

COMPOSITE STUDY

Spot Speed Study

SR 70 from East of 1st Street to East of 63rd Street East

Section 13162-000 / 13160-000
MP 0.770 (13162-000) to 4.281 (13160-000)
Manatee County

Prepared for:

**FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT 1 TRAFFIC OPERATIONS**

801 North Broadway Avenue
Bartow, Florida 33830



Continuing Service Contract for Traffic Operations
Financial Project Identification Number: 420112-2-32-01
Contract Number: C-AE23
SCI Contract Number: 30913
Task Work Order: 72

Prepared by:

Stanley Consultants, Inc.
80 Spring Vista Drive
DeBary, Florida 32713

March 2025

CERTIFICATION

AGENCY: Florida Department of Transportation
District One
801 North Broadway Avenue
Bartow, Florida 33830

I hereby certify that I am a registered engineer in the State of Florida practicing with Stanley Consultants, Inc. (SCI), authorized to operate as an engineering business, and that I have reviewed or approved the calculations, findings, opinions, conclusions, or technical advice hereby reported for:

PROJECT: Continuing Services Contract for Traffic Operations

FPID NO: 420112-2-32-01

REPORT: TWO 72: SR 70 from East of 1st Street to East of 63rd Street East

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



THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY:

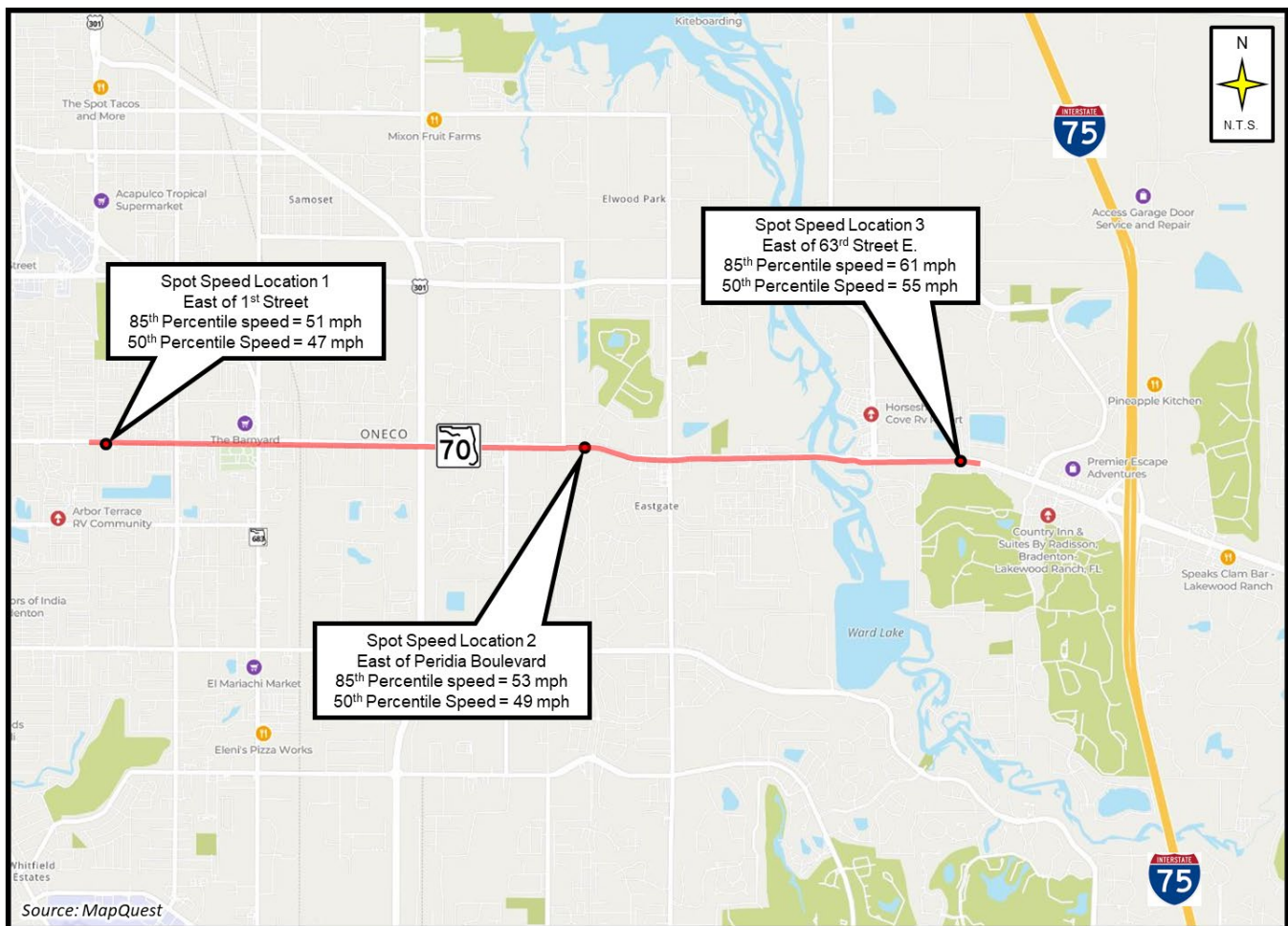
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INTRODUCTION

Stanley Consultants, Inc. (SCI) was retained on behalf of the Florida Department of Transportation (FDOT) to conduct spot speed studies along SR 70 from east of 1st Street to east of 63rd Street East in Bradenton (Manatee County), Florida. A location map of the study locations is shown below as **Figure 1**.

The analysis methods used in completing this study are consistent with FDOT's Manual on Uniform Traffic Studies (MUTS) and District One's guidelines and procedures.

Figure 1
Project Location Map



SPOT SPEED DATA

Speed data was obtained at three locations along the study corridor. The data was obtained utilizing a radar gun, collecting at least 200 readings in each direction. Many factors affect driver behavior on the roadway, such as the proximity of roadside hazards, the frequency of driveways or side streets, roadway geometry and/or the presence of pedestrians, etc. Therefore, the location for the speed shots was chosen where vehicles were traveling at unrestricted free flow speeds.

Two of the common descriptive statistical measures utilized in determining the prevailing speed are the 85th percentile speed and the 10-mph pace. The 85th percentile speed is the speed at or below which 85 percent of the free-flowing vehicles are traveling. The 10-mph pace is the 10-mph range containing the highest number of vehicles from the study data. The 85th percentile speed and 10-mph pace were calculated for the locations as shown in **Table 1**.

Table 1
Spot Speed Study Summary

Site	Milepost	Location	Posted Speed Limit (MPH)	85th Percentile Speed (MPH) EB	85th Percentile Speed (MPH) WB	Combined 85th Percentile Speed (MPH)	Difference From Posted	Combined 10 MPH Pace	Difference From Posted
1	0.889	East of 1st Street	40	51	49	51	11	42 - 52	12
2	2.110	East of Peridia Boulevard	45	51	53	53	8	44 - 54	9
3	4.281	East of 63rd Street E.	50	61	61	61	11	50 - 60	10

A summary of speed-related data collected is provided in **Table 2-4**. These tables identify a variety of information, such as the total vehicles observed, number of vehicles within the 10-mph pace, and 50th percentile speed. The spot speed forms are also provided in this report.

Table 2
Spot Speed Site 1 Data Summary

SPEED DATA SUMMARY	Eastbound	Westbound	Combined
Posted Speed Limit (mph)	40	40	40
Total Vehicles Observed	234	217	451
Speed Range (mph)	38 – 71.9	34 – 61.9	34 – 71.9
85th Percentile Speed (mph)	51	49	51
10 mph Pace Speed (mph)	42 – 52	40 – 50	42 – 52
Number of Vehicles within 10 mph pace	186	174	359
Percentage of Vehicles within 10 mph pace	79%	80%	80%
50th Percentile Speed (mph)	47	45	47

Table 3
Spot Speed Site 2 Data Summary

SPEED DATA SUMMARY	Eastbound	Westbound	Combined
Posted Speed Limit (mph)	45	45	45
Total Vehicles Observed	213	212	425
Speed Range (mph)	42 – 57.9	40 – 61.9	40 – 61.9
85th Percentile Speed (mph)	51	53	53
10 mph Pace Speed (mph)	44 – 54	44 – 54	44 – 54
Number of Vehicles within 10 mph pace	200	189	389
Percentage of Vehicles within 10 mph pace	94%	89%	92%
50th Percentile Speed (mph)	49	49	49

Table 4
Spot Speed Site 3 Data Summary

SPEED DATA SUMMARY	Eastbound	Westbound	Combined
Posted Speed Limit (mph)	50	50	50
Total Vehicles Observed	219	203	422
Speed Range (mph)	46 – 71.9	48 – 71.9	46 – 71.9
85th Percentile Speed (mph)	61	61	61
10 mph Pace Speed (mph)	50 – 60	52 – 62	50 – 60
Number of Vehicles within 10 mph pace	160	159	316
Percentage of Vehicles within 10 mph pace	73%	78%	75%
50th Percentile Speed (mph)	55	57	55

State of Florida Department of Transportation

VEHICLE SPOT SPEED STUDY

Form 750-010-03
TRAFFIC ENGINEERING
March 2020

General Information				Site Information			
Analyst/Observer:		CC / DM		Location:		Site 1 - SR 70, East of 1st Street	
Agency or Company:		Stanley Consultants		City:		Bradenton County: Manatee	
Date Performed:		Tuesday, March 18, 2025		Roadway ID:		13162000	
Time Period From:		9:00 AM To: 10:00 AM		Milepost:		0.889 Posted Speed (mph): 40	
Weather/Road Condition:		Sunny		Remarks:		N27.4477, W82.5609	

Vehicles traveling						East bound		Speed (mph)	Vehicles traveling				West bound		Both Directions						
Cum Total	Total	20		15		10			5		5		10		15		20		Total	Cum Total	Total
	0																	0			451
	0																	0			451
	0																	0			451
	0																	0			451
	0																	0			451
234	1								1									0		1	451
	0																	0			450
	0																	0			450
233	2								1	1								0		2	450
	0																	0			448
	0									1	1							2	217	2	448
231	1								1		1							1	215	2	446
230	3								1	1	1							1	214	4	444
227	2								1	1								5	213	7	440
225	17			1	1	1	1	1	1	1	1	1	1	1	1	1	1	6	208	23	433
208	20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17	202	37	410
188	44	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	22	185	66	373
144	51	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	42	163	93	307
93	48	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	60	121	108	214
45	23	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	32	61	55	106
22	18		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	18	29	36	51
4	4								1	1	1	1		1	1			6	11	10	15
	0									1	1	1	1					4	5	4	5
	0									1								1	1	1	1
	0																	0			
	0																	0			
	0																	0			
	0																	0			
	0																	0			
	0																	0			
	0																	0			
	0																	0			
	0																	0			
	0																	0			
0	0																	0			
234		TOTALS																217		451	
Travel Direction 1 →						East		Speed Data Summary				West		← Travel Direction 2				Both Directions			
						199		85 th Percentile Vehicle				184		85 th Percentile Vehicle				383			
						51		85 th Percentile Speed				49		85 th Percentile Speed				51			
						117		50 th Percentile Vehicle				109		50 th Percentile Vehicle				226			
						47		50 th Percentile Speed				45		50 th Percentile Speed				47			
						42-52		10 mph pace				40-50		10 mph pace				42-52			
						OK						OK						OK			

State of Florida Department of Transportation

VEHICLE SPOT SPEED STUDY

Form 750-010-03
TRAFFIC ENGINEERING
March 2020

General Information				Site Information			
Analyst/Observer:		CC / DM		Location:		Site 2 - SR 70, East of Peridia Blvd	
Agency or Company:		Stanley Consultants		City:		Bradenton County: Manatee	
Date Performed:		Tuesday, March 18, 2025		Roadway ID:		13160000	
Time Period From:		10:30 AM To: 11:30 AM		Milepost:		2.11 Posted Speed (mph): 45	
Weather/Road Condition:		Sunny		Remarks:		N27.4471, W82.5122	

Vehicles traveling		East bound				Speed (mph)	Vehicles traveling				West bound		Total		Both Directions	
Cum Total	Total	20	15	10	5		5	10	15	20	Total	Cum Total	Total	Cum Total	Total	Cum Total
	0					≥ 80							0			425
	0					78 - 79.9							0			425
	0					76 - 77.9							0			425
	0					74 - 75.9							0			425
	0					72 - 73.9							0			425
	0					70 - 71.9							0			425
	0					68 - 69.9							0			425
	0					66 - 67.9							0			425
	0					64 - 65.9							0			425
	0					62 - 63.9							0			425
	0					60 - 61.9	1	1					2	212	2	425
	0					58 - 59.9							0			423
213	2					56 - 57.9	1	1					2	210	4	423
211	6					54 - 55.9	1	1	1	1	1	1	10	208	16	419
205	24	1	1	1	1	52 - 53.9	2	2	2	2	1	1	29	198	53	403
181	41	2	2	2	2	50 - 51.9	2	2	2	2	2	2	40	169	81	350
140	50	2	2	2	2	48 - 49.9	3	3	3	3	2	2	49	129	99	269
90	52	2	2	2	2	46 - 47.9	3	2	2	2	2	2	41	80	93	170
38	33	1	1	1	1	44 - 45.9	2	2	2	2	1	1	30	39	63	77
5	5					42 - 43.9	1	1	1	1			7	9	12	14
	0					40 - 41.9	1	1					2	2	2	2
	0					38 - 39.9							0			
	0					36 - 37.9							0			
	0					34 - 35.9							0			
	0					32 - 33.9							0			
	0					30 - 31.9							0			
	0					28 - 29.9							0			
	0					26 - 27.9							0			
	0					24 - 25.9							0			
	0					22 - 23.9							0			
	0					20 - 21.9							0			
	0					18 - 19.9							0			
	0					16 - 17.9							0			
	0					14 - 15.9							0			
	0					12 - 13.9							0			
	0					10 - 11.9							0			
0	0					≤ 10							0			
213		TOTALS										212		425		

Travel Direction 1 →	East	Speed Data Summary	West	← Travel Direction 2	Both Directions
	181	85 th Percentile Vehicle	180	85 th Percentile Vehicle	361
	51	85 th Percentile Speed	53	85 th Percentile Speed	53
	107	50 th Percentile Vehicle	106	50 th Percentile Vehicle	213
	49	50 th Percentile Speed	49	50 th Percentile Speed	49
	44-54	10 mph pace	44-54	10 mph pace	44-54
	OK		OK		OK

State of Florida Department of Transportation

VEHICLE SPOT SPEED STUDY

Form 750-010-03
TRAFFIC ENGINEERING
March 2020

General Information				Site Information			
Analyst/Observer:		CC / DM		Location:		Site 3 - East of 63rd St. E.	
Agency or Company:		Stanley Consultants		City:		Bradenton County: Manatee	
Date Performed:		Tuesday, March 18, 2025		Roadway ID:		13160000	
Time Period From:		11:30 AM To: 12:30 PM		Milepost:		4.281 Posted Speed (mph): 50	
Weather/Road Condition:		Sunny		Remarks:		N27.4460, W82.4772	

Vehicles traveling		East bound				Speed (mph)	Vehicles traveling				West bound				Both Directions	
Cum Total	Total	20	15	10	5		5	10	15	20	Total	Cum Total	Total	Cum Total		
	0					≥ 80					0				422	
	0					78 - 79.9					0				422	
	0					76 - 77.9					0				422	
	0					74 - 75.9					0				422	
	0					72 - 73.9					0				422	
219	1					70 - 71.9	1				1	203	2		422	
218	4				1 1 1 1	68 - 69.9	1 1 1				3	202	7		420	
214	2				1 1	66 - 67.9	1				1	199	3		413	
212	5				1 1 1 1 1	64 - 65.9	1 1 1 1 1	1 1 1 1 1	1 1		11	198	16		410	
207	14		1 1 1 1	1 1 1 1 1	1 1 1 1 1 1	62 - 63.9	1 1 1 1 1	1 1 1 1 1	1 1 1 1		13	187	27		394	
193	21	1 1 1 1 1	1 1 1 1 1	1 1 1 1 1	1 1 1 1 1 1	60 - 61.9	1 1 1 1 1	1 1 1 1 1	1 1 1 1 1	1 1 1 1 1	15	174	36		367	
172	24	1 1 1 1 1	1 1 1 1 1	1 1 1 1 1	1 1 1 1 1 1	58 - 59.9	2 2 2 2 2	2 2 1 1 1	1 1 1 1 1	1 1 1 1 1	27	159	51		331	
148	23	1 1 1 1 1	1 1 1 1 1	1 1 1 1 1	1 1 1 2 2 2	56 - 57.9	2 2 2 2 2	2 2 2 2 2	2 2 2 2 2	1 1 1 1 1 1	34	132	57		280	
125	36	1 1 1 1 2	2 2 2 2 2	2 2 2 2 2	2 2 2 2 2 2	54 - 55.9	3 3 3 3 3	3 3 3 3 3	2 2 2 2 2	2 2 2 2 2	50	98	86		223	
89	42	2 2 2 2 2	2 2 2 2 2	2 2 2 2 2	2 2 2 3 3	52 - 53.9	2 2 2 2 2	2 2 2 2 2	2 2 2 1 1	1 1 1 1 1	33	48	75		137	
47	35	1 1 1 1 1	2 2 2 2 2	2 2 2 2 2	2 2 2 2 2	50 - 51.9	1 1 1 1 1	1 1 1 1 1	1 1		12	15	47		62	
12	10			1 1 1 1 1	1 1 1 1 1	48 - 49.9	1 1 1				3	3	13		15	
2	2				1 1	46 - 47.9					0		2		2	
	0					44 - 45.9					0					
	0					42 - 43.9					0					
	0					40 - 41.9					0					
	0					38 - 39.9					0					
	0					36 - 37.9					0					
	0					34 - 35.9					0					
	0					32 - 33.9					0					
	0					30 - 31.9					0					
	0					28 - 29.9					0					
	0					26 - 27.9					0					
	0					24 - 25.9					0					
	0					22 - 23.9					0					
	0					20 - 21.9					0					
	0					18 - 19.9					0					
	0					16 - 17.9					0					
	0					14 - 15.9					0					
	0					12 - 13.9					0					
	0					10 - 11.9					0					
0	0					≤ 10					0					
219		TOTALS										203	422			

Travel Direction 1 →	East	Speed Data Summary	West	← Travel Direction 2	Both Directions
	186	85 th Percentile Vehicle	173	85 th Percentile Vehicle	359
	61	85 th Percentile Speed	61	85 th Percentile Speed	61
	110	50 th Percentile Vehicle	102	50 th Percentile Vehicle	211
	55	50 th Percentile Speed	57	50 th Percentile Speed	55
	50-60	10 mph pace	52-62	10 mph pace	50-60
	OK		OK		OK