minor Posted Speed Linit	45
Majarahau	40
	40
Major left	20
Major right	15
Minor thru	38.25
Minor left	20
Minor right	15
Stop near	15
Stop far	25
Signal near	15
Signal far	25
RAB entering	25
RAB circulating	25
RAB exiting	30
Nonmotorized	0
Collision Angles	deg
Crossing	90
Crossing - LT	230
Crossing - RAB	60
Merging	45
Diverging	10
P(FSI) Regression Parameters	
alpha	67.29
k	3.79

Traffic Control		Decimal			
Base Traffic Control Adjustment Value (BTCAV) for permitted					
Base Traffic Control Adjustment Value (BTCAV) for protected/permitted					
Base Traffic Control Adjustment Value (BTCAV) for protected					
Base Traffic Control Adjustment Value (BTCAV) for stop-controlled					
Weight, f, for permitted		0.5			
Weight, f, for protected/permitted		0.5			
Weight, f, for protected		0.5			
Weight, f, for stop-controlled		0.5			
Maior LT signal phasing (drop-down)	Protected/Pe	ermitted			
Minor LT signal phasing (drop-down)	Permitt	ed			
Exclusive Pedestrian phasing (drop-down)		No			
Traffic Control Parameter (a_traffic control)					
Permitted		1			
Protected/permitted		0.925			
Protected		0.505			
Stop-controlled		0.725			
Driver Merging Weights (W)					
Lane 1 (W1)		1			
Lane 2 (W2)		0.75			
Lane 3+ (W3+)		0.5			
Nonmotorized Complexity					
Nonmotorized Turn Score Weights (W)					
Lane 1 (W1)		1			
Lane 2 (W2)		0.75			
Lane 3+ (W3)		0.5			

Calibration									
	Optional - Input locally-deve	oped calibro	tion factors	for SPFs.					
	At-Grade II	tersection	SPFs						
Traffic Control	Facility Type	# legs	1 way/ 2 way	# of lanes on arterial	Default Calibration Factor	Optional User Override	Use Value		
	On Rural Two Lano Highway	3 leg	-	-	1.00		1.00		
	Off Rural 1wo Laffe Highway	4 leg	-	-	0.92		0.92		
	On Rural Multilane Highway	3 leg	-	-	1.00		1.00		
	on hurar multilance highway	4 leg	-	-	0.45		0.45		
		3 leg	2x2	5 or fewer	2.50		2.50		
Traffic Signal		4 leg	2x2	5 or fewer	2.27		2.27		
		3 leg	2x2	6 or more	1.00		1.00		
(For more information on determining signal type,	On Urban and Suburban Arterial	4 leg	2x2	6 or more	1.00		1.00		
refer to the "Definitions" worksheet)	on orban and Sabarban Artenar	3 leg	1x2	-	1.00		1.00		
		4 leg	1x2	-	1.00		1.00		
		3 leg	1x1	-	1.00		1.00		
		4 leg	1x1	-	1.00		1.00		
	On High Speed (50+ MPH) Urban and	3 leg	-	-	1.00		1.00		
	Suburban Arterial	4 leg	-	-	1.00		1.00		
	On Rural Two Lane Highway	3 leg	-	-	1.27		1.27		
	on harar two cane highway	4 leg	-	-	0.74		0.74		
	On Rural Multilano Highway	3 leg	-	-	2.20		2.20		
	On Rural Multilane Highway	4 leg	-	-	1.64		1.64		
		3 leg	2x2	5 or fewer	1.14		1.14		
	On Urban and Suburban Arterial	4 leg	2x2	5 or fewer	1.87		1.87		
Minor Road Ston		3 leg	2x2	6 or more	1.00		1.00		
		4 leg	2x2	6 or more	1.00		1.00		
		3 leg	1x2	-	1.00		1.00		
		4 leg	1x2	-	1.00		1.00		
		3 leg	1x1	-	1.00		1.00		
		4 leg	1x1	-	1.00		1.00		
	On High Speed (50+ MPH) Urban and	3 leg	-	-	1.00		1.00		
	Suburban Arterial	4 leg	-	-	1.00		1.00		
	On Rural Two Lane Highway	3 leg	-	-	1.00		1.00		
	on harar two cane highway	4 leg	-	-	1.00		1.00		
All-Way Stop	On Rural Multilano Highway	3 leg	-	-	1.00		1.00		
All-Way Stop	On Rural Multilane Highway	4 leg	-	-	1.00		1.00		
	On Urban and Suburban Arterial	3 leg	-	-	1.00		1.00		
	on orban and subdrban Artenia	4 leg	-	-	1.00		1.00		
	1-lane roundabout	3 leg	-	-	1.00		1.00		
Roundahout		4 leg	-	-	1.00		1.00		
	2-lane roundabout	3 leg	-	-	1.00		1.00		
		4 leg	-	-	1.00		1.00		
Signalized Restricted Crossing LLTurn (PCUT)		3 leg	-	-	1.00		1.00		
Signalized Restricted crossing 0-runn (RC01)		4 leg	-	-	1.00		1.00		
Unsignalized Postricted Crossing LLTure (PCUT)		3 leg	-	-	1.00		1.00		
onsignalized Restricted crossing o-ruffi (RCOT)		4 leg	-	-	1.00		1.00		

	Ramp Terminal Intersection SPFs								
Control	Ramp and Intersection Type	SPF Calibration Factor	Optional User Override	Use Value					
Diamond Signalized	Four-leg terminals with diagonal ramps (D4)	1.00		1.00					
Diverging Diamond	All types	1.00		1.00					
Single-Point Diamond	All types	1.00		1.00					
Diamond Stop Control	Four-leg terminals with diagonal ramps (D4)	1.00		1.00					
Signalized Tight Diamond		1.00		1.00					
Devendelsevet	1-lane roundabout with 4 legs	1.00		1.00					
Roundabout	2-lane roundabout with 4 legs	1.00		1.00					
Half Diamond Signalized		1.00		1.00					
Half Diamond Stop Control		1.00		1.00					
Two Quadrant Partial Cloverleaf A Signalized		1.00		1.00					
Two Quadrant Partial Cloverleaf A Stop Control		1.00		1.00					
Four Quadrant Partial Cloverleaf A Signalized		1.00		1.00					
Four Quadrant Partial Cloverleaf A Stop Control		1.00		1.00					
Two Quadrant Partial Cloverleaf B Signalized		1.00		1.00					
Two Quadrant Partial Cloverleaf B Stop Control		1.00		1.00					
Four Quadrant Partial Cloverleaf B Signalized		1.00		1.00					
Four Quadrant Partial Cloverleaf B Ston Control		1.00		1.00					

Local CMFs										
Optional - Override default CMFs with locally-developed or new CMFs										
Control	Default Base Intersection	Type of Crashes	Default CMF	Optional User Override	Use Value					
Partial Displaced Left Turn (DLT)	Traffic Signal	Total	0.88		0.88					
	Traffic Signal	Fatal & Injury	0.88		0.88					
Full Median LLTurn (MUT)	Traffic Signal	Total	0.63		0.63					
	Traffic Signal	Fatal & Injury	0.76		0.76					
Continuous Green T Intersection	Traffic Signal	Total	0.96		0.96					
	Traffic Signal	Fatal & Injury	0.85		0.85					
lughandle	Traffic Signal	Total	0.74		0.74					
Jugnanule	Traffic Signal	Fatal & Injury	0.74		0.74					
Other 1	Lines Colorition	Total	1.00		1.00					
Other 1	User selection	Fatal & Injury	1.00		1.00					
Other 3	Licar Colortian	Total	1.00		1.00					
	user selection	Fatal & Injury	1.00		1.00					
Crossover Traffic Signal (of Diverging Diamond Intershappa)	Troffic Signal	Total	0.71		0.71					
crossover manic signal (or Diverging Diamond Interchange)	rranic Signal	Fatal & Injury	0.59		0.59					

Historical Crash Data Input

Note: In order to use Empirical Bayes (EB), the historical intersection type must be a traffic signal or a minor road stop. Additionally, this alternative must be selected to be included in the analysis, and the historical intersection specified below. Up to 10 years of historical data can be used to perform the EB adjustment.

Is historical crash data available? Number of years available: Historical Intx Type:



First Year Data is available:



Historical Crash Counts		Year									
HISTORICAL	Lrash Counts	2019	2020	2021	2022	2023	2024				 Total
	Total										
Combined	Fatal & Injury										
	PDO										
Single	Total	0	0	0	1	0	0				 1
Single-	Fatal & Injury				1						1
venicie	PDO				0						0
Multiple	Total	4	4	0	1	3	1				 13
Vahiele	Fatal & Injury	2	1	0	0	1	0				4
venicie	PDO	2	3	0	1	2	1				9
Veh-Ped	Fatal & Injury										0
Veh-Bike	Fatal & Injury										0
Total	All	4	4	0	2	3	1				 14

Florida Department of Transportation Safety Performance for Intersection Control Evaluation Tool											
Results											
Summary of crash prediction results for each alternative											
Project Information											
Project Name:		US 41 at CR	340 Stage 2 ICE		Intersection Type:				At	-Grade Intersection	n
Intersection:		US 41	at CR 340		Opening Year:					2026	
Agency:		Peters a	nd Yaffee, Inc.		Design Year:					2036	
Project Reference:		AR. 2	2024.0173		Facility Type:				On Urb	an and Suburban A	rterial
City:		Hig	h Springs		Number of Legs:				4-leg		
State:	Florida 1-Way/2-Way?:						2-way Intersecting 2-way				
Date:	1/10/2025 # of Major Street Lanes (both directions):							5 or fewer			
Analyst:		Den	is Monyo		Major Street Approa	ich Speed:			Less than 50 mph		
			Crash Pred	iction Summary					SSI Score		
Control Stratogy	Crach Tuno	Opening Year	Docign Yoor	Total Project Life Outle	Crash Prediction	AADT Within SPF	Prediction Range?	Source of Bradiction	Opening Year	Docign Yoor	SSI Book
control strategy	clash type	Opening real	Design real	Total Project Life Cycle	Rank	Opening Year	Design Year	Source of Frediction	Opening real	Design real	331 Nain
Traffic Signal	Total	6.74	7.58	78.74	2	Yes	Yes	Calibrated SPF	97	97	2
	Fatal & Injury	2.19	2.48	25.71	2	105	105	calibrated ST	57	<u>57</u>	2
1-lane Roundabout	Total	2.22	2.38	25.33	1	Yes	Yes	Uncalibrated SPF	100	100	1
	ratar & Injury	0.43			1	I	I	1			I

Appendix C

FDOT Economic Analysis Tool for ICE Worksheets

At-Grade Intersection List

This sheet is used to manage the at-grade intersections list. After entering all inputs, use the "Setup Worksheets" button at the bottom of the tab before proceeding with the economic analysis.

		Open Year	Design Year	
	Operating Cycle	2026	2036	Demand forecasts for the opening year <i>must</i> be provided below, and travel time/delay forecasts must be given in the Delay worksheet.
	Peak Hour Start	From	То	
	AM peak	7:15 AM	8:15 AM	
Enter peak period begin	PM peak	5:00 PM	6:00 PM	
and end times.	Weekend peak	10:00 AM	11:00 AM	
Select Analysis Basis: Select facility type:	Typical Day/Unknown 04 - Rural Principal Arterial Other	<u> </u>	At intersections of var	rying facilities select the roadway that will be more representative of the volume, or interpolate betwee
Specify total volumes or turning counts?	ify total volumes or Turning Counts turning counts?]
	Enter the turning movement the peak hours. If data is not	counts in the DemandO available for the weeke leave blank.	Counts worksheet for and peak hour please	
		Ye	ar	
	Units	Opening	Design	
		2026	2036	
		Interse	ction 1	
AM peak hour volume	veh/hr	1,045	1,175	
PM peak hour volume	veh/hr	1,150	1,290	
Weekend peak hour volume:	veh/hr			
Average annual auto occupancy	Passengers per vehicle	1.0	1.0	
Average annual % trucks	Average %	2.4%	2.4%	

Select intersection types from the following table to include in the economic analysis. To include an intersection, select "Yes" in the include column, and to exclude an intersection, select "No" in the include column.

At-Glade Control Strategies				
Control #	Include	Short Name	Description	Notes
1	No	TWSC	Two-Way Stop Control	
2	No	AWSC	All Way Stop Control	
3	Yes	TrafficSignal	Traffic Signal	
4	No	TrafficSignalAlt	Traffic Signal (Alt.)	
5	Yes	Roundabout 1	Roundabout (1-Lane)	
6	No	Roundabout 2	Roundabout (2-Lane)	
7	No	DLT	Displaced Left Turn (DLT)	
8	No	MUT	Median U-Turn (MUT)	
9	No	SignalRCUT	Signalized Restricted Crossing U-Turn (RCUT)	
10	No	UnsignalRCUT	Unsignalized Restricted Crossing U-Turn (RCUT)	
11	No	GreenT	Continuous Green-T Intersection	
12	No	Jughandle 1	Jughandle (Forward Ramps)	
13	No	Jughandle 2	Jughandle (Reverse Ramps)	
14	No	Quadrant Itx	Quadrant Roadway Intersection	Note that no safety information is available
15	No	SigThrucut	Signalized Thrucut	Note that no safety information is available
16	No	UnsignalThrucut	Unsignalized Thrucut	Note that no safety information is available
17	No	Bowtie	Bowtie	Note that no safety information is available
18	No	Other1	Other 1	Safety information must be provided
19	No	Other2	Other 2	Safety information must be provided

Press the "Setup Worksheets" button to create hidden worksheets that compute performance measures for each selected control strategy.

Intersection Configuration inputs								
Which legs exist?	Westbound / East Leg	Eastbound / West Leg	Southbound / North Leg	Northbound / South Leg				
	Yes	Yes	Yes	Yes				

N-S

Select Major Street Direction

Opening Year AM Peak Hour PM Peak Hour Weekend Peak Hour U Т R ΗV U Т R ΗV U Т R ΗV L L L 2.00% 0 185 20 60 2.00% 0 115 55 5.30% 0 Eastbound 10 0 0 0 Westbound 0 0 0 30 2.00% 0 5 15 25 2.00% 0 0 0 0 2.00% Southbound 0 40 295 0 2.00% 0 90 280 5 2.00% 0 0 0 0 2.00% 2.00% 30 0 2.00% Northbound 0 20 265 130 0 255 265 2.50% 0 0 0

		Design Year															
		AM Peak Hour					PM Peak Hour				Weekend Peak Hour						
	U	L	Т	R	HV		U	L	Т	R	HV		U	L	Т	R	HV
Eastbound	0	220	20	75	2.00%		0	140	10	65	5.30%		0	0	0	0	2.00%
Westbound	0	0	0	35	2.00%		0	5	20	30	2.00%		0	0	0	0	2.00%
Southbound	0	45	325	0	2.00%		0	100	310	5	2.00%		0	0	0	0	2.00%
Northbound	0	25	290	140	2.00%		0	35	280	290	2.50%		0	0	0	0	2.00%

Cost Parameters

This sheet defines the basic cost parameters used in the benefit-cost analysis. You may either use the default values or override the defaults with your own values**Note that all costs must be in the** same year dollars, preferably in base year dollars. Consult the Bureau of Labor Statistics web site for latest information on the consumer price index to adjust values to current year: http://www.bls.gov/cpi/

Туре	Category	Unit valuation	Default value	Override value	Use value	Override date	Notes/References
Existing (Base) year for discounting	N/A	N/A	N/A	2026	2026		All costs will be discounted to the Base Year for Discounting. Enter the year in the "Override Value" column.
Opening Year	N/A	N/A	N/A	2026	2026		
Design Year	N/A	N/A	N/A	2036	2036		
Discount rate	N/A	Percent	0.04		0.04		FDOT
Value of time	Person (weekday) Person (weekend) Trucks	\$ per person hour \$ per person hour \$ per truck hour	\$ 20.17 \$ 20.17 \$ 55.24		\$ 20.17 \$ 20.17 \$ 55.24		2021 TTI Urban Mobility Report
Crashes	Fatal & Injury Crashes	\$ per crash	\$ 313,236		\$ 313,236		Florida Design Manual Table 122.6.2 (weighted average of KABC at intersections)
C(3)1C3	Property Damage Only Crashes	\$ per crash	\$ 7,700		\$ 7,700		Florida Design Manual Table 122.6.2

These following values define the planning & construction and the operating & maintenance costs of the control strategy alternatives. A single total cost is required for planning and construction. Default values are provided for all operating & maintenance cost, but can be overridden by the user

At-Grade Intersections	Total Design & Construction	Total Right of Way Costs	Operating & Maintenance	Signal Retiming	Lighting	Signal Maintenance	Roundabout Landscaping	Other	Other 2	Other 3	Other 4	Other 5	Other 6
Traffic Signal	\$ 1,162,323		Cost Period	\$ 5,000 Every 3 years	\$ 1,000 1 (yearly)	\$ 4,000 1 (yearly)	\$ - 1 (yearly)	\$ - Every 0 years					
Roundabout (1-Lane)	\$ 1,858,993		Cost Period	\$ - 1 (yearly)	\$ 3,000 1 (yearly)	\$ - 1 (yearly)	\$ 2,000 1 (yearly)	\$ - Every 0 years					

Note: Right of Way costs were added to construction costs on this sheet because otherwise the costs on the following sheets would show unrealistic results.

Safety Information

Enter safety information from the SPICE tool for Minor Road Stop, All Way Stop, and Traffic Signal.

For ease of data entry, this tool contains the same alternative intersection CMFs as the SPICE tool.

At-Grade Intersection	Crash Type	Opening Year	Design Year
Traffic Signal	Total	6.74	7.58
Traffic Signal	Fatal & Injury	2.19	2.48
Boundahout (1 Long)	Total	2.22	2.38
Roundabout (1-Lane)	Fatal & Injury	0.43	0.47

Delay Information

Use this sheet to enter the delay information for each of the included control strategies.

IIII DISCLAIMER IIII

For each control strategy the AM, PM & Weekend Peak delay values within the same year have to be different. For example: Opening Year -> AM = 6.2 secs, PM = 6.2 secs, and Weekend = 4.6 secs, needs to be AM = 6.2 secs, PM = 6.2001 secs, and Weekend = 4.6 secs, basically the delay values need to be at least slightly different.

		Opening Year		Design Year					
At-Grade Intersections			ŀ	Average vehicle dela	зу	Average vehicle delay			
Control Strategy		Delay Type	Units	AM Peak	PM Peak	Weekend Peak	AM Peak	PM Peak	Weekend Peak
Traffic Signal	Single Input	Single Input	sec/veh	17.10	13.70		19.50	16.00	
Roundabout (1-Lane)	Single Input	Single Input	sec/veh	6.60	7.10		7.40	8.00	

Outputs	This sheet compiles the data from summary tables in individual alternatives sheets. To populate the output sheet press the "Setup Worksheets" button in the Alternatives_MasterList tab.
Agency:	Florida Department of Transportation
Project Name:	US 41/CR 340 Stage 2 ICE
Project Reference:	2024.0173
Intersection:	US 41/CR 340
City:	High Springs
State:	Florida
Performing Department or Organization:	Department of Transportation
Date:	1/10/2025
Analyst:	Denis Monyo
Analysis Type	At-Grade Intersection

Analysis Summary

				Net Present V	alue	of Costs
Cost Categories	Ва	ise Case - Traffic Signal	Traffic Signal			Roundabout (1-Lane)
Planning, Construction & Right of Way Costs	\$	1,162,323	\$	1,162,323	\$	1,858,993
Post-Opening Costs	\$	62,464	\$	62,464	\$	45,554
Auto Passenger Delay	\$	3,427,431	\$	3,427,431	\$	1,664,446
Truck Delay	\$	229,329	\$	229,329	\$	111,366
Safety	\$	6,960,386	\$	6,960,386	\$	1,408,436
Total cost		\$11,841,933		\$11,841,933		\$5,088,797

Select Base Case for Benefit-Cost Comparison: (Choose from list)	Tra	ffic Signal		
		Net Present Value of Bene	efits Relativ	ve to Base Case
Benefit Categories		Traffic Signal		Roundabout (1-Lane)
Auto Passenger Delay			\$	1,762,985
Truck Delay			\$	117,963
Safety			\$	5,551,950
Net Present Value of Benefits			\$	7,432,897
Net Present Value of Costs			\$	679,761
Net Present Value of Improvement			\$	6,753,136
Benefit-Cost (B/C) Ratio				10.93
Delay B/C				2.77
Safety B/C				8.17





Concept Diagrams







Cost Estimates

ENGINEER'S OPINION OF PROBABLE COST - PRELIMINARY US 41 at CR 340 in Alachua County - Traditional Signal Area 06 and Statewide Average Unit Cost

ITEM NUMBER	DESCRIPTION					PRICE
- 1					~	570 501 50
2	SIGNING AND PAVEMENT MARKING ITEMS				ş	11.547.08
3	SIGNALIZATION ITEMS				\$	419,416.47
4	LIGHTING ITEMS				\$	53,171.84
						1 056 656 02
	PROJECT SUBTOTAL PROJECT SUBTOTAL PROJECT SUBTOTAL				ş	1,162.322.61
					<u> </u>	
	RIGHT-OF-WAY ACQUISIATION				\$	-
	PROJECT GRAND TOTAL (WITH 10% CONTINGENCY)				s	1,162,322,61
					<u> </u>	
DISCLAIMER: THIS	SESTIMATE OF PROBABLE COST IS APPROXIMATE. ACTUAL CONSTRUCTION BIDS MAY VARY SIGNIFICANTLY FR	OM				
OTHER FACTORS	BEYOND THE CONTROL OF THE ESTIMATORS.					
BID ITEM	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	L	TOTAL
0101 1		1	15	\$88.054.74	¢	88 054 74
0102 1	MAINTENANCE OF TRAFFIC	1	LS	\$88,054.74	\$	88,054.74
0104 10 3	SEDIMENT BARRIER	800	LF	\$2.42	\$	1,936.00
0110 1 1	CLEARING & GRUBBING	0.43	AC	\$41,835.70	\$	17,989.35
0120 1	REGULAR EXCAVATION	1,687	CY	\$58.24	\$	98,247.00
0285709	OPTIONAL BASE, BASE GROUP 09	2,530	SY	\$20.40	ş	69.221.97
0327 70 5	MILLING EXISTING ASPHALT PAVEMENT, 2" AVG DEPTH	3,508	SY	\$3.41	\$	11,962.43
0334 1 12	SUPERPAVE ASPHALTIC CONC, TRAFFIC B	231	TN	\$157.87	\$	36,467.97
0337 7 81	ASPHALT CONCRETE FRICTION COURSE, TRAFFIC B, FC-12.5, PG 76-22	462	TN	\$180.03	\$	83,173.86
0520 1 10	CONCRETE SUDEWALK AND DRIVEWAYS 4" THICK	240	SY	\$29.29	ş	2 709 78
0522 2	CONCRETE SIDEWALK AND DRIVEWAYS, 6" THICK	139	SY	\$88.28	\$	12,261.11
0527 2	DETECTABLE WARNINGS	80	SF	\$40.63	\$	3,250.40
0570 1 2	PERFORMANCE TURF, SOD	90	SY	\$4.34	\$	390.60
			SUBI	UTAL - RUADWAY	\$	572,521.53
	SIGNING AND PAVEMENT MARKING					
0700 1 60	SINGLE POST SIGN, REMOVE	2	AS	\$37.42	\$	74.84
0706 1 3	RAISED PAVEMENT MARKER, TYPE B	98	EA	\$5.38	\$	526.16
0711 11123	THERMOPLASTIC, STANDARD, WHITE, SOLID, 12" FOR CROSSWALK AND ROUNDABOUT	360	LF	\$4.67	\$	1.681.20
0711 11125		004	1.5	2 0.40		0.004.40
0711 11123	THERMOPLASTIC, STANDARD, WHITE, SOLID, 24 FOR STOP LINE AND CROSSWALK	324	EA	\$8.10	ş	2,624.40
0711 11224	THERMOPLASTIC, STANDARD, YELLOW, SOLID, 18" FOR DIAGONAL OR CHEVRON	216	LF	\$5.85	\$	1,263.60
0711 16101	THERMOPLASTIC, STANDARD-OTHER SURFACES, WHITE, SOLID, 6"	0.453	GM	\$5,767.83	\$	2,612.83
0711 16201	THERMOPLASTIC, STANDARD-OTHER SURFACES, YELLOW, SOLID, 6"	0.341	GM	\$5,826.70	\$	1,986.90
	SUBT	TAL - SIGNING		VEMENT MARKING	s	11 547 08
					Ť	,
	SIGNALIZATION		_		_	
0630 2 11	CONDUIT, FURNISH & INSTALL, OPEN TRENCH	350	LF	\$20.27	\$	7,094.50
0630 2 12		250	LF	\$31.42	\$	7,855.00
0635 2 11	PULL & SPLICE BOX, F&I, 13" x 24" COVER SIZE	16	FA	\$11,453.69 \$1,578.36	s S	25,253,76
	ELECTRICAL POWER SERVICE, F&I, UNDERGROUND, METER PURCHASED BY	10	273	\$1,010.00	Ť	20,200.10
0639 1122		1	AS	\$5,464.47	\$	5,464.47
0639 2 1	ALUMINUM SIGNALS POLE PEDESTAL	300	EA	\$5.41	ş	1,623.00
0649 21 3	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, SINGLE ARM 40'	1	EA	\$58,000.00	\$	58,000.00
0649 21 6	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, SINGLE ARM 50'	1	EA	\$81,139.06	\$	81,139.06
0649 21 5	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, DOUBLE ARM 40'-40'	1	EA	\$102,568.53	\$	102,568.53
0650 1 14	VEHICULAR TRAFFIC SIGNAL, FURNISH & INSTALL ALUMINUM, 3 SECTION, 1 WAY	2	AS	\$1,767.46	\$	14,139.68
0653 1 11	PEDESTRIAN SIGNAL, FURNISH & INSTALL LED COUNTDOWN, 1 WAY	8	AS	\$986.53	\$	7,892.24
0660 1110	LOOP DETECTOR INDUCTIVE, F&I, TYPE 10	6	EA	\$423.13	\$	2,538.78
0660 2106	LOOP ASSEMBLY, F&I, TYPE F	6	AS	\$1,681.73	\$	10,090.38
0670 5111	TRAFFIC CONTROLLER ASSEMBLY F&LINSTALL, STANDARD	1	EA AS	\$386.25	ş	3,090.00
0682 1133	ITS CCTV CAMERA F&L DOME ENCLOSURE - NON-PRESSURIZED IP. HIGH DEFINITION	1	FA	\$6,811,38	¢	6 811 38
0684 1 1	MANAGED FIELD ETHERNET SWITCH, FURNISH & INSTALL	1	EA	\$4,581.74	\$	4,581.74
0700 3201	SIGN PANEL, FURNISH & INSTALL OVERHEAD MOUNT, UP TO 12 SF	4	EA	\$1,074.27	\$	4,297.08
0700 3202	SIGN PANEL, FURNISH & INSTALL OVERHEAD MOUNT, 12-20 SF	4	EA	\$1,272.70	\$	5,090.80
		s		L - SIGNALIZATION	\$	419,416.47
					ٽ	,
	LIGHTING					
0630 2 11	CONDUIT, FURNISH & INSTALL, OPEN TRENCH	150	LF	\$20.27	\$	3,040.50
0630 2 12	CONDULT, FURNISH & INSTALL, DIRECTIONAL BORE	200		\$31.42	\$ ¢	3,456.20
0110 1 10	LUMINAIRE & BRACKET ARM- GALV STEEL, FURNISH & INSTALL NEW LUMINAIRE AND	230		φ0.00	پ	1,110.70
0715 532	ARM ON NEW/EXISTING POLE	4	EA	\$2,200.00	\$	8,800.00
0715 61121	HEIGHT, 10' ARM LENGTH	4	EA	\$9,191.11	\$	36,764.44
			SUE	STOTAL - LIGHTING	\$	53,171.84

NOTE: Unit Costs are from the FDOT Area 06 Item Average Moving Costs from 2023/12/01 to 2024/11/30 and the FDOT Statewide Item Average Month Costs.

ENGINEER'S OPINION OF PROBABLE COST - PRELIMINARY US 41 at CR 340 in Alachua County - One-Lane Roundabout Area 06 and Statewide Average Unit Cost

ITEM NUMBER	DESCRIPTION			PRICE
1	ROADWAY ITEMS			\$ 982,393.39
2	SIGNING AND PAVEMENT MARKING ITEMS			\$ 16,322.99
3	LIGHTING ITEMS			\$ 54,914.04
	PROJECT SUBTOTAL			\$ 1,053,630.42
	PROJECT SUBTOTAL (WITH 10% CONTINGENCY)			\$ 1,158,993.46
	RIGHT-OF-WAY ACQUISIATION			\$ 700,000.00
	PROJECT GRAND TOTAL			\$ 1,858,993.46
DISCLAIMER: THI	IS ESTIMATE OF PROBABLE COST IS APPROXIMATE. ACTUAL CONSTRUCTION BIDS MAY VARY SIGNIFICANTLY FR	OM		
THIS STATEMENT	OF PROBABLE COSTS DUE TO TIMING OF CONSTRUCTION, CHANGED CONDITIONS, LABOR RATE CHANGES, OR			
OTHER FACTORS	BEYOND THE CONTROL OF THE ESTIMATORS.			

BID ITEM	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL
ROADWAY					
0101 1	MOBILIZATION	1	LS	\$87,818.67	\$ 87,818.67
0102 1	MAINTENANCE OF TRAFFIC	1	LS	\$87,625.07	\$ 87,625.07
0104 10 3	SEDIMENT BARRIER	800	LF	\$2.42	\$ 1,936.00
0110 1 1	CLEARING & GRUBBING	0.45	AC	\$41,835.70	\$ 18,826.07
0110 4 10	REMOVAL OF EXISTING CONCRETE	1,150	SY	\$73.17	\$ 84,145.50
0120 1	REGULAR EXCAVATION	2,035	CY	\$58.24	\$ 118,510.25
0160 4	TYPE B STABILIZATION	3,275	SY	\$20.46	\$ 66,996.27
0285709	OPTIONAL BASE, BASE GROUP 09	3,052	SY	\$33.01	\$ 100,756.42
0327 70 5	MILLING EXISTING ASPHALT PAVEMENT, 2" AVG DEPTH	1,714	SY	\$3.41	\$ 5,843.64
0334 1 12	SUPERPAVE ASPHALTIC CONC, TRAFFIC B	336	TN	\$157.87	\$ 53,044.32
0337 781	ASPHALT CONCRETE FRICTION COURSE, TRAFFIC B, FC-12.5, PG 76-22	393	TN	\$180.03	\$ 70,751.79
0425 1361	INLETS, CURB, TYPE P-6, <10'	4	EA	\$9,906.04	\$ 39,624.16
0425 2 61	MANHOLES, P-8, <10'	1	EA	\$8,290.86	\$ 8,290.86
0430174124	PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 24"SD	400	LF	\$202.81	\$ 81,124.00
0520 1 7	CONCRETE CURB & GUTTER, TYPE E	920	LF	\$32.01	\$ 29,449.20
0520 1 10	CONCRETE CURB & GUTTER, TYPE F	830	LF	\$29.29	\$ 24,310.70
0520 2 4	CONCRETE CURB, TYPE D	180	LF	\$30.28	\$ 5,450.40
0522 1	CONCRETE SIDEWALK AND DRIVEWAYS, 4" THICK	488	SY	\$69.68	\$ 33,988.36
0522 2	CONCRETE SIDEWALK, TRUCK APRON, SPLITTER ISLAND, AND DRIVEWAYS, 6" THICK	671	SY	\$88.28	\$ 59,245.69
0527 2	DETECTABLE WARNINGS	60	SF	\$40.63	\$ 2,437.80
0570 1 2	PERFORMANCE TURF, SOD	511	SY	\$4.34	\$ 2,218.22
			SUBT	OTAL - ROADWAY	\$ 982,393.39

	SIGNING AND PAVEMENT MARKING				
0700 1 11	SINGLE POST SIGN, F&I GROUND MOUNT, UP TO 12 SF	13	AS	\$436.72	\$ 5,677.36
0700 1 60	SINGLE POST SIGN, REMOVE	2	AS	\$37.42	\$ 74.84
0706 1 3	RAISED PAVEMENT MARKER, TYPE B	184	EA	\$5.38	\$ 989.92
0711 11123	THERMOPLASTIC, STANDARD, WHITE, SOLID, 12" FOR CROSSWALK AND ROUNDABOUT	360	LF	\$4.67	\$ 1,681.20
0711 11125	THERMOPLASTIC, STANDARD, WHITE, SOLID, 24" FOR STOP LINE AND CROSSWALK	376	LF	\$8.10	\$ 3,045.60
0711 11160	THERMOPLASTIC, STANDARD, WHITE, MESSAGE OR SYMBOL	4	EA	\$215.56	\$ 862.24
0711 11144	THERMOPLASTIC, STANDARD, WHITE, 2-2 DOTTED EXTENSION LINE, 12" FOR ROUNDABOUT	0.038	GM	\$2,550.00	\$ 96.90
0711 11170	THERMOPLASTIC, STANDARD, WHITE, ARROW	1	EA	\$86.35	\$ 86.35
0711 11224	THERMOPLASTIC, STANDARD, YELLOW, SOLID, 18" FOR DIAGONAL OR CHEVRON	70	LF	\$5.85	\$ 409.50
0711 16101	THERMOPLASTIC, STANDARD-OTHER SURFACES, WHITE, SOLID, 6"	0.360	GM	\$5,767.83	\$ 2,076.42
0711 16201	THERMOPLASTIC, STANDARD-OTHER SURFACES, YELLOW, SOLID, 6"	0.227	GM	\$5,826.70	\$ 1,322.66
	SUBTO	TAL - SIGNING	AND PA	VEMENT MARKING	\$ 16,322.99
	LIGHTING		r		
0630 2 11	CONDUIT, FURNISH & INSTALL, OPEN TRENCH	180	LF	\$20.27	\$ 3,648.60
0630 2 12	CONDUIT, FURNISH & INSTALL, DIRECTIONAL BORE	140	LF	\$31.42	\$ 4,398.80
0715 1 13	LIGHTING CONDUCTORS, F&I, INSULATED, NO 4 TO NO 2	340	LF	\$3.83	\$ 1,302.20
0715 532	LUMINAIRE & BRACKET ARM- GALV STEEL, FURNISH & INSTALL NEW LUMINAIRE AND ARM ON NEW/EXISTING POLE	4	EA	\$2,200.00	\$ 8,800.00
0715 61121	LIGHT POLE COMPLETE, F&I, STANDARD POLE STANDARD FOUNDATION, 30' MOUNTING HEIGHT, 10' ARM LENGTH	4	EA	\$9,191.11	\$ 36,764.44
			SUB	TOTAL - LIGHTING	\$ 54,914.04

NOTE: Unit Costs are from the FDOT Area 06 Item Average Moving Costs from 2023/12/01 to 2024/11/30 and the FDOT Statewide Item Average Month Costs.



Synchro Capacity Analysis Worksheets

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		र्भ	1		4		۳	4Î		7	4Î	
Traffic Volume (vph)	185	20	60	0	0	30	40	295	0	18	265	130
Future Volume (vph)	185	20	60	0	0	30	40	295	0	18	265	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		0	200		0	200		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			50			50		
Lane Util. 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
Frt			0.850		0.865						0.951	
Flt Protected		0.957					0.950			0.950		
Satd. Flow (prot)	0	1767	1583	0	1611	0	1770	1863	0	1770	1754	0
Flt Permitted		0.723					0.413			0.564		
Satd. Flow (perm)	0	1335	1583	0	1611	0	769	1863	0	1051	1754	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			121		479						39	
Link Speed (mph)		45			30			40			40	
Link Distance (ft)		638			307			597			859	
Travel Time (s)		9.7			7.0			10.2			14.6	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	3%
Adj. Flow (vph)	203	22	66	0	0	33	44	324	0	20	291	143
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	225	66	0	33	0	44	324	0	20	434	0
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right									
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
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	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		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	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	CI+Ex	CI+Ex	Cl+Ex	CI+Ex		CI+Ex	Cl+Ex		Cl+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	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		Cl+Ex			CI+Ex			Cl+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm		NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	24.8	24.8	24.8	23.7	23.7		9.5	24.8		9.5	24.8	
Total Split (s)	29.4	29.4	29.4	29.4	29.4		9.6	36.0		9.6	36.0	
Total Split (%)	39.2%	39.2%	39.2%	39.2%	39.2%		12.8%	48.0%		12.8%	48.0%	
Yellow Time (s)	4.8	4.8	4.8	3.7	3.7		3.5	4.8		3.5	4.8	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.8	6.8		5.7		4.5	6.8		4.5	6.8	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None		None	Max		None	Max	
Act Effct Green (s)		16.0	16.0		17.1		38.9	35.7		37.2	32.0	
Actuated g/C Ratio		0.24	0.24		0.25		0.58	0.53		0.55	0.48	
v/c Ratio		0.71	0.14		0.04		0.08	0.33		0.03	0.51	
Control Delay		36.2	1.6		0.1		7.5	12.1		7.4	16.0	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		36.2	1.6		0.1		7.5	12.1		7.4	16.0	
LOS		D	A		A		А	В		A	В	
Approach Delay		28.4			0.1			11.6			15.6	
Approach LOS		С			A			В			В	
Queue Length 50th (ft)		87	0		0		7	66		3	121	
Queue Length 95th (ft)		156	7		0		22	177		13	236	
Internal Link Dist (ft)		558			227			517			779	
Turn Bay Length (ft)			150				200			200		
Base Capacity (vph)		455	619		883		522	989		637	856	
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	
Reduced v/c Ratio		0.49	0.11		0.04		0.08	0.33		0.03	0.51	
Intersection Summary												
Area Type:	Other											
Cycle Length: 75												
Actuated Cycle Length: 67.	1											
Natural Cycle: 60												
Control Type: Actuated-Unc	coordinated											
Maximum v/c Ratio: 0.71												
Intersection Signal Delay: 1	7.1			Ir	ntersectior	n LOS: B						
Intersection Capacity Utilization 59.1% ICU Level of Service B												
Analysis Period (min) 15												

Splits and Phases: 1: US 41 & CR 340

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		ب ا ا	1		\$		1	el 👘		7	el el	
Traffic Volume (vph)	115	10	55	5	15	25	90	280	5	30	255	265
Future Volume (vph)	115	10	55	5	15	25	90	280	5	30	255	265
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		0	200		0	200		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			50			50		
Lane Util. 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
Frt			0.850		0.925			0.997			0.924	
Flt Protected		0.956			0.995		0.950			0.950		
Satd. Flow (prot)	0	1719	1553	0	1714	0	1770	1839	0	1770	1721	0
Flt Permitted		0.708			0.961		0.357			0.579		
Satd. Flow (perm)	0	1273	1553	0	1656	0	665	1839	0	1079	1721	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			121		26			1			90	
Link Speed (mph)		45			30			40			40	
Link Distance (ft)		638			307			597			859	
Travel Time (s)		9.7			7.0			10.2			14.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	6%	2%	4%	2%	2%	2%	2%	3%	2%	2%	2%	2%
Adj. Flow (vph)	120	10	57	5	16	26	94	292	5	31	266	276
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	130	57	0	47	0	94	297	0	31	542	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	Ŭ		0	Ŭ		12	Ŭ		12	Ŭ
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
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	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		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	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	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	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		Cl+Ex			CI+Ex			Cl+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	24.8	24.8	24.8	23.7	23.7		9.5	24.8		9.5	24.8	
Total Split (s)	25.0	25.0	25.0	25.0	25.0		9.8	40.4		9.6	40.2	
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%		13.1%	53.9%		12.8%	53.6%	
Yellow Time (s)	4.8	4.8	4.8	3.7	3.7		3.5	4.8		3.5	4.8	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.8	6.8		5.7		4.5	6.8		4.5	6.8	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None		None	Max		None	Max	
Act Effct Green (s)		12.1	12.1		12.6		45.7	43.1		43.7	39.1	
Actuated g/C Ratio		0.18	0.18		0.19		0.68	0.64		0.65	0.58	
v/c Ratio		0.57	0.15		0.14		0.17	0.25		0.04	0.52	
Control Delay		36.2	1.1		14.2		6.1	10.2		5.5	13.3	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		36.2	1.1		14.2		6.1	10.2		5.5	13.3	
LOS		D	А		В		А	В		А	В	
Approach Delay		25.5			14.2			9.2			12.9	
Approach LOS		С			В			А			В	
Queue Length 50th (ft)		51	0		7		12	49		4	130	
Queue Length 95th (ft)		101	3		32		34	144		15	266	
Internal Link Dist (ft)		558			227			517			779	
Turn Bay Length (ft)			150				200			200		
Base Capacity (vph)		346	511		496		538	1174		750	1035	
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	
Reduced v/c Ratio		0.38	0.11		0.09		0.17	0.25		0.04	0.52	
Intersection Summary												
Area Type:	Other											
Cycle Length: 75												
Actuated Cycle Length: 67.	.5											
Natural Cycle: 60												
Control Type: Actuated-Un	coordinated											
Maximum v/c Ratio: 0.57												
Intersection Signal Delay: 1	13.7			Ir	ntersectior	n LOS: B						
Intersection Capacity Utilization	ation 63.3%			(CU Level o	of Service	В					
Analysis Period (min) 15												

Splits and Phases: 1: US 41 & CR 340


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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		र्स	1		4		۳	4Î		7	¢Î,	
Traffic Volume (vph)	220	20	75	0	0	35	45	325	0	25	290	140
Future Volume (vph)	220	20	75	0	0	35	45	325	0	25	290	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		0	200		0	200		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			50			50		
Lane Util. 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
Frt			0.850		0.865						0.951	
Flt Protected		0.956					0.950			0.950		
Satd. Flow (prot)	0	1765	1583	0	1611	0	1770	1863	0	1770	1754	0
Flt Permitted		0.716					0.373			0.520		
Satd. Flow (perm)	0	1322	1583	0	1611	0	695	1863	0	969	1754	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			121		439						38	
Link Speed (mph)		45			30			40			40	
Link Distance (ft)		638			307			597			859	
Travel Time (s)		9.7			7.0			10.2			14.6	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	3%
Adj. Flow (vph)	242	22	82	0	0	38	49	357	0	27	319	154
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	264	82	0	38	0	49	357	0	27	473	0
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right									
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
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	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		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	20	6		20	6		20	6	
Detector 1 Type	CI+Ex	Cl+Ex	Cl+Ex	Cl+Ex	CI+Ex		Cl+Ex	Cl+Ex		Cl+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	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		Cl+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm		NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	24.8	24.8	24.8	23.7	23.7		9.5	24.8		9.5	24.8	
Total Split (s)	30.0	30.0	30.0	30.0	30.0		9.5	35.5		9.5	35.5	
Total Split (%)	40.0%	40.0%	40.0%	40.0%	40.0%		12.7%	47.3%		12.7%	47.3%	
Yellow Time (s)	4.8	4.8	4.8	3.7	3.7		3.5	4.8		3.5	4.8	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.8	6.8		5.7		4.5	6.8		4.5	6.8	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None		None	Max		None	Max	
Act Effct Green (s)		17.5	17.5		18.6		36.3	32.1		35.4	30.3	
Actuated g/C Ratio		0.26	0.26		0.28		0.54	0.48		0.53	0.45	
v/c Ratio		0.76	0.16		0.05		0.11	0.40		0.05	0.58	
Control Delay		38.2	2.6		0.1		8.4	15.4		8.1	18.4	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		38.2	2.6		0.1		8.4	15.4		8.1	18.4	
LOS		D	А		А		A	В		А	В	
Approach Delay		29.7			0.1			14.6			17.9	
Approach LOS		С			А			В			В	
Queue Length 50th (ft)		105	0		0		8	82		5	147	
Queue Length 95th (ft)		185	15		0		25	199		16	269	
Internal Link Dist (ft)		558			227			517			779	
Turn Bay Length (ft)			150				200			200		
Base Capacity (vph)		466	636		871		458	895		573	816	
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	
Reduced v/c Ratio		0.57	0.13		0.04		0.11	0.40		0.05	0.58	
Intersection Summary												
Area Type:	Other											
Cycle Length: 75												
Actuated Cycle Length: 66	.9											
Natural Cycle: 60												
Control Type: Actuated-Un	coordinated											
Maximum v/c Ratio: 0.76												
Intersection Signal Delay:	19.5			lr	ntersection	n LOS: B						
Intersection Capacity Utiliz	ation 62.9%	1		10	CU Level of	of Service	B					
Analysis Period (min) 15												

Splits and Phases: 1: US 41 & CR 340

Ø1	≪¶ø2		
9.5 s	35.5 s	30 s	
↑ø5	Ø6	V Ø8	
9.58	35.5 s	30 s	

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		र्भ	1		4		۳	đ,		7	f,	
Traffic Volume (vph)	140	10	65	5	20	30	100	310	5	35	280	290
Future Volume (vph)	140	10	65	5	20	30	100	310	5	35	280	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		0	200		0	200		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			50			50		
Lane Util. 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
Frt			0.850		0.927			0.998			0.924	
Flt Protected		0.955			0.996		0.950			0.950		
Satd. Flow (prot)	0	1716	1553	0	1720	0	1770	1841	0	1770	1721	0
Flt Permitted		0.698			0.970		0.299			0.562		
Satd. Flow (perm)	0	1254	1553	0	1675	0	557	1841	0	1047	1721	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			121		31			1			90	
Link Speed (mph)		45			30			40			40	
Link Distance (ft)		638			307			597			859	
Travel Time (s)		9.7			7.0			10.2			14.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	6%	2%	4%	2%	2%	2%	2%	3%	2%	2%	2%	2%
Adj. Flow (vph)	146	10	68	5	21	31	104	323	5	36	292	302
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	156	68	0	57	0	104	328	0	36	594	0
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right									
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
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	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		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	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	CI+Ex		CI+Ex	Cl+Ex		Cl+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	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		Cl+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	

01/16/2025

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	24.8	24.8	24.8	23.7	23.7		9.5	24.8		9.5	24.8	
Total Split (s)	25.0	25.0	25.0	25.0	25.0		9.8	40.4		9.6	40.2	
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%		13.1%	53.9%		12.8%	53.6%	
Yellow Time (s)	4.8	4.8	4.8	3.7	3.7		3.5	4.8		3.5	4.8	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.8	6.8		5.7		4.5	6.8		4.5	6.8	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None		None	Max		None	Max	
Act Effct Green (s)		13.5	13.5		14.6		45.0	40.7		42.9	36.6	
Actuated g/C Ratio		0.19	0.19		0.20		0.63	0.57		0.60	0.51	
v/c Ratio		0.66	0.17		0.16		0.24	0.31		0.05	0.64	
Control Delay		40.1	2.2		13.8		6.9	11.2		5.8	16.4	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		40.1	2.2		13.8		6.9	11.2		5.8	16.4	
LOS		D	А		В		А	В		А	В	
Approach Delay		28.6			13.8			10.2			15.7	
Approach LOS		С			В			В			В	
Queue Length 50th (ft)		63	0		9		15	59		5	162	
Queue Length 95th (ft)		120	9		36		37	160		16	309	
Internal Link Dist (ft)		558			227			517			779	
Turn Bay Length (ft)			150				200			200		
Base Capacity (vph)		319	486		475		440	1047		680	923	
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	
Reduced v/c Ratio		0.49	0.14		0.12		0.24	0.31		0.05	0.64	
Intersection Summary												
Area Type:	Other											
Cycle Length: 75												
Actuated Cycle Length: 71.	5											
Natural Cycle: 65												
Control Type: Actuated-Uno	coordinated											
Maximum v/c Ratio: 0.66												
Intersection Signal Delay: 1	6.0			lr	ntersection	n LOS: B						
Intersection Capacity Utiliza	ation 68.0%			10	CU Level of	of Service	C					
Analysis Period (min) 15												

Splits and Phases: 1: US 41 & CR 340



Intersection				
Intersection Delay, s/veh	6.6			
Intersection LOS	A			
A	FD		ND	00
Approach	EB	VVB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	291	33	368	454
Demand Flow Rate, veh/h	298	34	375	467
Vehicles Circulating, veh/h	320	584	251	45
Vehicles Exiting, veh/h	192	42	367	573
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.8	5.3	7.0	6.1
Approach LOS	А	А	А	А
lano	Loft	Loft	Loft	Loft
Lane Designated Mayon				
Designated Moves				
Assumed Moves	LIK	LIR	LIK	LIK
RIChannelized	4 000	4 000	4.000	4 000
	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	298	34	375	467
Cap Entry Lane, veh/h	996	761	1068	1318
Entry HV Adj Factor	0.975	0.971	0.980	0.973
Flow Entry, veh/h	291	33	368	454
Cap Entry, veh/h	971	738	1047	1282
V/C Ratio	0.299	0.045	0.351	0.354
Control Delay, s/veh	6.8	5.3	7.0	6.1
LOS	Α	Δ	Α	А
	<i>/</i> \	A		· · · · · · · · · · · · · · · · · · ·

Interception				
Intersection Delay, alugh	71			
Intersection LOS	7.1 A			
	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	187	47	391	573
Demand Flow Rate, veh/h	196	48	402	585
Vehicles Circulating, veh/h	308	524	169	117
Vehicles Exiting, veh/h	394	47	335	455
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.6	5.2	6.6	8.1
Approach LOS	А	А	А	А
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	196	48	402	585
Cap Entry Lane, veh/h	1008	809	1161	1225
Entry HV Adj Factor	0.953	0.973	0.973	0.979
Flow Entry, veh/h	187	47	391	573
Cap Entry, veh/h	961	786	1130	1199
V/C Ratio	0.194	0.059	0.346	0.478
Control Delay, s/veh	5.6	5.2	6.6	8.1
LOS	А	А	А	A
95th %tile Queue, veh	1	0	2	3

Intersection				
Intersection Delay s/veh	74			
Intersection LOS	A			
Annach	ED		ND	00
Approach	EB	VVB	INB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	346	38	406	500
Demand Flow Rate, veh/h	355	39	414	516
Vehicles Circulating, veh/h	357	663	299	50
Vehicles Exiting, veh/h	209	50	413	652
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	8.0	5.9	8.1	6.6
Approach LOS	А	А	A	А
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	355	39	414	516
Cap Entry Lane, veh/h	959	702	1017	1311
Entry HV Adj Factor	0.973	0.974	0.980	0.970
Flow Entry, veh/h	346	38	406	500
Cap Entry, veh/h	933	684	997	1272
V/C Ratio	0.370	0.056	0.407	0.394
Control Delay, s/veh	8.0	5.9	8.1	6.6
LOS	A	А	А	А
95th %tile Queue, veh	2	0	2	2

Intersection					
Intersection Delay, s/veh	8.0				_
Intersection LOS	Δ				
	7.				
Approach	EB	WB	NB	SB	
Entry Lanes	1	1	1	1	
Conflicting Circle Lanes	1	1	1	1	
Adj Approach Flow, veh/h	224	57	432	630	
Demand Flow Rate, veh/h	236	58	444	643	
Vehicles Circulating, veh/h	340	594	202	132	
Vehicles Exiting, veh/h	435	52	374	520	
Ped Vol Crossing Leg, #/h	0	0	0	0	
Ped Cap Adj	1.000	1.000	1.000	1.000	
Approach Delay, s/veh	6.3	5.7	7.4	9.1	
Approach LOS	А	А	А	А	
Lane	Left	Left	Left	Left	
Designated Moves	LTR	LTR	LTR	LTR	
Assumed Moves	LTR	LTR	LTR	LTR	
RT Channelized					
Lane Util	1.000	1.000	1.000	1.000	
Follow-Up Headway, s	2.609	2.609	2.609	2.609	
Critical Headway, s	4.976	4.976	4.976	4.976	
Entry Flow, veh/h	236	58	444	643	
Cap Entry Lane, veh/h	976	753	1123	1206	
Entry HV Adj Factor	0.948	0.976	0.974	0.980	
Flow Entry, veh/h	224	57	432	630	
Cap Entry, veh/h	925	735	1093	1182	
V/C Ratio	0.242	0.077	0.395	0.533	
Control Delay, s/veh	6.3	5.7	7.4	9.1	
LOS	А	А	А	A	
95th %tile Queue, veh	1	0	2	3	



Stage 1 ICE Analysis

US 41 AT CR 340 STAGE 1 ICE

Alachua County (26030000; MP 25.586)

Prepared by | Peters and Yaffee, Inc. Prepared for | FDOT District Two



Professional Engineer Certificate

I, Austin Chapman, PE 72474, certify that I currently hold an active license in the State of Florida and am competent through education or experience to provide engineering services in the civil discipline contained in this plan, print, specification, or report.

Project US 41 at CR 340 Stage 1 ICE

Location Alachua, Florida

Client FDOT District Two

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY

ON THE DATE ADJACENT TO THE SEAL

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

PETERS AND YAFFEE, INC. 9822 TAPESTRY PARK CIRCLE, SUITE 205 JACKSONVILLE, FL 32246 AUSTIN CHAPMAN, P.E. 72474



US 41 AT CR 340 STAGE 1 ICE

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Appendices

Appendix A	FDOT ICE Worksheets
Appendix B	CAP-X Worksheets
Appendix C	SPICE Worksheets
Appendix D	FDOT Level of Service Report
Appendix E	Signal Warrant Analysis

Background

Due to a request for a traffic signal, FDOT District Two Traffic Operations initiated an investigation into whether the US 41/CR 340 intersection met warrants for signalization. US 41 is a two-lane undivided rural principial arterial that runs in a north/south alignment, with a posted speed limit of 40 mph, which reduces to 30 mph approximately 300 feet north of the intersection. The roadway is an access management classification 6 facility. The site location is shown in Figure 1. The nearest signalized intersection is US 41/US 27 (0.61 miles north). The intersection was found to meet MUTCD Warrant 1 (eight-hour) and Warrant 2 (four-hour) at the 70% threshold for signalization. Warrant 1 was met at the 100% threshold even if a turn was added to CR 340. A delay study identified a level of service "E" for eastbound CR 340 vehicles during the AM and PM peak period. There were seven potentially correctable crashes from 1/1/2019 until 8/16/2024. The maximum number of potentially correctable crashes that occurred within a 12-month period was three collisions between April 2023 and March 2024. There were no fatal crashes.

Figure 1: Site Location



ICE Purpose

The purpose of ICE (Intersection Control Evaluation) is to consider the projected safety and operations of multiple context-sensitive control strategies for new or modified intersections. This analysis promotes thoughtful consideration of alternative intersection types using quantitative analysis for each control type. Stage 1 is a screening stage and uses FHWA's Capacity Analysis for Planning of Junctions (CAP-X) for operational analysis and FHWA's Safety Performance of Intersection Control Evaluations (SPICE) for safety analysis to determine which options proceed to Stage 2. Stage 2 utilizes more detailed project data and analysis to perform a benefit to cost calculation which considers both projected safety and operational data.

Stage 1 ICE Key Variables

The traffic counts collected on Wednesday, August 28, 2024, for the signal warrant analysis were used for the ICE analysis turning movement counts. The FDOT Level of Service Report showed negative growth as compared to the most recent AADT, therefore a 1% annual minimum growth rate was used for US 41. The CR 340 AADT was estimated based on the 12-hour turning movement counts. CR 340 west approach primarily serves as access to recreational parks like Poe Springs, Ginnie Springs Outdoor, a church and a built-out residential neighborhood. No historical data is known for CR 340; therefore, a 2% annual growth rate has been used for CR 340. The opening year for the modified intersection is projected to be 2026 with a design year of 2036.

Stage 1 ICE Results

Given that this intersection is a four-legged intersection with a two-lane undivided roadway, as well as considering traffic volume, distance between adjacent signals, speed, land use, and roadway configuration at and approaching the intersection, several intersection options were not considered. These include All-Way Stop Control, Partial Displaced Left-Turn, Displaced Left-Turn, Signalized Restricted Crossing U-Turn, Unsignalized Restricted Crossing U-Turn, Median U-Turn, Bowtie, Signalized ThruCut, Unsignalized ThruCut, a Miniroundabout, a Continuous Green Tee, Quadrant, and a two-lane Roundabout. In addition to the existing Two-Way Stop Control, a traffic signal, and a one-lane Roundabout were evaluated. Based on the CAP-X outputs, the Two-Way Stop Control is over capacity for AM and close to capacity for PM. However, traffic signal and one-lane Roundabout options are projected to be less than half capacity under 2036 volume conditions. The one-lane Roundabout is projected to have the best crash prediction rank and Safe Systems for Intersections (SSI) Score, while the traffic signal has second rank and the Two-Way Stop Control has last rank. An initial review of potential R/W and utility impacts of traffic control options was conducted using readily available information and R/W maps provided by FDOT R/W department. No design, survey, or subsurface utility exploration was completed. Therefore, this is preliminary and will need to be confirmed in design.

One proposed option for improving the US 41/CR 340 intersection includes installing a signal, adding left-turn lanes on both the northbound and southbound sides of US 41, and widening CR 340 to accommodate a right-turn lane. The design speed for US 41 has been confirmed as 70 kilometers per hour or 43.5 MPH with a posted speed of 40 mph. Using a design speed of 40 mph and RRR criteria, the roadway widening and signal poles can be added without relocating four existing utility poles or requiring additional right-of-way (R/W). We would need to petition to lower the design speed to 40 mph, request a variance, or purchase R/W and move four utility poles to implement this option. CR 340 has a 45-mph posted speed limit. Widening CR 340 to add a right-turn lane, the electric pole at the southwest corner of the intersection does fall within the clear zone and will need to be relocated. It is worth noting that this pole already appears to be within the clear zone under current conditions. Mast arm signalization is likely to be needed to avoid conflicts with overhead power lines.

For the roundabout option, using a WB 62FL as the design vehicle, the R/W footprint is anticipated to be 150 feet in diameter. This footprint will impact the properties at all four corners of the intersection. Additional R/W is also likely to be required for the construction of splitter islands on the US 41 approaches and for drainage improvements. The utility poles at the southwest and southeast corners will need to be relocated. As a result, the roundabout option will require R/W acquisition from properties in each quadrant of the intersection. An initial layout of this roundabout would indicate that a full take of the residential properties on the west side of US 41 will not be needed; however, significant business damages are likely on the east side of US 41. A graphic showing the roundabout footprint is shown in Figure 2.

The traffic signal and one-lane roundabout are recommended for further evaluation in Stage II ICE. Attached are the ICE Worksheets, CAP-X Worksheets, SPICE Worksheets, FDOT Level of Service Report, and the original Signal Warrant Analysis.



US 41 AT CR 340 ICE 1

ROUNDABOUT FOOTPRINT

Figure 2



Florida Department of Transportation Intersection Control Evaluation (ICE) Form Initial Inputs

This spreadsheet was developed by FDOT to support the ICE Policy. This spreadsheet tool shall be used to document the findings of the ICE procedure. Selections must be made in the "Intersection Type" and "Project Funding Source" cells below for the appropriate Stage 1 and Stage 2 forms to fully populate.

Project Name		US 41 at CR 340 Stage 1 ICE				ject #			
Submitted By		Setul Shah	Agency/Company	Peters and	d Yaffee. Inc.	Date	10/28/2024		
Email		<u>sshah@petersandyaff</u>	FDOT District	District 2	County	Alach	nua		
Project Locality (<i>City/Town/Village</i>)				High Springs					
Intersection Type At-Grade Intersection		FDOT Context Classification C3C - Suburban Commercia			nercial				
Project Funding Source Non-federal			Non-federal	Project Type	Other				

At Grade Control Strategies	To Be Considered?
Two-Way Stop-Control	Yes
All-Way Stop-Control	No
Signalized Control	Yes
Roundabout (1-lane)	Yes
Roundabout (2-lane)	No
Median U-Turn	No
Median U-Turn (Partial)	No
Restricted Crossing U-turn (Signalized)	No
Restricted Crossing U-turn (Unsignalized)	No
Jughandle (Forward Ramps)	No
Jughandle (Reverse Ramps)	No
Displaced Left-Turn (Partial)	No
Continuous Green Tee	No
Quadrant Roadway	No
Thru-Cut (Signalized)	No
Thru-Cut (Unsignalized)	No
Bowtie	No
Other 1 (Type)	
Other 2 (Type)	
Other 3 (Type)	
Other 4 (Type)	
Other 5 (Type)	

Florida Department of Transportation Intersection Control Evaluation (ICE) Form Stage 1: Screening

To fulfill the requirements of Stage 1 (Screening) of FDOT's ICE procedures, complete the following form and append all supporting documentation. Completed forms are to be submitted to the District Traffic Operations Engineer (DTOE) and District Design Engineer (DDE) for the project's approval.

Project Name		US 41 at CR 340 Stage 1 IC	E	FDOT Pro	ject#				
Submitted By	Setu	l Shah	Agency/Company	Peters and	d Yaffee. Inc.	Date	10/28/2024		
Email	sshah@peters	andyaffee.com	FDOT District	District 2	County	Alach	ua		
Project I	_ocality (City/Town/Village)	Hiç	gh Springs					
Interse	ection Type At-C	Grade Intersection	FDOT Cont	ext Classification	C3C - Sub	urban Comm	nercial		
	Project Funding Source	Non-federal	al Project Type Other						
Project Purpose is the catalyst t	(Whai for this project and why is i being undertaken?	As part of a signal warrant warrant threshold.	analysis, FDOT recommende	d further study of	the intersection be	cause it mee	ts signal		
(Describ	Project Setting Description the area surrounding the intersection	US 41 is a two-lane undivious mph which reduces to 30 n that runs in an east-west al church, built-out residential	led rural principal arterial that nph approximately 300 feet no ignment with a posted speed neighbourhood and recreation	runs in a north-so orth of the intersed limit of 45 mph. C onal parks (Ginnie	outh direction with a ction. CR 340 is a tv CR 340 west approa e Springs Outdoor a	a posted spee wo-lane undi uch provides nd Poe Sprin	ed limit of 40 vided facility access to a ngs).		
(Describe t transit activity ir for activity based	Multimodal Context he pedestrian, bicycle, and n the area and the potentia d on surrounding land uses and development patterns	There is a sidewalk on the west approach. There are i 41 or CR 340 approaches.	west side of US 41, north of 0 no bike lanes along US41/CR During the 12-hour TMCs, six	CR 340. Sidewalk 340. There are n x pedestrians and	exists along the no o marked pedestria seven bicyclists we	rth side of th n crossings o ere observed	e CR 340 on either US		

				Ма	jor Street Information								
	Route #:	US 41	Route Name(s)		High Springs Main S	treet				Milepost	25.586		
	Existing Co	ontrol Type	Two-way Stop	-Control	Existing AADT	11,	615		Design	Year AADT	13,009		
De	sign Vehicle	Florida	Interstate Semitrailer	(WB-62FL)	Control Vehicle Florida Interstate					mitrailer (WB-62FL)			
		Primary Fur	nctional Classification	R	ural Principal Arterial - Other				esign S	peed (mph)	40		
	Seconda	ry Functional (Classification (if app.)		Target Speed (mph) [if app.]								
	Direction		North	bound	Number of Lanes		Study F	Period #1	raffic	Study Peri	od #2 Traffic		
	Sidewalks a	along:	Neither side o	f the approach	Left-Turn	0		Volumes		Vol	umes		
1#1	Crosswalk of	on Approach?	N	lo	Left-Through	0	Weel	Weekday AM Pea		Weekda	y PM Peak		
oacł	On-Street B	like Facilities?	N	lo	Through	0	Left 3		37	Left	85		
Appr	Multi-Use P	ath?	N	lo	Left-Through-Right	1	Thro	ough	287	Through	273		
	Scheduled	Bus Service?	N	lo	Through-Right	0	F	Right	0	Right	1		
	Bus Stop or	Approach?	N	lo	Right-Turn 0			Daily	ruck %	2.5%			
	Direction		South	bound	Number of Lanes		Study F	Period #1	raffic	Study Peri	od #2 Traffic		
	Sidewalks a	along:	One side of	the approach	Left-Turn	0		Volumes		Vol	umes		
۲#2	Crosswalk of	on Approach?	N	lo	Left-Through	0	Weel	kday AM F	eak	Weekda	y PM Peak		
oacł	On-Street B	like Facilities?	N	lo	Through	0		Left	18	Left	27		
Appr	Multi-Use P	ath?	N	lo	Left-Through-Right	1	Thro	ough	258	Through	250		
	Scheduled	Bus Service?	N	lo	Through-Right	0	F	Right	123	Right	258		
	Bus Stop on Approach?		N	lo	Right-Turn	0		Daily	ruck %	1	.5%		

				Mir	nor Street Information						
	Route #:	CR 340	Route Name(s)		NW 182nd Avenue				Milep	ost (if app.)	
	Existing Co	ontrol Type	Two-way Stop	-Control	Existing AADT	6,8	323		Design `	Year AADT	7,642
Des	ign Vehicle	Interm	ediate Semitrailer ((WB-50)	Control Vehicle		Int	ermec	liate Semitrail	er (WB-50)	
		Primary Functi	onal Classification		Rural Major Collector				Design S	peed (mph)	45
	Seconda	ry Functional Cla	ssification (if app.)					Tar	get Speed (m	ph) [if app.]	
	Direction		Eastb	bound	Number of Lanes		Study Period #1 Traffic			Study Peri	od #2 Traffic
	Sidewalks a	along:	One side of t	the approach	Left-Turn	0		Volun	nes	Vol	umes
h #1	Crosswalk	on Approach?	N	lo	Left-Through	0	Wee	kday /	AM Peak	Weekda	y PM Peak
roac	On-Street E	Bike Facilities?	N	lo	Through	0		Left	174	Left	110
Appı	Multi-Use P	ath?	N	lo	Left-Through-Right	1	Thr	ough	16	Through	8
	Scheduled Bus Service?		N	lo	Through-Right	0		Right	57	Right	52
	Bus Stop or	n Approach?	N	lo	Right-Turn	0	Da	aily Tr	uck %	5.	3%
	Direction		West	bound	Number of Lanes		Study	Period	I #1 Traffic	Study Peri	od #2 Traffic
	Sidewalks a	along:	Neither side of the approach		Left-Turn	0		Volun	nes	Vol	umes
h #2	Crosswalk	on Approach?	No		Left-Through	0	Wee	ekday AM Peak		Weekda	y PM Peak
roac	On-Street E	Bike Facilities?	N	lo	Through	0		Left	0	Left	2
Appı	Multi-Use P	ath?	N	lo	Left-Through-Right	1	Thr	ough	0	Through	14
-	Scheduled	Bus Service?	N	lo	Through-Right	0		Right	25	Right	21
	Bus Stop or	n Approach?	N	lo	Right-Turn	0		D	aily Truck %	0.	0%
	Direction				Number of Lanes		Study	Period	I #1 Traffic	Study Peri	od #2 Traffic
	Sidewalks a	along:			Left-Turn			Volun	nes	Vol	umes
h #3	Crosswalk	on Approach?			Left-Through		Wee	kday /	AM Peak	Weekda	y PM Peak
oac	On-Street E	Bike Facilities?			Through			Left		Left	
Appı	Multi-Use P	ath?			Left-Through-Right		Thr	ough		Through	
	Scheduled	Bus Service?			Through-Right			Right		Right	
	Bus Stop or	n Approach?			Right-Turn			D	aily Truck %		

Crash History (Existing Intersections Only)

Append the most recent five-years of crash data for the intersection from the CAR System. If the crash data evidences any issues relating to safety performance, discuss briefly here:

Crash data from FDOT's Crash Analysis Reporting (CAR) database and Signal Four Analytics for the period of January 1, 2019, through August 16, 2024 was used. A total of 14 collisions were within the study area and seven were identified as being potentially correctable if the intersection were to be signalized. There were zero fatalities, 12 injuries in six injury crashes, and eight property damage only crashes. There were seven angle crashes, four sideswipe crashes, one backing crash, one off-road crash, and one rear-end crash.

FDOT ICE: Stage 1

			<u></u>	Cor	ntrol Strategy	/ Evalua	tion	
Provide a brief jus impacts.	stification as to wh	vy each of the follo	wing contr	rol strateç	jies should b	e advan	ced or not. Justif	ication should consider potential environmental
		CAP-X Outputs			SPICE OI	utputs		
	V/C	Ratio	Ped	Bike	Crash			Justification
Control Strategy	Weekday AM Peak	Weekday PM Peak	Accom. Score	Accom. Score	Prediction Rank	SSI Rank	Strategy to be Advanced?	
Two-Way Stop- Control	1.07	0.96	2.74	NA	3	3	No	Over capacity and an existing crash issue
Signalized Control	0.46	0.49	4.31	NA	2	2	Yes	Roadway widening is required and signal poles can be added without relocating existing utility poles or requiring additonal R/W if design speed lowered or variance is granted.
Roundabout (1-lane)	0.36	0.51	5.62	NA	1	1	Yes	Additional R/W is required for this option.

	Resolution											
To be filled out by	To be filled out by FDOT District Traffic Operations Engineer and District Design Engineer											
Project Determination Multiple Viable Alternatives Identified: Continue to Stage 2												
Comments												
DTOE Name	James F. H	lannigan, Jr. PE	Signature		Date							
DDE Name	Kathryn D.	Thomas, PE	Signature		Date							



CAP-X Worksheets

Capacity Analysis for Planning of Junctions

Detailed Report - Page 1 of 4

Project Name	US 41 at CR 340 Stage 1 ICE
Project Number	AR 2024.0173
Location	High Springs, FL
Date	10/15/2024 AM Peak (7:15 AM - 8:15 AM)
Number of Intersection Legs	4
Major Street Direction	North-South

			Tr	affic Volume	Demand				
			Volume	(Veh/hr)			Perc	ent (%)	
	U-Turn	L	eft	Thru	Right				
	Ŋ	4	1	Î	ſ	Heavy \	/ehicles	Volume Growth	
Eastbound	0	1	74	16	57	5.3	0%	24.00%	
Westbound	0		0	0	25	0.0	0%	0.00%	
Southbound	0	1	8	258	123	1.5	0%	12.00%	
Northbound	0	37		287	0	2.5	0%	12.00%	
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	
FDO	OT Context Zone				C6-Urban	Core			
E-W / Cro	ossing East-West	Legs		Low	Low		Low		
N-S / Cros	ssing North-South	Legs		Low	Low			Low	
			2-pha	se signal	Suggested =	1800		1800	
Critical TI	Lane Volume hreshold		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

Sheet <u>FULL</u> <u>N-S</u>	No U	Drthb L O	oun T 1	nd R 0	So U	uthb L	oun T	d R	Ea U	stb	oun T	d	, 	West	tbou	nd
FULL <u>N-S</u>	U	L 0	T 1	R 0	U	L	Т	R	U	L	т	Р		-	1	
<u>FULL</u> <u>N-S</u>	Ż	0	1	0		-					•	к	U	L	Т	R
<u>N-S</u>						0	1	0		0	1	0		0	1	0
		0	1	0		0	1	0		0	1	0		0	1	0
	No	orthb	oun	d	So	uthb	oun	d	Ea	stb	oun	d Westbound				
Number of Lanes for Ramp Terminal Intersections																
Sheet	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Τ	R
sis fo	or	Pla	an	niı	าต	of	Jı	JN	cti	or	າຣ					
tailed Re	epor	t - P	age	3 of	4											
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		Re	sults	for N	lon-rou	undab	out Inte	rsecti	ons					
TYPE (OF INTERSECTION	Sheet	Zon (Noi	ie 1 rth)	Zone (Sout	2 h) Zo	ne 3 (East)	Zone 4 (West)	Zon (Cen	e 5 ter)	Overall v/c Ratio	Ped Accom.	Bicycle Accom
		onoot	CLV	V/C	CLV	V/C C	LV V/C	CLV	V/C	CLV	V/C		Score	Score
T	Traffic Signal	<u>FULL</u>	\square	\angle	\square	Δ		\angle		775	<u>0.46</u>	0.46	4.31	-
Two-\	Way Stop Control	<u>N-S</u>				\wedge			\land		<u>1.07</u>	1.07	2.74	-
	Ca	pacity /	Ana	lysi	is fo	r Pla	annin	g of	Ju	ncti	ion	S		
				Deta	iled Rep	port - P	age 4 of 4	L						
				Resi	ults for	r Rour	Idabout	S						
TYPE OF	Zone 1 (North)	Zone	3 (East)		Zo	one 2 (So	uth)	2	Zone 4	(West)		Ovorall v/c Batio	Ped Accom.	Bicycle
ROUNDAROUT			no 2 I	ane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lan	e 2 L	ane 3		Score	Score
ROONDADOOT	Lane 1 Lane 2 Lane 3	Lane 1 La												
<u>1 X 1</u>	Lane 1 Lane 2 Lane 3 0.35	Lane 1 La			<u>0.36</u>			<u>0.03</u>				0.36	5.62	-
<u>1 X 1</u>	Lane 1 Lane 2 Lane 3 0.35	Lane 1 La			<u>0.36</u>			<u>0.03</u>			/	0.36	5.62	-
<u>1X1</u>	Lane 1 Lane 2 Lane 3 0.35	Lane 1 La	esults	for l	<u>0.36</u>	Termi	nal Inter	<u>0.03</u> sectio	ons		/	0.36	5.62	-

Score

Score

INTERSECTION

CLV

V/C

CLV

V/C

CLV V/C

CLV V/C CLV V/C

CLV V/C

Capacity Analysis for Planning of Junctions Summary Report - Page 1 of 2

Project Name	US 41 at CR 340 Stage 1 ICE
Project Number	AR 2024.0173
Location	High Springs, FL
Date	10/15/2024 AM Peak (7:15 AM - 8:15 AM)
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	\$	1	Î	ſ	Heavy \	/ehicles	Volume Growth	
Eastbound	0	1	74	16	57	5.3	0%	24.00%	
Westbound	0	(D	0	25	0.0	0%	0.00%	
Southbound	0	1	8	258	123	1.50%		12.00%	
Northbound	0	37		287	0	2.50%		12.00%	
Adjustment Factor	0.80	0.	95		0.85		\sim		
Suggested	0.80	0.	95	0.85					
	Truck to	PCE Fa	ctor		Suggested =	2.00		2.00	
FDO	OT Context Zone				C6-Urban C	ore			
E-W / Cro	ossing East-West	Legs		Low	Low		Low		
N-S / Cros	ssing North-South	Legs		Low	Low			Low	
			2-pha	se signal	Suggested =	1800		1800	
Critical Lane	Volume Thresho	ld	3-pha	se signal	Suggested =	1750	1750		
			4-pha	se 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	Pedestrian Accommodation Score	Bicycle Accommodation Score
1 X 1	0.36	1	5.62	-
Traffic Signal	0.46	2	4.31	-
Two-Way Stop Control N-S	1.07	3	2.74	-

Capacity Analysis for Planning of Junctions

Detailed Report - Page 1 of 4

Project Name	US 41 at CR 340 Stage 1 ICE
Project Number	AR 2024.0173
Location	High Springs, FL
Date	10/15/2024 PM Peak (5:00 PM - 6:00 PM)
Number of Intersection Legs	4
Major Street Direction	North-South

	Traffic Volume Demand									
			Volume	(Veh/hr)			Perc	ent (%)		
	U-Turn	L	eft	Thru	Right					
	Ŋ	4			ſ	Heavy \	/ehicles	Volume Growth		
Eastbound	0	1	10	8	52	5.3	0%	24.00%		
Westbound	0		2	14	21	0.0	0%	0.00%		
Southbound	0	27		250	258	1.5	0%	12.00%		
Northbound	0	85		273	1	2.5	0%	12.00%		
Adjustment Factor	0.80	0.95			0.85					
Suggested	0.80	0.	0.95 0.8		0.85					
	Truck to	PCE Fa	ctor		Suggested =		2.00			
FDO	OT Context Zone				C6-Urban	Core				
E-W / Cro	ossing East-West	Legs		Low	Low			Low		
N-S / Cros	ssing North-South	Legs		Low	Low			Low		
			2-pha	se signal	Suggested =	1800		1800		
Critical TI	Lane Volume hreshold		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

Sheet FULL <u>N-S</u> f Lane		orthb L 0 0	oun T 1 1	nd R 0 0	So U	uthl L 0 0	boui T 1	nd R O	Ea U	L 0	oun T 1	d R 0	U	Nest L 0	tbou T	nd R
FULL N-S	U /	L 0 0	T 1 1	R 0 0	U	L 0 0	T 1 1	R 0	U	L 0	Т 1	R 0	U	L 0	T 1	R
FULL <u>N-S</u> f Lane		0	1 1	0 0	4	0	1	0	Ą	0	1	0		0	1	0
<u>N-S</u> f Lane		0	1	0		0	1	•		Traffic Signal FULL 0 1 0 1 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 0 1 0 0 1 0 0 1 0 0 0 1 0 0 0 1 0						U
f Lane								0		0	1	0		0	1	0
	No	orthb	oun	nd	So	uthl	boui	nd	Ea	astb	oun	d	١	Nest	tbou	nd
Northbound Southbound						Ea	astb	oun	d		Nest	tbou	nd			
Jieet	U	L	т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
sis fo	or	Pla	n	niı	nq	0	FJ	un	ct	or	าร					
ailed Re	epor	t - Pa	age	3 of	f 4											
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					Resul	ts for I	Non-rc	ounda	about	Inte	rsectio	ons					
TYPE		SECTION		Sheet		Zone 1 (North)	Zon (Soι	e 2 uth)	Zone 3	(East)	Zone 4 (West)	Zor (Cer	ne 5 nter)	Overall v/c Ratio	Ped Accom.	Bicycle Accom
				•	CL	v v/c	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		Score	Score
٦	Traffic Signal			FULL				\land	\square				830	<u>0.49</u>	0.49	4.31	-
Two-	Way Stop	Control		<u>N-S</u>										<u>0.96</u>	0.96	2.74	-
					-		-	-	-		-				-		
			Car	bacity	v Ar	alvs	is fo	or P	lan	nin	a of	Ju	nct	ion	S		
						Deta	ailed Re	eport -	Page	4 of 4							
						Res	ults fo	or Roi	undal	oout	S						
TYPE OF	Zo	ne 1 (Nor	th)	Zone 3 (East)		st)	Zone 2 (South)			Zone 4 (West)				Overall v/e Betie	Ped Accom.	Bicycle	
ROUNDABOUT	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	I Lan	e 2 L	ane 3	Lane 1	Lan	ie 2 I	Lane 3		Score	Score
<u>1 X 1</u>	<u>0.51</u>			<u>0.23</u>			<u>0.37</u>				<u>0.05</u>			\nearrow	0.51	5.62	-
					Deer	to for	Domo	Town	ainal	Inter	o o oti o						
					Resu	its for	Ramp	Tern	mal	mter	sectio	ms					
		AL .	Sheet	Zone 1 Mrg)	(Rt Zor	ie 2 (L1 Mrg)	t Zone 3 1	(Ctr. 2)	Zone 4 2)	(Ctr.	Zone 5 Mrg	(Lt)	Zone 6 Mı	(Rt ·g)	Overall v/c Ratio	Ped Accom.	Bicycle Accom.
INTERSE	INTERSECTION															ocore	C

CLV

V/C

CLV

V/C

CLV V/C

CLV

V/C

CLV V/C

CLV

V/C

Score

Score

Capacity Analysis for Planning of Junctions Summary Report - Page 1 of 2

Project Name	US 41 at CR 340 Stage 1 ICE
Project Number	AR 2024.0173
Location	High Springs, FL
Date	10/15/2024 PM Peak (5:00 PM - 6:00 PM)
Number of Intersection Legs	4
Major Street Direction	North-South

	Traffic Volume Demand										
			Volume	(Veh/hr)			Perce	ent (%)			
	U-Turn	Le	eft	Thru	Right						
	ŋ	\$	<u>ר ו ר</u>		Heavy Vehicles		Volume Growth				
Eastbound	0	1	10	8	52	5.3	0%	24.00%			
Westbound	0		2	14	21	0.0	0%	0.00%			
Southbound	0	27		250	258	1.5	0%	12.00%			
Northbound	0	85		273	1	2.5	0%	12.00%			
Adjustment Factor	0.80	0.95			0.85						
Suggested	0.80	0.	95		0.85						
	Truck to	PCE Fa	ctor		Suggested =		2.00				
FDO	OT Context Zone				C6-Urban C	ore					
E-W / Cro	ossing East-West	Legs		Low	Low			Low			
N-S / Cros	ssing North-South	Legs		Low	Low			Low			
			2-pha	se signal	Suggested =	1800		1800			
Critical Lane	Volume Thresho	ld	3-pha	se signal	Suggested =	1750	1750				
			4-pha	se 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	Pedestrian Accommodation Score	Bicycle Accommodation Score
Traffic Signal	0.49	1	4.31	-
1 X 1	0.51	2	5.62	-
Two-Way Stop Control N-S	0.96	3	2.74	-



SPICE Worksheets

	Florida Department of Transportation Safety Performance for Intersection Control Evaluation Tool													
					Results									
				Summary of cras	h prediction results for eac	h alternative								
					Project Information									
Project Name:	US 41 at CR 340 Star	te 1 ICE		Intersection Type					1	At-Grade Inte	ersection			
Intersection:	US 41 at CR 340	,		Opening Year						2026				
Agency:	Peters and Yaffee, In	с.		Design Year					2036					
Project Reference:	AR. 2024.0173			Facility Type	acility Type						On Urban and Suburban Arterial			
City:	High Springs			Number of Legs					4-leg					
State:	Florida			1-Way/2-Way						2-way Intersec	ting 2-way			
Date:	10/21/2024			# of Major Street Lanes (both	directions)					5 or fev	ver			
Analyst:	Setul Shah			Major Street Approach Speed	1					Less than 5	0 mph			
Crash Pr				ediction Summary						SSI Sco	re			
Control Stratogy	Crack Tumo	Opening Year	Design Voor	Total Broject Life Cycle	Crack Dradiction Bank	AADT Within SF	PF Prediction Range?	Source of Bradistian	Opening Year	Docigo Voor	Bank			
Control Strategy	crash type	Opening real	Design real			(Open Year)	(Design Year)	Source of Frediction	Opening rear	Design real	Ralik			
Traffic Signal	Total Fatal & Injury	3.65 1.14	4.35 1.37	44.03 13.84	2	Yes	Yes	Calibrated SPF	<u>99</u>	<u>99</u>	2			
Minor Road Stop	Total Fatal & Injury	3.30 1.17	3.78 1.37	38.96 13.98	3	No	No	Calibrated SPF w/ EB	<u>98</u>	<u>98</u>	3			
1-lane Roundabout	Total Fatal & Injury	1.74 0.32	1.90 0.35	20.04 3.68	1	Yes	Yes	Uncalibrated SPF	<u>100</u>	<u>100</u>	1			

Appendix D

FDOT Level of Service Report



	US-27/4	41 / SR-45, RCI MP	25.582-26.189, Al	achua County		
Attribute	Value	×	NW 122	La gran	2/1001	3
Segment ID:	20079	Pre	dicted 2035 and 2040) volumes are less th	an existing AADT.	E WW TO
Segment Length:	0.606 mi	The	erefore for future AAD	T, 1 % percent annua	al growth is	Postero -
County:	Alachua	con	sidered.		1 1	25
Roadway ID:	26030000		1 1	2	N	RV
Begin MP:	25.582		+ On	No.	E The	June
End MP:	26.189		+		P	
SIS Status:	Not SIS			45	allroad	- ANG
SIS Type:	n/a			No. Mr.	AVA	872
Context Class:	C2T		t Nia	WTR TOAN	SALL AN	Ler
Standard K-Factor:	9.5		+ C JA	3 ard Au	PI 18	JEL I
FDOT LOS Standard: Data Sources: RCI; TCI; NERI Google Map: http://maps.google.com/maps?g=29.8231840	C PM AB; GUATS; FLSWM 1570935,-82.5992765955904	W 182nd Ave	in contract of the second	Box car C	NN NW	NW 181st PI Ouglas 179th PI s 178th PI s NW 178th Ave
Projected Values		2022	2028	2035	2040	2045
Number of Lanes		2	2	2	2	2
AADT		6,200	6,745	7,509	8,055	8,600
Peak Hour Volume		589	641	713	765	817
Peak Hour Max. Service Volur	ne	1,310	1,310	1,310	1,310	1,310
Peak Hour LOS		C	С	С	C	С

Notes:



Signal Warrant Analysis

US 41 at CR 340 Signal Warrant Analysis Alachua County (26030000; MP 25.586)

Prepared by | Peters and Yaffee, Inc. Prepared for | FDOT District Two



Professional Engineer Certificate

I, Austin Chapman, PE 72474, certify that I currently hold an active license in the State of Florida and am competent through education or experience to provide engineering services in the civil discipline contained in this plan, print, specification, or report.

Project US 41 at CR 340 Signal Warrant Analysis

Location Alachua County, Florida

Client FDOT District Two

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY

ON THE DATE ADJACENT TO THE SEAL

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

PETERS AND YAFFEE, INC. 9822 TAPESTRY PARK CIRCLE, SUITE 205 JACKSONVILLE, FL 32246 AUSTIN CHAPMAN, P.E. 72474



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Appendix B	Condition Diagram
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Appendix C	2024 Turning Movement Counts
Appendix D	Pagones Theorem
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	Collision Diagram
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Introduction

A signal warrant analysis has been prepared to determine if a traffic signal is warranted and should be installed at the US 41/CR 340 (NW 182 Ave) intersection in Alachua County, Florida. The site location is shown in Figure 1.

Figure 1: Site Location



Access Classification

US 41 is an Access Management Classification 6 facility in the vicinity of the US 41/CR 340 intersection. As such, signalized intersections are permitted every 1,320 feet (0.25 mile). The signalized US 41/CR 340 intersection is the nearest signalized intersection and is located 0.59 miles (approximately 3,140 feet) north of the US 41/CR 340 intersection. Therefore, a signal at this location would meet access management standards. The straight-line diagram for this segment of US 41 is contained in Appendix A.

Traffic Data Collection

In the vicinity of the US 41/CR 340 intersection, US 41 is a two-lane undivided rural principal arterial that runs in a north/south alignment. The speed limit on US 41 is 40 mph at CR 340. The speed limit is 30 mph about 315 feet north of the US 41/CR 340 intersection. CR

US 41 AT CR 340 SIGNAL WARRANT ANALYSIS

340 is a two-lane undivided facility (near the intersection) that runs in a west/east alignment. The posted speed limit for CR 340 is 45 mph. Near the intersection, land use along US 41 consists primarily of residential and commercial uses. As shown in Figure 1, CR 340 intersects US 41 to form a 4-way intersection. The US 41/CR 340 intersection is unsignalized and the geometry is as follows:

- <u>Northbound (US 41)</u>: This road has one shared left/through/right-turn lane.
- <u>Southbound (US 41):</u> This road has one shared left/through/right-turn lane.
- Eastbound (CR 340): This road is stop controlled with one shared left/through/right-turn lane.
- <u>Westbound (CR 340)</u>: This road is stop controlled with one shared left/through/right-turn lane.

There are paved shoulders on US 41 and CR 340. There is a sidewalk along the west side of US 41 north of the intersection and on the north side of CR 340 west of the intersection. There are no crosswalks at the US 41/CR 340 intersection. The nearest marked US 41 pedestrian crossing is located at the mid-block crosswalk just north of the NW 185th Road intersection which is a little more than ½ mile north of the CR 340 intersection.

A field review was conducted on Thursday, August 22, 2024, between 5:00 PM and 6:00 PM. It should be noted that this field review was conducted on a day in which it rained sporadically all day, so there may have been less traffic on CR 340 due to reduced demand for springs access. CR 340 is stop controlled with one exiting lane marked. There was one vehicle observed to use the shoulder to turn right instead of waiting behind a left-turning vehicle. There is a short portion of CR 340 east of US 41 with little traffic that provides access to a service station. There were several trucks observed on US 41 as well as turning to and from CR 340. On both US 41 approaches, there are post-mounted CR 340 trailblazer signs. On the CR 340 approach, there are post-mounted US 41 and US 27 trailblazer signs. The US 41 speed limit at CR 340 is 40 mph and changes to 30 mph approximately 350 north of CR 340. There are no left or right-turn lanes on US 41. US 41 is centered within the right of way and utility poles were measured approximately 17 feet from the edge of the through travel lane. There was significant traffic on CR 340 that used Northwest 237th Street (adjacent street to the west of US 41) and avoided US 41. No bicyclists or pedestrians were observed during the field review. Adequate sight distance based on a design speed of 40 mph and a passenger vehicle is available for the US 41/CR 340 intersection. FDOT sight distance criteria and pictures of the intersection are provided in Appendix B.

On Wednesday, August 28, 2024, turning movement counts were collected at the US 41/CR 340 intersection from 7 AM to 7 PM. The turning movement counts are provided in Appendix C. The 2024 Existing hourly turning movement traffic volumes for US 41 are summarized in Table 1. The 2024 Existing hourly turning movement traffic volumes for CR 340 are summarized in Table 2.

Pagones Theorem is a good guide to follow the MUTCD's guidance to determine what, if any, portion of the right-turn traffic should be subtracted from the minor-street traffic count. The Pagones Theorem formula is $R_{adj} = Rx[1 - (f_{minor} - f_{main})]$. Based on the lane configuration, the f_{minor} factor for CR 340 is 0.6 when the right-turn volume is greater than 70% of the minor street total volume, 0.4 when the right-turn volume is greater than 35% of the minor street total volume and less than or equal to 70% of the minor street total volume, and 0.2 when the right-turn volume is less than or equal to 35% of the minor street total volume. In the case of both minor street approaches, the f_{main} factor adjusts depending on the main street volume. Pagones Theorem is provided in Appendix D. Tables 3 and 4 contain the calculations and adjusted volumes for CR 340 based on Pagones Theorem.
Table 1: 2024 Existing Traffic – US 41 at CR 340

Time Period	US 41 Northbound Left-Turn Volume (A)	US 41 Northbound Though Volume (B)	US 41 Northbound Right-Turn Volume (C)	US 41 Northbound Total Volume (D)=(A)+(B)+(C)	US 41 Southbound Left- Turn Volume (E)	US 41 Southbound Though Volume (F)	US 41 Southbound Right-Turn Volume (G)	US 41 Southbound Total Volume (H)=(E)+(F)+(G)	US 41 Total Volume (I)=(D)+(H)	US 41 South Approach Peds.	US 41 North Approach Peds.
7:00 AM - 8:00 AM	26	308	1	335	16	229	107	352	687	0	0
8:00 AM - 9:00 AM	31	165	2	198	12	216	88	316	514	0	0
9:00 AM - 10:00 AM	44	161	6	211	13	144	98	255	466	0	0
10:00 AM - 11:00 AM	29	141	0	170	8	137	118	263	433	0	0
11:00 AM - 12:00 PM	37	181	0	218	9	160	133	302	520	0	0
12:00 PM - 1:00 PM	33	167	1	201	13	170	171	354	555	0	0
1:00 PM - 2:00 PM	37	207	0	244	11	155	147	313	557	1	1
2:00 PM - 3:00 PM	43	214	1	258	16	222	183	421	679	0	0
3:00 PM - 4:00 PM	57	214	0	271	16	217	188	421	692	0	0
4:00 PM - 5:00 PM	89	251	1	341	18	214	198	430	771	0	0
5:00 PM - 6:00 PM	85	273	1	359	27	250	258	535	894	0	0
6:00 PM - 7:00 PM	55	181	2	238	20	157	214	391	629	0	0

Source: Appendix C

Table 2: 2024 Existing Traffic – CR 340 at US 41

Time Period	CR 340 Westbound Left-Turn Volume (A)	CR 340 Westbound Through Volume (B)	CR 340 Westbound Right-Turn Volume (C)	CR 340 Westbound Total Volume (D)=(A)+(B)+(C)	CR 340 Eastbound Left- Turn Volume (E)	CR 340 Eastbound Through Volume (F)	CR 340 Eastbound Right- Turn Volume (G)	CR 340 Eastbound Total Volume (H)=(E)+(F)+(G)	CR 340 Total Volume (I)=(D)+(H)	CR 340 West Approach Peds.	CR 340 East Approach Peds.
7:00 AM - 8:00 AM	0	0	0	24	198	16	58	272	296	0	0
8:00 AM - 9:00 AM	0	0	18	18	157	12	58	227	245	0	0
9:00 AM - 10:00 AM	0	0	13	13	138	9	49	196	209	0	0
10:00 AM - 11:00 AM	2	1	16	19	135	15	28	178	197	0	0
11:00 AM - 12:00 PM	4	7	16	27	135	11	25	171	198	0	0
12:00 PM - 1:00 PM	3	8	18	29	122	11	35	168	197	0	0
1:00 PM - 2:00 PM	1	7	15	23	117	13	30	160	183	1	0
2:00 PM - 3:00 PM	3	6	16	25	120	13	33	166	191	0	0
3:00 PM - 4:00 PM	1	7	16	24	131	12	46	189	213	1	0
4:00 PM - 5:00 PM	1	3	19	23	124	13	55	192	215	0	0
5:00 PM - 6:00 PM	2	14	21	37	110	8	52	170	207	0	1
6:00 PM - 7:00 PM	3	8	22	33	114	13	30	157	190	0	1
Source: Appendix C											

Source: Appendix C

Table 3: 2024 Adjusted Traffic – CR 340 at US 41

Time Period	Major Street Southbound Left + Through + Right Volume (A)	Major Street Southbound Per Lane Volume (B)=(A)/1	Minor Street Eastbound Right- Turn Volume (C)	Minor Street Eastbound Approach Total Volume (D)	Minor Street Eastbound Right-Turn Approach Percent (E)=(C)/(D)	f Minor Minor Street Eastbound (F)	f Main Major Street Southbound (G)	Minor Street Eastbound Adjusted Right-Turn Volume (H)=(C)*[1-((F)-(G))]	Minor Street Eastbound Through + Left- Turn Volume (I)	Minor Street Eastbound Adjusted Total Volume (J)=(H)+(I)
7:00 AM - 8:00 AM	352	352	58	272	21%	0.20	0.00	46	214	260
8:00 AM - 9:00 AM	316	316	58	227	26%	0.20	0.00	46	169	215
9:00 AM - 10:00 AM	255	255	49	196	25%	0.20	0.00	39	147	186
10:00 AM - 11:00 AM	263	263	28	178	16%	0.20	0.00	22	150	172
11:00 AM - 12:00 PM	302	302	25	171	15%	0.20	0.00	20	146	166
12:00 PM - 1:00 PM	354	354	35	168	21%	0.20	0.00	28	133	161
1:00 PM - 2:00 PM	313	313	30	160	19%	0.20	0.00	24	130	154
2:00 PM - 3:00 PM	421	421	33	166	20%	0.20	0.05	28	133	161
3:00 PM - 4:00 PM	421	421	46	189	24%	0.20	0.05	39	143	182
4:00 PM - 5:00 PM	430	430	55	192	29%	0.20	0.05	47	137	184
5:00 PM - 6:00 PM	535	535	52	170	31%	0.20	0.10	47	118	165
6:00 PM - 7:00 PM	391	391	30	157	19%	0.20	0.00	24	127	151

Column (A): See Column (F) in Table 1 Column (C): See Column (G) in Table 2

Column (D): See Column (H) in Table 2

Column (F): See Table 1 in Appendix D

Column (G): See Table 2 in Appendix D

Column (I): Column (E) and Column (F) from Table 2

Table 4: 2024 Adjusted Traffic – CR 340 at US 41

Time Period	Major Street Northbound Left + Through + Right Volume (A)	Major Street Northbound Per Lane Volume (B)=(A)/1	Minor Street Westbound Right- Turn Volume (C)	Minor Street Westbound Approach Total Volume (D)	Minor Street Westbound Right- Turn Approach Percent (E)=(C)/(D)	f Minor Minor Street Westbound (F)	f Main Major Street Northbound (G)	Minor Street Westbound Adjusted Right-Turn Volume (H)=(C)*[1-((F)-(G))]	Minor Street Westbound Through and Left- Turn Volume (I)	Minor Street Westbound Adjusted Total Volume (J)=(H)+(I)
7:00 AM - 8:00 AM	335	335	24	24	100%	0.60	0.00	10	0	10
8:00 AM - 9:00 AM	198	198	18	18	100%	0.60	0.00	7	0	7
9:00 AM - 10:00 AM	211	211	13	13	100%	0.60	0.00	5	0	5
10:00 AM - 11:00 AM	170	170	16	19	84%	0.60	0.00	6	3	9
11:00 AM - 12:00 PM	218	218	16	27	59%	0.40	0.00	10	11	21
12:00 PM - 1:00 PM	201	201	18	29	62%	0.40	0.00	11	11	22
1:00 PM - 2:00 PM	244	244	15	23	65%	0.40	0.00	9	8	17
2:00 PM - 3:00 PM	258	258	16	25	64%	0.40	0.00	10	9	19
3:00 PM - 4:00 PM	271	271	16	24	67%	0.40	0.00	10	8	18
4:00 PM - 5:00 PM	341	341	19	23	83%	0.60	0.00	8	4	12
5:00 PM - 6:00 PM	359	359	21	37	57%	0.40	0.00	13	16	29
6:00 PM - 7:00 PM	238	238	22	33	67%	0.40	0.00	13	11	24

Column (A): See Column (D) in Table 1

Column (C): See Column (C) in Table 2

Column (D): See Column (D) in Table 2

Column (F): See Table 1 in Appendix D

Column (G): See Table 2 in Appendix D

Column (I): Column (A) and Column (B) from Table 2

Delay Study

On Wednesday, August 28, 2024, a delay study was conducted at the US 41/CR 340 intersection from 7:00 AM to 8:00 AM, and 5:15 PM to 6:15 PM. These hours were selected as they were anticipated to have the greatest level of delay on CR 340 based on the traffic volumes. The full study is provided in Appendix E. The delay study was conducted for eastbound CR 340 vehicles exiting onto US 41. The results are summarized in Table 5. The observed stopped delay was adjusted to add four seconds based on the acceleration-deceleration delay correction factor shown in Table 7-3 of FDOT's MUTS. According to the Level of Service Criteria for Unsignalized Intersections from the Highway Capacity Manual 2010, the CR 340 eastbound movement operates with LOS E from 7:00 AM to 8:00 AM (with a total average control delay of 41 seconds), and LOS E from 5:15 PM to 6:15 PM with a total average control delay of (41 seconds).

Table 5: CR 340 at US 41 Delay Study

	Eastbound CR 340 7:00 AM – 8:00 AM	Eastbound CR 340 5:15 PM – 6:15 PM
	Shared Left/Through/Right	Shared Left/Through/Right
Number of Lanes	One	One
Number of Vehicles	272 Vehicles	188 Vehicles
Maximum Vehicle Stopped Time at Stop Sign	246 Seconds	152 Seconds
Average Vehicle Stopped Time at Stop Sign	37 Seconds	37 Seconds
Acceleration-Deceleration CF	4 Seconds	4 Seconds
Total Average Control Delay	41 Seconds	41 Seconds
Maximum Vehicle Queue	13 Vehicles	10 Vehicles
Control Delay in Vehicle Hours	3.10 Hours	2.14 Hours
Level of Service	E	E

Future Roadway Improvements

The FDOT Tentative 5-Year Work Program was reviewed to determine if any roadway improvements are planned near the US 41/CR 340 intersection. No projects were found in the area. The current FDOT Tentative 5-Year Work Program is provided in Appendix F.

Crash History

Crash data was obtained from FDOT's Crash Analysis Reporting (CAR) database and Signal Four Analytics for the period of January 1, 2019, through August 16, 2024. The crash summary and collision diagram are contained in Appendix G. The crash data is summarized and sorted by collision type in Table 6. A total of 14 collisions were within the study area and seven were identified as being potentially correctable if the intersection was to be signalized. Of these, three potentially correctable crashes occurred within a 12-month period (April 2023 – March 2024). A total of 11 crashes happened during the day and three crashes occurred at night. All 14 crashes occurred with dry pavement conditions. There were 12 injuries from six injury crashes, eight property damage only crashes, and no fatalities.

Table 6: Crash Summary of US 41 at CR 340

Crash Type	Potentially Correctable?	2019	2020	2021	2022	2023	2024*	Total	% of Total
Angle	Yes	3	1	0	0	2	1	7	50%
Backing	No	0	1	0	0	0	0	1	7%
Off-Road	No	0	0	0	1	0	0	1	7%
Rear-End	No	0	0	0	0	1	0	1	7%
Sideswipe	No	1	2	0	1	0	0	4	29%
Total		4	4	0	2	3	1	14	100%

*2024 crashes are from 01/01/2024 – 8/16/2024. Crash reports that reveal the identity, home or employment telephone number or home or employment address of, or other personal information concerning the parties involved in the crash and that are held by any agency that regularly receives or prepares information from or concerning the parties to motor vehicle crashes are confidential and exempt from s. 119.07(1) and s. 24(a), Art. I of the State Constitution for a period of 60 days after the date the report is filed. According to the FDOT, there is a maximum time frame of 10 days from the occurrence of a crash to its submission to the S4 system. Consequently, crash data utilized in studies will be at least 70 days old to adhere to the amended F.S. 316.066.

Signal Warrant Analysis

A traffic signal warrant analysis was conducted for the US 41/CR 340 intersection. The 2024 traffic volumes at the intersection were compared to the guidelines set forth in the Manual on Uniform Traffic Control Devices (MUTCD). The MUTCD describes nine warrants to be considered as justifying criteria necessary to be met before a traffic signal installation should be approved. The nine warrants are listed in Table 7.

MUTCD Signal Warrants	
Warrant 1	Eight-Hour Vehicular Volume
Warrant 2	Four-Hour Vehicular Volume
Warrant 3	Peak Hour
Warrant 4	Pedestrian Volume
Warrant 5	School Crossing
Warrant 6	Coordinated Signal System
Warrant 7	Crash Experience
Warrant 8	Roadway Network
Warrant 9	Intersection Near a Grade Crossing

Table 7: Signal Warrant Types

The installation of a traffic signal must improve the overall safety and/or operation of the intersection. Satisfying one or more warrants alone does not in itself provide justification to construct a signal. A thorough analysis that considers crash history, field conditions such as sight distances and speed limits, and good engineering judgment must all be considered before the installation of a traffic signal is proposed. The posted speed limit is 40 mph on US 41. Per the MUTCD guidelines, the 70% reduction warranting threshold is used when the intersection is in a built-up area of an isolated community with a population less than 10,000. Therefore, for the purpose of this study, the 70% values were used. As per the lane configuration, both US 41 and CR 340 will be considered as one lane approaches.

Warrant 1

Warrant 1 (Eight-Hour Vehicular Volume) is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic signal or where the traffic volume on a major street is so heavy that traffic on a minor intersecting street suffers excessive delay or conflict in entering or crossing the major street. Warrant 1 has two conditions but is intended to be treated as a single warrant. If either Condition A or B is satisfied, then the criteria for Warrant 1 is satisfied.

To meet the requirements for Warrant 1A (Minimum Vehicular Volume), the total number of vehicles per hour on the major street and the higher-volume minor street approaches should meet the required minimum volumes. Any 8 hours of an average day are needed to satisfy this warrant. At a minimum, there needs to be at least 105 vehicles per hour exiting CR 340 and 350 vehicles per hour total on both approaches of US 41. At the US 41/CR 340 intersection, eight hours are satisfied. Therefore, Warrant 1A is satisfied.

To meet the requirements for Warrant 1B (Interruption of Continuous Traffic), the total number of vehicles per hour on the major street and the higher-volume minor street approaches should meet the required minimum volumes. At least 8 hours are needed to satisfy this warrant. At a minimum, there needs to be at least 53 vehicles per hour exiting CR 340 and 525 vehicles per hour total on both approaches of US 41. At the US 41/CR 340 intersection eight hours are satisfied. Therefore, Warrant 1B is satisfied.

(Warrant 1 – Satisfied)

Warrant 2

Warrant 2 (Four-Hour Vehicular Volume) is intended to be applied where the volume of intersecting traffic is the principal reason to consider installing a traffic signal. To meet the requirements for Warrant 2, the total number of vehicles per hour on the major street and the higher-volume minor street approaches should meet the required minimum volumes. Any 4 hours are needed to satisfy this warrant. At a minimum, the four highest hour volume points must lie above the curve on Figure 4C-2 of the MUTCD. At the US 41/CR 340 intersection, four hours are satisfied. Therefore, Warrant 2 is satisfied.

(Warrant 2 - Satisfied)

Warrant 3

Warrant 3 (Peak Hour) is intended to be applied where traffic conditions are such that for a minimum of 1 hour of an average day, the minor street traffic suffers undue delay when entering the major street. This warrant is usually applied only in the vicinity of facilities that attract or discharge large numbers of vehicles over a short time, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities. As such, this warrant is not applicable to the US 41/CR 340 intersection.

(Warrant 3 – Not Applicable)

Warrant 4

Warrant 4 (Pedestrian Volume) is intended for application where the traffic volume on a major street is so heavy that pedestrians experience excessive delay in crossing the major street. Warrant 4 has two conditions but is intended to be treated as a single warrant. If either Condition A or B is satisfied, then the criteria for Warrant 4 is satisfied. It should be noted that the maximum number of pedestrians observed crossing US 41 at the project's intersection during any hour of the traffic count period was five.

To meet Warrant 4A, the total number of vehicles per hour on the major street and the corresponding pedestrians crossing the major street should meet the required minimum volume. Any 4 hours are needed to satisfy this warrant. At a minimum, the highest four-hour volume points must lie above the curve on Figure 4C-6 of the MUTCD. At the US 41/CR 340 intersection, the peak four hours do not meet this requirement. Therefore, Warrant 4A is not satisfied.

To meet Warrant 4B, the total number of vehicles per hour on the major street and the corresponding pedestrians crossing the major street should meet the required minimum volume. Any 1 hour is needed to satisfy this warrant. At a minimum, the highest hour volume point must lie above the curve on Figure 4C-8 of the MUTCD. At the US 41/CR 340 intersection, the peak hour does not meet this requirement. Therefore, Warrant 4B is not satisfied.

(Warrant 4 – Not Satisfied)

Warrant 5

Warrant 5 (School Crossing) is intended for application where the fact that school children cross the major street is the principal reason to install a traffic signal. The warrant is not applicable.

(Warrant 5 – Not Applicable)

Warrant 6

Warrant 6 (Coordinated Signal System) is applicable in situations where a coordinated signal system necessitates the installation of a traffic signal to maintain proper platooning of vehicles. The warrant is not applicable.

(Warrant 6 – Not Applicable)

Warrant 7

Warrant 7 (Crash Experience) is intended for application where the severity and frequency of crashes are the principal reasons to consider installing a traffic signal. Based on the analyzed crash data, there were seven angle collisions that were potentially correctable with the installation of a traffic signal at the study intersection. Three criteria must be satisfied to meet Warrant 7, including remedial measures to correct the crash history, a minimum of five potentially correctable crashes that are potentially correctable with a traffic signal occurring within a 12-month period, and a minimum level of vehicular volumes. At the US 41/CR 340 intersection, there were three potentially correctable crashes within a 12-month period. Therefore, Warrant 7 is not satisfied.

(Warrant 7 – Not Satisfied)

Warrant 8

Warrant 8 (Roadway Network) is applicable in situations where a traffic signal is justified to encourage concentration and organization of traffic on a roadway network. The warrant is not applicable.

(Warrant 8 – Not Applicable)

Warrant 9

Warrant 9 (Intersection Near a Grade Crossing) is intended for use at a location where none of the conditions described in the other eight traffic signal warrants are met but the proximity to the intersection of a grade crossing on an intersection approach controlled by a STOP or YIELD sign is the principal reason to consider installing a traffic signal. Since there are no railroad crossings in the vicinity of the project's intersection, the warrant is not applicable.

(Warrant 9 – Not Applicable)

Signal Warrant Summary

The signal warrants for the US 41/CR 340 intersection were evaluated. Year 2024 traffic volumes meet Warrant 1 and Warrant 2 of the applicable MUTCD signal warrants at the 70% threshold. At the 100% threshold, Warrant 1 is satisfied. Warrant 2 is satisfied for three hours at 100% (four hours needed). If a turn lane were added on CR 340, Warrant 1 would still be satisfied at the 100% threshold. The completed Traffic Signal Warrant Forms are provided in Appendix H.

Conclusions and Recommendations

- Traffic counts at the US 41/CR 340 intersection were conducted on Wednesday, August 28, 2028.
- US 41 is an Access Management Classification 6 facility in the vicinity of the US 41/CR 340 intersection. A signal at this location would meet access management standards.
- The sight distances for traffic exiting CR 340 are sufficient as per the FDOT sight distance criteria for stop-controlled intersections.
- A delay study was conducted for eastbound CR 340 vehicles exiting onto US 41. Motorists experienced an average control delay of 41 seconds on CR 340 between 7:00 AM 8:00 AM and a delay of 41 seconds between 5:15 PM 6:15 PM. The delay corresponds with a Level of Service E.
- Between January 1, 2019 and August 16, 2024, 14 collisions occurred at the US 41/CR 340 intersection. Seven out of 14 crashes were potentially correctible by signalization. The maximum number of potentially correctable crashes that occurred within a 12-month period was three collisions (all angle crashes) between 1/28/2019 and 8/20/2019.
- The traffic volumes meet MUTCD Warrant 1 and Warrant 2 at the 70% volume level. Warrant 1 is met at the 100% volume level. If a turn lane were added to CR 340, Warrant 1 would still be met at the 100% threshold.
- A traffic signal is warranted and recommended.
- Per FDOT policy, this intersection should be reviewed using FDOT's Intersection Control Evaluation (ICE) procedure. Options
 to consider are whether to install a left-turn lane on US 41, a right-turn lane for eastbound CR 340, or if a roundabout would be
 beneficial.



Straight-Line Diagram

		5 YR INV	SLD REV	BMP	EMP	INV	SLD REV			FDOT	SECTION STATUS	INT. or US ROUTE NO.	
DATE		09/08/2021	09/17/2021								02		+
BY		PECS	PECS								02	032//0341	
-		24.0	· · · ·	· · · · ·								26.0	
		INSIDE CITY, NOT JURBAN * HIGH SPRINGS · 8 * IGH SPRINGS · 8 * <=NW US-27/US-41/SR-45 * <us .<br="" 27="" 41="" us="">8 * <us .<br="" 27="" 41="" us="">8 * 8 *</us></us>	24193						INSIDE CITY, NOT URBAN + HIGH SPRINGS + <= 5 MAIN ST ≤ 1 < 5 MAIN ST ≤ 1	NW 180 AVE 35517 25517 25586 MW 182 PL 25.653 Bn	25.725 25.725 AVE 25.795 INV 1835PL 25.894 Z5.894 Z5.944 Z5.944	25.993 RD 26.094 26.094 AVE RD RD RD 15.31748-2010 25.094 RD RD RD RD RD RD RD RD RD RD RD RD RD	US-Z//)SN-2U/ NW 1 AVE 26 189 26 189 ***********************************
	ROADWAY FEATURES		NW 160 AVE 24.316						NW 172 AVE 25.060 NW 174 AVE 25.327 25.362	NW 182 AVE	25.725 25.725 MW 183 25.894 25.894 NW 183 25.944	25,993 25,993	2 US-2//2K-2U/ NE1AVE
	LANE WIDTHS ARE AVERAGED											2 - 12.0' RE 2 - 17.0' PV 2 - 0.0' RC	DWY VD SHLD SHLD2
		55.0' - 2 55.0' - 24.0' 2 - 12.0' RDWY 2 - 5.0' PVD SHLD1 2 - 8.0' LWN SHLD2 2 - 5.0' I	4.0' RDWY D MED VD SHLD1 WN SHLD2	44.0' - 24.0' ♀ 2 - 12.0' RDWY ♀ 2 - 5.0' PVD SHLD1 2 - 5.0' LWN SHLD2							S 36.0' - 24.0' S 2 - 12.0' RDWY S 2 - 4.0' PVD SHLD1 2 - 2.0' C&G SHLD2	40.0' - 28.0' ♀ 2 - 14.0' RDWY ♀ 8.0' PVD SHLD1 - LT ∾ 2.0' C&G SHLD1 - RT 2.0' C&G SHLD2 - LT	53. 2 - 2 99.8.0 99.8.0 17. 2 -
	ROADWAY	28/FC-12.528/FC-1	2.5	28/FC-12.5									
	COMPOSITION	0 47 7 28/FC-1	2.5										
ŀ		CURVE DATA NOT FIELD V	ERIFIED PC=24.	365					PC=24.979			PC=26.023 Δ=16°37'00.00"	
	HORIZONTAL		PI=24.4 PT=24.5	538					PI=25.028 PT=25.077			PT=26.035 D=15°00' PT=26.047 PC=26.068	
	ALIGNMENT		Δ=18°1 D=2°00	5'00.00")'					∆=10°21'00.00" D=2°00'			Δ=16°21'00.00" PI=26.078 D=13°00' PT=26.089	
-				B=N	15°41'45"E				B=N26°02'45"E			B=N42°23'45"E B=N26°46'45"E	E
	STRUCTURE			24451 1 - 18" X 65' CC									
-	DISTRICT USE			^									
F	SIS												
F	FUN CLASS	8 RURAL PRIN ART OTHER											
F	SPEED LIMIT	60MPH 01 50MPH						1.963	40MPH	S 30MPH	8 30MPH		
F	AC MAN CLS	ACCESS CLASS04						ň	ACCESS CLASS04	Ñ	Ň		

STATE ROAD NO.	COUNTY	DISTRICT	ROADWAY ID	SHEET NO:
SR 45	ALACHUA	02	26030000	5 OF 5
HDE CITY, NOT URBAN HGH SPRINGS =■ MAIN ST SS 45 US 27/US 41 US 27/US 41 S US 27/US 41 S S S S S S S S S S S S S	SECTION ENDS: SR-25 4411 41 25			
265.325 MM 187 AD 265.325 MM 187 AD 265.325 MM 187 AD 265.325 MM 265.325 MM 265.355 MM 265.35				
2 - 2.0' C&G SHLD2 44.0' - 16.0'L + 1 51 - 16.0'L + 1 51 - 16.0'L + 1 51 - 2.0' C&G S 12.0' RDWY 2 - 2.0' C&G S 12.0' C&G SHLD2 - LT 0' PVD SHLD1 - LT 2.0' C&G SHLD2	 +12.0R -12.0R ROWY > HLD1 END MP: 26.418 NET ROADWAY ID LENGTH: 26.418			
28/FC-12.5	_			
28/FC-12.5	_			
ACCESS CLASS06	56.418			

Appendix B

Condition Diagram Field Review Photos





Eastbound CR 340 Looking South on US 41

Eastbound CR 340 Looking North on US 41







Westbound CR 340 Looking Across US 41





Westbound CR 340 Looking North on US 41

Westbound CR 340 Looking South on US 41



Eastbound Right Turn Vehicle Passing Another Vehicle in Single Lane on CR 340



Eastbound CR 340 Queue



Eastbound CR 340 Vehicle Stopping Past Stop Bar



2024 Turning Movement Counts



Location: 1 MAIN ST & SOUTHEAST 9 AVENUE AM Date: Wednesday, August 28, 2024 Peak Hour: 05:00 PM - 06:00 PM Peak 15-Minutes: 05:30 PM - 05:45 PM

Peak Hour - Motorized Vehicles



Peak Hour - Bicycles

Peak Hour - Pedestrians





Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

	NOR	THWE	ST 182	ND	SOUTI	HEAST	9 AVENUE	-		MAIN	ST			MAIN	I ST							
Interval		₽¥¥₽	8 lihed			Westb	ound			Northb	ound			South	bound			Rolling	Pec	lestriar	n Crossi	ings
 Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru Rig	ht L	J-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	Hour	West	East	South	North
7:00 AM	0	60	2	14	0	0	0	4	0	3	66	1	0	1	36	22	209	983	0	0	0	0
7:15 AM	0	55	2	10	0	0	0	7	0	6	76	0	0	7	47	24	234	995	0	0	0	0
7:30 AM	0	46	5	12	0	0	0	7	0	10	99	0	0	5	57	26	267	947	0	0	0	0
7:45 AM	0	37	7	22	0	0	0	6	0	7	67	0	0	3	89	35	273	858	0	0	0	0
8:00 AM	0	36	2	13	0	0	0	5	0	14	45	0	0	3	65	38	221	759	0	0	0	0
8:15 AM	0	40	2	20	0	0	0	4	0	5	39	2	0	6	50	18	186	701	0	0	0	0
8:30 AM	0	48	3	13	0	0	0	5	0	7	38	0	0	2	49	13	178	667	0	0	0	0
8:45 AM	0	33	5	12	0	0	0	4	0	5	43	0	0	1	52	19	174	660	0	0	0	0
9:00 AM	0	38	1	11	0	0	0	4	0	6	43	0	0	1	31	28	163	675	0	0	0	0
9:15 AM	0	27	5	6	0	0	0	3	0	14	32	2	0	3	35	25	152	683	0	0	0	0
9:30 AM	0	32	1	14	0	0	0	4	0	10	45	2	0	5	36	22	171	693	0	0	0	0
9:45 AM	0	41	2	18	0	0	0	2	0	14	41	2	0	4	42	23	189	666	0	0	0	0
10:00 AM	0	31	5	9	0	1	0	3	0	9	41	0	0	3	32	37	171	630	0	0	0	0
10:15 AM	0	30	6	3	0	1	0	4	0	10	36	0	0	1	38	33	162	619	0	0	0	0
10:30 AM	0	36	2	8	0	0	0	4	0	5	29	0	0	2	38	20	144	614	0	0	0	0
10:45 AM	0	38	2	8	0	0	1	5	0	5	35	0	0	2	29	28	153	680	0	0	0	0
11:00 AM	0	30	3	9	0	2	2	0	0	9	40	0	0	2	31	32	160	718	0	0	0	0
11:15 AM	0	39	2	6	0	0	0	4	0	8	37	0	0	1	29	31	157	751	0	0	0	0
11:30 AM	0	29	4	5	0	1	2	8	0	10	55	0	0	4	55	37	210	773	0	0	0	0
11:45 AM	0	37	2	5	0	1	3	4	0	10	49	0	0	2	45	33	191	758	0	0	0	0
12:00 PM	0	35	3	10	0	0	2	4	0	6	44	0	0	7	42	40	193	752	0	0	0	0
12:15 PM	0	30	2	11	0	0	1	5	0	11	36	1	0	1	44	37	179	726	0	0	0	0
12:30 PM	0	35	2	10	0	1	2	6	0	7	44	0	0	0	40	48	195	738	0	0	0	0
12:45 PM	0	22	4	4	0	2	3	3	0	9	43	0	0	5	44	46	185	742	0	0	0	0
1:00 PM	0	33	2	8	0	0	1	3	0	9	37	0	0	2	35	37	167	740	0	0	0	0
1:15 PM	0	17	2	12	0	1	4	2	0	12	58	0	0	5	50	28	191	784	0	0	0	0
1:30 PM	0	36	5	8	0	0	1	6	0	8	47	0	0	3	38	47	199	801	0	0	0	0
1:45 PM	0	31	4	2	0	0	1	4	0	8	65	0	0	1	32	35	183	836	1	0	1	1
2:00 PM	0	29	1	10	0	0	1	7	0	3	64	1	0	4	44	47	211	870	0	0	0	0
2:15 PM	0	31	3	8	0	2	1	2	0	13	40	0	0	5	57	46	208	860	0	0	0	0
2:30 PM	0	30	6	7	0	0	2	4	0	13	60	0	0	4	63	45	234	878	0	0	0	0
2:45 PM	0	30	3	8	0	1	2	3	0	14	50	0	0	3	58	45	217	896	0	0	0	0
3:00 PM	0	31	3	9	0	0	2	5	0	13	39	0	0	0	57	42	201	905	1	0	0	0
3:15 PM	0	38	3	10	0	0	1	2	0	11	57	0	0	6	57	41	226	967	0	0	0	0

3:30 PM	0	33	3	16	0	1	1	6	0	15	64	0	0	7	52	54	252	968	0	0	0	0
3:45 PM	0	29	3	11	0	0	3	3	0	18	54	0	0	3	51	51	226	975	0	0	0	0
4:00 PM	0	30	5	17	0	1	1	5	0	18	62	1	0	5	60	58	263	986	0	0	0	0
4:15 PM	0	35	1	11	0	0	0	5	0	24	61	0	0	3	45	42	227	994	0	0	0	0
4:30 PM	0	32	4	16	0	0	2	5	0	23	64	0	0	5	56	52	259	1,046	0	0	0	0
4:45 PM	0	27	3	11	0	0	0	4	0	24	64	0	0	5	53	46	237	1,075	0	0	0	0
5:00 PM	0	20	1	9	0	1	2	6	0	23	78	0	0	7	60	64	271	1,101	0	0	0	0
5:15 PM	0	30	4	20	0	0	5	7	0	23	68	0	0	5	62	55	279	1,055	0	0	0	0
5:30 PM	0	29	1	15	0	1	3	4	0	21	63	1	0	8	76	66	288	1,010	0	1	0	0
5:45 PM	0	31	2	8	0	0	4	4	0	18	64	0	0	7	52	73	263	911	0	0	0	0
6:00 PM	0	39	3	6	0	0	1	5	0	18	50	1	0	4	38	60	225	819	0	1	0	0
6:15 PM	0	28	2	7	0	0	6	5	0	14	41	1	0	9	57	64	234		0	0	0	0
6:30 PM	0	27	4	10	0	2	1	3	0	11	44	0	0	3	33	51	189		0	0	0	0
6:45 PM	0	20	4	7	0	1	0	9	0	12	46	0	0	4	29	39	171		0	0	0	0

Peak Rolling Hour Flow Rates

Eastbound						West	ound			Northb	ound			South	bound		
Vehicle Type	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total
Articulated Trucks	0	1	0	0	0	0	0	0	0	0	1	0	0	0	2	5	9
Lights	0	103	8	50	0	2	14	21	0	83	266	1	0	27	248	252	1,075
Mediums	0	6	0	2	0	0	0	0	0	2	6	0	0	0	0	1	17
Total	0	110	8	52	0	2	14	21	0	85	273	1	0	27	250	258	1,101

Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound		Westbound		Northbound		Southbound										
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total
Heavy Vehicle %		5.3	%			0.0	6			2.5%	6			1.5	%		2.4%
Heavy Vehicle %	0.0%	6.4%	0.0%	3.8%	0.0%	0.0%	0.0%	0.0%	0.0%	2.4%	2.6%	0.0%	0.0%	0.0%	0.8%	2.3%	2.4%
Peak Hour Factor		0.8	9			0.7	7			0.9	1			0.8	9		0.96
Peak Hour Factor	0.00	0.83	0.57	0.77	0.00	0.50	0.58	0.89	0.00	0.98	0.78	0.75	0.00	0.78	0.73	0.90	0.96



Pagones Theorem

NDOT Research Report

Report No. 123-13-803

Right-Turn Traffic Volume Adjustments in Traffic Signal Warrant Analysis

January 2015

Nevada Department of Transportation 1263 South Stewart Street Carson City, NV 89712



be discussed below, to reduce the number of right turns on the minor street; District Seven just leaved the right-turn reduction to the judgment of engineers; Districts Three, Five, Six, Eight and Nine did not reduce any right turns from the minor street when performing signal warrant analysis. The State of Tennessee DOT was divided into four regions and all of them used engineering judgment to perform right-turn reduction. If the approach had one lane or no right-turn lane, the approach volume was generally not reduced. Reductions were based on traffic volume, storage capacity and geometrics. In many cases, the assumption was made that the geometry of the approach could be modified to handle an exclusive right-turn lane if the lane would help reduce the need for a signalized intersection. The author also concluded that the engineer should be aware that inter-state and intra-state variations in determining right-turn reduction.

Manual of Traffic Signal Design (MTSD) published by the ITE suggested that all right turns might be excluded in the analysis if the approach had a separate right-turn lane and a large-radius curb return. This exclusion could also apply when the right turns were made from a through lane and only a small-radius curb return was available.

A formal right-turn adjustment methodology has been developed by the IIIinois DOT and also been used by the Alabama DOT^[6]. It is a two-step methodology called Pagones Theorem that uses a minor street equivalent factor and a mainline congestion factor to estimate the portion of right turn volumes. The adjusted right-turn volume is calculated as following,

$$R_{adj} = R \times \left[1 - \left(f_{minor} - f_{main}\right)\right]$$
(1)

where:

 R_{adj} =adjusted right turn volume; R= original right turn volume; f_{minor} = minor street adjustment factor; f_{main} = mainline congestion factor.

Note: if $f_{minor} - f_{main} < 0$, then $R_{adj} = R$.

The minor street adjustment factor reflects whether minor street geometry and traffic volumes permit the free movement of right turns and reduce right-turn volumes accordingly. The mainline congestion factor adjusts to account for the amount of congestion on the mainline. In essence, f_{minor} considers what portion of vehicles could get to the intersection to make a right-turn without delay while f_{main} determines whether there are enough gaps in mainline traffic to permit them to actually make that right-turn. The suggested values for f_{minor} and f_{main} are listed in Table 1 and 2 according to lane configuration and volume condition. For the mainline right-turn reduction, if there is no mainline right-turn lane, mainline right-turn volumes are added to the through volumes

for the lane volume calculations; if a right-turn lane is present, mainline right turn volumes are excluded from the calculation.

Minor Street Adjustment Factor (f _{minor})								
Case	Lane Configuration	Volume Condition	f _{minor}					
	T	R > 0.7V	0.60					
1	L 🗱 R	0.7V ≥ R > 0.35V	0.40					
	v	R ≤ 0.35V	0.20					
	Ţ	R > 3T	0.60					
2		3T ≥ R > T/3	0.40					
	v	R ≤ T/3	0.20					
3		Any configuration with an exclusive right turn lane ≥ 500 ft. long. (See note* for shorter right turn lanes)	0.75					
	т	R > (T+L)	0.65					
		L > (T+R)	Use Case 2					
		L ≈ T ≈ R (±10 veh)	0.40					
4		L ≈ T > 3R	0.20					
		R ≈ T > 3L	0.50					
	v	all other conditions	0.30					
	T	R > T	0.75					
5		T ≥ R > T/2	0.50					
		T/2 ≥ R > T/4	0.30					
	v	R < T/4	0.15					

Table 1 Pagones Theorem Right-turn Adjustment Factors

Table 2 Pagones Theorem Mainline Congestion Factors

Mainline Congestion Factor (f _{main})								
Mainline volume per lane (veh/hr/lane)	f _{main}	Mainline volume per lane (veh/hr/lane)	f _{main}					
0 - 399	0.0	1100 – 1199	0.40					
400 - 499	0.05	1200 – 1299	0.45					
500 - 599	0.10	1300 - 1399	0.50					
600 - 699	0.15	1400 – 1499	0.55					
700 – 799	0.20	1500 - 1599	0.60					
800 - 899	0.25	1600 - 1699	0.65					
900 - 999	0.30	1700 – 1799	0.70					
1000 - 1099	0.35	1800 - 1899	0.75					

Appendix E

Delay Study



07:00:00 - 08:00:00

:- FL-J 32471 - CR 340 & US 41 - High Springs - Delay-Study Job No Site No : - 2 Date

: 08/28/2024

Movements No Joined Queue Released From Queue Delay Queue EB 1 7.00:00 7.00:11 1 0 EB 2 7.00:09 7.00:31 4 1 EB 3 7.00:30 7.00:31 1 0 EB 5 7.00:42 7.00:47 6 1 EB 5 7.00:42 7.00:13 16 2 EB 6 7.00:47 7.01:13 100 1 EB 8 7.01:11 7.01:13 100 1 EB 10 7.01:42 7.01:50 10 1 EB 11 7.01:42 7.01:50 10 1 EB 12 7.02:06 7.02:12 6 1 EB 13 7.02:16 7.02:29 2 1 EB 14 7.02:37 7.02:29 2 1 EB 13 7.02:37 7.02:29				EB		
EB 1 7:00:00 7:00:11 1 0 EB 2 7:00:30 7:00:13 4 1 EB 3 7:00:30 7:00:31 1 0 EB 4 7:00:41 7:00:47 6 1 EB 5 7:00:42 7:00:55 13 2 EB 6 7:00:47 7:01:30 16 2 EB 7 7:01:11 7:01:13 10 1 EB 9 7:01:42 7:01:58 16 2 EB 10 7:01:42 7:01:58 16 2 EB 11 7:02:50 7:02:00 1 0 EB 12 7:02:20 7:02:21 6 1 EB 13 7:02:16 7:02:21 5 1 EB 14 7:02:27 7:02:23 1 0 EB 15 7:02:36 7:02:34 1 0	Movements	No	Joined Queue	Released From Queue	Delay	Queue
EB 2 7:00:09 7:00:13 4 1 EB 3 7:00:30 7:00:31 1 0 EB 4 7:00:41 7:00:42 7:00:55 13 2 EB 5 7:00:42 7:00:55 13 2 EB 6 7:00:41 7:01:03 16 2 EB 6 7:00:41 7:01:13 10 1 EB 6 7:01:40 7:01:31 10 1 EB 10 7:01:40 7:01:50 11 0 EB 10 7:01:40 7:01:20 1 0 EB 10 7:01:42 7:01:31 10 1 EB 11 7:01:42 7:02:20 1 1 0 EB 12 7:02:32 7:02:23 1 0 1 EB 15 7:02:32 7:02:45 1 1 1 EB 16	EB	1	7:00:00	7:00:01	1	0
EB 3 7:00:30 7:00:31 1 0 EB 4 7:00:41 7:00:47 6 1 EB 5 7:00:42 7:7:00:55 13 2 EB 6 7:00:47 7:01:03 16 2 EB 7 7:01:11 7:01:16 5 1 EB 7 7:01:21 7:01:13 100 1 EB 9 7:01:40 7:01:50 100 1 EB 10 7:01:42 7:01:58 166 2 EB 11 7:01:59 7:02:00 1 0 1 EB 11 7:01:52 7:02:21 5 1 1 EB 13 7:02:27 7:02:29 2 1 1 0 EB 16 7:02:32 7:02:33 1 0 1 1 EB 16 7:02:32 7:02:33 1 0 1	EB	2	7:00:09	7:00:13	4	1
EB 4 7:00:41 7:00:47 6 1 EB 5 7:00:42 7:00:55 13 2 EB 6 7:00:47 7:01:03 16 2 EB 7 7:01:11 7:01:13 10 1 EB 8 7:01:40 7:01:50 10 1 EB 9 7:01:42 7:01:53 16 2 EB 10 7:01:42 7:01:53 16 2 EB 11 7:01:59 7:02:00 11 0 EB 12 7:02:66 7:02:12 6 1 EB 14 7:02:27 7:02:29 2 1 EB 14 7:02:32 7:02:33 1 0 EB 16 7:02:32 7:02:33 1 0 EB 16 7:02:32 7:02:33 1 0 EB 16 7:02:32 7:02:34 1 0<	EB	3	7:00:30	7:00:31	1	0
E8 5 7:00:42 7:00:55 13 2 E8 6 7:00:47 7:01:13 16 2 E8 7 7:01:11 7:01:16 5 1 E8 8 7:01:21 7:01:31 10 1 E8 9 7:01:40 7:01:50 10 1 E8 10 7:01:42 7:01:50 10 1 E8 11 7:01:59 7:02:00 1 0 E8 13 7:02:16 7:02:21 6 1 E8 14 7:02:27 7:02:29 2 1 E8 14 7:02:32 7:02:33 1 0 E8 15 7:02:27 7:02:33 1 0 E8 16 7:02:36 7:02:33 1 0 E8 17 7:03:42 15 1 E8 17 7:03:43 7:04:64 29 1	EB	4	7:00:41	7:00:47	6	1
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EB	117	7:21:56	7:23:09	73	2
EB	118	7:23:13	7:23:17	4	1
EB	119	7:23:22	7:23:23	1	0
EB	120	7:23:45	7:23:56	11	1
EB	121	7:24:06	7:24:41	35	1
EB	122	7:24:09	7:24:47	38	2
EB	123	7:24:50	7:24:51	1	0
EB	124	7:24:59	7:25:28	29	1
EB	125	7:25:00	7:25:43	43	2
EB	126	7:25:08	7:25:21	13	3
EB	127	7:25:26	7:25:55	29	3
EB	128	7:26:09	7:26:15	6	1
EB	129	7:26:29	7:26:30	1	0
EB	130	7:26:35	7:26:45	10	1
EB	131	7:27:10	7:27:25	15	1
EB	132	7:27:20	7:27:21	1	0
EB	133	7:27:30	7:27:55	25	1
EB	134	7:28:01	7:28:02	1	0
EB	135	7:28:08	7:28:09	1	0
EB	136	7:28:13	7:28:15	2	1
EB	137	7:28:30	7:28:33	3	1
EB	138	7:28:37	7:29:09	32	1

EB	139	7:28:48	7:29:15	27	2
EB	140	7:29:01	7:29:21	20	3
EB	141	7:29:02	7:29:28	26	4
EB	142	7:29:32	7:29:37	5	1
EB	143	7:29:33	7:29:41	8	2
EB	144	7:29:44	7:29:51	7	1
EB	145	7:29:50	7:29:53	3	1
EB	146	7:29:57	7:29:58	1	0
EB	147	7:30:05	7:30:12	7	1
EB	148	7:30:42	7:30:45	3	1
EB	149	7:30:50	7:31:03	13	1
EB	150	7:31:17	7:31:26	9	1
EB	151	7:31:18	7:31:30	12	2
EB	152	7:31:25	7:31:36	11	0
EB	153	7:31:41	7:31:44	3	1
EB	154	7:32:06	7:32:35	29	1
EB	155	7:32:10	7:33:18	68	2
EB	156	7:32:13	7:33:41	88	3
EB	157	7:32:50	7:34:03	73	3
EB	158	7:32:53	7:34:08	75	4
EB	159	7:33:38	7:34:17	39	4
EB	160	7:33:52	7:34:44	52	4
EB	161	7:33:56	7:34:47	51	5
EB	162	7:33:58	7:35:04	66	6
EB	163	7:34:01	7:35:09	68	7
EB	164	7:34:09	7:35:13	64	6
EB	165	7:34:15	7:35:16	61	7
EB	166	7:34:15	7:36:12	117	8
EB	167	7:34:35	7:35:37	62	8
EB	168	7:34:40	7:36:08	88	1
EB	169	7:35:42	7:36:28	46	2
EB	170	7:36:07	7:36:29	22	3
EB	171	7:36:10	7:36:31	21	4
EB	172	7:36:12	7:36:38	26	5
EB	173	7:36:17	7:36:44	27	6
EB	174	7:36:21	7:37:01	40	7
EB	175	7:36:28	7:37:20	52	5
EB	176	7:36:33	7:37:29	56	3
EB	177	7:36:59	7:37:34	35	4
EB	178	7:37:01	7:37:31	30	4
EB	179	7:37:15	7:37:44	29	5
EB	180	7:37:17	7:37:49	32	6
EB	181	7:37:22	7:38:09	47	7
EB	182	7:37:59	7:38:38	39	2
EB	183	7:38:02	7:38:50	48	3
EB	184	7:38:02	7:38:52	50	4
EB	185	7:38:34	7:38:57	23	4
EB	186	7:38:43	7:39:22	39	4
EB	187	7:38:43	7:39:43	60	5
EB	188	7:38:46	7:40:03	77	6

			-		
EB	189	7:38:49	7:40:10	81	6
EB	190	7:39:11	7:40:30	79	5
EB	191	7:39:16	7:40:51	95	6
EB	192	7:39:21	7:40:58	97	7
EB	193	7:39:45	7:41:10	85	7
EB	194	7:42:02	7:42:12	10	1
EB	195	7:42:29	7:42:37	8	1
EB	196	7:42:31	7:42:53	22	2
EB	197	7:42:34	7:43:26	52	3
EB	198	7:42:36	7:43:33	57	3
EB	199	7:42:38	7:43:38	60	4
EB	200	7:42:54	7:43:44	50	4
EB	201	7:42:54	7:43:47	53	5
EB	202	7:43:00	7:44:12	72	5
EB	203	7:43:17	7:44:24	67	6
EB	204	7:43:17	7:44:28	71	7
EB	205	7:43:17	7:44:34	77	8
EB	206	7:43:27	7:44:46	79	5
EB	207	7:43:27	7:44:57	90	6
EB	208	7:44:03	7:45:01	58	7
EB	209	7:44:46	7:44:58	12	4
EB	210	7:44:47	7:45:05	18	5
EB	211	7:45:15	7:45:40	25	1
EB	212	7:45:19	7:45:51	32	2
EB	213	7:45:19	7:45:56	37	3
EB	214	7:45:28	7:46:00	32	4
EB	215	7:45:28	7:46:05	37	5
EB	216	7:46:08	7:46:09	1	0
EB	217	7:46:15	7:46:18	3	1
EB	218	7:46:23	7:46:24	1	0
EB	219	7:46:27	7:46:30	3	1
EB	220	7:46:34	7:46:47	13	1
EB	221	7:46:44	7:46:51	7	2
EB	222	7:47:05	7:47:07	2	1
EB	223	7:47:11	7:47:14	3	1
EB	224	7:47:17	7:47:25	8	1
EB	225	7:47:19	7:47:30	11	2
EB	226	7:48:00	7:48:03	3	1
EB	227	7:48:03	7:48:04	1	1
EB	228	7:48:14	7:48:17	3	1
EB	229	7:48:21	7:49:12	51	1
EB	230	7:48:43	7:49:34	51	2
EB	231	7:48:44	7:49:36	52	3
EB	232	7:48:56	7:50:15	79	4
EB	233	7:48:57	7:50:23	86	5
EB	234	7:48:59	7:50:46	107	6
EB	235	7:49:13	7:50:52	99	6
EB	236	7:49:51	7:51:39	108	5
EB	237	7:49:56	7:52:22	146	6
EB	238	7:49:56	7:52:50	174	7

EB	239	7:50:00	7:53:16	196	8
EB	240	7:50:02	7:53:40	218	9
EB	241	7:50:02	7:53:48	226	9
EB	242	7:50:04	7:53:55	231	10
EB	243	7:50:04	7:54:00	236	11
EB	244	7:50:04	7:54:10	246	11
EB	245	7:51:47	7:54:18	151	12
EB	246	7:51:47	7:54:26	159	13
EB	247	7:52:22	7:54:36	134	12
EB	248	7:52:50	7:54:44	114	9
EB	249	7:53:35	7:54:50	75	10
EB	250	7:54:55	7:54:58	3	1
EB	251	7:55:04	7:55:07	3	1
EB	252	7:55:04	7:55:15	11	2
EB	253	7:55:22	7:56:30	68	3
EB	254	7:55:23	7:56:35	72	4
EB	255	7:55:27	7:56:38	71	5
EB	256	7:55:34	7:56:49	75	6
EB	257	7:55:40	7:56:50	70	7
EB	258	7:56:08	7:57:02	54	7
EB	259	7:56:09	7:57:06	57	8
EB	260	7:56:11	7:57:31	80	9
EB	261	7:56:25	7:57:25	60	8
EB	262	7:56:26	7:57:38	72	9
EB	263	7:57:42	7:57:47	5	1
EB	264	7:57:43	7:58:08	25	2
EB	265	7:57:45	7:58:35	50	3
EB	266	7:58:41	7:58:50	9	1
EB	267	7:58:43	7:58:56	13	2
EB	268	7:59:01	7:59:04	3	1
EB	269	7:59:02	7:59:15	13	2
EB	270	7:59:03	7:59:19	16	3
EB	271	7:59:03	7:59:26	23	4
EB	272	7:59:54	8:00:00	6	1

Summary Information	
07:00:00 - 08:00:00	EB
Delayed Vehicle Count:	272
Average Stopped Time:	36.73
Maximum Stopped Time:	246
Min. Secs. for Delay:	1
Maximum Queue:	13
Delay in Vehicle Hour:	2.78
Total Delay	9991



17:15:00 - 18:15:00

:- FL-J 32471 - CR 340 & US 41 - High Springs - Delay-Study Job No Site No : - 2 Date

: 08/28/2024

			EB		
Movements	No	Joined Queue	Released From Queue	Delay	Queue
EB	1	17:13:53	17:15:28	95	1
EB	2	17:13:54	17:15:46	112	2
EB	3	17:13:59	17:15:42	103	3
EB	4	17:14:14	17:16:03	109	4
EB	5	17:14:28	17:16:00	92	5
EB	6	17:14:34	17:16:24	110	6
EB	7	17:14:37	17:16:24	107	7
EB	8	17:14:43	17:17:15	152	8
EB	9	17:14:56	17:17:19	143	9
EB	10	17:15:25	17:17:22	117	10
EB	11	17:16:48	17:17:31	43	4
EB	12	17:16:48	17:17:36	48	5
EB	13	17:17:41	17:18:49	68	1
EB	14	17:18:36	17:19:01	25	2
EB	15	17:18:54	17:19:05	11	2
EB	16	17:19:17	17:19:22	5	1
EB	17	17:19:33	17:19:36	3	1
EB	18	17:19:41	17:19:42	1	0
EB	19	17:19:46	17:19:52	6	1
EB	20	17:19:49	17:19:56	7	2
EB	21	17:19:51	17:20:02	11	3
EB	22	17:20:31	17:21:53	82	1
EB	23	17:20:33	17:21:49	76	2
EB	24	17:20:34	17:21:54	80	3
EB	25	17:20:47	17:21:59	72	4
EB	26	17:20:50	17:22:10	80	5
EB	27	17:21:26	17:22:15	49	6
EB	28	17:21:43	17:22:20	37	7
EB	29	17:22:39	17:22:42	3	1
EB	30	17:22:42	17:22:43	1	0
EB	31	17:22:54	17:23:04	10	1
EB	32	17:23:08	17:23:16	8	1
EB	33	17:23:12	17:23:26	14	2
EB	34	17:23:51	17:24:52	61	1
EB	35	17:24:18	17:24:59	41	2
EB	36	17:24:22	17:25:07	45	3
EB	37	17:24:51	17:25:12	21	4
EB	38	17:25:05	17:25:20	15	3

			-		
EB	39	17:25:05	17:25:28	23	4
EB	40	17:25:49	17:25:50	1	0
EB	41	17:25:53	17:25:55	2	1
EB	42	17:25:56	17:26:03	7	1
EB	43	17:26:23	17:26:30	7	1
EB	44	17:26:40	17:26:52	12	1
EB	45	17:26:50	17:26:56	6	1
EB	46	17:26:58	17:27:00	2	0
EB	47	17:27:07	17:27:54	47	1
EB	48	17:27:11	17:27:12	1	1
EB	49	17:27:35	17:28:07	32	2
EB	50	17:28:17	17:28:52	35	1
EB	51	17:28:21	17:29:17	56	2
EB	52	17:28:27	17:29:21	54	3
EB	53	17:28:29	17:29:23	54	4
EB	54	17:28:52	17:29:51	59	4
EB	55	17:28:53	17:30:21	88	5
EB	56	17:30:25	17:30:26	1	0
EB	57	17:30:45	17:30:57	12	1
EB	58	17:31:15	17:31:26	11	1
EB	59	17:31:16	17:31:35	19	2
EB	60	17:31:21	17:31:48	27	3
EB	61	17:31:43	17:32:00	17	2
EB	62	17:31:44	17:32:02	18	3
EB	63	17:31:57	17:32:10	13	1
EB	64	17:32:14	17:32:43	29	1
EB	65	17:32:17	17:32:52	35	2
EB	66	17:32:20	17:33:25	65	3
EB	67	17:32:21	17:33:38	77	4
EB	68	17:32:21	17:33:43	82	5
EB	69	17:32:21	17:33:53	92	6
EB	70	17:32:22	17:34:26	124	7
EB	71	17:32:44	17:34:30	106	7
EB	72	17:33:23	17:34:34	71	7
EB	73	17:34:40	17:34:59	19	1
EB	74	17:35:31	17:35:32	1	1
EB	75	17:35:39	17:35:48	9	1
EB	76	17:36:48	17:36:52	4	1
EB	77	17:37:24	17:37:39	15	1
EB	78	17:37:47	17:38:23	36	1
EB	79	17:38:16	17:38:29	13	2
EB	80	17:38:17	17:38:36	19	3
EB	81	17:38:45	17:39:05	20	1
EB	82	17:38:48	17:39:08	20	2
EB	83	17:38:48	17:38:55	7	1
EB	84	17:39:14	17:39:21	7	1
EB	85	17:39:42	17:40:33	51	1
EB	86	17:39:50	17:40:40	50	2
EB	87	17:39:50	17:40:48	58	3
EB	88	17:39:50	17:40:30	40	1

EB	89	17:40:14	17:40:54	40	4
EB	90	17:40:17	17:41:05	48	5
EB	91	17:41:03	17:41:27	24	2
EB	92	17:41:26	17:42:22	56	2
EB	93	17:41:58	17:42:33	35	2
EB	94	17:41:59	17:43:52	113	3
EB	95	17:42:01	17:43:56	115	4
EB	96	17:42:46	17:44:01	75	3
EB	97	17:43:40	17:44:04	24	4
EB	98	17:44:20	17:44:26	6	1
EB	99	17:44:21	17:44:34	13	2
EB	100	17:44:58	17:45:04	6	1
EB	101	17:45:08	17:45:15	7	1
EB	102	17:45:12	17:45:15	3	1
EB	103	17:45:32	17:45:35	3	1
EB	104	17:45:46	17:46:25	39	1
EB	105	17:45:52	17:46:29	37	2
EB	106	17:46:14	17:46:33	19	3
EB	107	17:46:39	17:46:40	1	0
EB	108	17:46:46	17:46:48	2	1
EB	109	17:46:52	17:47:03	11	1
EB	110	17:47:18	17:47:53	35	1
EB	111	17:47:25	17:48:10	45	2
EB	112	17:47:51	17:48:19	28	3
EB	113	17:48:05	17:48:40	35	3
EB	114	17:48:16	17:48:58	42	3
EB	115	17:48:27	17:49:04	37	3
EB	116	17:48:28	17:49:17	49	4
EB	117	17:48:55	17:49:17	22	4
EB	118	17:48:55	17:49:22	27	5
EB	119	17:48:56	17:49:28	32	6
EB	120	17:48:56	17:49:37	41	7
EB	121	17:49:25	17:49:57	32	1
EB	122	17:49:43	17:50:05	22	2
EB	123	17:50:08	17:50:09	1	0
EB	124	17:50:25	17:51:51	86	1
EB	125	17:52:26	17:52:33	7	1
EB	126	17:52:58	17:53:03	5	1
EB	127	17:53:01	17:53:15	14	2
EB	128	17:53:10	17:54:17	67	2
EB	129	17:53:13	17:54:21	68	3
EB	130	17:53:14	17:54:23	69	3
EB	131	17:53:42	17:54:31	49	4
EB	132	17:55:12	17:55:13	1	0
EB	133	17:55:18	17:55:52	34	1
EB	134	17:55:21	17:56:02	41	2
EB	135	17:56:43	17:56:58	15	1
EB	136	17:56:53	17:57:04	11	2
EB	137	17:57:20	17:57:24	4	1
EB	138	17:57:45	17:58:05	20	1

EB	139	17:58:02	17:58:03	1	0
EB	140	17:58:09	17:58:10	1	0
EB	141	17:58:59	18:00:17	78	1
EB	142	17:59:01	18:00:28	87	2
EB	143	17:59:29	18:00:44	75	3
EB	144	18:00:00	18:00:51	51	4
EB	145	18:00:04	18:01:33	89	5
EB	146	18:00:13	18:01:47	94	6
EB	147	18:00:39	18:01:52	73	5
EB	148	18:01:00	18:01:58	58	4
EB	149	18:01:05	18:02:12	67	5
EB	150	18:01:49	18:02:30	41	3
EB	151	18:01:50	18:03:03	73	4
EB	152	18:01:50	18:03:11	81	5
EB	153	18:01:51	18:03:16	85	6
EB	154	18:02:14	18:03:22	68	6
EB	155	18:02:14	18:03:28	74	7
EB	156	18:03:46	18:04:21	35	1
EB	157	18:04:26	18:04:38	12	1
EB	158	18:04:48	18:05:09	21	1
EB	159	18:04:55	18:05:17	22	2
EB	160	18:05:26	18:05:28	2	1
EB	161	18:05:32	18:05:34	2	0
EB	162	18:05:37	18:05:54	17	1
EB	163	18:05:44	18:06:11	27	2
EB	164	18:05:49	18:06:14	25	3
EB	165	18:06:22	18:06:25	3	1
EB	166	18:06:22	18:06:32	10	2
EB	167	18:06:52	18:07:03	11	1
EB	168	18:07:33	18:07:39	6	1
EB	169	18:07:36	18:08:04	28	2
EB	170	18:08:38	18:08:46	8	1
EB	171	18:08:51	18:09:00	9	1
EB	172	18:08:54	18:09:05	11	2
EB	173	18:08:56	18:09:12	16	3
EB	174	18:09:17	18:09:24	7	1
EB	175	18:09:18	18:09:39	21	2
EB	176	18:10:11	18:10:30	19	1
EB	177	18:10:48	18:10:51	3	1
EB	178	18:11:50	18:12:41	51	1
EB	179	18:11:51	18:12:51	60	2
EB	180	18:11:51	18:12:59	68	3
EB	181	18:12:22	18:13:22	60	4
EB	182	18:13:07	18:13:14	7	1
EB	183	18:13:19	18:13:30	11	1
EB	184	18:13:22	18:13:32	10	1
EB	185	18:13:38	18:13:40	2	1
EB	186	18:14:01	18:14:05	4	1
EB	187	18:14:19	18:14:22	3	1
EB	188	18:14:31	18:14:38	7	1

Summary Information	
17:15:00 - 18:15:00	EB
Delayed Vehicle Count:	188
Average Stopped Time:	37.38
Maximum Stopped Time:	152
Min. Secs. for Delay:	1
Maximum Queue:	10
Delay in Vehicle Hour:	1.95
Total Delay	7027



FDOT 5-Year Tentative Work Program
DISTRICT 2



TENTATIVE WORK PROGRAM PUBLIC HEARING REPORT

FISCAL YEAR 2025 TO FISCAL YEAR 2029

Contraction of the second

SUMMARY REPORT - ALACHUA COUNTY

AS OF 10/11/2023-3:07 PM SUBJECT TO CHANGE

FLORIDA DEPARTMENT OF TRANSPORTATION DISTRICT 2 PROJECTS FUNDED JULY 1, 2024 TO JUNE 30, 2029 VISIT US AT WWW.FDOT.GOV/WPPH/DISTRICT2

JLTIPLE LOCATIONS Funding Source Federal UE /EMENT	2025	2026 \$590,000 \$590,000	2027	2028	2029
Funding Source Federal UE /EMENT	2025	2026 \$590,000 \$590,000	2027	2028	2029
Funding Source Federal UE /EMENT	2025	2026 \$590,000 \$590,000	2027	2028	2029
Federal UE /EMENT		\$590,000 \$590,000			
UE /EMENT		\$590,000			
UE /EMENT					
Funding Source	2025	2026	2027	2028	2029
Federal		\$632,417			
		\$632,417			
AFFIC SIGNAL MAINTEN /ICES/SYSTEM	ANCE AGREEMENT				
Funding Source	2025	2026	2027	2028	2029
State	\$1,212,691	\$1,249,071	\$1,287,794	\$1,327,714	\$1,368,872
	\$1,212,691	\$1,249,071	\$1,287,794	\$1,327,714	\$1,368,872
ANES Funding Source	2025	2026	2027	2028	2029
Federal	\$2,206,154				
	\$2,206,154				
DF CR234 TO: SOUTH OF IRUCT	SR121(WILLISTON	ROAD)			
Funding Source	2025	2026	2027	2028	2029
State			\$1,550,000		
			\$1,550,000		
OUNTY REST AREA					
Funding Source	2025	2026	2027	2028	2029
State				\$2,200.000	
				\$2,200.000	
	Federal AFFIC SIGNAL MAINTEN 'ICES/SYSTEM Funding Source State ANES Funding Source Federal OF CR234 TO: SOUTH OF IRUCT Funding Source State OUNTY REST AREA Funding Source State	Federal AFFIC SIGNAL MAINTENANCE AGREEMENT 'ICES/SYSTEM Funding Source 2025 State \$1,212,691 ANES Funding Source 2025 Federal \$2,206,154 State \$2,206,154 DF CR234 TO: SOUTH OF SR121(WILLISTON IRUCT Funding Source 2025 State OUNTY REST AREA Funding Source 2025 State	Federal \$632,417 \$632,417 \$632,417 \$632,417 \$632,417 \$632,417 \$632,417 \$632,417 \$632,417 \$632,417 \$632,417 \$632,417 \$632,417 \$632,417 \$632,417 \$632,417 \$632,417 \$632,417 \$632,417 \$1,212,691 \$1,249,071 \$1,212,691 \$1,249,071 \$\$1,212,691 \$\$1,249,071 \$\$\$1,226,154 \$\$\$0 \$	Federal \$632,417 \$632,62027 \$1,212,691 \$1,249,071 \$1,287,794 \$1,212,691 \$1,249,071 \$1,287,794 \$1,2206,154 \$2026 2027 Federal \$2,206,154 \$2026 2027 \$31,550,000 \$31,550,000 OUNTY REST AREA Funding Source	Federal \$632,417 \$632,417 AFFIC SIGNAL MAINTENANCE AGREEMENT "ICES/SYSTEM Funding Source 2025 2026 2027 2028 State \$1,212,691 \$1,249,071 \$1,287,794 \$1,327,714 State \$1,212,691 \$1,249,071 \$1,287,794 \$1,327,714 NES Funding Source 2025 2026 2027 2028 Federal \$2,206,154 \$2,206,154 \$2,206,154 \$2,206,154 \$2,206,154 DF CR234 TO: SOUTH OF SR121(WILLISTON ROAD) IRUCT Funding Source 2025 2026 2027 2028 State \$1,550,000 OUNTY REST AREA Funding Source 2025 2026 2027 2028 State \$1,550,000 State \$2,200,000



ALACHUA COUNTY						Highways
427326-2 - NW 141ST STREET AI Type of Work: SIDEWALK	ND NW 166TH PLACE					
Phase	Funding Source	2025	2026	2027	2028	2029
Preliminary Engineering	Federal	\$83,614				
Construction	Federal			\$421,803		
Total for Project 427326-2		\$83,614		\$421,803		
211209-2 - NW 43RD ST NORTH (Type of Work: MEDIAN MODIFICA	OF NW16TH BLVD AND NW 23 ITION	RD AVE				
Phase	Funding Source	2025	2026	2027	2028	2029
Preliminary Engineering	Federal	\$235,987				
Construction	Federal			\$1,151,665		
Total for Project 211209-2		\$235,987		\$1,151,665		
445573-1 - NW 45TH DR FROM B Type of Work: PEDESTRIAN SAFE	LACK FOREST WAY TO C.W. I ETY IMPROVEMENT	NORTON ELEM SCHO	OL.			
Phase	Funding Source	2025	2026	2027	2028	2029
Construction	Federal		\$360.646			
Total for Project 445573-1			\$360,646			
435889-1 - SR120(NW 23 AVE) & Type of Work: TRAFFIC SIGNAL L	SR25(US441)(NW 13 ST) JPDATE					
Phase	Funding Source	2025	2026	2027	2028	2029
Construction	State				\$2,413,303	
Total for Project 435889-1					\$2,413,303	
					,,	

207712-6 - SR121(34TH STREET) FROM SR331(SE WILLISTON RD) TO NW 16TH BLVD

Type of Work: RESURFACING

Phase	Funding Source	2025	2026	2027	2028	2029
Preliminary Engineering	State	\$1,844,399				
Construction	Federal			\$5,108,933		
	State			\$8,525,190		
Total for Project 207712-6		\$1,844,399		\$13,634,123		

443701-1 - SR20 EAST ON-RAMP IN HAWTHORNE RR CROSSING #625010J

Type of Work: RAILROAD CROSSING

Phase	Funding Source	2025	2026	2027	2028	2029
Railroad & Utilities	State		\$450,000			
Total for Project 443701-1			\$450,000			





443695-1 - SR20 W ON-RAMP IN Type of Work: RAILROAD CROSS	HAWTHORNE RR CROSSING	NUMBER 927690S				
Phase	Funding Source	2025	2026	2027	2028	2029
Railroad & Utilities	State	\$361,504				
Total for Project 443695-1		\$361,504				
207648-7 - SR20(US441)N MLK M Type of Work: RESURFACING	IEM HWY FROM CR2054 TO N	IW 167TH BLVD				
Phase	Funding Source	2025	2026	2027	2028	2029
Railroad & Utilities	Federal	\$50,000				
Construction	Federal		\$4,676,062			
	State		\$4,143,939			
Total for Project 207648-7		\$50,000	\$8,820,001			
207794-4 - SR200(US301) AT SE Type of Work: TRAFFIC SIGNALS Phase	57TH AVE Funding Source	2025	2026	2027	2028	2029
207794-4 - SR200(US301) AT SE Type of Work: TRAFFIC SIGNALS Phase Right of Way Total for Project 207794-4	57TH AVE Funding Source Federal	2025 \$126,744 \$126,744	2026	2027	2028	2029
207794-4 - SR200(US301) AT SE Type of Work: TRAFFIC SIGNALS Phase Right of Way Total for Project 207794-4 207794-3 - SR200(US301) FROM Type of Work: RESURFACING	57TH AVE Funding Source Federal SR20 TO SR26	2025 \$126,744 \$126,744	2026	2027	2028	2029
207794-4 - SR200(US301) AT SE Type of Work: TRAFFIC SIGNALS Phase Right of Way Total for Project 207794-4 207794-3 - SR200(US301) FROM Type of Work: RESURFACING Phase	57TH AVE Funding Source Federal SR20 TO SR26 Funding Source	2025 \$126,744 \$126,744 2025	2026	2027	2028	2029
207794-4 - SR200(US301) AT SE Type of Work: TRAFFIC SIGNALS Phase Right of Way Total for Project 207794-4 207794-3 - SR200(US301) FROM Type of Work: RESURFACING Phase Construction	57TH AVE Funding Source Federal SR20 TO SR26 Funding Source Federal	2025 \$126,744 \$126,744 2025 \$14,952,067	2026	2027	2028	2029
207794-4 - SR200(US301) AT SE Type of Work: TRAFFIC SIGNALS Phase Right of Way Total for Project 207794-4 207794-3 - SR200(US301) FROM Type of Work: RESURFACING Phase Construction	57TH AVE Funding Source Federal SR20 TO SR26 Funding Source Federal State	2025 \$126,744 \$126,744 2025 \$14,952,067 \$3,972,139	2026	2027	2028	2029
207794-4 - SR200(US301) AT SE Type of Work: TRAFFIC SIGNALS Phase Right of Way Total for Project 207794-4 207794-3 - SR200(US301) FROM Type of Work: RESURFACING Phase Construction Total for Project 207794-3	57TH AVE Funding Source Federal SR20 TO SR26 Funding Source Federal State State	2025 \$126,744 \$126,744 2025 \$14,952,067 \$3,972,139 \$18,924,206	2026	2027 2027	2028	2029
207794-4 - SR200(US301) AT SE Type of Work: TRAFFIC SIGNALS Phase Right of Way Total for Project 207794-4 207794-3 - SR200(US301) FROM Type of Work: RESURFACING Phase Construction Total for Project 207794-3 434318-2 - SR200(US301) FROM Type of Work: RESURFACING	57TH AVE Funding Source Federal SR20 TO SR26 Funding Source Federal State THE MARION COUNTY LINE T	2025 \$126,744 \$126,744 2025 \$14,952,067 \$3,972,139 \$18,924,206	2026 2026 STREET	2027	2028	2029
207794-4 - SR200(US301) AT SE Type of Work: TRAFFIC SIGNALS Phase Right of Way Total for Project 207794-4 207794-3 - SR200(US301) FROM Type of Work: RESURFACING Phase Construction Total for Project 207794-3 434318-2 - SR200(US301) FROM Type of Work: RESURFACING Phase	57TH AVE Funding Source Federal SR20 TO SR26 Funding Source Federal State THE MARION COUNTY LINE T Funding Source	2025 \$126,744 \$126,744 2025 \$14,952,067 \$3,972,139 \$18,924,206 TO NORTH OF 203RD 2025	2026 2026 STREET 2026	2027 2027	2028	2029
207794-4 - SR200(US301) AT SE Type of Work: TRAFFIC SIGNALS Phase Right of Way Total for Project 207794-4 207794-3 - SR200(US301) FROM Type of Work: RESURFACING Phase Construction Total for Project 207794-3 434318-2 - SR200(US301) FROM Type of Work: RESURFACING Phase Construction	57TH AVE Funding Source Federal SR20 TO SR26 Funding Source Federal State THE MARION COUNTY LINE T Funding Source Federal	2025 \$126,744 \$126,744 2025 \$14,952,067 \$3,972,139 \$18,924,206 TO NORTH OF 203RD 2025 \$5,977,650	2026 2026 STREET 2026	2027 2027 2027 2027	2028	2029
207794-4 - SR200(US301) AT SE Type of Work: TRAFFIC SIGNALS Phase Right of Way Total for Project 207794-4 207794-3 - SR200(US301) FROM Type of Work: RESURFACING Phase Construction Total for Project 207794-3 434318-2 - SR200(US301) FROM Type of Work: RESURFACING Phase Construction	57TH AVE Funding Source Federal SR20 TO SR26 Funding Source Federal State THE MARION COUNTY LINE Federal State Federal State State	2025 \$126,744 \$126,744 \$126,744 2025 \$14,952,067 \$3,972,139 \$18,924,206 TO NORTH OF 203RD 2025 \$5,977,650 \$4,476,859	2026 2026 STREET 2026	2027	2028	2029

447032-2 - SR222(39TH AVE) FROM W OF I-75 TO SR121(NW 34TH ST)

Type of Work: LANDSCAPING

Phase	Funding Source	2025	2026	2027	2028	2029
Preliminary Engineering	State		\$1,059,359	·	·	
Construction	State			\$1,896,649		
Total for Project 447032-2			\$1,059,359	\$1,896,649		





ALACHUA COUNTY						Highways
207611-5 - SR222(NW39TH AVE) Type of Work: RESURFACING	FROM NW 43RD STREET TO	NW 24TH BLVD				
Phase	Funding Source	2025	2026	2027	2028	2029
Construction	Federal	\$1,826,185				
	Local	\$66,885				
	State	\$2,424,144				
Total for Project 207611-5		\$4,317,214				
449844-2 - SR24(ARCHER RD) A Type of Work: ADD LEFT TURN LA	T SW 143RD ST AND SW 111 ANE(S)	TH TERR				
Phase	Funding Source	2025	2026	2027	2028	2029
Construction	Federal	\$2,505,950				
Total for Project 449844-2		\$2,505,950				
	EDOM SOUTHWEST 16TH A					
445050-1 - 5124(AICHEN KOAD			I ISIII SIKEEI			

Phase	Funding Source	2025	2026	2027	2028	2029
Preliminary Engineering	State		\$265,000			
Construction	State				\$1,336,680	
Total for Project 443638-1			\$265,000		\$1,336,680	

447203-1 - SR24(KENNARD ST) IN WALDO FROM NE 148TH AVE TO NE 144TH AVE

Type of Work: RESURFACING

Phase	Funding Source	2025	2026	2027	2028	2029
Preliminary Engineering	Federal	\$616,252				
	State	\$149,266				
Construction	Federal			\$5,843,763		
	State			\$471,302		
Total for Project 447203-1		\$765,518		\$6,315,065		

439489-2 - SR24(NE WALDO RD) FROM SOUTH OF SR26 TO NORTH OF SR222

Type of Work: RESURFACING

Phase	Funding Source	2025	2026	2027	2028	2029
Construction	Federal	\$7,072,791				
	Local	\$30,056				
	State	\$617,529				
Total for Project 439489-2		\$7,720,376				

ALACHUA COUNTY						Highways
449844-1 - SR24(SW ARCHER	RD) AT SR121(SW34TH ST)					
Type of Work: TRAFFIC SIGNA	L UPDATE					
Phase	Funding Source	2025	2026	2027	2028	2029
Right of Way	State	\$35,711				
Construction	Federal					\$2,040,122
Total for Droig at 440044 4		\$35 711				\$2 040 122

432240-4 - SR24(US441)SW13TH/MLK JR HWY FROM MUSEUM ROAD TO INNER ROAD

Type of Work: BIKE PATH/TRAIL

Phase	Funding Source	2025	2026	2027	2028	2029
Preliminary Engineering	Federal		\$452,794			
Construction	Federal				\$2,888,176	
Total for Project 432240-4			\$452,794		\$2,888,176	
Total for Project 432240-4			\$452,794		\$2,888,176	

207555-4 - SR24A/SR226(SW16TH AVE) FROM SR24(ARCHER RD) TO SR331(SE WILLISTON RD)

Type of Work: RESURFACING

Phase	Funding Source	2025	2026	2027	2028	2029
Preliminary Engineering	State	\$997,473				
Construction	Federal			\$4,217,524		
	State			\$430,081		
Total for Project 207555-4		\$997,473		\$4,647,605		

207761-2 - SR26 AT HATCHET CREEK BRIDGE #260033

Type of Work: BRIDGE-REPAIR/REHABILITATION

Phase	Funding Source	2025	2026	2027	2028	2029
Right of Way	State	\$1,265				
Construction	State	\$5,091,991				
Total for Project 207761-2		\$5,093,256				

207850-2 - SR26 CORRIDOR FROM GILCHRIST C/L TO CR26A E OF NEWBERRY

Type of Work: ADD LANES & RECONSTRUCT

Phase	Funding Source	2025	2026	2027	2028	2029
Right of Way	State	\$6,244,100	\$2,218,969	\$98,380		
Railroad & Utilities	State			\$7,500,112		
Construction	Local			\$8,881		
	State			\$57,260,260		
Total for Project 207850-2		\$6,244,100	\$2,218,969	\$64,867,633		



SUBJECT TO CHANGE

ALACHUA COUNTY						Highways
207668-3 - SR26(NEWBERRY RD Type of Work: RESURFACING) FROM WEST OF CR241 SOU	JTH TO WEST OF I-75(S	R93)			
Phase	Funding Source	2025	2026	2027	2028	2029
Construction	Federal	\$11,514,672				
	State	\$2,364,171				
Total for Project 207668-3		\$13,878,843				
207658-3 - SR26(W UNIVERSITY /	AVE) FROM SR26A(SW 2ND /	AVE) TO SR25(US441)SV	V 13TH ST			
Phase	Funding Source	2025	2026	2027	2028	2029
Preliminary Engineering	Federal	\$832,863				
Construction	State				\$4,425,732	
Total for Project 207658-3		\$832,863			\$4,425,732	
207817-5 - SR26(W UNIVERSITY A Type of Work: RESURFACING	AVE) FROM SW 38TH ST TO	GALE LEMERAND DR	0000	0007		
Phase	Funding Source	2025	2026	2027	2028	2029
Preliminary Engineering	State	\$1,098,827		#0.000.040		
Construction	Federal			\$2,206,012		
Total for Drain of 207047 F	State	¢4 000 007		\$1,688,931		
Total for Project 207817-5		\$1,098,827		\$3,894,943		
435890-1 - SR331 AT SE 4TH AVE	E, SE 2ND AVE, SR26, NE 16T	H AVE, SR120				
Type of Work: TRAFFIC SIGNAL U	IPDATE					
Phase	Funding Source	2025	2026	2027	2028	2029

Flidse	Funding Source	2025	2020	2021	2020	2029
Construction	Local				\$12,056	
	State				\$4,896,037	
Total for Project 435890-1					\$4,908,093	

207798-8 - SR45(US27) FROM SR24(ARCHER RD) TO SW 15TH AVENUE

Type of Work: RESURFACING

Phase	Funding Source	2025	2026	2027	2028	2029
Preliminary Engineering	State	\$1,577,540				
Construction	Federal			\$3,922,795		
	State			\$4,289,793		
Total for Project 207798-8		\$1,577,540		\$8,212,588		



ALACHUA COUNTY						Highways
207779-3 - SR45(US27) FROM SI Type of Work: RESURFACING	W15TH AVENUE TO SR25(US44 ²	1)				
Phase	Funding Source	2025	2026	2027	2028	2029
Railroad & Utilities	Federal	\$50,000				
Construction	Federal		\$3,031,217			
	State		\$8,782,210			
Total for Project 207779-3		\$50,000	\$11,813,427			
Type of Work: SIDEWALK		•				
Phase	Funding Source	2025	2026	2027	2028	2029
Phase Construction	Funding Source Federal	2025	2026	2027 \$654,750	2028	2029
Phase Construction Total for Project 439176-1	Funding Source Federal	2025	2026	2027 \$654,750 \$654,750	2028	2029
Phase Construction Total for Project 439176-1 432240-3 - SW 170TH/SW 134TH Type of Work: BIKE PATH/TRAIL	Funding Source Federal	2025	2026	2027 \$654,750 \$654,750	2028	2029
Phase Construction Total for Project 439176-1 432240-3 - SW 170TH/SW 134TH Type of Work: BIKE PATH/TRAIL Phase	Funding Source Federal	2025	2026	2027 \$654,750 \$654,750 2027	2028	2029
Phase Construction Total for Project 439176-1 432240-3 - SW 170TH/SW 134TH Type of Work: BIKE PATH/TRAIL Phase Preliminary Engineering	Funding Source Federal	2025	2026 2026 \$337,881	2027 \$654,750 \$654,750 2027	2028	2029
Phase Construction Total for Project 439176-1 432240-3 - SW 170TH/SW 134TH Type of Work: BIKE PATH/TRAIL Phase Preliminary Engineering Total for Project 432240-3	Funding Source Federal	2025	2026 2026 \$337,881 \$337,881	2027 \$654,750 \$654,750 2027	2028	202

Type of Work: SIDEWALK

Funding Source	2025	2026	2027	2028	2029
Federal	\$500,601				
Federal			\$575,108		
	\$500,601		\$575,108		
	Funding Source Federal Federal	Funding Source 2025 Federal \$500,601 Federal \$500,601	Funding Source 2025 2026 Federal \$500,601 Federal \$500,601 \$500,601 Federal	Funding Source 2025 2026 2027 Federal \$500,601 \$575,108 Federal \$500,601 \$575,108	Funding Source 2025 2026 2027 2028 Federal \$500,601 \$575,108 \$575,108 Federal \$500,601 \$575,108 \$575,108



SUBJECT TO CHANGE



Collision Summary Collision Diagram

Collision Summary

Location: US 41/US 27															
From	1/1/2019										To: 8	6/16/2024			City/County: High Springs/Alachua County
No.	Date	Day	Time	Туре	Correctable?	Fatalities	Injuries		Property Damage	Day/ Night	Wet/ Dry	Contributing Cause	Driver D1 Age 65+	Alcoho Drugs	W Notes
1	1/1/2019	Tu	12:05	Sideswipe	No	0	4	\$	4,000.00	Day	Dry	Failed to Yield ROW	No	No	SB US 41 vehicle sideswiped another SB vehicle at intersection. A driver started to tu
2	1/28/2019	М	6:10	Angle	Yes	0	0	\$	3,000.00	Night	Dry	Failed to Yield ROW	No	No	WB CR 340 vehicle struck SB US 41 vehicle at intersection.
3	7/13/2019	Sa	17:15	Angle	Yes	0	0	\$	5,500.00	Day	Dry	Failed to Yield ROW	No	No	WB CR 340 vehicle struck SB US 41 vehicle at intersection.
4	8/20/2019	Tu	16:04	Angle	Yes	0	2	\$	4,000.00	Day	Dry	Careless Driving	No	No	EB CR 340 vehicle struck NB US 41 vehicle at intersection2
5	8/22/2020	Sa	11:20	Angle	Yes	0	0	\$	600.00	Day	Dry	Failed to Yield ROW	No	No	EB CR 340 vehicle struck NB US 41 vehicle at intersection.
6	8/22/2020	Sa	14:30	Sideswipe	No	0	2	\$	6,000.00	Day	Dry	Careless Driving	No	No	SB US 41 passing vehicle struck SB US 41 left turning vehicle at intersection.
7	9/23/2020	W	17:15	Backing	No	0	0	\$	1,500.00	Day	Dry	Careless Driving	No	No	EB CR 340 vehicle backed up at stop sign and stuck another vehicle at intersection.
8	12/18/2020	F	12:50	Sideswipe	No	0	1	\$	1,000.00	Day	Dry	Careless Driving	No	No	NB driver fell asleep and vehicle crossed the center lane and sideswiped SB truck, no
9	6/16/2022	Th	22:16	Off-Road	No	0	2	\$	5,000.00	Night	Dry	Speeding	No	Unk	EB CR 340 speeding vehicle ran off the road and struck a tree4
10	9/13/2022	Tu	15:20	Sideswipe	No	0	0	\$	1,500.00	Day	Dry	Careless Driving	Yes	No	An EB CR 340 left-turning vehicle struck a WB right-turning vehicle at intersection.
11	2/10/2023	F	9:35	Rear-End	No	0	0	\$	5,500.00	Day	Dry	Failed to Yield ROW	Yes	No	NB US 41 through vehicle struck NB US 41 left turning vehicle at intersection.
12	4/22/2023	Sa	12:53	Angle	Yes	0	0	\$	10,000.00	Day	Dry	Failed to Yield ROW	Yes	No	EB CR 340 left turning vehicle struck SB US 41 vehicle at US 41.
13	11/20/2023	М	15:30	Angle	Yes	0	1		Unk	Day	Dry	Failed to Yield ROW	Yes	No	EB CR 340 struck SB US 41 vehicle at intersection3
14	3/31/2024	Su	21:00	Angle	Yes	0	0	\$	200.00	Night	Dry	Failed to Yield ROW	No	No	EB CR 340 vehicle struck NB US 41 vehicle at intersection.
		Tota	al		7	0	12	\$	47,800.00				4	0	
	Total No.	Fat	al Crashes		Injury Crashes		C	JUI		An	gle	Sideswipe			US 41 AADT Information
	14		0		6			0		7	7	4			
	100%	_	0%		43%		()%		50)%	29%	4		
Faile	ed to Yield ROW	Care	eless Driving		Day		N	ight		W	et	Dry			11,500 vehicles per day
L	8		5		11			3		()	14	(D=58.2%; T=10.7%; 2023 AADT from Florida Traffic		
	57%		36%		79%		2	1%		0	%	100%			

um right, got passed then driver turned left. ∹

orth of intersection. -

, SR 45 north of 1st Avenue)





Traffic Signal Warrant Forms

Input Data							Form 750.020
Citv:	High Springs						TRAFFIC ENGINEERI
County:	26 – Alachua	Engineer:	Setul Shah				October 20
District:	Two	Date:	September 10, 2024				
		-	· · ·				
Major Street:	US 41	Major Street # Lanes:	1	Major Approach Speed:	: 40		
Minor Street:	CR 340	Minor Street # Lanes:	1	Minor Approach Speed	45		
		-				-	
	Eiç	ht Hour Volumes (Condit	ion A)	For Warrant 7	Eiç	ght Hour Volumes (Condit	ion B)
		Major Street	Minor Street	Ped Crossings on		Major Street	Minor Street
	Hours	(total of both approaches)	(one direction only)	Major Street	Hours	(total of both approaches)	(one direction only)
	7 AM - 8 AM	687	260	0	7 AM - 8 AM	687	260
	8 AM - 9 AM	514	215	0	12 PM - 1 PM	555	161
	12 PM - 1 PM	555	161	0	1 PM - 2 PM	557	154
	1 PM - 2 PM	557	154	2	2 PM - 3 PM	679	161
	2 PM - 3 PM	679	161	0	3 PM - 4 PM	692	182
	3 PM - 4 PM	692	182	0	4 PM - 5 PM	771	184
	4 PM - 5 PM	771	184	0	5 PM - 6 PM	894	165
	5 PM - 6 PM	894	165	0	6 PM - 7 PM	629	151
'	••••••				•••••		
	High	est Four Hour Vehicular \	/olumes		Highe	est Four Hour Pedestrian	Volumes
							Pedestrian
	Hours	Major Street	Minor Street		Hours	Major Street	Crossings on Major
	riouro	(total of both approaches)	(one direction only)		riouro	(total of both approaches)	Street
		697	260			557	2
		602	200			771	2
		771	102			<u> </u>	0
		804	104			620	0
		094	105			029	0
		Vehicular Peak	Hour Volumes				
		Major Street	Minor Street	Total Entering			
	Peak Hour	(total of both approaches)	(one direction only)	Volume			
				Volumo			
	5 PM - 6 PM	894	165	1059			
	Р	edestrian Peak Hour Volu	imes				
		Major Street	Pedestrian				
	Peak Hour	(total of both approaches)	Crossing Volumes				
			on Major Street				
	1 PM - 2 PM	557	2				

				State o	f Florid	a Depa	Irtment	of Tran	sportatio	ı			For TRAFFIC EI	m 750-020-0 NGINEERINO October 202
		TI	RAF	FIC S	GIGN	AL V	VAR	RAN	T SUN	1MA	RY			
Citv [.]		Hiah	Sprine	as					Engineer		:	Setul Shah		
County:		26 –	Alach	ua					Date	:	Sept	ember 10, 2	2024	_
District:			Two											
Maior Street				115 41					anes	1	Maior	Annroach S	need.	40
Minor Street:				CR 340					Lanes:	1	Minor	Approach S	peed:	40
	nic Refe	rence to C	`hanter	· A· http	·//mute	d fbwa	dot go	/ndfe/2	 000r1r2/r	oart4 r	odf			
			naptei	4. <u>mup</u>		u.mwa.	.uot.go	//pui3/2	0031112/p					
1. Is the po	sted spe	ed or 85th	n-perce	entile of I	major s	treet >	40 mpl	ı?				Yes	✓ No	
2 Is the int	' ersectio	n in a built	-un are	ea of an	, isolater	d comm	nunitv v	vithan	opulation	< 10	0002	V Yes	No	
2. 10 110 111	0100010		up ure		isolatov		Torinty V	nara p	opulation			• 103	NO	
"70%" volun	ne level	may be us	sed if C	Question	1 or 2	above	is ansv	vered "\	/es"	MAY	Y	✓ 70%	✓ 100%	
ARRANT 1	- EIGH	IT-HOUR	VEH	ICULA	R VOL	UME								
V	Varrant	1 is satisfie	ed if Co	ondition ,	А <u>ог</u> С	onditio	n B is "	100%":	satisfied f	or eig	ht hours.	Yes	✓ No	
	Warra	ant 1 is als	o satis	fied if bo	oth Con	dition A	A <u>and</u>	Conditio	on B are	'80%"	satisfied		_	
should only be	e applied	d after an	adequ inc	ate trial onvenie	of othe nce to t	r altern traffic h	atives t as faile	hat cou d to sol	ld cause ve the tra	less d ffic pr	elay and	✓ Yes	No	
	Warrant	1 is satisf	ind if C	Condition		Conditi	on R is	"70%"	satisfied f	or eia	bt hours	Vec.	Ne	
Condition A	A - Minii	mum Vehi	cular V	Volume	<u> 01</u>	Conun	011 D 13	1078 .	salisiieu i	or eigi	ni nours.	✓ res	INO	
<u>e e indición /</u>	<u> </u>		ourur	roranio						Ar	oplicable:	√ Yes	No	
									1	00%	Satisfied:	Yes	✓ No	
Condition A	is intene	ded for app the princi	olicatio nal rea	n at loca	ations w	vhere a r install	large \ ling a tr	olume offic cou	of '	00%	Catiofica:	V Yes	No	
signal.	li anic is		Jarrea	301110 0	Unsider	IIIstaii	ing a li		11101	700%		Vec	No	
r								-		70%	Satislied:	v Tes	NO	
			Ve	hicles r	ber hou	ur on n	naior-							
Number of traffic or	Lanes Lanes	for movin	g	street	t (total	of bot	h	Vehic	les per h t (one di	our oi rectio	n minor- n only)			
				ap	proacl	hes)								
Major		Minor	1	00% ^a	80%	b i	70% ^c	100%	6 ^a 80	% ^b	70% ^c			
1		1		500	400)	350	150	12	0	105			
2 or more	e	1		600	480)	420	150	12	0	105			
2 or more	e 2	2 or more		600	480)	420	200	16	0	140			
1		2 or more		500	400	,	350	200	16	0	140			
^a Basic Minim	um hourly	/ volume								-	_	IJ		
^b Used for con	nbination	of Condition	ns A and	d B after a	adequat	e trial of	f other re	emedial r	neasures		lation of lea	ss than 10 00	0	
			et spee		15 40 Mp							55 than 10,00	10	
Recora 8 nigr	iest nours	s and the co	Fierb	t Lisch o	or-street	and mil	nor-stree	et volume	es in the in	structio	ons Sneet.			
		_	Eign	THIGNES	St Houl	rs 								
Street	AM	AM	I PN	Μd	PA	E E	E E	Δ						
Street	4 - 8	- 0	` N	- 2	- 3	4	- 2	9 -						
	AN	3 AN	2 PN	N I PN	PN	3 PN	PN 4	PN 2						
			-											
Major	687	514	555	557	679	692	771	894	Existi	ng Vo	lumes			
Minor	260	215	161	154	161	182	184	165						
[l					

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

Number of Lar traffic on ea	nes for moving ch approach	Vehicles stree ar	per hour o t (total of b pproaches	n major- ooth)	Vehicles street (c	per hour o one directi	on minor- on only)
Major	Minor	100% ^a	80% ^b	70% ^c	100% ^a	80% ^b	70% ^c
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

^a Basic Minimum hourly volume

^b Used for combination of Conditions A and B after adequate trial of other remedial measures

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

		Eig	ght High	est Hou	Irs			
Street	7 AM - 8 AM	12 PM - 1 PM	1 PM - 2 PM	2 PM - 3 PM	3 PM - 4 PM	4 PM - 5 PM	5 PM - 6 PM	6 PM - 7 PM
Major	687	555	557	679	692	771	894	629
Minor	260	161	154	161	182	184	165	151

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

Existing Volumes

Ci Coun Distri	ty: ty: ct:	High S 26 – Al Tw	ings Engineer: chua Date:	Setul Shah September 10, 2024
Major Stre Minor Stre	et: et:		US 41 Lanes: 1 CR 340 Lanes: 1	Major Approach Speed: 4 Minor Approach Speed: 4
/UTCD Electr	onic Refe	ence to Ch	oter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.p	<u>odf</u>
/olume Level 1. Is the 2. Is the i "70%" vol	Criteria posted spe ntersectio	eed or 85th	ercentile of major street > 40 mph? ϕ area of an isolated community with a population < 10,0 I if Question 1 or 2 above is answered "Yes" \checkmark MAY	Yes ✓ No 000? ✓ Yes No
If all four	points lie v	above the a	propriate line, then the warrant is satisfied. Applic Sati Plot four volume combinations on the applic. FIGURE 4C-1: Criteria for "1009	cable: Yes No isfied: Yes No able figure below. ""Volume Level
Four	Volu	imes	500	
Highest Hours	Major Street	Minor Street	400 HOT JOP MORE LANES & 2 OR MORE HOT JOP MORE JONE JONE MORE JONE JONE MORE JONE MORE JONE JONE JONE MORE JONE JONE JONE JONE JONE JONE JONE JON	
7 AM - 8 AM 3 PM - 4 PM	687 692	260 182	UNINON BURNESS 200	
4 PM - 5 PM 5 PM - 6 PM	771 894	184 165		*115
70% V	olume Le	vel	⁰ ³⁰⁰ ⁴⁰⁰ ⁵⁰⁰ ⁶⁰⁰ ⁷⁰⁰ ⁸⁰⁰ ⁹⁰⁰ ¹ MAJOR STREET - TOTAL OF BOTH APPRO * Note: 115 ph. applies as the lower threshold volume for a minor street a ⁸⁰ mph applies as the lower threshold volume threshold for a minor FIGURE 4C-2: Criteria for "70% (Community Less than 10,000 population or above 70 km ⁴⁰⁰	000 1100 1200 1300 1400 OACHES - VPH approach with two or more lanes and tor street approach with one lane. %" Volume Level m/hr. (40 mph) on Major Street)
Four	Volu	mes	2 OR MORE LANES & 2 OR MORE	ELANES
Highest Hours	Major Street	Minor Street	2 OR MORE LANES &	LANE
7 AM - 8 AM	687	260	S S S S S S S S S S S S S S S S S S S	
3 PM - 4 PM	692	182		
4 PM - 5 PM 5 PM - 6 PM	771 894	184 165	· · · · · · · · · · · · · · · · · · ·	*80
			o	60

City: High Sp	rings	1	Er	ngineer:	0	Setul Sha	h	
District: 26 – Ala	cnua o	_		Date:	Sep	tember 10	, 2024	
Major Street:	US 41		Lai	nes: 1	Major	⁻ Approach	Speed:	4
Minor Street:	CR 340		Laı	nes: <u>1</u>	Minor	Approach	Speed:	4
MUTCD Electronic Reference to Chap	oter 4: <u>http://r</u>	mutcd.fhwa.do	ot.gov/pdfs/	2009r1r2/	<u>part4.pdf</u>			
Volume Level Criteria						— . <i>,</i>		
1. Is the posted speed or 85th-p	ercentile of maj	or street > 40) mph?			Yes	✓ No	
2. Is the intersection in a built-up	o area of an iso	ated commur	nity with a p	population	i < 10,000?	✓ Yes	No	
"70%" volume level may be used	l if Question 1 d	or 2 above is	answered "	Yes" 🗸 I	MAY	√ 70%	b 🗹 100%	, o
WARRANT 3 - PEAK HOUR								
If all three criteria are fulfilled or	the plotted poi	nt lies above	the annronr	iate	Applicable	Yes	V No	
line, then the warrant is satisfied.		nt nes above		ale	Satisfied	Yes	No	
Unusual condition justifying use of		Plot volum	ne combinatio	on on the a	pplicable figu	re below.		
warrant: -	600 r	FIGU	JRE 4C-3:	Criteria f	or "100%"	Volume L	evel	7
-				2 OR MORE LA	NES & 2 OR MORE	LANES		
Record hour when criteria are fulfilled	H 500							
volume in boxes provided.	HO 400	\searrow	$\langle \rangle$	\searrow			<u> </u>	
Peak Hour 100% Volume	PPRO				- 2 OR MORE LAN	ES & 1 LANE		
Time Major Vol. Minor Vol.	NOR 300		\square	\searrow	\mathbf{N}	1 LANE &	1 LANE	
5 PM - 6 PM 894 165	[₩] ²⁰⁰			$\rightarrow \downarrow$	\rightarrow			*16
Book Hour 70% Volumo	변 100 –							*10
Time Maior Vol. Minor Vol.								
5 PM - 6 PM 894 165	0 L 40	D 500 600 7	00 800 900	1000 110	0 1200 1300	1400 1500 16	500 1700 1	_ 800
Critoria		MAJO	R STREET - TO	TAL OF BOTH	APPROACHES	- VPH		
1. Delay on Minor Approach	* Note: 150 vph 100 vph	applies as the low applies as the low	er threshold volu er threshold volu	ume for a min ume threshold	or street approa d for a minor stre	ch with two or n et approach wi	nore lanes an th one lane.	nd
*(vehicle-hours)								
Approach Lanes 1 2		FIGUE	RE 4C-4: C	riteria for	r "70%" Vo	lume Leve	3	
Delay Chiena 4.0 5.0	500							1
Fulfilled?: Yes No	т			2 OR MOR	E LANE\$ & 2 OR MC	RELANES		
2 Volume on Minor Approach	₽ 400 ±	\cdot						
One-Direction *(vehicles per hour)	ROACI			2 OR M0	DRE LANES & 1 LAN	E		
Approach Lanes 1 2	APPR 300	\smallsetminus \checkmark						
Volume Criteria* 100 150				\searrow	1 LAN	IE & 1 LANE		
Volume*	о 200 На			\square	\mathbf{X}			
	₩ 100							*10
3. Total Intersection Entering								*75
No. of Approaches 3 4	0]
	300	400 500	600 7	vu 800	900 10	JU 1100	1∠00 13	UU

				ANI JUIVIIV			
City:	High Sp	rings		Engineer:	9	Setul Shah	
County:	26 – Ala	ichua	-	Date:	Septe	ember 10, 2024	
	1.00	0	-				
Major Street:		US 41		Lanes: 1	Major A	Approach Speed:	40
Minor Street:		CR 340		Lanes: 1	Minor A	Approach Speed:	45
MUTCD Electronic	Reference to Cha	pter 4: <u>tp://mutc</u>	cd.fhwa.dot.gov/pc	fs/2009r1r2/pa	<u>rt4.</u> ç		
Volume Level Cri	teria						
1. Is the post	ea speea or 85tn-p	ercentile of maj	jor street > 35 mpn	, h a nonviation .	< 10,0002	V Yes No	
2. Is the inter	section in a built-u	p area or an iso	lated community wi	na population «	< 10,000 <i>?</i>	✓ Yes No	
"70%" volume	e level may be use	d if Question 1 d	or 2 above is answe	ered "Yes" 🗸 M	AY	√ 70% √ 100	0%
percentile cro was conducte percentile.	ssing speed of pea d which reported a	lestrians is less pedestrian spe	than 3.5 ft/sec. A weed less than 3.5 ft/s	valking speed stu sec for the 15th	ıdy	Yes 🗸 No	
WARRANT 4 -	PEDESTRIAN V	OLUME					_
For each of a	ny 4 hours of an av	verage day, the	plotted points lie ab	ove the	Applicable:	✓ Yes No	
appropriate in	ie, men me wanan	it is satisfied.			Satisfied:	Yes 🗸 No	
			Plot four volume	combinations on t	he applicable	e figure below.	
100% Vol			Figure 4C-5.	Criteria for "100	%" Volume	e Level	
100% Voit	Volumes	500 9	0				
Four Highest	· D L ()	ISS 200	0				
Hours Ma	ajor Pedestrian reet Total	PPH C					
1 PM - 2 PM 5	57 2	STRIA SEET. 300					
4 PM 5 PM 7	71		0				
4 FIM - 5 FIM 7	71		0				107
5 PM - 6 PM 8	94						
5 PM - 6 PM 6	29	TOT (0 400 500 60	700 800 90	00 1000 11	00 1200 1300 140	00
			MAJOR S	TREET - TOTAL OF BO	TH APPROACHE	ES - VPH	
		* Note: 10	07 pph applies as the lower	threshold volume for 1	00% volume lev	rel	
70% Volu	me l evel		Figure 4C-6	Criteria for "70%	%" Volume	Level	
	Volumes	40 2	00				
Four Highest Hours Ma	ajor Pedestrian reet Total	VS CROSS	00				
1 PM - 2 PM 5	57 2	SSTRIAL					
4 PM - 5 PM 7	71	PEDE DR STI					
5 PM - 6 PM 8	94		00	\rightarrow			75
		TALO					10
	200	- b					



City:	High Springs	E	ingineer:		Setul SI	nah	
County:	26 – Alachua		Date:	Se	ptember 1	0, 2024	
	TWO						
Major Street:	US 41	La	anes: 1	Maj	or Approac	h Speed:	40
Minor Street:	CR 340	La	anes: 1	Min	or Approac	h Speed:	45
MUTCD Electronic	Reference to Chapter <u>http://mutcd.f</u>	fhwa.dot.gov/pdfs	s/2009r1r2/j	p <mark>art4.pdf</mark>			
WARRANT 5 - S	CHOOL CROSSING						
Record hours w	where criteria are fulfilled and the con	rresponding volur	me or	Applicable:	Yes	✓ No	
the criteria are f	fulfilled.	s satisfied if all th	ree or	Satisfied:	Yes	No	
	Criteri	ia				Fulfil	led?
	onten	ia				Yes	No
1. There are a min during the highe	imum of 20 students crossing the mest crossing hour.	najor street	Students:	Ho	our:		
There are fewer	adequate gaps in the major street t	traffic stream dur	ing the	Minutos	Gane		
 period when the number of minu 	tes in the same period.	school crossing t	han the	Windles.	Gaps.		
The nearest trat	ffic signal along the major street is lo	ocated more than	n 300 ft. (90	m) away, o	r the		
 nearest signal is movement of training 	s within 300 ft. (90 m) but the propos affic	sed traffic signal	will not rest	rict the prog	ressive		

0:4	Link On the sec	F action of a	0.4.10		
City:	High Springs	Engineer:	Setul 3	5nan 10 2024	
District:			September	10, 2024	
Biotriot					
Major Street:	US 41	Lanes: 1	Major Appro	bach Speed:	40
Minor Street:	CR 340	Lanes: 1	Minor Appro	bach Speed:	45
MUTCD Electronic	Reference to Chapter . <u>http://mutcd.fl</u>	hwa.dot.gov/pdfs/2009r1r2/p	part4.pdf		
NARRANT 6 - 0	COORDINATED SIGNAL SYST	EM			
Indicate if the c	riteria are fulfilled in the boxes provid	led. The warrant is	Applicable:	Yes ✓ No	
satisfied if eithe	r criterion is fulfilled. This warrant sh	ould not be applied	Satisfied:	Yes No	
	Crite	ria		Fulfi	lled?
				Yes	No
¹¹ so far apart tha On a two-way s	t they do not provide the necessary d 	legree of vehicle platooning.	atooning, and the		
 proposed and a 	adjacent signals will collectively provid	de a progressive operation.	•		

City:26 - Alachua Engineer:SetUl Shah Date:SetUl Shah Date:SetUl Shah Date:SetUl Shah Mijor Street:1 Major Street:1 Major Approach Spe MUTCD Electronic Reference to Chapter 4 IntroJimutod flwas dot gov/pdfs/2009r1/2/part4.pdf VARRANT 7 - CRASH EXPERIENCE Murce criteria are fulfilled, the corresponding volume, and other information in the boxes provided. The warrant is satisfied if <u>all three</u> of the criteria are fulfilled. Applicable:Y to Ye Measure trial of other remedial measure has Measure tried Maintee of the criteria 1 failed to reduce crash frequency. Measure tried Angle Number of crashes 3 2 susceptible to correction by signal, have occurred Crash Angle Number of crashes 3 3 One of the following volume warrant is satisfied if rules Met? Yes Varrant 1, Condition A (80% satisfied), or Yes Yes Varrant 4, Pedestrian Volume satisfied at 80% (22 PM -1 Ph_ 555 2 2 2 PM -5 PM 2 2 <th>ul Shah per 10, 2024 roach Speed: roach Speed: es 3 Met? Yes Yes Yes Yes Yes</th> <th>40 45 45</th>	ul Shah per 10, 2024 roach Speed: roach Speed: es 3 Met? Yes Yes Yes Yes Yes	40 45 45	
City: <u>Below 10, 26 - Alachua</u> District: <u>Two</u> Major Street: <u>US 41</u> Minor Street: <u>I</u> Major Approach Spe MUTCD Electronic Reference to Chapter 4 <u>http://mutcd.fhwa.dot.gov/pdfs/2009r1/2/part4.pdf</u> VARRANT 7 - CRASH EXPERIENCE Record hours where criteria are fulfilled, the corresponding volume, and other information in the boxes provided. The warrant is satisfied if <u>all three</u> of the criteria are fulfilled. Criteria Adequate trial of other remedial measure has trialed to reduce crash frequency. Five or more reported crashes, of types 2. susceptible to correction by signal, have occurred Criteria 3 One of the following volume warrants is met: <u>Meinter Crossings</u> 7 AM - 8 AM 687 6 AM - 9 AM 514 Warrant 1, Condition B (80% satisfied), or <u>Yes</u> Varrant 4, Pedestrian Volume satisfied at 80% i2 PM - 1PM - 555 of volume requirements for any 8 hours of an average day. Figure 4C-5. Criteria for "100%" Volume Level figure 4C-5. Criteria for "100%" Volume 4 fited figure 4C-5. Criteria for "100%" Volume Level figure 4C-5. Criteria for "100%" Volume 4 fited figure 4C-5. Criteria for "100%" Volume 4 fited	ul Shah per 10, 2024 roach Speed: roach Speed: e:	40 45 45	
Major Street: US 41 Minor Street: CR 340 Minor Street: Minor Approach Spe MUTCD Electronic Reference to Chapter 4 http://mutcd.fhwa.dot.gov/pdfs/2009r1/2/part4.pdf WARRANT 7 - CRASH EXPERIENCE Record hours where criteria are fulfilled, the corresponding volume, and other information in the boxes provided. The warrant is satisfied if <u>all three</u> of the criteria are fulfilled. Criteria Adequate trial of other remedial measure has 1. failed to reduce crash frequency. Five or more reported crashes, of types 2. susceptible to correction by signal, have occurred Criteria 3. One of the following volume warrants is met: Warrant 1, Condition B (80% satisfied), or Warrant 1, Condition B (80% satisfied), or Warrant 1, Condition B (80% satisfied), or Warrant 4, Pedestrian Volume satisfied at 80% 12 PM - 1 PM 555 of volume requirements for any 8 hours of an average day. Figure 4C-5. Criteria for "100%" Volume Level 000 volume	roach Speed: roach Speed: e: Ves V fulfi Yes V Yes Yes Yes Yes Yes	40 45 Vo Vo	
MUTCD Electronic Reference to Chapter 4 http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/parl4.pdf WARRANT 7. CRASH EXPERIENCE Record hours where criteria are fulfilled, the corresponding volume, and other information in the boxes provided. The warrant is satisfied if <u>all three</u> of the criteria are fulfilled. Criteria Adequate trial of other remedial measure has 1 failed to reduce crash frequency. Five or more reported crashes, of types 2 susceptible to correction by signal, have occurred 2 susceptible to correction by signal, have occurred 3 one of the following volume warrants is met: Warrant 1, Condition B (80% satisfied), or Warrant 1, Condition B (80% satisfied), or Warrant 1, Condition B (80% satisfied), or Warrant 4, Pedestrian Volume satisfied at 80% 1 PM - 9 AM 514 1 PM - 2 PM 555 2 PM - 3 PM 679 3 PM - 4 PM 692 4 PM - 5 PM 771 5 PM - 6 PM 894	e: Ves 1 Yes 1 Fulfi Yes Ves Ves Ves Ves Ves	Vo Vo	
WARRANT 7 - CRASH EXPERIENCE Record hours where criteria are fulfilled, the corresponding volume, and other information in the boxes provided. The warrant is satisfied if <u>all three</u> of the criteria are fulfilled. Applicable: velocity to the criteria are fulfilled. Criteria Criteria Adequate trial of other remedial measure has Measure tried: Indequate trial of other remedial measure has Measure tried: Five or more reported crashes, of types Observed Crash frequency. Susceptible to correction by signal, have occurred Within a 12-month period. Met? Measure triad: Met? Warrant 1, Condition A (80% satisfied), or Yes Warrant 1, Condition B (80% satisfied), or Yes Warrant 4, Pedestrian Volume satisfied at 80% I2 PM - 1 PM 555 12 PM - 3 PM 679 a PM - 6 PM 894 Spin - 6 PM 894 Warrant 4, Pedestrian Volume satisfied at 80% I2 PM - 1 PM 555 12 PM - 5 PM 771 of volume requirements for any 8 hours of an average day. Figure 4C-5. Criteria for "100%" Volume Level <td col<="" td=""><td>e: Ves I Fulfi Yes V es 3 Met? Yes Yes Yes Yes</td><td>No</td></td>	<td>e: Ves I Fulfi Yes V es 3 Met? Yes Yes Yes Yes</td> <td>No</td>	e: Ves I Fulfi Yes V es 3 Met? Yes Yes Yes Yes	No
WARKNANT / - OKASIT EAR EXERCISE. Record hours where criteria are fulfilled, the corresponding volume, and other information in the boxes provided. The warrant is satisfied if <u>all three</u> of the criteria are fulfilled. Applicable: Ye Criteria Criteria Adequate trial of other remedial measure has Measure Image: Criteria Number of crashes 3 If ve or more reported crashes, of types Observed Crash Angle Number of crashes 3 Susceptible to correction by signal, have occurred Observed Crash Angle Number of crashes 3 Warrant 1, Condition A (80% satisfied), or Yes Warrant 1, Condition B (80% satisfied), or Yes Warrant 1, Condition B (80% satisfied), or Yes Yes Warrant 4, Pedestrian Volume satisfied at 80% 12 PM - 1 PM - 2 PM 555 2 Of volume requirements for any 8 hours of an average day. PM - 2 PM 557 2 Symption of the PM - 2 PM 557 2 Symption of an average day. Figure 4C-5. Criteria for "100%" Volume Level	e: Ves I H: Yes V Fulfi Yes 8 8 9 9 9 9 9 9 9 9 9 9 9 9 9	No No	
Criteria 1. Adequate trial of other remedial measure has failed to reduce crash frequency. Measure tried: 2. susceptible to correction by signal, have occurred within a 12-month period. Observed Crash Types: Number of crashes per 12 months: 3 3. One of the following volume warrants is met: Met? Warrant 1, Condition A (80% satisfied), or Yes Warrant 1, Condition B (80% satisfied), or Yes Warrant 1, Condition B (80% satisfied), or Yes Warrant 4, Pedestrian Volume satisfied at 80% 12 PM - 1 PN of volume requirements for any 8 hours of an average day. 1 PM - 2 PM 557 2 PM - 1 PN 555 2 PM - 6 PM 894 Figure 4C-5. Criteria for "100%" Volume Level Officing and the requirement of any 8 hours of an average day.	es 3 Met? Yes Yes Yes Yes		
Adequate trial of other remedial measure has failed to reduce crash frequency. Measure tried: Five or more reported crashes, of types Observed Crash Types: Angle Number of crashes per 12 months: 3 3. One of the following volume warrants is met: Met? Warrant 1, Condition A (80% satisfied), or Yes Warrant 1, Condition B (80% satisfied), or Yes Warrant 4, Pedestrian Volume satisfied at 80% of volume requirements for any 8 hours of an average day. 1 PM - 2 PM 557 2 PM - 3 PM 679 3 PM - 4 PM 692 4 PM - 5 PM 771 5 PM - 6 PM 894 Volume Figure 4C-5. Criteria for "100%" Volume Level Mugar 100% Yes	es 3 Met? Yes Yes Yes	lled?	
1. Adequate trial of other remedial measure has 1. failed to reduce crash frequency. Measure tried: Measure tried: Image: Constraint of the second of	es 3 Met? Yes Yes Yes	No	
Five or more reported crashes, of types Observed Crash Types Angle Number of crashes per 12 months: 3 3. One of the following volume warrants is met: Met? Warrant 1, Condition A (80% satisfied), or Yes Warrant 1, Condition B (80% satisfied), or Yes Warrant 1, Condition B (80% satisfied), or Yes Warrant 4, Pedestrian Volume satisfied at 80% i 2 PM - 1 PN 555 5 of volume requirements for any 8 hours of an average day. 1 PM - 2 PM 557 2 PM - 4 PM 692 4 PM - 5 PM 771 5 9 PM - 4 PM 692 4 PM - 5 PM 771 5 9 of volume requirements for any 8 hours of an average day. Figure 4C-5. Criteria for "100%" Volume Level 9 9 of up and the set of the following up and the set of the set of the following up and th	es 3 Met? Yes Yes Yes	No	
Met? Met? Warrant 1, Condition A (80% satisfied), or Yes Warrant 1, Condition B (80% satisfied), or Yes Warrant 1, Condition B (80% satisfied), or Yes Warrant 4, Pedestrian Volume satisfied at 80% 12 PM - 1 PN 5555 Ped Crossings of volume requirements for any 8 hours of an average day. 1 PM - 2 PM 5557 2 Yes 2 PM - 3 PM 679 3 PM - 4 PM 692 Yes Figure 4C-5. Criteria for "100%" Volume Level Figure 4C-5. Criteria for "100%" Volume Level Yes Yes 10% Volume Level from Warrant 4 (4 hours) 10% Volume Level from Warrant 4 (4 hours)	Met? Yes Yes Yes	No	
Warrant 1, Condition A (80% satisfied), or Yes Warrant 1, Condition B (80% satisfied), or Yes Warrant 1, Condition B (80% satisfied), or Yes Warrant 1, Condition B (80% satisfied), or Yes Warrant 4, Pedestrian Volume satisfied at 80% of volume requirements for any 8 hours of an average day. 1000 mm 10000 mm 10000 mm 1000 mm 10000 mm 1000 mm 10000 mm 1000	Yes Yes Yes		
Warrant 1, Condition B (80% satisfied), or Yes Hour Major Street Ped Warrant 4, Pedestrian Volume satisfied at 80% I2 PM - 1 PN 555 55 of volume requirements for any 8 hours of an average day. I PM - 2 PM 557 2 2 PM - 3 PM 679 1 PM - 5 PM 771 3 PM - 4 PM 692 4 PM - 5 PM 771 5 PM - 6 PM 894 5 5 5 Figure 4C-5. Criteria for "100%" Volume Level State of the same and the	Yes		
Hour Major Street Volume Ped Crossings 7 AM - 8 AM 687 8 AM - 9 AM 514 Warrant 4, Pedestrian Volume satisfied at 80% of volume requirements for any 8 hours of an average day. 12 PM - 1 PN 555 1 PM - 2 PM 557 2 2 PM - 3 PM 679 3 PM - 4 PM 692 4 PM - 5 PM 771 5 PM - 6 PM 894	Yes		
Warrant 4, Pedestrian Volume satisfied at 80% of volume requirements for any 8 hours of an average day. 12 PM - 1 PN 555 1 PM - 2 PM 557 2 2 PM - 3 PM 679 3 PM - 4 PM 692 4 PM - 5 PM 771 5 PM - 6 PM 894 Figure 4C-5. Criteria for "100%" Volume Level Of Volume Level from Warrant 4 (4 hours) 000 Volume Level from Warrant 4 (4 hours)	Yes		
Warrant 4, Pedestrian Volume satisfied at 80% of volume requirements for any 8 hours of an average day.			
of volume requirements for any 8 hours of an average day. 1 PM - 2 PM 557 2 2 PM - 3 PM 679 3 PM - 4 PM 692 4 PM - 5 PM 771 5 PM - 6 PM 894			
average day. 2 PM - 3 PM 679 3 PM - 4 PM 692 4 PM - 5 PM 771 5 PM - 6 PM 894 Figure 4C-5. Criteria for "100%" Volume Level 500 400 90 400 90 400 90 400 90 400 90 400 90 400 90 400 90 400 90 90 400 90 400 90 400 90 400 90 400 90 400 90 400 90 90 90 90 90 90 90 90 90 90 90 90 90			
3 PM - 4 PM 692 4 PM - 5 PM 771 5 PM - 6 PM 894 Figure 4C-5. Criteria for "100%" Volume Level 500 400 400 400 400 400 400 400			
4 PM - 5 PM 771 5 PM - 6 PM 894 Figure 4C-5. Criteria for "100%" Volume Level 00 400 400 400 400 400 400 400			
Figure 4C-5. Criteria for "100%" Volume Level			
Figure 4C-5. Criteria for "100%" Volume Level 500 400 400 400 400 400 400 400			
500 400 300 200 300 200 300 200 300 200 300 200 300 200 300 200 300 200 300 200 300 200 300 200 300 200 300 200 300 200 300 3			
No No<			

City: High Springs Engineer: Setul Shah County: 26 - Alachua Date: September 10, 2024 District: Two Two Aajor Street: US 41 Lanes: 1 Major Approach Speed: 40 Alior Street: CR 340 Lanes: 1 Minor Approach Speed: 45 AUTCD Electronic Reference to Chapter ← http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf Minor Approach Speed: 45 NUTCD Electronic Reference to Chapter ← http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf Applicable: Yes ▼ No Satisfied: Yes No Satisfied: Yes No VARRANT 8 - ROADWAY NETWORK Satisfied if at least one of the criteria is fulfilled and if all intersecting routes have one or more of the Major Route Satisfied: Yes No Varacteristics listed. Criteria Criteria Satisfied Yes No Both of the fight are met. a. Total entering volume of at least 1,000 veh/hr during a typical weekday peak hour. Entering Volume: Image: Satisfied? <		IRAF	FIC SIGNAL W	AKKAN	1 50		ARI				
County: 26 - Alachua Date: September 10, 2024 District: Two Two Major Street: US 41 Lanes: 1 Major Approach Speed: 40 Minor Street: CR 340 Lanes: 1 Minor Approach Speed: 45 MUTCD Electronic Reference to Chapter 4 http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf Minor Approach Speed: 45 WARRANT 8 - ROADWAY NETWORK Record hours where criteria are fulfilled, and the corresponding volume or other information in the boxes provided. The warrant is satisfied if at least one of the criteria is fulfilled and if all intersecting routes have one or more of the Major Route characteristics listed. Yes ▼ No Satisfied: Yes No Yes No Yes No Both of the tright are met. a. Total entering volume of at least 1,000 veh/hr during a typical weekday peak hour. Entering Volume: Image: Satisfied? b. Five-year projected volumes that satisfy one or more of Warrants 1, 2, or 3. Warrant: 1 2 3 Image: Satisfied?	City:	High Springs	High Springs Engineer:					Setul Shah			
Major Street: US 41 Lanes: 1 Major Approach Speed: 40 Minor Street: CR 340 Lanes: 1 Minor Approach Speed: 45 MUTCD Electronic Reference to Chapter 4 http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf Minor Approach Speed: 45 MARRANT 8 - ROADWAY NETWORK Record hours where criteria are fulfilled, and the corresponding volume or other information in the boxes provided. The warrant is satisfied if at least one of the criteria is fulfilled and if all intersecting routes have one or more of the Major Route characteristics listed. Applicable: Yes No Vestore the characteristics listed. Criteria	County: District:	<u> </u>	1		Da	te:	Se	epteml	ber 10,	2024	
Winor Street: CR 340 Lanes: 1 Minor Approach Speed: 45 MUTCD Electronic Reference to Chapter / http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf Minor Approach Speed: 45 WARRANT 8 - ROADWAY NETWORK Record hours where criteria are fulfilled, and the corresponding volume or other information in the boxes provided. The warrant is satisfied if at least one of the criteria is fulfilled and if all intersecting routes have one or more of the Major Route Applicable: Yes No Satisfied: Yes No Criteria Both of the right are met. a. Total entering volume of at least 1,000 veh/hr during a typical weekday peak hour. Entering Volume: Image: Martine for the satisfied if at least in the satisfied if at least in the satisfied if at least in the satisfied if the are met. b. Five-year projected volumes that satisfy one or more of Warrants 1, 2, or 3. Warrant: 1 2 3 b. Five-year projected volumes that satisfy one or more of Warrants 1, 2, or 3. Warrant: 1 2 3 Image: Satisfied? Image: Satis	Maior Street [.]		US 41		l anes:	1	Ма	ior Apr	oroach	Speed [.]	40
NUTCD Electronic Reference to Chapter / http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf VARRANT 8 - ROADWAY NETWORK Applicable: Yes < No Satisfied if ar least one of the criteria are fulfilled, and the corresponding volume or other information in the boxes provided. The warrant is satisfied if at least one of the criteria is fulfilled and if all intersecting routes have one or more of the Major Route characteristics listed. Applicable: Yes < No Satisfied: Yes No Criteria Met? Fulfilled? Yes No Satisfied: Yes No Satisfied: Yes No Satisfied: Yes No Satisfied: Yes No	linor Street:		CR 340		Lanes:	1	Mir	nor App	roach	Speed:	45
Both of the a. Total entering volume of at least 1,000 veh/hr during a typical weekday peak hour. Entering Volume: Image: Constraint of typical weekday peak hour. Entering Volume: Image: Constraint of typical weekday peak hour. Image: Constraint of typical weekday peak hour. Sentering Volume: Image: Constraint of typical weekday peak hour. Image: Constraint of typical weekday peak hou	VARRANT Record ho information criteria is f characteri	8 - ROADWAY NET ours where criteria are ful n in the boxes provided. fulfilled and if all intersect stics listed.	NORK filled, and the correspo The warrant is satisfie ting routes have one or	onding volum d if at least o r more of the	e or othe ne of the Major Ro	r oute	Appl Sa	icable: tisfied:		Yes Yes	No No
Both of the a. Total entering volume of at least 1,000 veh/hr during a typical weekday peak hour. Entering Volume: • criteria to the right are met. b. Five-year projected volumes that satisfy one or more of Warrants 1, 2, or 3. Warrant: 1 2 3	VARRANT Record ho information criteria is f characteri	8 - ROADWAY NET ours where criteria are ful n in the boxes provided. fulfilled and if all intersect stics listed.	NORK filled, and the correspo The warrant is satisfie ing routes have one or	onding volumo d if at least o r more of the	e or othe ne of the Major Rc	r bute	Appl Sa	icable: tisfied:	et?	Yes Yes	No No
the criteria to the right are met. b. Five-year projected volumes that satisfy one or more of Warrants 1, 2, or 3. Warrant: 1 2 3 Satisfied?: Use the volume of the right are met.	VARRANT Record ho information criteria is f characteri	8 - ROADWAY NET ours where criteria are ful n in the boxes provided. fulfilled and if all intersect stics listed.	NORK filled, and the correspo The warrant is satisfie ting routes have one or Criteria	onding volum d if at least o r more of the	e or othe ne of the Major Ro	r oute	Appl Sa	icable: tisfied: Magnetic Yes	et? No	Yes Ves Ves Ves	No N
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are met. one or more of Warrants 1, 2, or 3. Satisfied?:	VARRANT Record ho information criteria is f characteria Both of the	8 - ROADWAY NET ours where criteria are ful n in the boxes provided. fulfilled and if all intersect stics listed. a. Total entering volum typical weekday peal	MORK filled, and the correspo The warrant is satisfie ting routes have one or Criteria e of at least 1,000 veh/ < hour.	onding volume d if at least o r more of the /hr during a	e or othe. he of the Major Ro Enteri	r bute ng Vol	Appl Sa ume:	icable: tisfied: Ma Yes	et? No	Yes Yes Fulf Yes	No No illed? No
	VARRANT Record ho information criteria is t characteria Both of the criteria to the right	8 - ROADWAY NET burs where criteria are ful n in the boxes provided. fulfilled and if all intersect stics listed. a. Total entering volum typical weekday peal b. Five-year projected y	NORK filled, and the correspo The warrant is satisfie- ting routes have one or Criteria e of at least 1,000 veh/ < hour.	onding volume d if at least o r more of the /hr during a Warrant:	e or othe ne of the Major Ro Enteri	r bute ng Vol	Appl Sa ume:	icable: tisfied: Yes	et?	Yes Ves Ves Ves	No No illed? No
	NARRANT Record ho information criteria is t characteria Both of the 1. criteria to the right are met.	8 - ROADWAY NET burs where criteria are ful in in the boxes provided. fulfilled and if all intersect stics listed. a. Total entering volum typical weekday peal b. Five-year projected volum one or more of Warr ring volume at least	MORK filled, and the correspon The warrant is satisfie- ting routes have one or Criteria e of at least 1,000 veh/ < hour. rolumes that satisfy ants 1, 2, or 3.	/hr during a Warrant: Satisfied?:	e or othe ne of the Major Rc Enteri	r oute ng Vol 2	Appl Sa ume:	icable: tisfied: Yes	et? No	Yes Ves Ves	No No illed? No
1,000 veh/hr for each of any 5 hrs	VARRANT Record ho informatio criteria is t characteria Both of the criteria to the right are met. Total ente 1,000 veh	 8 - ROADWAY NET burs where criteria are fullen in the boxes provided. fulfilled and if all intersections listed. a. Total entering volume typical weekday peal b. Five-year projected wone or more of Warr ring volume at least //r for each of any 5 hrs 	MORK filled, and the correspond The warrant is satisfied ting routes have one or Criteria e of at least 1,000 veh/ < hour. rolumes that satisfy ants 1, 2, or 3.	hr during a Warrant: Satisfied?:	e or othe. he of the Major Ro Enteri	r bute ng Vol	Appl Sa ume:	icable: tisfied: Yes ← Ho	et? No	Yes Ves Ves	No No No No

Characteristics of Major Boutes		Ме	et?	Fulfi	lled?
		Yes	No	Yes	No
Part of the street or highway system that serves as the principal roadway	Major Street:				
^{1.} network for through traffic flow.	Minor Street:				
2. Dural ar autorian highway autoida af antaring ar trayarsing a situ	Major Street:				
	Minor Street:				
	Major Street:				
3. Appears as a major route on an official plan.	Minor Street:				

(Sat. or Sun.)

–Volume

	State of Fiorida L	Department of Transportat	tion		
	TRAFFIC SIGNA	L WARRANT SU	MMAR	ſ	
City	High Springs	Engineer		Sotul Shah	
County:	26 – Alachua	Date:	Se	ntember 10, 2	2024
District:	Two	Date.	00		.024
Major Street:	US 41	Lanes:	1 Majo	or Approach Sp	peed: 40
Minor Street:	CR 340	Lanes:	1 Minc	or Approach Sp	peed: 45
MUTCD Electronic Ref	erence to Chapter <u>http://mutcd.f</u>	fhwa.dot.gov/pdfs/2009r1r	2/part4.pdf		
Approach Lane Criter	ia				
1. How many appr	oach lanes are there at the track	crossing?		1	2 or more
If there is 1 lane, us	se Figure 4C-9 and if there are 2	or more, use Figure 4C-1	0.	Fig 4C-	-9 Fig 4C-10
WARRANT 9 - INT This signal warra after a trial of Indicate if both crite satisfied if both crite	ERSECTION NEAR A GRA ant should be applied only after a an alternative has failed to allevia eria are fulfilled in the boxes prov eria are met.	DE CROSSING adequate consideration has ate the safety concerns as rided. The warrant is	s been given ssociated wit Applicabl Satisfie	n to other altern h the grade cro e: Yes d: Yes	natives or ossing. ✓ No
	Criter	·			Fulfilled?
	Criter	la		F	Yes No
the intersection is with During the highest tra	in 140 feet of the stop line or yield lin fic volume hour during which the rail	e on the approach; and uses the crossing, the plotted	point falls abo	ove the	
the intersection is with <u>2.</u> During the highest trai applicable curve for the distance). Use the following table	in 140 feet of the stop line or yield lin fic volume hour during which the rail e existing combination of approach la es (4C-2, 4C-3, and 4C-4 to appropria	te on the approach; and uses the crossing, the plotted anes over the track and the di- ately adjust the minor-street a	point fails abo stance D (clea	ove the ir storage	
the intersection is with 2. During the highest trai applicable curve for the distance). Use the following table Inputs	in 140 feet of the stop line or yield lin fric volume nour during which the rail e existing combination of approach la es (4C-2, 4C-3, and 4C-4 to appropria	te on the approach; and uses the crossing, the plotted anes over the track and the di- ately adjust the minor-street a	point fails abd stance D (clea pproach volum Adjustmen	ove the ir storage ne). nt Factors from	Tables
the intersection is with 2. During the highest trai applicable curve for the distance). Use the following table Inputs Occurrences of Rail traffic () of Use Documents Pro-	in 140 feet of the stop line or yield lin TIC volume nour during which the rail e existing combination of approach la es (4C-2, 4C-3, and 4C-4 to appropria per day	te on the approach; and the on uses the crossing, the plotted anes over the track and the di- ately adjust the minor-street a	point fails abd stance D (clea pproach volum Adjustmer	ove the ar storage ne). nt Factors from	Tables
the intersection is with 2. During the highest trai applicable curve for the distance). Use the following table Inputs Occurrences of Rail traffic % of High Occupancy Bus Enter D (feet)	in 140 feet of the stop line or yield lin fric volume nour during which the rail e existing combination of approach la es (4C-2, 4C-3, and 4C-4 to appropria per day ses on Approach Lane at Track Cross	sing	point fails abd stance D (clea pproach volum Adjustmen	ove the ar storage ne). nt Factors from 1.00	Tables
the intersection is with <u>2. During the highest trai applicable curve for the distance). Use the following table Inputs Occurrences of Rail traffic % of High Occupancy Bus Enter D (feet) % of Tractor Trailer Turk</u>	in 140 feet of the stop line or yield lin The volume nour during which the rain e existing combination of approach la es (4C-2, 4C-3, and 4C-4 to appropria per day ses on Approach Lane at Track Crossis on Approach Lane at Track Crossis	er on the approach; and uses the crossing, the plotted anes over the track and the di ately adjust the minor-street a	pproach volum	ove the ar storage ne). nt Factors from 1.00 0.50	Tables
the intersection is with <u>2.</u> During the highest trai applicable curve for the distance). Use the following table Inputs Occurrences of Rail traffic % of High Occupancy Bus Enter D (feet) % of Tractor-Trailer Truck	in 140 feet of the stop line or yield lin The volume nour during which the rain e existing combination of approach la es (4C-2, 4C-3, and 4C-4 to appropria per day tes on Approach Lane at Track Crossin s on Approach Lane at Track Crossin	e on the approach; and the on the approach; and the or the protect anes over the track and the diately adjust the minor-street and the diately adjust the minor	pproach volum	ove the ir storage ne). Int Factors from 1.00 0.50	Tables
the intersection is with 2. During the highest trai applicable curve for the distance). Use the following table Inputs Occurrences of Rail traffic % of High Occupancy Bus Enter D (feet) % of Tractor-Trailer Truck Table 4C-2. Adjustment	in 140 feet of the stop line or yield lin The volume nour during which the rail e existing combination of approach la es (4C-2, 4C-3, and 4C-4 to appropria per day ses on Approach Lane at Track Crossi s on Approach Lane at Track Crossir Factor for Daily Frequency	e on the approach; and the original and the protect and the track and the track and the dial ately adjust the minor-street and the dial ately adjust the minor ately adjust	nt Factor for	ove the ar storage ne). nt Factors from 1.00 0.50 Percentage of I	Tables
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Form 750-020-01 TRAFFIC ENGINEERING





City: County:	High Spring 26 – Alachu	a	I	Engineer: Date:	Setul Shah September 10, 2024	
District: Major Street: Minor Street:	Two	US 41 CR 340		anes: 1 anes: 1	Major Approach Speed: Minor Approach Speed:	40 45
AUTCD Electror	nic Reference to Cha	pter 4 <u>http://mutcd.fhwa</u>	i.dot.gov/pdfs	s/2009r1r2/part4	<u>.pdf</u>	
CONCLUSIO	<u>NS</u>					
Remarks: Warra	ants 1 and 2 met at th	e 70% threshold; Warr	ant 1 met at	the 100% thresh	nold.	
WARKAN 15	SATISFIED:					
	Warrant 1	Not Applicable	🗸 Met	Not Met		
	Warrant 2	Not Applicable	🗸 Met	Not Met		
	Warrant 3	✓ Not Applicable	Met	Not Met		
	Warrant 4	Not Applicable	Met	✓ Not Met		
	Warrant 5	✓ Not Applicable	Met	Not Met		
	Warrant 6	✓ Not Applicable	Met	Not Met		
	Warrant 7	Not Applicable	Met	Not Met		
	Warrant 8	✓ Not Applicable	Met	Not Met		
	Warrant 9	✓ Not Applicable	Met	Not Met		