

Florida Department of Transportation

Intersection Control Evaluation (ICE) Form

Stage 2: Initial Control Strategy Assessment

Intersection Control Evaluation Form 750-010-003

To fulfill the requirements of Stage 2 (Intersection Control Strategy) of FDOT's ICE procedures, complete the following form and append all supporting documentation. Completed forms can be submitted to the District Traffic Operations Engineer (DTOE) and District Design Engineer (DDE) for the project's approval.

Project Name	SR 535 Concept Development Study	FDOT Project #	405854-1	Date	03/14/22
Submitted By	VHB	Agency/Company	FDOT	Email	kfreeman@vhb.com
List all viable intersection control strategies identified in Stage 1 (Screening):					
Signalized Control		Partial MUT			

Operational Analyses									
Summarize the results of the peak hour analysis performed for each control strategy. Select analysis year based on guidance in the ICE procedures document. Refer to Exhibit 19-8 of the <i>Highway Capacity Manual, 6th Edition</i> (HCM6) to determine the appropriate LOS based on intersection delay (hover over this cell for Exhibit 19-8).									
Design Vehicle	Florida Interstate Semitrailer (WB-62FL)			Control Vehicle	Florida Interstate Semitrailer (WB-62FL)				
Opening Year	2025								
Control Strategy	Peak Hour		Weekday AM Peak	Peak Hour		Weekday PM Peak	Peak Hour		
	LOS	Delay (sec.)	All Queues Accommodated?	LOS	Delay (sec.)	All Queues Accommodated?	LOS	Delay (sec.)	All Queues Accommodated?
Signalized Control	D	36.7	Yes	C	24.8	Yes			
Partial MUT	C	30.4	Yes	B	19.9	Yes			
Design Year	2035								
Control Strategy	Peak Hour		Weekday AM Peak	Peak Hour		Weekday PM Peak	Peak Hour		
	LOS	Delay (sec.)	All Queues Accommodated?	LOS	Delay (sec.)	All Queues Accommodated?	LOS	Delay (sec.)	All Queues Accommodated?
Signalized Control	E	56.9	No	D	49.5	No			
Partial MUT	C	32.0	No	C	23.9	Yes			
Provide any additional discussion necessary regarding the results of the operational analysis:									

Safety Performance							
Enter the most recent five (5) years of crash data from the CAR System.				Most recent year of crash data available			
Crash Type							Total
Combined	Total						
	Fatal/Injury						
	PDO						
Single-Vehicle	Total	0	0	2	0	0	2
	Fatal/Injury	0	0	0	0	0	0
	PDO	0	0	2	0	0	2
Multi-Vehicle	Total	16	21	15	22	18	92
	Fatal/Injury	7	12	4	15	9	47
	PDO	9	9	11	7	9	45
Vehicle-Pedestrian	Fatal/Injury	0	0	0	1	0	1
Vehicle-Bicycle	Fatal/Injury	0	0	0	0	0	0
Total	All	16	21	17	23	18	95
Apply the FDOT SPICE Tool to model anticipated safety performance of each control strategy. For intersection types not accommodated in the tool, manually apply crash modification factors detailed in the ICE procedures document or qualitatively describe anticipated safety impacts.							
Control Strategy	Anticipated Impact on Safety Performance			Opening Year		Design Year	
				Predicted Total Crashes	Predicted Fatal+Injury Crashes	Predicted Total Crashes	Predicted Fatal+Injury Crashes
Signalized Control	No impact - existing control			19.18	8.79	21.82	10.00
Partial MUT	Expected improvement to safety conditions			16.31	6.16	18.55	7.00

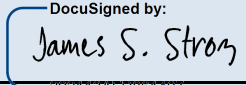
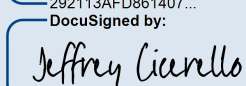
Costs and Benefit/Cost Ratios						
Remaining cognizant of the current level of detail of each control strategy's conceptual design, provide a cost estimate for each. You may want to include costs for preliminary engineering, required right-of-way acquisitions, construction, and a contingency. Apply the FDOT ICE Tool to determine the delay benefit-cost ratio (B/C), safety B/C, overall B/C, and net-present value for each control strategy.						
Control Strategy	ROW Costs (\$)	Construction Costs (\$)	FDOT ICE Tool Outputs			
			Delay B/C	Safety B/C	Overall B/C	Net Present Value
Signalized Control	\$0	\$1,599,606	-	-	-	\$0
Partial MUT	\$0	\$3,990,661	6.34	2.91	9.25	\$20,470,317

Multimodal Accommodations								
Note the existing/anticipated level of pedestrian/bicyclist activity at the study intersection during the peak hours of the typical day. See ICE procedures document for activity level thresholds:								
Peak Hour:	Weekday AM Peak		Weekday PM Peak				Activity Level	
	Major Street	Minor Street	Major Street	Minor Street	Major Street	Minor Street	Ped.	Bicycles
# of ped. crossings (both approaches, if app.):								
# of cyclists (both approaches, if app.):								
Summarize the ability of each viable control strategy to accommodate the existing/anticipated level of:								
Control Strategy	Pedestrians and Bicyclists		Transit Services		Freight Needs			
Signalized Control	Crosswalks across each approach will accommodate the expected volume of pedestrians/cyclists.		No transit services are present or planned, so no special accommodations have been made.		The intersection can accommodate the anticipated freight vehicle volumes.			
Partial MUT	Crosswalks across each approach will accommodate the expected volume of pedestrians/cyclists.		No transit services are present or planned, so no special accommodations have been made.		The intersection can accommodate the anticipated freight vehicle volumes.			

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 type.	
Signalized Control	No environmental, utility, or right-of-way impacts are anticipated.
Partial MUT	No environmental, utility, or right-of-way impacts are anticipated.

Public Input/Feedback (if appropriate)
Summarize any agency or public input regarding the control strategies:

Control Strategy Evaluation		
Provide a brief justification as to 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 advanced.		
Control Strategy	Strategy to be Advanced?	Justification
Signalized Control	No	Significantly lower benefit to cost ratio than Partial MUT
Partial MUT	Yes	Significantly higher benefit to cost ratio than Signalized Intersection

Resolution				
<i>To be filled out by FDOT District Traffic Operations Engineer and District Design Engineer</i>				
Project Determination	Identified Control Strategy Approved			
Comments				
DTOE Name	James S. Stroz	Signature	<small>DocuSigned by:</small> 	<small>Date</small> 5/23/2022 3:14
DDE Name	Jeffrey Cicere1lo	Signature	<small>292113AFD861407...</small> <small>DocuSigned by:</small> 	<small>Date</small> 5/23/2022 4:16