



US 92/International Speedway Blvd (ISB) Pedestrian Connectivity & Safety Assessment, Phase 2

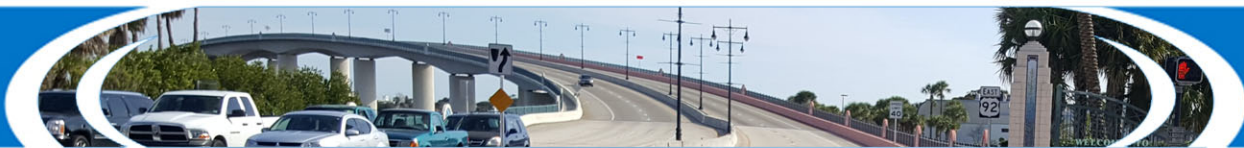
Final Report

Prepared for:
Florida Department of Transportation District 5, DeLand, FL
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EXECUTIVE SUMMARY

The Pedestrian Connectivity and Safety Assessment (PCSA), Phase 2 is a Florida Department of Transportation (FDOT/the Department) project in collaboration with the River to Sea Transportation Planning Organization (R2CTPO), Votran, City of Daytona Beach, Volusia County, the International Speedway Boulevard (ISB) Coalition, and other stakeholders in the study area.

Centered around United States Highway (US) 92/State Road (SR) 600/International Speedway Boulevard (ISB), the core study area includes the geographic area generally bounded on the west by SR 5A/Nova Road; on the east by SR A1A/Atlantic Avenue; on the north by George W. Engram Boulevard/Fairview Avenue/Main Street; and on the south by Orange Avenue/Silver Beach Avenue. In addition to the core study area, various community anchor institutions and regional activity centers were evaluated. These four “expanded” areas of study are situated around Chiles Academy along George W. Engram Boulevard and Ocean Center along SR A1A/Atlantic Avenue on the north; and between Orange Avenue and Loomis Avenue on the south.

Pedestrian and bicyclist safety and connectivity are key issues for the PCSA Phase 2 study area. Despite a significant number of commercial and institutional uses within the area, the multimodal network lacks strong connectivity, discouraging pedestrian use and compromising pedestrian safety. Bike lanes are limited and, where they do exist, their location adjacent to high speed traffic lanes negatively impacts their utilization. The purpose of the PCSA Phase 2 study is to address these issues by identifying existing facilities that connect to specific pedestrian-generating developments and to determine/prioritize the improvements needed for enhanced pedestrian connectivity and safety within the US 92/SR 600/ISB corridor.

The report lists 169 recommended improvements along with their associated monetary cost, agency responsible, timing (long term or short term), and a priority ranking. The selected prioritization system is utilized by the 2014 Volusia County ADA Transition Plan. However, given the scale of the study area, the distance requirements for high and medium priorities are reduced from ½ mile to ¼ mile to be applicable with the context of the PCSA study area. Seventy-four of the 169 recommended improvements are classified as high priority. The full list is located on pages 6-19 of the full report.

To assist with the implementation of these improvements, examples of recommended solutions are provided to serve as visual examples of similar facilities in other communities throughout Florida where pedestrian and bicycle improvements have been successfully implemented.

In order to establish a consistent methodology for future multi-modal improvements, design criteria are established that are consistent with the Department’s *Plans Preparations Manual* (PPM, 2017 Edition), Votran’s *Transit Development Design Guidelines* (2016), Florida Administrative Code, and the Institute of Transportation Engineers’ (ITE) *Designing Walkable Urban Thoroughfares: A Context Sensitive Approach* (2010). The report also provides funding mechanisms from a variety of federal, state, and/or local sources available to pay for these types of transportation improvement projects and strategies for incremental implementation.





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1 INTRODUCTION

The Pedestrian Connectivity and Safety Assessment (PCSA), Phase 2 is a Florida Department of Transportation (FDOT, the Department) project in collaboration with the River to Sea Transportation Planning Organization (R2CTPO), Votran, City of Daytona Beach, Volusia County, International Speedway Boulevard (ISB) Coalition, and other stakeholders in the study area.

The core study area includes the geographic area generally bounded on the west by State Road (SR) 5A/Nova Road; on the east by SR A1A/Atlantic Avenue; on the north by George W. Engram Boulevard/Fairview Avenue/Main Street; and on the south by Orange Avenue/Silver Beach Avenue. In addition to the core study area, various community anchor institutions and regional activity centers were evaluated. These four “expanded” areas of study are situated around Chiles Academy along George W. Engram Boulevard and Ocean Center along SR A1A/Atlantic Avenue on the north; and between Orange Avenue and Loomis Avenue on the south. The combined study area is depicted in Figure 1.

The major purpose of the PCSA is to identify the existing pedestrian facilities along United States Highway (US) 92/SR 600/International Speedway Boulevard (collectively referred to in this report as US 92/SR 600/ISB), as well as along any neighboring roadways that connect to specific pedestrian-generating development. The report also determines/prioritizes improvements needed for enhanced pedestrian connectivity and safety.

Development of the PCSA is assisted by a Project Visioning Team (PVT) which was assembled to provide feedback throughout the study progress and to identify any outstanding issues concerning the study. The PVT consists of representatives from FDOT District 5, the City of Daytona Beach, Volusia County, Votran, R2CTPO, the ISB Coalition, Midtown HEAT, and other interested parties.

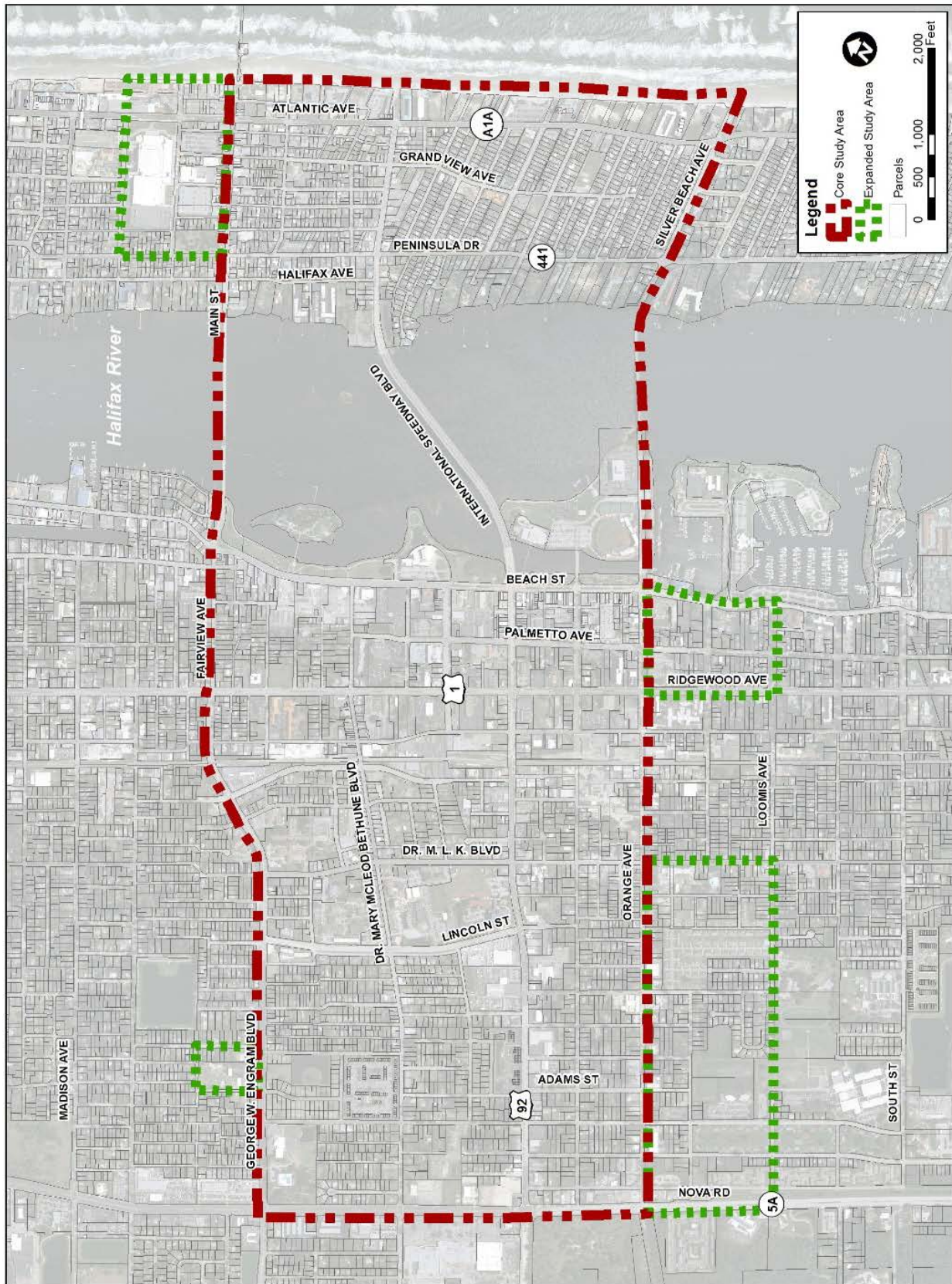
The project proceeded through a series of three tasks, as shown below, culminating in this final report.

- Task 1.0: Existing Conditions Summary Report
- Task 2.0: Field Evaluation Report
- **Task 3.0: Development of Draft and Final Report**

This report addresses Task 3.0 and includes the following major sections:

- Purpose and Need
- Recommended Improvements
- Funding Options
- Implementation Strategies

This report identifies, prioritizes, and advances critical improvements needed for multimodal connectivity and improved accessibility in the study area. It is principally comprised of the results of the evaluation and decision-making process which led to the identification and prioritization of recommended improvements. It also includes conceptual design criteria to guide future development along US 92/SR 600/ISB such as safety enhancements and bicycle/pedestrian improvements.



Source: Volusia County Government. Map Created: 7/18/2016

Figure 1: Project Study Area





2 PURPOSE AND NEED

The study area includes several thoroughfares with varying amounts of multimodal traffic. Principal arterials include US 92/SR 600/ISB, SR 5A/Nova Road, US 1/Ridgewood Avenue, SR A1A/Atlantic Avenue, George W. Engram Boulevard and Fairview Avenue. Generally, posted speed limits on major roadways within the study area are between 30 and 35 miles per hour. However, a significant portion of US 92/ SR 600/ISB, west of the Florida East Coast (FEC) Railroad, operates at 40 miles per hour. In addition, SR 5A/Nova Road has a posted speed limit of 45 miles per hour through the study area.

Despite a significant number of commercial and institutional uses within the study area, the multimodal network could be improved throughout. The sidewalk network within the study area lacks curb ramps at many key locations near schools, parks and public facilities, discouraging pedestrian use and compromising pedestrian safety. In addition, bike facilities are limited and, where they do exist, their location adjacent to high speed traffic lanes negatively impacts their utilization.

Pedestrian and bicyclist safety and connectivity are key issues for the PCSA Phase 2 study area. The study addresses those issues by identifying existing improvements that connect to specific pedestrian-generating development, and prioritizing improvements to said facilities.



An example of a marked mid-block crossing near Chiles Academy, on George W. Engram Blvd, which lacks an ADA compliant connection.



Bicycles are prohibited on sidewalks along US 92/SR 600/ISB between Palmetto Ave and Beach St, which is an area that lacks bicycle lanes.



3 RECOMMENDED IMPROVEMENTS

3.1 SUMMARY

Depicted in Table 1, the following criteria have been established as a prioritization system for the improvements identified through the field observation and evaluation. The selected prioritization system is utilized by the 2014 Volusia County ADA Transition Plan. However, given the scale of the study area, the distance requirements for high and medium priorities are reduced from half a mile to a quarter of a mile to be applicable with the context of the study area.

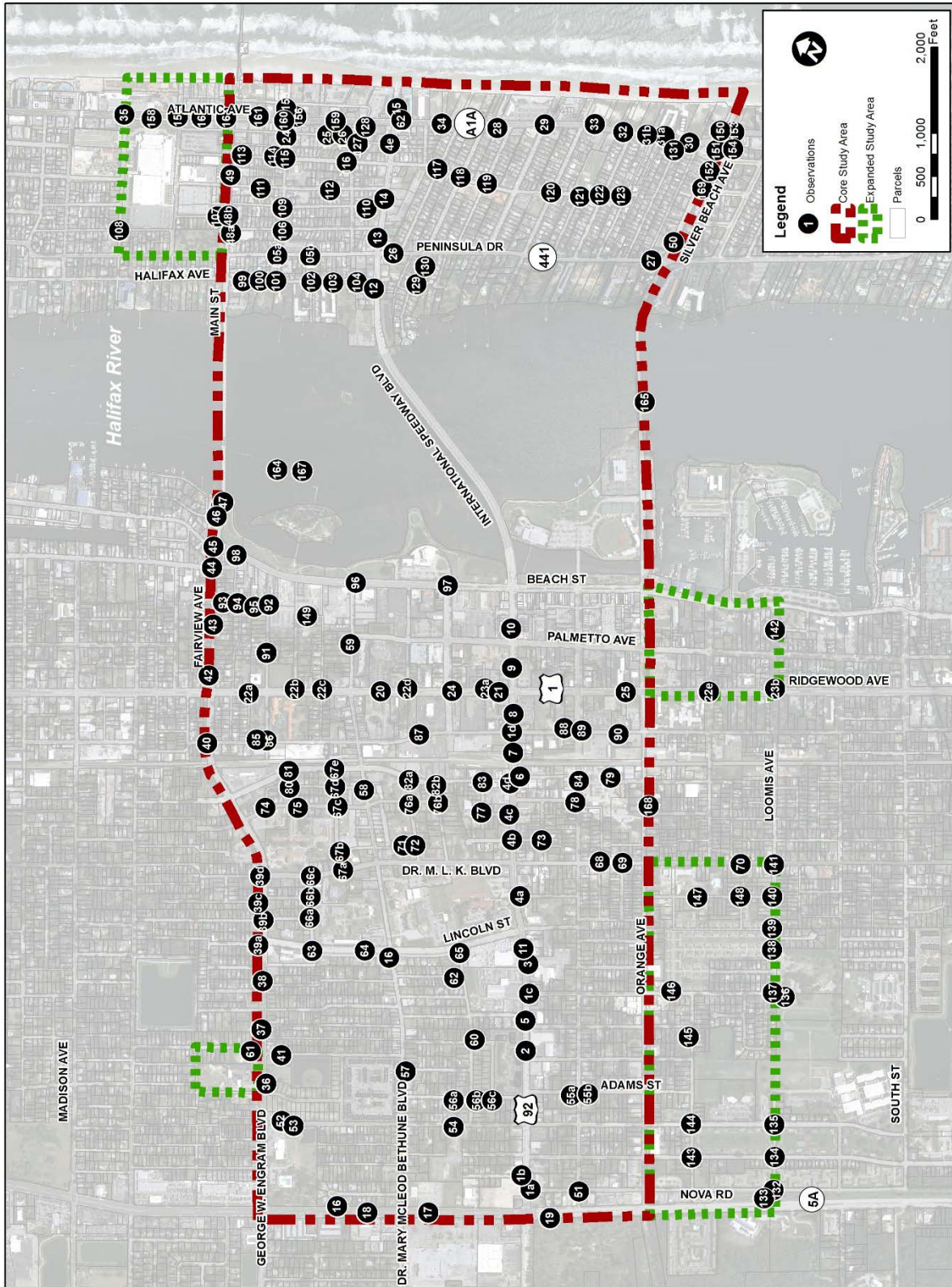
Table 1: Prioritization Criteria¹

Priority		Description
High	1	No Curb Ramp; deficient Curb Ramp; Information Barriers (intersection detection, lack of street crossing information); Insufficient Pedestrian Signals located within 0.25 miles of a school, hospital, government building or similar facility
	2	No Curb Ramp; deficient Curb Ramp; Information Barriers (intersection detection, lack of street crossing information); Insufficient Pedestrian Signals located beyond 0.25 miles of a school, hospital, government building or similar facility
Low	3	Insufficient Sidewalk Surface (trip hazards, surface materials, grating, changes in level/elevation, uneven transitions and improper landing pads)
	4	Movement Barriers (obstructions, insufficient widths, sidewalk gaps, median or island crossings that are inaccessible)

¹Source: Volusia County. (2014). *Americans With Disabilities Act (ADA) Transition Plan – Phase 1: Steps to Compliance*.

For this study, 169 recommended conceptual improvements on state, county and city roads have been identified through field investigation within the study area. The improvement locations are illustrated in Figure 2. Table 2 lists the location of each identified conceptual safety and connectivity improvement recommendation, as well as an identified deficiency, recommended solution, responsible implementing agency, cost estimate, and time period for construction. Due to the varied types of suggested solutions, cost estimates have been obtained from a number of sources. The following sources of information are utilized in the list:

- FDOT 2016 Generic Cost per Mile Model (GCPP) (sidewalks, mid-block crossings, shared use paths)
- FDOT Long Range Estimates (LRE) (curb ramps, detectable warning pads, crosswalks)
- Votran’s 2012 Transit Development Plan (bus stops)
- www.CFLRoads.com (committed FDOT projects)



Source: Ghyabi & Associates. Map Created: 11/30/2016

Figure 2: Recommended Improvement Locator Map





Table 2: Recommended Improvements Prioritization and Cost Estimate List

Key Number	Priority	Location	Description of Deficiency	Recommended Solution	Category	Cost per Centerline Mile	Cost Unit	Length or # of Units	Total Cost	Source	Agency Responsible	Timing
1	3	US 92/SR 600 / ISB	Faded crosswalk markings at Jean St, Harney St, Lockhart St and Segrave St	Repaint crosswalks as a part of CODB US 92/ISB - East Streetscape (CODB #2011-027)	Streetscape (CODB #2011-027)	N/A	N/A	N/A	\$5,000,000 (Total Project Cost)	N/A	FDOT/City of Daytona Beach	Short-Term
2	4	US 92/SR 600/ ISB from Adams St to Lincoln St	Pedestrians make mid-block crossings due to no marked crossings being available (0.36 Mile stretch)	Consider providing mid-block crossings as a part of ISB West Phase II Project	Mid-Block Crossing	\$120,051.93	Mile	0.0142	\$1,705,28	FDOT GCPMM	FDOT/City of Daytona Beach	Long-Term
3	4	US 92/SR 600/ISB at BCU	No connection between EB sidewalk and BCU School of Nursing	Construct sidewalk connection	Sidewalk (5' width, 1 side)	\$155,261.80	Mile	0.003	\$465,79	FDOT GCPMM	BCU	Long-Term
4	1	US 92/SR 600/ ISB	No marked crosswalks at Jessie St, Helme Pl, Emmet St, Charles St, and Coates St	Install marked crosswalks as part of US 92 Drainage Improvements from Emmett St to Charles St (FPID #4368551)	Marked Crosswalks	\$530.40	Unit	5	\$2,652,00 (FPID #4368551 - Helm, Emmet, St. Charles)	FDOT LHE	FDOT	Short-Term
5	3	US 92/SR 600/ ISB	Bus stops between SR 5A/Nova Rd and the FEC Railroad lack amenities	Provide ADA accessible stops	Shelters	\$30,000.00	Unit	7	\$210,000.00	Votran	City of Daytona Beach	Long-Term
6	1	US 92/SR 600/ ISB at Charles St	No curb ramp on south side of street	Install curb ramp as part of US 92 Drainage Improvements from Emmett St to Charles St (FPID #4368551)	Drainage Improvements (FPID #4368551)	N/A	N/A	N/A	\$626,000 (Total Project Cost)	N/A	N/A	Short-Term (2018)
7	4	US 92/SR 600/ ISB between Dr. MLK, Jr. Blvd and US 1/ Ridgewood Ave	Pedestrians make mid-block crossings due to no marked crossings being available (0.36 Mile stretch)	Consider providing mid-block crossings as a part of ISB West Phase III Project.	Mid-Block Crossing	\$120,051.93	Mile	0.0125	\$1,500,65	FDOT GCPMM	FDOT	Long-Term
8	3	US 92/SR 600/ ISB at Segrave St	The EB bus stop not ADA compliant	Provide ADA compliant stop	Shelters	\$30,000.00	Unit	1	\$30,000.00	Votran	City of Daytona Beach	Long-Term
9	4	US 92/SR 600/ ISB from Segrave St to Beach St	Gap (0.33 m) in bike lane network	Coordinate with the City of Daytona Beach to seek designation of safe routes that parallel corridor	N/A	N/A	N/A	N/A	N/A	N/A	FDOT	Long-Term
10	4	US 92/SR 600/ ISB from Palmetto Ave to Beach St	Bicycles are prohibited on sidewalks	Coordinate with the City of Daytona Beach to seek designation of safe routes that parallel corridor	N/A	N/A	N/A	N/A	N/A	N/A	FDOT	Long-Term
11	4	US 92/SR 600/ ISB between Lockhart St and Dr. MLK, Jr. Blvd	Concrete utility poles obstruct sidewalk	Utilities proposed to be buried as a part of US 92/ISB Streetscape Phase II project (CODB #2011-027)	Streetscape (CODB #2011-027)	N/A	N/A	N/A	\$5,000,000 (Total Project Cost)	N/A	FDOT/City of Daytona Beach	Short-Term
12	4	US 92/SR 600/ISB at Halifax Ave	WB bicycle lane does not extend to intersection	Reconstruct intersection as a part of CODB US 92/ISB - East Streetscape (CODB #2011-038)	Streetscape (CODB #2011-038)	N/A	N/A	N/A	N/A	N/A	FDOT/City of Daytona Beach	Long-Term

Sources:
 FDOT 2016 Generic Cost Per Mile Model
 FDOT Long Range Estimates
 2012 Transit Development Plan – Votran
www.cfloods.com



Table 2: Recommended Improvements Prioritization and Cost Estimate List (continued)

Key Number	Priority	Location	Description of Deficiency	Recommended Solution	Category	Cost per Centerline Mile	Cost Unit	Length or # of Units	Total Cost	Source:	Agency Responsible	Timing
13	4	US 92/SR 600/ISB	No bicycle facilities east of Halifax Ave	Include as part of CODB US 92/ISB - East Streetscape (CODB #2011-038)	Streetscape (CODB #2011-038)	N/A	N/A	N/A	N/A	N/A	FDOT/City of Daytona Beach	Long-Term
14	3	US 92/SR 600/ISB	Bus stops east of SR 441/Penninsula Dr are not ADA compliant	Provide ADA compliant bus stops	Shelters	\$30,000.00	Unit	7	\$210,000.00	Votran	City of Daytona Beach	Long-Term
15	1	ISB at SR A1A/Atlantic Ave	No curb ramps at crosswalk one block east of intersection	Install curb ramps	Curb Ramp + Detectable Warning Material	\$2,921.67	Unit	2	\$5,843.34	FDOT LRE	City of Daytona Beach	Short-Term
16	4	SR 5A/Nova Rd south George W Enggram Blvd	Vegetation obstructs east sidewalk	Maintenance of vegetation	N/A	N/A	Unit	N/A	N/A	Contact FDOT	FDOT	Short-Term
17	4	SR 5A/Nova Rd	There are no bicycle facilities within corridor. Cyclists ride on the sidewalks.	Coordinate with the City of Daytona Beach to seek designation of safe routes that parallel corridor	N/A	N/A	N/A	N/A	N/A	N/A	FDOT	Long-Term
18	4	SR 5A/Nova Rd	Utility poles are located in sidewalk	Since relocation of the utility pole is expensive, it would be more cost effective to widen the sidewalk. This should be coordinated with utilities.	Sidewalk (5' width, 1 side)	N/A	N/A	N/A	N/A	N/A	FDOT	Long-Term
19	4	SR 5A/Nova Rd	Sidewalk changes width in front of Tusawilla Park	Widen sidewalk (from 5 ft. To 10 ft.)	Sidewalk (5' width, 1 side)	\$155,261.80	Mile	0.14	\$21,736.65	FDOT GCPMM	FDOT	Long-Term
20	3	US 1/Ridgewood Ave	Several bus stops are not ADA compliant north of Magnolia Ave	Provide ADA compliant bus stops	Shelters	\$30,000.00	Unit	8	\$240,000.00	Votran	City of Daytona Beach	Long-Term
21	4	US 1/Ridgewood Ave	There is a gap in the bicycle lane network between Bay St and Magnolia Ave	Coordinate with the City of Daytona Beach to seek designation of safe routes that parallel corridor	N/A	N/A	N/A	N/A	N/A	N/A	FDOT	Long-Term
22	1	US 1/Ridgewood Ave	There are no marked crosswalks at First Ave (NB and SB), San Juan Ave (NB and SB), Third Ave (NB) and Live Oak Ave (NB and SB)	Install crosswalks	Marked Crosswalks	\$530.40	Unit	7	\$3,712.80	FDOT LRE	FDOT	Short-Term
23	3	US 1/Ridgewood Ave	Existing marked crosswalk are faded at Dowling Ct (NB) and Loomis Ave (NE)	Repaint crosswalks	Marked Crosswalks	\$530.40	Unit	2	\$1,060.80	FDOT LRE	FDOT	Short-Term
24	1	US 1/Ridgewood Ave	There is no south crosswalk at Bay St	Install marked crosswalk	Marked Crosswalks	\$530.40	Unit	1	\$530.40	FDOT LRE	FDOT	Short-Term



Table 2: Recommended Improvements Prioritization and Cost Estimate List (continued)

Key Number	Priority	Location	Description of Deficiency	Recommended Solution	Category	Cost per Centerline Mile	Cost Unit	Length or # of Units	Total Cost	Source:	Agency Responsible	Timing
25	3	US 1/ Ridgewood Ave	Several bus stops are not ADA compliant south of Magnolia Ave	Provide ADA compliant bus stops	Shelters	\$30,000.00	Unit	3	\$90,000.00	Votran	City of Daytona Beach	Long-Term
26	4	SR 441/ Peninsula Dr	There is a gap in the bicycle facilities between US 92/SR 600/ISB and Vermont Ave	Include as part of CODB US 92/ISB - East Streetscape (COdB #2011-038)	Streetscape (COdB #2011-038)	N/A	N/A	N/A	N/A	N/A	FDOT/City of Daytona Beach	Long-Term
27	4	SR 441/ Peninsula Dr	There is a gap in the bicycle facilities between Phoenix Ave and Silver Beach Ave	Install bicycle share road signage and markings	Signage and Marking	\$355.05	Unit	1	\$355.05	FDOT LRE	FDOT	Long-Term
28	3	SR A1A/ Atlantic Ave	Several SB bus stops are not ADA compliant and lack amenities south of US 92/SR 600/ISB	Provide ADA accessible bus stops	Shelters	\$30,000.00	Unit	6	\$180,000.00	Votran	City of Daytona Beach	Long-Term
29	4	SR A1A/ Atlantic Ave	There is a gap in the sidewalk network at Revilo Blvd	Construct sidewalk	Sidewalk (5' width, 1 side)	\$155,261.80	Mile	0.003	\$465.79	FDOT GCPMM	City of Daytona Beach	Long-Term
30	4	SR A1A/ Atlantic Ave	Pedestrians make mid-block crossings due to no marked crossings being available (0.42 Mile stretch) south of Revilo Blvd	Consider providing mid-block crossing	Mid-Block Crossing	\$120,051.93	Mile	0.0114	\$81,364.23	FDOT GCPMM	FDOT	Long-Term
31	2	SR A1A/ Atlantic Ave	There are no marked crosswalks at Eastwood Ln and Frances Ter	Install marked crosswalks	Marked Crosswalks	\$1,230.40	Unit	2	\$2,460.80	FDOT LRE	FDOT	Long-Term
32	2	SR A1A/ Atlantic Ave	There are curb ramps at the Ribault Ave intersection suggesting that a mid-block crossing may have once been considered or existing at this location	Install marked crosswalk	Mid-Block Crossing	\$120,051.93	Mile	0.0114	\$81,364.23	FDOT GCPMM	FDOT	Long-Term
33	3	SR A1A/ Atlantic Ave	Several northbound bus stops lack amenities south of US 92/SR 600/ISB.	Add bus stop amenities	Shelters	\$30,000.00	Unit	8	\$240,000.00	Votran	City of Daytona Beach	Long-Term
34	4	SR A1A/ Atlantic Ave	There are no bike facilities	Coordinate with the City of Daytona Beach to seek designation of safe routes that parallel corridor	N/A	N/A	N/A	N/A	N/A	N/A	FDOT	Long-Term
35	4	SR A1A/ Atlantic Ave	Vegetation obstructs the west sidewalk between Mobile Ave and Silver Beach Ave	Maintenance of vegetation	N/A	N/A	N/A	N/A	N/A	Contact FDOT	FDOT	Short-Term
36	1	George W. Engram Blvd at Childs Academy School	The sidewalk on the south side of street does not connect with the marked mid-block crossing	Install curb ramp and sidewalk connection	Curb Ramp	\$2,921.67	Unit	1	\$2,921.67	FDOT LRE	Volusia County	Short-Term



Table 2: Recommended Improvements Prioritization and Cost Estimate List (continued)

Key Number	Priority	Location	Description of Deficiency	Recommended Solution	Category	Cost per Centerline Mile	Cost Unit	Length or # of Units	Total Cost	Source:	Agency Responsible	Timing
37	4	George W. Engram Blvd	Pedestrians make mid-block crossings due to no marked crossings being available (0.45 Mile stretch) between Chiles Academy and Dr. MLK, Jr. Blvd	Consider providing mid-block crossing	Mid-Block Crossing	\$120,051.93	Mile	0.0114	\$1,364.23	FDOT GCPMM	Volusia County	Long-Term
38	3	George W. Engram Blvd	Several bus stops are not ADA compliant and lack amenities	Add ADA compliant bus stops	Shelters	\$30,000.00	Unit	13	\$390,000.00	Votran	City of Daytona Beach	Long-Term
39	3	George W. Engram Blvd	Existing marked crosswalk paint has faded at Lincoln St, Model St and Pleasant St	Repaint crosswalks	Marked Crosswalks	\$530.40	Unit	4	\$2,121.60	FDOT LRE	Volusia County	Long-Term
40	1	George W. Engram Blvd	There is no marked crosswalk on the north side of Segrave St intersection	Install marked crosswalk	Marked Crosswalks	\$530.40	Unit	1	\$530.40	FDOT LRE	Volusia County	Short-Term
41	4	George W. Engram Blvd	There is a gap in sidewalk connection at Rose Ave	Construct sidewalk	Sidewalk (5' width, 1 side)	\$155,261.80	Mile	0.06	\$9,315.71	FDOT GCPMM	City of Daytona Beach	Long-Term
42	4	Fairview Ave	The north sidewalk is less than 3' wide, 100' east of US 1/Ridgewood Ave	Repair sidewalk	Sidewalk (5' width, 1 side)	\$155,261.80	Mile	0.001	\$155.26	FDOT GCPMM	Volusia County	Long-Term
43	3	Fairview Ave	Excluding the Central Manor Apartments bus stop, all bus stops lack amenities between US 1/Ridgewood Ave and Beach St	Add bus stop amenities where feasible	Shelters	\$30,000.00	Unit	2	\$60,000.00	Votran	City of Daytona Beach	Long-Term
44	1	Fairview Ave	At Beach St, there are no crosswalks on the north, west and east sides of intersection. On the north side of the street, there are no curb ramps.	Install marked crosswalks and curb ramps	Marked Crosswalks and Curb Ramps	\$530.40 /\$2,921.67	Unit	3 Crosswalks, 2 Curb Ramps	\$7,433.54	FDOT LRE	Volusia County	Short-Term
45	1	Fairview Ave	At Ballough Rd, the west sidewalk lacks curb ramps and the south crosswalk does not align with existing curb ramps	Install curb ramps and realign crosswalk	Marked Crosswalk and Curb Ramp	\$530.40 /\$2,921.67	Unit	1 Crosswalks, 1 Curb Ramps	\$3,452.07	FDOT LRE	Volusia County	Short-Term
46	1	Fairview Ave	There is no marked crosswalk on the north side of Bowman Ave intersection	Install marked crosswalk	Marked Crosswalks	\$530.40	Unit	1	\$530.40	FDOT LRE	Volusia County	Short-Term
47	1	Fairview Ave	Despite the presence of ADA accessible sidewalk ramps, there is no marked crossing at Halifax River Greenway	Install Special Emphasis Crosswalk	Special Emphasis Crosswalks	\$1,230.40	Unit	2	\$2,460.80	FDOT LRE	Volusia County	Short-Term
48	1	Main St	There are no marked crosswalks at Hollywood Ave	Install marked crosswalks	Marked Crosswalks	\$530.40	Unit	2	\$1,060.80	FDOT LRE	Volusia County	Short-Term



Table 2: Recommended Improvements Prioritization and Cost Estimate List (continued)

Key Number	Priority	Location	Description of Deficiency	Recommended Solution	Category	Cost per Centerline Mile	Cost Unit	Length or # of Units	Total Cost	Source:	Agency Responsible	Timing
49	4	Main St	The use of bicycles on sidewalks is prohibited	Provide bicycle share road signage and pavement markings.							Volusia County	Long-Term
50	4	Silver Beach Ave	There are no bicycle facilities	Add bicycle lanes as part of future roadway resurfacing project	Roadway Resurfacing	\$676,387.74	Mile	0.28	\$189,388.57	FDOT GCPMM	Volusia County	Long-Term
51	1	Jean St	At Magnolia Ave, the sidewalk connection on the west side of street lacks curb ramps	Install curb ramps	Curb Ramps	\$2,921.67	Unit	2	\$5,843.34	FDOT LRE	City of Daytona Beach	Short-Term
52	4	Keech St	There is a gap in the east sidewalk between George W. Engram Blvd and Pinehaven Dr	Construct sidewalk connection	Sidewalk (5' width, 1 side)	\$155,261.80	Mile	0.16	\$24,841.89	FDOT GCPMM	City of Daytona Beach	Long-Term
53	4	Keech St	Between George W Engram Blvd and Mary McLeod Bethune Blvd, there are no sidewalk facilities on the west side of street despite the presence of transit service	Construct sidewalk and add ADA accessible bus stops	Sidewalk (5' width, 1 side) / 2 Shelters	\$155,261.80 / \$30,000	Mile / Unit	0.22	\$64,157.60	FDOT GCPMM / Votran	City of Daytona Beach	Long-Term
54	4	Keech St	Vegetation is obstructing the sidewalk on the west side of street, north of Oak St	Maintenance of vegetation	N/A	N/A	N/A	N/A	N/A	N/A	City of Daytona Beach	Long-Term
55	4	Adams St	Vegetation is obstructing the west sidewalk just north and south of Magnolia Ave	Maintenance of vegetation	N/A	N/A	N/A	N/A	N/A	N/A	City of Daytona Beach	Long-Term
56	4	Adams Street	There are several sidewalk gaps on the west side of street near Oak St	Construct sidewalk connection	Sidewalk (5' width, 1 side)	\$155,261.80	Mile	0.11	\$17,078.80	FDOT GCPMM	City of Daytona Beach	Long-Term
57	4	Dr. Mary McLeod Bethune Blvd at Desoto St	A utility pole compromises the width of the sidewalk and curb ramp	Widen sidewalk around utility pole	Sidewalk (5' width, 1 side)	\$155,261.80	Mile	0.001	\$155.26	FDOT GCPMM	City of Daytona Beach	Long-Term
58	1	Dr. Mary McLeod Bethune Blvd	A street light fixture that compromises the width and use of curb ramp at the NW corner at Weaver St	Reconstruct curb ramp	Curb Ramps	\$2,921.67	Unit	1	\$2,921.67	FDOT LRE	City of Daytona Beach	Short-Term
59	3	Dr. Mary McLeod Bethune Blvd	Broken sections of sidewalk near Palmetto Ave	Repair broken sidewalk sections	Sidewalk (5' width, 1 side)	\$155,261.80	Mile	0.004	\$621.05	FDOT GCPMM	City of Daytona Beach	Long-Term
60	1	Fulton St at Oak St	No curb ramp	Install curb ramp	Curb Ramps	\$2,921.67	Unit	1	\$2,921.67	FDOT LRE	City of Daytona Beach	Short-Term



Table 2: Recommended Improvements Prioritization and Cost Estimate List (continued)

Key Number	Priority	Location	Description of Deficiency	Recommended Solution	Category	Cost per Centerline Mile	Cost Unit	Length or # of Units	Total Cost	Source:	Agency Responsible	Timing
61	4	Fulton St	Vegetation is obstructing the sidewalk on the west side of street north of George W. Engram Blvd	Maintenance of vegetation	N/A	N/A	N/A	N/A	N/A	N/A	City of Daytona Beach	Long-Term
62	4	Jefferson St	There is a gap in sidewalk network on west side of street between Oak St and Dr. Mary McLeod Bethune Blvd.	Construct sidewalk connection	Sidewalk (5' width, 1 side)	\$155,261.80	Mile	0.019	\$2,949.97	FDOT GCPMM	City of Daytona Beach	Long-Term
63	1	Lincoln St	No curb ramps on west side of State St intersection	Install curb ramp	Curb Ramps	\$2,921.67	Unit	3	\$8,765.01	FDOT LRE	City of Daytona Beach	Short-Term
64	4	Lincoln St from George W Engram Blvd to US 92/SR 600/ ISB	Corridor does not have adequate bicycle facilities, despite the existing right-of-way being 130 feet wide	Install bicycle infrastructure as part of future road way resurfacing project.	Roadway Resurfacing	\$1,063,823.63	Mile	0.57	\$606,379.47	FDOT GCPMM	City of Daytona Beach	Long-Term
65	1	Lincoln St	No curb ramps on west side of Oak St intersection	Install curb ramps	Curb Ramps	\$2,921.67	Unit	2	\$5,843.34	FDOT LRE	City of Daytona Beach	Short-Term
66	1	State St	The intersections at Model St, Pleasant St and Dr. MLK, Jr. Blvd lack curb ramps	Install curb ramps	Curb Ramps	\$2,921.67	Unit	6	\$17,530.02	FDOT LRE	City of Daytona Beach	Short-Term
67	1	McLeod Ave	The intersections at Dr. MLK, Jr. King Blvd, Green St, Walnut St, Weaver St and Charles St lack curb ramps	Install curb ramps	Curb Ramps	\$2,921.67	Unit	14	\$40,903.38	FDOT LRE	City of Daytona Beach	Short-Term
68	1	Dr. MLK, Jr. Blvd	No curb ramps at NE corner of Eldorado St	Install curb ramp	Curb Ramps	\$2,921.67	Unit	1	\$2,921.67	FDOT LRE	City of Daytona Beach	Short-Term
69	1	Dr. MLK, Jr. Blvd	No curb ramps at Cherry St	Install curb ramps	Curb Ramps	\$2,921.67	Unit	2	\$5,843.34	FDOT LRE	City of Daytona Beach	Short-Term
70	1	Dr. MLK, Jr. Blvd	No curb ramps at Verdell St	Install curb ramps	Curb Ramps	\$2,921.67	Unit	2	\$5,843.34	FDOT LRE	City of Daytona Beach	Short-Term
71	4	Green St	Vegetation is obstructing the sidewalk on the east side of Green St just north of Third Ave	Maintenance of vegetation	N/A	N/A	N/A	N/A	N/A	N/A	City of Daytona Beach	Long-Term
72	1	Green St	No curb ramps at Third Ave	Install curb ramps	Curb Ramps	\$2,921.67	Unit	2	\$5,843.34	FDOT LRE	City of Daytona Beach	Short-Term



Table 2: Recommended Improvements Prioritization and Cost Estimate List (continued)

Key Number	Priority	Location	Description of Deficiency	Recommended Solution	Category	Cost per Centerline Mile	Cost Unit	Length or # of Units	Total Cost	Source:	Agency Responsible	Timing
73	1	Helme Pl	No curb ramps at Foote Ct	Install curb ramps	Curb Ramps	\$2,921.67	Unit	1	\$2,921.67	FDOT LRE	City of Daytona Beach	Short-Term
74	1	Walnut St	No curb ramps at Weaver St	Install curb ramps	Curb Ramps	\$2,921.67	Unit	2	\$5,843.34	FDOT LRE	City of Daytona Beach	Short-Term
75	4	Walnut St	There is a gap within the sidewalk network on the west side of street midway between Weaver St and McLeod Ave.	Construct sidewalk connection	Sidewalk (5' width, 1 side)	\$155,261.80	Mile	0.01	\$1,552.62	FDOT GCPMM	City of Daytona Beach	Long-Term
76	1	Walnut St	No curb ramps at Third Ave and Oak St	Install curb ramps	Curb Ramps	\$2,921.67	Unit	4	\$11,686.68	FDOT LRE	City of Daytona Beach	Short-Term
77	1	Emmett St	No curb ramps at West St	Install curb ramps	Curb Ramps	\$2,921.67	Unit	2	\$5,843.34	FDOT LRE	City of Daytona Beach	Short-Term
78	4	Marion St at Magnolia Ave	A utility pole that compromises the width and use of the curb ramp	Widen sidewalk around utility pole if ROW available	Sidewalk (5' width, 1 side)	\$155,261.80	Mile	0.002	\$310.52	FDOT GCPMM	City of Daytona Beach	Long-Term
79	1	220 Marion St	No curb ramps	Install curb ramps	Curb Ramps	\$2,921.67	Unit	2	\$5,843.34	FDOT LRE	City of Daytona Beach	Short-Term
80	4	Weaver St	Vegetation is obstruction the sidewalk on the west side of street just east of Walnut St	Maintenance of vegetation	N/A	N/A	N/A	N/A	N/A	N/A	City of Daytona Beach	Long-Term
81	4	Charles St from George W Engram Blvd to Oak St	Charles St is a 4-lane thoroughfare with an AADT count of less than 10,000	Add bicycle lanes as part of future roadway resurfacing project	Roadway Resurfacing	\$903,701.38	Mike	0.5	\$451,850.69	FDOT GCPMM	City of Daytona Beach	Long-Term
82	1	Charles St	No curb ramps at Weaver St and Oak St	Install curb ramps	Curb Ramps	\$2,921.67	Unit	4	\$11,686.68	FDOT LRE	City of Daytona Beach	Short-Term
83	1	Charles St	No curb ramps at West St	Install curb ramps	Curb Ramps	\$2,921.67	Unit	2	\$5,843.34	FDOT LRE	City of Daytona Beach	Short-Term
84	2	Charles St	No curb ramps at Magnolia Ave and Marion St	Install curb ramps	Curb Ramps	\$2,921.67	Unit	2	\$5,843.34	FDOT LRE	City of Daytona Beach	Short-Term



Table 2: Recommended Improvements Prioritization and Cost Estimate List (continued)

Key Number	Priority	Location	Description of Deficiency	Recommended Solution	Category	Cost per Centerline Mile	Cost Unit	Length or # of Units	Total Cost	Source:	Agency Responsible	Timing
85	4	Segrave St	There is a gap in the sidewalk network on the east side of street between Dr. Mary McLeod Bethune Blvd and Bay St	Construct sidewalk connection	Sidewalk (5' width, 1 side)	\$155,261.80	Mile	0.03	\$4,657.85	FDOT GCPMM	City of Daytona Beach	Long-Term
86	1	Segrave St	Vegetation is obstructing the sidewalk on the west side of street north of Magnolia Ave	Install curb ramps	Curb Ramps	\$2,921.67	Unit	3	\$8,765.01	FDOT LRE	City of Daytona Beach	Short-Term
87	4	Segrave St	No curb ramps at Magnolia Ave	Construct sidewalk connection	Sidewalk (5' width, 1 side)	\$155,261.80	Mile	0.023	\$3,571.02	FDOT GCPMM	City of Daytona Beach	Long-Term
88	4	Segrave St	Utility pole infrastructure and wiring are obstructing the sidewalk on the west side of street	Maintenance of vegetation	N/A	N/A	N/A	N/A	N/A	N/A	City of Daytona Beach	Long-Term
89	1	Segrave St	Vegetation is obstructing the sidewalk on both sides of street	Install curb ramps	Curb Ramps	\$2,921.67	Unit	4	\$11,686.68	FDOT LRE	City of Daytona Beach	Short-Term
90	4	Segrave St north of Orange Ave	No curb ramps at Daytona St	Remove obstruction	N/A	N/A	N/A	N/A	N/A	N/A	City of Daytona Beach	Long-Term
91	4	Mullally St from US 1/Ridgewood Ave to Daytona St	Vegetation is obstructing the sidewalk between Michigan Ave and Fairview Ave	Maintenance of vegetation	N/A	N/A	N/A	N/A	N/A	N/A	City of Daytona Beach	Long-Term
92	1	Mullally St	No curb ramps at Michigan Ave	Install curb ramps	Curb Ramps	\$2,921.67	Unit	2	\$5,843.34	FDOT LRE	City of Daytona Beach	Short-Term
93	4	Daytona St	There is a small gap in sidewalk connectivity	Maintenance of vegetation	N/A	N/A	N/A	N/A	N/A	N/A	City of Daytona Beach	Long-Term
94	1	Daytona St at Michigan Ave	The existing marked crosswalk paint has faded at Dr. Mary McLeod Bethune Blvd	Install curb ramps	Curb Ramps	\$2,921.67	Unit	4	\$11,686.68	FDOT LRE	City of Daytona Beach	Short-Term
95	4	Daytona St at Michigan Ave	There is a gap in the sidewalk network on the east side of street between Dr. Mary McLeod Bethune Blvd and Bay St	Construct sidewalk connection	Sidewalk (5' width, 1 side)	\$155,261.80	Mile	0.001	\$155.26	FDOT GCPMM	City of Daytona Beach	Long-Term
96	1	Beach St	Vegetation is obstructing the sidewalk on the west side of street north of Magnolia Ave	Install Special Emphasis Crosswalk	Special Emphasis Crosswalks	\$1,230.40	Unit	1	\$1,230.40	FDOT LRE	City of Daytona Beach	Short-Term



Table 2: Recommended Improvements Prioritization and Cost Estimate List (continued)

Key Number	Priority	Location	Description of Deficiency	Recommended Solution	Category	Cost per Centerline Mile	Cost Unit	Length or # of Units	Total Cost	Source:	Agency Responsible	Timing
97	1	Beach St	The existing marked crosswalk paint has faded at Bay St	Install Special Emphasis Crosswalk	Special Emphasis Crosswalks	\$1,230.40	Unit	1	\$1,230.40	FDOT LRE	City of Daytona Beach	Short-Term
98	1	Beach St	No curb ramps at NE corner of Michigan Ave intersection	Install curb ramps	Curb Ramps	\$2,921.67	Unit	1	\$2,921.67	FDOT LRE	City of Daytona Beach	Short-Term
99	4	Halifax Ave 400' south of Main St	Vegetation is obstructing the west sidewalk	Maintenance of vegetation	N/A	N/A	N/A	N/A	N/A	N/A	City of Daytona Beach	Long-Term
100	4	Halifax Ave at Harvey Ave	Width of west sidewalk is compromised by the location of a masonry retaining wall	Relocate retaining wall	Sidewalk (5', 1 Side)	\$155,2621.80	Mile	.009	\$1,470.28	FDOT GCPMM	City of Daytona Beach	Long-Term
101	1	Halifax Ave	No curb ramps at Harvey Ave	Install curb ramps	Curb Ramps	\$2,921.67	Unit	2	\$5,843.34	FDOT LRE	City of Daytona Beach	Short-Term
102	1	Halifax Ave	No curb ramps at Mitchell Pl	Install curb ramps	Curb Ramps	\$2,921.67	Unit	6	\$17,530.02	FDOT LRE	City of Daytona Beach	Short-Term
103	4	Halifax Ave	A no parking sign obstructs the sidewalk south of Mitchell Pl	Relocate signage	Relocate Signage	\$194.67	Unit	1	\$194.67	FDOT LRE	City of Daytona Beach	Long-Term
104	1	Halifax Ave	No curb ramps at Hewen Pl	Install curb ramps	Curb Ramps	\$2,921.67	Unit	2	\$5,843.34	FDOT LRE	City of Daytona Beach	Short-Term
105	1	Peninsula Dr	No curb ramps at Harvey Ave and Mitchell Pl	Install curb ramps	Curb Ramps	\$2,921.67	Unit	4	\$11,686.68	FDOT LRE	City of Daytona Beach	Short-Term
106	1	Hollywood Ave	No curb ramps at Harvey Ave	Install curb ramps	Curb Ramps	\$2,921.67	Unit	2	\$5,843.34	FDOT LRE	City of Daytona Beach	Short-Term
107	4	Hollywood Ave north of Main St	Vegetation is obstructing both sidewalks	Maintenance of vegetation	N/A	N/A	N/A	N/A	N/A	N/A	City of Daytona Beach	Long-Term
108	1	Hollywood Ave	No curb ramps on north side of Earl St intersection	Install curb ramps	Curb Ramps	\$2,921.67	Unit	2	\$5,843.34	FDOT LRE	City of Daytona Beach	Short-Term



Table 2: Recommended Improvements Prioritization and Cost Estimate List (continued)

Key Number	Priority	Location	Description of Deficiency	Recommended Solution	Category	Cost per Centerline Mile	Cost Unit	Length or # of Units	Total Cost	Source:	Agency Responsible	Timing
109	1	Olander Ave at Harvey Ave	The SW corner lacks a curb ramp. The NE curb ramp is obstructed by the location of a street light fixture.	Install curb ramp and relocate light fixture	Curb Ramps	\$2,921.67	Unit	3	\$8,765.01	FDOT LRE	City of Daytona Beach	Short-Term
110	4	Olander Ave north of US 92/SR 600/ISB	Vegetation is obstructing the west sidewalk	Maintenance of vegetation	N/A	N/A	N/A	N/A	N/A	N/A	City of Daytona Beach	Long-Term
111	4	Wild Olive Ave from Main St to Harvey Ave	Utility poles compromise ADA accessibility and width of the east sidewalk	Relocate utility poles	Sidewalk (5' width, 1 side)	\$155,261.80	Mile	0.114	\$17,643.39	FDOT GCPMM	City of Daytona Beach	Long-Term
112	3	Wild Olive Ave north of 5 th Ave	A drop-off exists at the edge of the west sidewalk	Repair grade to make ground flush with sidewalk travel surface	N/A	N/A	N/A	N/A	N/A	N/A	City of Daytona Beach	Long-Term
113	4	Grandview Ave south of Main St	The east sidewalk ends abruptly	Construct sidewalk connection	Sidewalk (5' width, 1 side)	\$155,261.80	Mile	0.014	\$2,173.67	FDOT GCPMM	City of Daytona Beach	Long-Term
114	4	Grandview Ave at Harvey Ave	A structurally failing fence is obstructing the sidewalk	Remove or repair fence	N/A	N/A	N/A	N/A	N/A	N/A	Private Sector	Long-Term
115	1	Grandview Ave at Harvey Ave	The existing marked crosswalk paint has faded and there are no curb ramps	Repaint marked crosswalk and add curb ramps	Marked Crosswalks/Curb Ramps	\$530.40 / \$2,921.67	Unit	4 Crosswalks, 2 Curb Ramps	\$7,964.94	FDOT LRE	City of Daytona Beach	Short-Term
116	1	Grandview Ave at 5 th Ave	No curb ramps	Install curb ramps	Curb Ramps	\$2,921.67	Unit	2	\$5,843.34	FDOT LRE	City of Daytona Beach	Short-Term
117	1	Grandview Ave at Vermont Ave	No curb ramps	Install curb ramps	Curb Ramps	\$2,922.67	Unit	2	\$5,845.34	FDOT LRE	City of Daytona Beach	Short-Term
118	1	Grandview Ave at Coodall Ave	No curb ramps	Install curb ramps	Curb Ramps	\$2,923.67	Unit	4	\$11,694.68	FDOT LRE	City of Daytona Beach	Short-Term
119	1	Grandview Ave at Braddock Ave	No curb ramps	Install curb ramps	Curb Ramps	\$2,924.67	Unit	4	\$11,698.68	FDOT LRE	City of Daytona Beach	Short-Term
120	1	Grandview Ave at Lenox Ave	No curb ramps	Install curb ramps	Curb Ramps	\$2,925.67	Unit	3	\$8,777.01	FDOT LRE	City of Daytona Beach	Short-Term



Table 2: Recommended Improvements Prioritization and Cost Estimate List (continued)

Key Number	Priority	Location	Description of Deficiency	Recommended Solution	Category	Cost per Centerline Mile	Cost Unit	Length or # of Units	Total Cost	Source:	Agency Responsible	Timing
121	1	Grandview Ave at Sears Ave	The SW corner of the intersection lacks a curb ramp	Install curb ramp	Curb Ramps	\$2,926.67	Unit	1	\$2,926.67	FDOT LRE	City of Daytona Beach	Short-Term
122	2	Grandview Ave at Sears Ave	The SW, NW, and NE corners of the intersection lacks curb ramps	Install curb ramps	Curb Ramps	\$2,927.67	Unit	3	\$8,783.01	FDOT LRE	City of Daytona Beach	Short-Term
123	4	Grandview Ave	The sidewalks end abruptly 75' north of Frances Ter	Construct sidewalk connection	Sidewalk (5' width, 1 side)	\$155,261.80	Mile	0.14	\$21,736.65	FDOT GC/PMM	City of Daytona Beach	Long-Term
124	1	Coates St	No curb ramps at Harvey Ave	Install curb ramps	Curb Ramps	\$2,921.67	Unit	4	\$11,686.68	FDOT LRE	City of Daytona Beach	Short-Term
125	1	Coates St	The east sidewalk lacks curb ramps at Kemp St	Install curb ramps	Curb Ramps	\$2,921.67	Unit	2	\$5,843.34	FDOT LRE	City of Daytona Beach	Short-Term
126	4	Coates St	A utility pole obstructs the west sidewalk north of 5th Ave	Install bulb-out	Sidewalk (5' width, 1 side)	\$155,261.80	Mile	0.002	\$310.52	FDOT GC/PMM	City of Daytona Beach	Long-Term
127	1	Coates St	There are no curb ramps on north side of 5th Ave	Install curb ramps	Curb Ramps	\$2,921.67	Unit	2	\$5,843.34	FDOT LRE	City of Daytona Beach	Short-Term
128	3	5 th Ave	Overgrown vegetation and deteriorating sidewalk conditions obstruct and create tripping hazards on the south side of street of 5th Ave east of Coates St	Maintenance of vegetation and repair broken sidewalk sections	N/A	N/A	N/A	N/A	N/A	N/A	City of Daytona Beach	Long-Term
129	4	Goodall Ave	A broken fence obstructs the sidewalk near Sunset Dr	Remove obstruction	N/A	N/A	N/A	N/A	N/A	N/A	City of Daytona Beach	Long-Term
130	4	Goodall Ave	A utility pole obstructs the sidewalk near Sunset Dr	Expand sidewalk width	Sidewalk (5' width, 1 side)	\$155,261.80	Mile	0.002	\$310.52	FDOT GC/PMM	City of Daytona Beach	Long-Term
131	4	Phoenix Ave	There is a gap in the sidewalk network on the north side of the street, west of SR A1A/Atlantic Ave	Construct sidewalk connection	Sidewalk (5' width, 1 side)	\$155,261.80	Mile	0.03	\$4,657.85	FDOT GC/PMM	City of Daytona Beach	Long-Term
132	1	Loomis Ave	No curb ramps at Jean St	Install curb ramps	Curb Ramps	\$2,921.67	Unit	4	\$11,686.68	FDOT LRE	City of Daytona Beach	Short-Term



Table 2: Recommended Improvements Prioritization and Cost Estimate List (continued)

Key Number	Priority	Location	Description of Deficiency	Recommended Solution	Category	Cost per Centerline Mile	Cost Unit	Length or # of Units	Total Cost	Source:	Agency Responsible	Timing
133	4	Loomis Ave	There is a 40' gap within the sidewalk network between Jean St and the existing 12' multi-use path on SR 5A/ Nova Rd	Construct sidewalk connection	Sidewalk (5' width, 1 side)	\$155,261.80	Mile	0.008	\$1,242.09	FDOT GCPMM	City of Daytona Beach	Long-Term
134	1	Loomis Ave	No curb ramps at Caroline St	Install curb ramps	Curb Ramps	\$2,921.67	Unit	4	\$11,686.68	FDOT LRE	City of Daytona Beach	Short-Term
135	1	Loomis Ave	No curb ramps at Keech St	Install curb ramps	Curb Ramps	\$2,921.67	Unit	4	\$11,686.68	FDOT LRE	City of Daytona Beach	Short-Term
136	4	Loomis Ave	A three-block long "cattle trail" connects the intersections of Loomis Ave with Cedar St and Lockhart St at Campbell Middle School	Provide sidewalk connection	Sidewalk (5' width, 1 side)	\$155,261.80	Mile	0.21	\$32,604.98	FDOT GCPMM	City of Daytona Beach	Long-Term
137	1	Loomis Ave	No curb ramps at Lockhart St	Install curb ramps	Curb Ramps	\$2,921.67	Unit	1	\$2,921.67	FDOT LRE	City of Daytona Beach	Short-Term
138	1	Loomis Ave	No curb ramps at Whitney St	Install curb ramps	Curb Ramps	\$2,921.67	Unit	1	\$2,921.67	FDOT LRE	City of Daytona Beach	Short-Term
139	1	Loomis Ave	No curb ramp at NE corner of Hudson St intersection	Install curb ramp	Curb Ramps	\$2,921.67	Unit	1	\$2,921.67	FDOT LRE	City of Daytona Beach	Short-Term
140	1	Loomis Ave	There are no curb ramps at the NW, NE, and SE corners at intersection with Henry Butts Dr	Install curb ramps	Curb Ramps	\$2,921.67	Unit	3	\$8,765.01	FDOT LRE	City of Daytona Beach	Short-Term
141	1	Loomis Ave	No curb ramps on the west side of street at Dr. MLK, Jr. Blvd	Install curb ramps	Curb Ramps	\$2,921.67	Unit	2	\$5,843.34	FDOT LRE	City of Daytona Beach	Short-Term
142	4	Loomis Ave	There is a gap in the sidewalk network at Gardiner Ct	Construct sidewalk connection	Sidewalk (5' width, 1 side)	\$155,261.80	Mile	0.013	\$2,018.40	FDOT LRE	City of Daytona Beach	Long-Term
143	1	Maley St	No curb ramps at Caroline St	Install curb ramps	Curb Ramps	\$2,921.67	Unit	2	\$5,843.34	FDOT LRE	City of Daytona Beach	Short-Term
144	1	Maley St	No curb ramps at Keech St	Install curb ramps	Curb Ramps	\$2,921.67	Unit	4	\$11,686.68	FDOT LRE	City of Daytona Beach	Short-Term



Table 2: Recommended Improvements Prioritization and Cost Estimate List (continued)

Key Number	Priority	Location	Description of Deficiency	Recommended Solution	Category	Cost per Centerline Mile	Cost Unit	Length or # of Units	Total Cost	Source:	Agency Responsible	Timing
145	3	Mailey St	Sections of the sidewalk on the north side of street are broken, west of Franklin St	Repair broken sidewalk sections	Sidewalk (5' width, 1 side)	\$155,261.80	Mile	0.004	\$621.05	FDOT LRE	City of Daytona Beach	Long-Term
146	1	Lockhart St	The NE corner of Hawk St intersection has no curb ramp	Install curb ramp	Curb Ramps	\$2,921.67	Unit	2	\$5,843.34	FDOT LRE	City of Daytona Beach	Short-Term
147	1	Henry Butts Dr	No curb ramps on east sidewalk at Heron St	Install curb ramps	Curb Ramps	\$2,921.67	Unit	1	\$2,921.67	FDOT LRE	City of Daytona Beach	Short-Term
148	1	Henry Butts Dr	No curb ramps at Verdell St	Install curb ramps	Curb Ramps	\$2,921.67	Unit	3	\$8,765.01	FDOT LRE	City of Daytona Beach	Short-Term
149	4	Wisconsin Pl	Vegetation is obstructing the east sidewalk between 1 st Ave and San Juan Ave	Maintenance of vegetation	N/A	N/A	N/A	N/A	N/A	N/A	City of Daytona Beach	Long-Term
150	2	SR A1A/ Atlantic Ave at Silver Beach Ave	Faded crosswalks	Re-stripe crosswalks with special emphasis crosswalk markings	Special Emphasis Crosswalks	\$1,230.40	Unit	4	\$4,921.60	FDOT LRE	FDOT	Long-Term
151	2	Silver Beach Ave	Lack of Yield to Pedestrian signage	Add Yield to Pedestrian signage at southbound right turn lane	Signage Assembly	\$355.05	Unit	2	\$710.10	FDOT LRE	Volusia County	Long-Term
152	4	Silver Beach Ave	Overgrown vegetation	Maintenance of vegetation	N/A	N/A	N/A	N/A	N/A	N/A	Volusia County	Long-Term
153	2	SR A1A/ Atlantic Ave at Silver Beach Ave	West and south side crosswalks are not straight.	Realign crosswalks to be more perpendicular with Silver Beach Avenue and SR A1A/Atlantic Avenue.	Special Emphasis Crosswalks	Included in #150	N/A	N/A	N/A	N/A	FDOT	Long-Term
154	4	SR A1A/ Atlantic Ave at Silver Beach Ave	Pole obstruction at southwest corner	Move pole or construct sidewalk that is level with the height of the pole base.	Sidewalk (5' width, 1 side)	\$155,261.80	Mile	0.002	\$310.52	FDOT GCPMM	FDOT	Long-Term
155	3	SR A1A/ Atlantic Ave at Harvey Ave	Possible pedestrian hazard	Paint curb return yellow to direct pedestrians around the corner and to the curb ramp	Crosswalk Paint	\$14.00	LF	25	\$350.00	FDOT LRE	FDOT	Long-Term
156	1	SR A1A/ Atlantic Ave at Harvey Ave	Outdated pedestrian crossing button	Replace the outdated push button signage with new signage	Pedestrian Detector	\$700.95	Each	4	\$2,803.80	FDOT LRE	FDOT	Long-Term



Table 2: Recommended Improvements Prioritization and Cost Estimate List (continued)

Key Number	Priority	Location	Description of Deficiency	Recommended Solution	Category	Cost per Centerline Mile	Cost Unit	Length or # of Units	Total Cost	Source:	Agency Responsible	Timing
157	1	SR A1A/ Atlantic Ave at Auditorium	Outdated pedestrian crossing button	Replace the outdated push button signage with new signage at northwest and southwest corners	Pedestrian Detector	\$700.95	Each	2	\$1,401.90	FDOT LRE	FDOT	Long-Term
158	2	SR A1A	Lack of a stop bar at Hilton Hotel exit	Add a stop bar to the Hilton Hotel exit	Private Property	N/A	N/A	N/A	\$0.00	FDOT LRE	FDOT	Long-Term
159	1	SR A1A at Kemp St	No active warning device at Kemp Street Mid-Block crosswalk	Add active warning device such as Rapid Rectangular Flashing Beacon (RRFB) to improve yield compliance.	RRFB Installation	\$3,603.08	Each	4	\$14,412.32	FDOT LRE	FDOT	Long-Term
160	1	SR A1A at Harvey Ave	Lack of crosswalk at the north leg of the intersection	Add crosswalk and the necessary pedestrian signals and signage	Special Emphasis Crosswalks	\$1,230.40	Unit	1	\$1,230.40	FDOT LRE	FDOT	Long-Term
161	4	SR A1A between Harvey Ave and Main St	Abandoned driveways along sidewalk	Review redevelopment plans for the site, if no redevelopment is planned then rebuild the abandoned driveways to provide a level surface and continuous curb.	N/A	N/A	N/A	N/A	N/A	N/A	FDOT/City of Daytona Beach/Private Sector	Long-Term
162	1	SR A1A at US 92/SR 600/ ISB	Decorative structure block pedestrian push button at SE corner	Remove or relocate structure as part of CODB US 92/ ISB - East Streetscape (CODB #2011-038)	Streetscape (CODB #2011-038)	N/A	N/A	N/A	N/A	N/A	FDOT/City of Daytona Beach	Long-Term
163	1	SR A1A at Main St	Crosswalk on north side of intersection is not straight	Realign crosswalk to be more perpendicular to SR A1A/Atlantic Ave	Special Emphasis Crosswalks	\$1,230.40	Unit	1	\$1,230.40	FDOT LRE	FDOT	Long-Term
164	1	Study Area Wide	Pedestrian signage is not consistent	Replace pedestrian push button signage where necessary to be consistent with the street name signage.	N/A	N/A	N/A	N/A	N/A	N/A	All	Long-Term
165	4	Orange Ave	No bicycle facilities on Halifax River Bridge	Add bicycle lanes as part of the bridge replacement	Bicycle Lanes	N/A	N/A	N/A	N/A	RZCTPO	Volusia County	Short-Term
166	4	SR A1A/ Atlantic Ave from US 92/ SR 600/ ISB to Earl St	Need more allowable U-turn locations	Restrict NB and SB U-turns at signalized intersections and provide U-turn opportunities at designated locations as part of CODB US 91/ ISB - East Streetscape (CODB #2011-038).	Streetscape (CODB #2011-038)	N/A	N/A	N/A	N/A	N/A	FDOT/City of Daytona Beach	Long-Term
167	4	Study Area Wide	Some lights in the corridor are burnt out.	Replace lights that are burnt out.	N/A	N/A	N/A	N/A	N/A	N/A	All	Long-Term
168	4	Orange Ave	No bicycle facilities between SR 5A/ Nova Rd and Halifax River Bridge	Coordinate with the City of Daytona Beach to seek designation of safe routes that parallel corridor	N/A	N/A	N/A	N/A	N/A	N/A	City of Daytona Beach	Long-Term
169	3	Silver Beach Ave	Bus stops along Silver Beach Ave lack amenities	Upgrade bus stops	Shelters	\$30,000.00	Unit	4	\$120,000.00	Votran	City of Daytona Beach	Long-Term



3.2 EXAMPLES OF RECOMMENDED SOLUTIONS

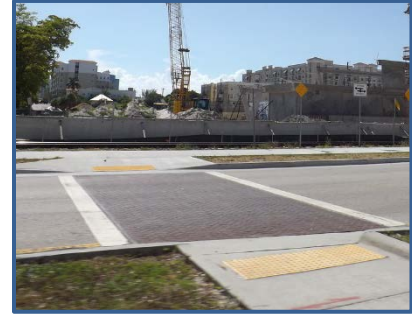
Other communities have successfully implemented pedestrian and bicycle improvements similar to the categories identified within the PCSA Phase 2. The following images provide visual examples of facilities in communities throughout Florida, which serve as tangible examples of the type of environment that can be established when supportive mobility improvements are made.



Bicycle Lanes
SR 441/Peninsula Avenue
Daytona Beach, FL



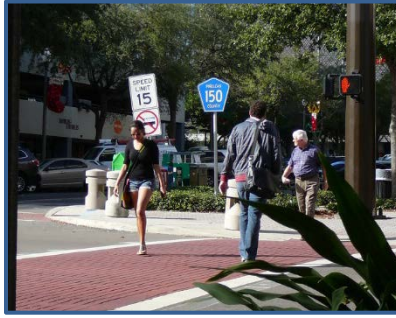
Cycle Track
East Cass Street
Tampa, FL



ADA Compliant Curb
NW Third Avenue
Fort Lauderdale, FL



Shared Use Path
Capital Cascades Trail
Tallahassee, FL



Crosswalks
SR 687/Fourth Street North
St. Petersburg, FL



New Sidewalks
US 1/Philips Highway
Jacksonville, FL



ADA Accessible Bus Stop
SR 527/South Orange Avenue
Orlando, FL



Maintained Landscaping
Beach Street
Daytona Beach, FL



Pedestrian Signage
South Ingram Avenue
Lakeland, FL



3.3 DESIGN CRITERIA FOR FUTURE IMPROVEMENTS

In order to establish a consistent methodology for future multi-modal improvements, design criteria and parameters for each type of suggested improvement are established in Table 3. Further information for this table can be found in the FDOT *Plans Preparations Manual* (PPM, 2017 Edition), Chapter 8 (Pedestrian, Bicycle and Public Transit Facilities) and Chapter 21 (Transportation Design for Livable Communities). Bus stop information was retrieved from Votran’s 2016 Transit Development Design Guidelines, and is also consistent with rule chapter 14-20.003 of the Florida Administrative Code.

Table 4 describes types of urban thoroughfares, including boulevards, avenues and streets. Potential roadways within the PCSA Phase 2 study that could be improved to fit these qualifications are listed in the adjacent column. This information is consistent with the Institute of Transportation Engineers’ (ITE) *Designing Walkable Urban Thoroughfares: A Context Sensitive Approach* (2010).

Table 5 shows the type of facilities, including pedestrian, bicycle and transit, which should be installed based on roadway type. These tables, combined with the conceptual design criteria, can be used to guide improvements within the study area in a multi-modal context.

Figure 3 depicts the major and minor roadway facilities in the vicinity of the study area, classified as boulevards, avenues and streets. There are no multiway boulevards in the study area.



Table 3: Conceptual Design Criteria

Improvement Type	Design Criteria	Source
Sidewalk	5 ft. minimum width, if sidewalk is adjacent to curb then 6 ft. minimum width	FDOT PPM (2017)
	2% Maximum cross slope for ADA Compliance	
	2 ft. minimum separation from back of curb	
Bicycle Lane	When providing a bicycle lane on a Resurfacing, Restoration, and Rehabilitation (RRR) project, the options in the order of priority are: <ol style="list-style-type: none"> 1. 7 foot buffered bicycle lane 2. 6 foot buffered bicycle lane 3. 5-foot conventional bicycle lane 4. 4-foot conventional bicycle lane 	FDOT PPM (2017)
	5 ft. minimum width if RRR project with right turn lane	
	4-ft. paved shoulder is considered a bicycle facility, with 5-ft. minimum clearance between the travel way and face of curb	
Shared-Use Path	10-ft. minimum width for a two directional path	FDOT PPM (2017)
	5% maximum grade, 2% maximum cross-slope	
	8.33% maximum ramp slope	
	Maximum ramp rise 30 inches	
	4-ft. horizontal clearance both sides	
	2-ft. graded area maintained on both sides	
Minimum 4-ft. roadway separation from curb		
ADA Accessibility	4-ft. minimum clearance in sidewalk from an obstruction	FDOT PPM (2017)
Curb Ramps	Curb ramps should be constructed parallel to the crossing	FDOT PPM (2017)
	One curb ramp for each road	
	On shared-use path, curb ramp should be the same width as the path	
	Curb ramps cannot be installed without a curb cut or at-grade sidewalk on the other side of the crossing	
	Same cross-slope and maximum grade conditions as sidewalks apply	
Detectable Warnings	For concrete surfaces, see FDOT's Approved Product List (APL)	FDOT PPM (2017)
	For asphalt surfaces, engineer should specify an appropriate detection system	
Bus Stop	Bus stops should have a clear length of 96 inches and width of at least 60 inches	Votran's Transit Development Design Guidelines (2016)
	Minimum floor area within a bus shelter is 30 by 48 inches	
	Signs should have a non-glare finish must conform to ADA and Florida specific design and location criteria	
	Slope of bus pad must be parallel to roadway	



Improvement Type	Design Criteria	Source
Intersection Crosswalk	Uncontrolled intersection crosswalks should be supplemented with other treatments which may include beacons, curb extensions, raised medians, traffic islands, or overhead lighting, when any of the following conditions exist:	FDOT PPM (2017)
	Posted speeds greater than 40 mph	
	4 or more lanes, AADT greater than 12,000, no median or traffic island	
	4 lanes or more, projected AADT greater than 15,000, raised median and traffic island	
Midblock Crosswalk	Meet all requirements regarding speed limit, AADT, and number of lanes for an intersection crosswalk	FDOT PPM (2017)
	Minimum spacing between intersections is 660 ft. for permission of midblock crosswalk	
	Must be located a minimum of 300 ft. away from nearest intersection	
	Maximum 60 ft. of crossing distance (unless raised median or island)	
	Midblock crosswalks shall not be provided where the sight distance for both the pedestrian and motorist is not adequate	
	Midblock crosswalks shall not be located where ADA cross slope and grade criteria along the crosswalk cannot be met	



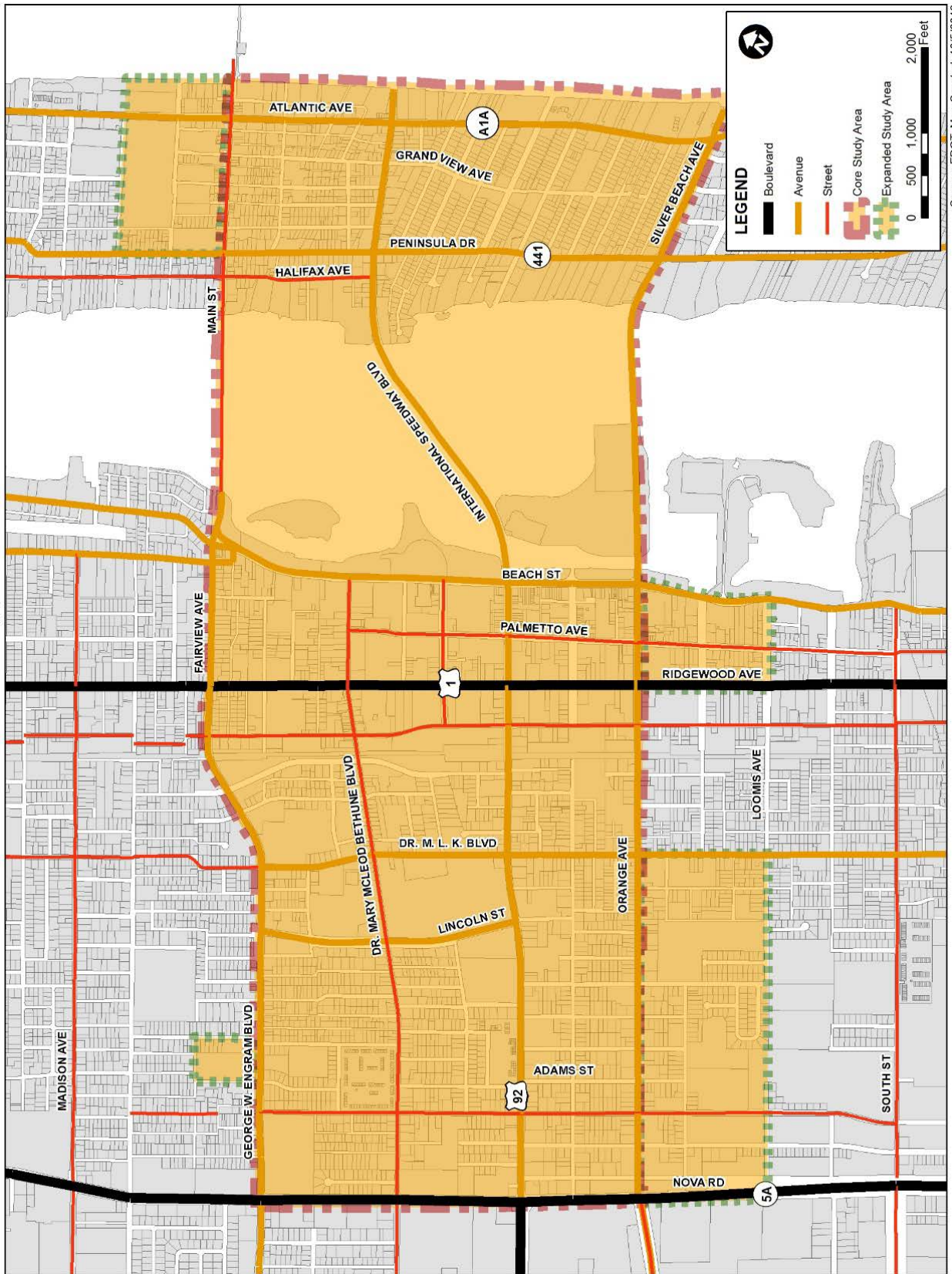
Table 4: Types of Urban Thoroughfares

Urban Thoroughfare Type	Description	Potential Study Area Examples
Boulevard	Walkable divided arterial thoroughfare in urban environments designed to carry both through and local traffic, pedestrians and bicyclists. Boulevards may be long corridors, serve longer trips and provide pedestrian access to land.	US 92/International Speedway Blvd, SR 5A/Nova Rd, US 1/Ridgewood Ave, SR A1A/Atlantic Ave
Multiway Boulevard	Multiway boulevards are a variation of the boulevard characterized by a central roadway for through traffic and parallel access lanes accessing abutting property, parking and pedestrian and bicycle facilities. Parallel access lanes are separated from the through lanes by curbed islands with landscaping.	Lincoln St between Oak St and State St
Avenue	Walkable, urban arterial or collector thoroughfare, generally shorter in length than boulevards, serving access to abutting land. Avenues serve as primary pedestrian and bicycle routes and may serve local transit routes.	George W. Engram Boulevard, Fairview Avenue, Beach Street, SR 441/Peninsula Drive, Charles Street, Orange Avenue
Street	Walkable, thoroughfare in urban areas primarily serving abutting property. A street is designed to (1) connect residential neighborhoods with each other, (2) connect neighborhoods with commercial and other districts, and (3) connect local streets to arterials.	Dr. Mary McLeod Bethune Blvd, Dr. MLK Jr. Blvd, Main St, Keech St, Loomis Ave



Table 5: Improvements Guidelines for Walkable Communities

Urban Thoroughfare Type	No. Through Lanes	Desired Operating Speed (mph)	Transit Service Emphasis	Median	Curb Parking	Pedestrian Facilities	Bicycle Facilities
Boulevard	4 to 6	30-35	Express and Local	Required	Optional Yes on access roadway	Sidewalk	Bike lanes or parallel route
Multiway Boulevard	4 to 6	25-35	Express and Local	Required on access lanes	Yes on access roadway	Sidewalk	-
Avenue	2 to 4	25-30	Local	Optional	Yes	Sidewalk	Bike lanes or shared
Street	2	25	Local or none	No	Yes	Sidewalk	Shared



Source: FDOT. Map Created: 10/5/2016

Figure 3: Urban Thoroughfare Types



4 FUNDING OPTIONS

Funding for transportation projects can occur from a variety of federal, state and/or local sources and can be relatively simple or extremely complex. A variety of funding mechanisms may be applicable to the ISB Pedestrian Connectivity and Safety Assessment Phase 2 Study, particularly if separated into individual projects based on timing, scope or applicability of funding sources.

The following sections detail funding mechanisms from federal, state, local and private sources based on revenue generated by fuel taxes, excise vehicle taxes, motor vehicle fees, rental car surcharges, tolls and concessions, documentary stamps, and other miscellaneous revenue sources that are typically used for transportation improvement projects. It should be noted that some of these funding mechanisms may not be applicable to all sections of the study area. The various funding options, as well as program requirements are also summarized in Tables 6-8.

4.1 FEDERAL

Figure 4 depicts the Federal roads within the study area, which include US 92/SR 600/ISB and US 1/Ridgewood Avenue. Throughout the study area, US 92/SR 600/ISB and US 1/Ridgewood Avenue are both four-lane roadways. Federal funding options are summarized in Table 6.

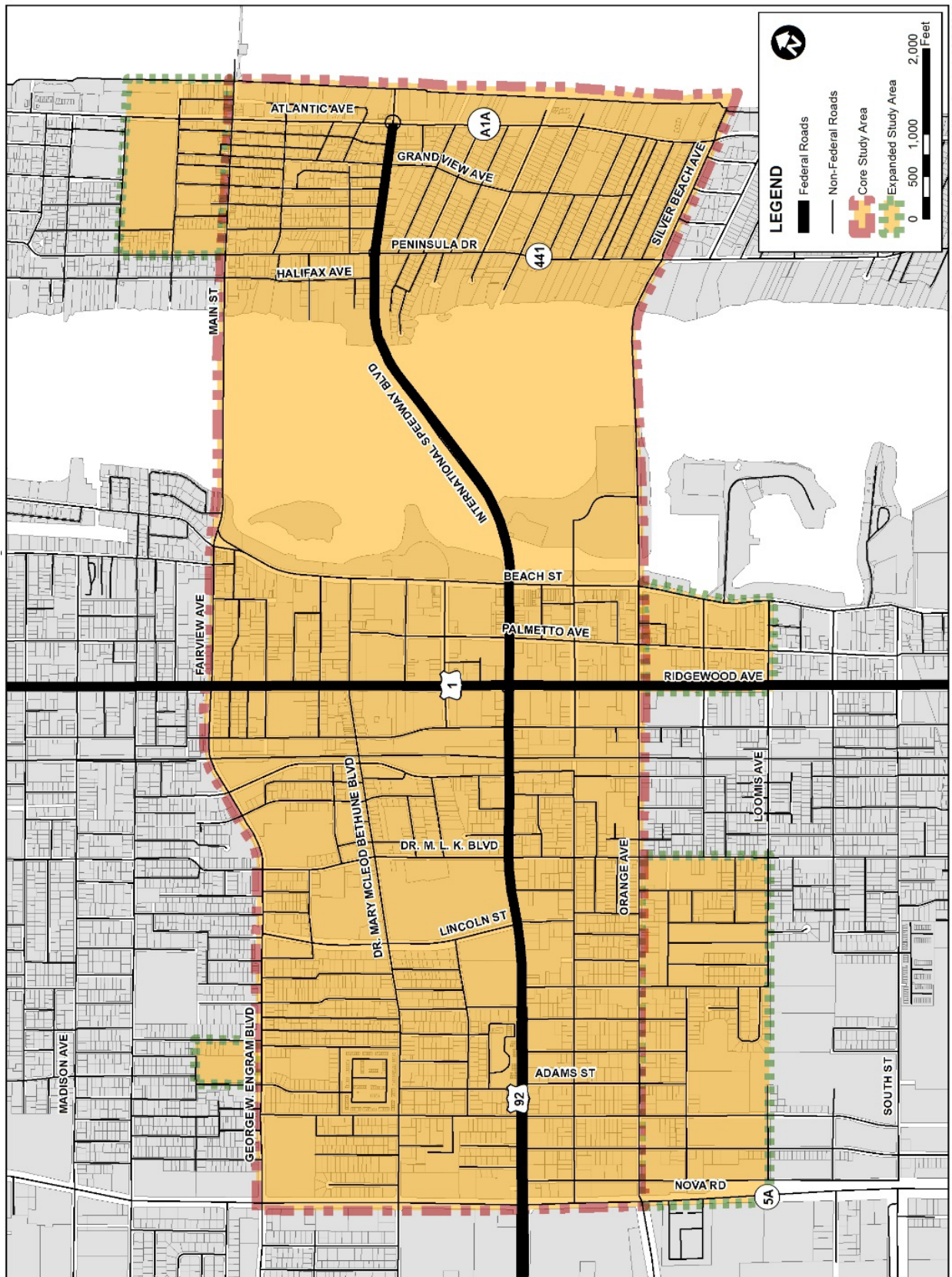
4.1.1 Federal Highway Administration (FHWA) Funds

On December 4, 2015, the Fixing America's Surface Transportation (FAST) Act was signed into law. The FAST Act authorizes \$305 billion for highway and motor vehicle safety, public transportation, motor carrier safety, hazardous materials safety, rail, and research, technology, and statistics programs over the fiscal years 2016 through 2020.

The FAST Act serves as a replacement for the Moving Ahead for Progress in the 21st Century (MAP-21) Federal-aid transportation reauthorization program. Originally authorized in July 2012, MAP-21 consolidated many of the prior Federal programs into fewer categories, eliminated earmarks and included a goal of expediting project delivery while continuing environmental protections in previous transportation authorization programs.

Core programs incorporated into MAP-21 include:

- National Highway Performance Program (NHPP)
- Surface Transportation Program (STP)
- Highway Safety Improvement Program (HSIP)
- Congestion Mitigation and Air Quality Program (CMAQ)
- Transportation Alternatives Program (TAP)



Source: Volusia County Government. Map Created: 10/5/2016

Figure 4: Federal Roadways





Table 6: Federal Funding Options Table

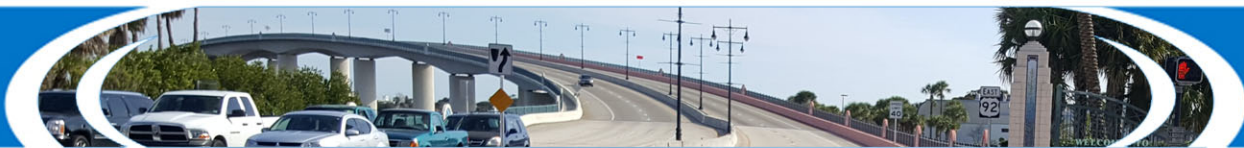
Program/Grant Name	Source	Deadline	Funding Range	Match	Project Type/Description	Website or Contact
Federal						
National Highway System	National Highway Traffic Safety Administration	-	-	-	Funds improvements in highway safety.	http://www.fhwa.dot.gov/federalaid/projects.cfm#current
Surface Transportation Block Grant Program (FAST Act)	Federal Highway Administration	-	-	-	Funds projects related to intersections that have high crash rates, high congestion. As well as roadway safety, recreational trails, pedestrian, bicycle, and safe routes to school projects.	https://www.fhwa.dot.gov/fastact/factsheets/stbgfs.cfm
Transportation Alternatives (TA)	Federal Highway Administration (Part of Surface Transportation Block Grant Program)	-	-	-	Eligible projects include roadway safety, recreational trails, pedestrian, bicycle, and safe routes to school projects.	https://www.fhwa.dot.gov/fastact/factsheets/transportationalternatives.cfm
Congestion Mitigation/Air Quality Program (FAST Act)	Federal Highway Administration	-	-	-	Funds transportation projects that improve air quality and reduce congestion, in areas which have significant air quality issues.	https://www.fhwa.dot.gov/fastact/factsheets/cmaqfs.cfm
Nationally Significant Freight and Highway Projects (NSFHP) Program	Federal Highway Administration	-	-	-	Provides financial assistance known as FASTLANE grants to nationally and regionally significant freight and highway projects.	https://www.fhwa.dot.gov/fastact/factsheets/fastlane-grants.cfm
Highway Safety Improvement Program (HSIP)	Federal Highway Administration				Provides funding intended to reduce traffic fatalities and serious injuries on all public roads.	https://www.fhwa.dot.gov/fastact/factsheets/hsipfs.cfm
Railway-Highway Crossings Program	Federal Highway Administration				Provides funds for safety improvements intended to reduce the number of crashes, injuries and fatalities at public railway-highway grade crossings.	https://www.fhwa.dot.gov/fastact/factsheets/railwayhighwaycrossingsfs.cfm
Transportation Infrastructure Finance and Innovation Act (TIFIA) Program	Federal Highway Administration				Provides Federal credit assistance to eligible surface transportation projects. Example projects include highway, intercity	https://www.fhwa.dot.gov/fastact/factsheets/tifiarfs.cfm



Program/Grant Name	Source	Deadline	Funding Range	Match	Project Type/Description	Website or Contact
					passenger rail, freight rail facilities and TOD.	
Transportation Investment Generating Economic Recovery (TIGER) Discretionary Grants	Department of Transportation	April 29, 2016	-	-	Funds for road, rail, transit, or port projects that contribute to the five outcomes: safety, economic competitiveness, state of good repair, livability, and environmental sustainability. <i>Chances of receiving this grant are very low.</i>	http://www.transportation.gov/tiger
Buses and Bus Facilities Grants Program	Federal Transit Administration			Federal Share is 80% of project costs	This program provides funding through a competitive process to states and transit agencies to replace, rehabilitate and purchase buses and related equipment and to construct bus-related facilities like bus shelters.	https://www.transit.dot.gov/funding/grants/buses-and-bus-facilities-grants-program-5339
Capital Investment Grant (CIG) Program	Federal Transit Administration				The CIG program is the FTA's primary grant program for funding major transit capital investments. Projects seeking CIG funding must complete a series of steps over several years to be eligible for funding.	https://www.transit.dot.gov/funding/grant-programs/capital-investments/capital-investment-grant-program
Expedited Project Delivery for Capital Investment Grants Pilot	Federal Transit Administration				This program allows up to eight projects over the life of the program to be selected for expedited grants. Eligible projects must demonstrate local financial commitment, technical capacity, existing transit in a state of good repair and supported through a public-private partnership.	https://www.transit.dot.gov/funding/grants/expedited-project-delivery-capital-investment-grants-pilot-5309
Pilot Program for Transit-Oriented Development Planning	Federal Transit Administration				This program provides funding assistance to local communities to integrate land use and transportation planning with a transit capital investment seeking	https://www.transit.dot.gov/TODPilot



Program/Grant Name	Source	Deadline	Funding Range	Match	Project Type/Description	Website or Contact
					funding through the CIG Program.	
Highway Bridge Replacement & Rehabilitation	Federal Highway Administration	-	-	-	Funds bridge replacements and rehabilitative activities for bridges, and is dependent upon bridge inspection.	http://www.fhwa.dot.gov/bridge/hbrrp.cfm
The Trust for Public Land Conservation Services	The Trust for Public Land	-	-	-	Uses public funds for acquisition of public land to build trails, sidewalks, etc. Ensures completion of the transaction. All expenditures by TPL must be reimbursed. This is not a grant.	Kevin Mooney 850-222-7911 ext 21 kevin.mooney@tpl.org
Federal Lands Access Program	Federal Highway Administration	-	-	-	Improvements to transportation infrastructure within federally owned lands.	https://www.fhwa.dot.gov/fastact/factsheets/fedlandsaccessfs.cfm
Community Development Block Grant	US Department of Housing and Urban Development	Annually by August	Varied	None	Funding for property acquisition, improvements to neighborhood parks and facilities, new and resurfaced streets, sidewalk installation.	Donna King 386-943-7039 ext 2970 dking@co.volusia.fl.us
Florida Rails to Trails	Rails-to-Trails Conservancy	None	\$225,000	None	Acquisition of land for greenways and trails.	http://www.railstotrails.org/
Energy Efficiency and Conservation Block Grant	US Department of Energy				The US Department of Energy awards the Energy Efficiency and Conservation Block Grant (EECGB) to provide funding for projects that increase energy efficiency and promote conservation. Some transportation projects funded by this grant include signal-retiming and streetlight installation	http://energy.gov/eere/wipo/energy-efficiency-and-conservation-block-grant-program



Of particular interest for multimodal strategies that may be included in the ISB corridor is the FAST Act's set-aside of Surface Transportation Block Grant (STBG) program funding for transportation alternatives (TA). A replacement for MAP-21's Transportation Alternatives Program (TAP), it encompasses a variety of smaller-scale transportation projects such as pedestrian and bicycle facilities, recreational trails, safe routes to school projects, community improvements such as historic preservation and vegetation management, and environmental mitigation related to habitat and stormwater connectivity. The authorized apportionment of funds for TA is \$835 million per year for FYs 2016 and 2017 and \$850 million in FYs 2018-2020.

Federal funds authorized by the FAST Act can be directed by a variety of State, Metropolitan Planning Organizations (MPOs), local governments, transportation authorities, and other political subdivisions. Projects planned with federal participation must be included in the State Transportation Improvement Program (STIP), which is a federally mandated document listing projects with federal funding for the next four fiscal years.

Traditionally in Florida, federal funds are passed through to the FDOT for inclusion into the Five-Year Work Program; however, organizations such as MPOs have been given increased ability to direct certain federal and state funds within their jurisdictions. In Florida, MPOs in larger urbanized areas (greater than 200,000 in population) can allocate a portion of federal Urban Attributable (XU) Funds toward eligible projects. In addition, transit agencies receive federal allocations based on a variety of factors and have some discretionary authority on spending federal funds that are included within the STIP.

4.1.2 The Congestion Mitigation and Air Quality Improvement (CMAQ) Program

The CMAQ program provides funding to state and local governments for transportation projects to reduce congestion and improve air quality for areas in nonattainment or maintenance for ozone, carbon monoxide and/or particulate matter. Those States that have no nonattainment or maintenance areas can still receive a minimum apportionment of funding for air quality or transportation projects.

4.1.3 Nationally Significant Freight and Highway Projects (NSFHP) Program

The NSFHP program provides financial assistance known as FASTLANE grants to nationally and regionally significant freight and highway projects. A FASTLANE grant may not exceed 60% of eligible projects costs.

4.1.4 Highway Safety Improvement Program (HSIP) Program

The HSIP provides funding intended to reduce traffic fatalities and serious injuries on all public roads. Eligible projects include pedestrian hybrid beacons and roadway improvements that provide separation between pedestrians and motor vehicles, including medians and pedestrian crossing islands.

4.1.5 Railway-Highway Crossings Program

This program provides funds for safety improvements intended to reduce the number of crashes, injuries, and fatalities at public railway-highway grade crossings.



4.1.6 Transportation Alternatives Program

A set-aside of the STBG program, the Transportation Alternatives (TA) program provides funding for smaller scale transportation projects such as pedestrian and bicycle facilities, recreational trails and safe routes to school projects.

4.1.7 Transportation Infrastructure Finance and Innovation Act (TIFIA) Program

The TIFIA program provides Federal credit assistance to eligible surface transportation projects. Example projects include highway, intercity passenger rail, freight rail facilities and transit-oriented developments.

4.1.8 Federal Transit Administration (FTA) Programs

The Federal Transit Administration (FTA) provides Formula Funds and Discretionary Funds for public transportation systems. Formula Funds are allocated to applicable TPO areas and then to transit agencies, such as VOTRAN, within their regional area based on items like population, transit system miles and riders served. Discretionary Funds are competitive grants that typically require some level of match from state and local funds for major transit capital investments such as new bus purchases and transit corridor improvements like fixed rail and Bus Rapid Transit systems.

4.1.9 TIGER Grant Program

The Transportation Investment Generating Economic Recovery, or TIGER Discretionary Grant program, provides funds for road, rail, transit and port projects that have significant national interest. This is a highly competitive program that was started as part of the American Recovery and Reinvestment Act (ARRA) in 2009. Organizations including State, local governments, transit agencies, Metropolitan Planning Organizations, port authorities and other political subdivisions of State or local governments are eligible to apply for TIGER Grants.

4.1.10 Buses and Bus Facilities Grants Program

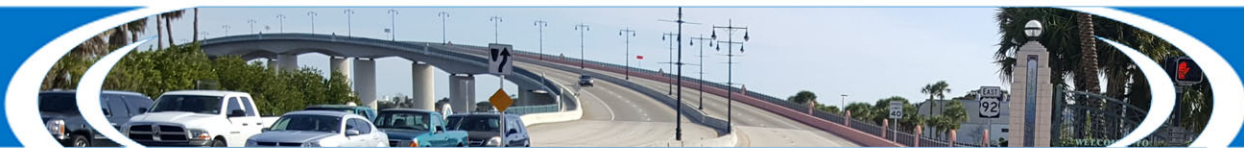
This program provides funding through a competitive process to states and transit agencies to replace, rehabilitate and purchase buses and related equipment and to construct bus-related facilities like bus shelters.

4.1.11 Capital Investment Grant (CIG) Program

The CIG program is the FTA's primary grant program for funding major transit capital investments. Projects seeking CIG funding must complete a series of steps over several years to be eligible for funding.

4.1.12 Expedited Project Delivery for Capital Investment Grants Pilot

This program allows up to eight projects over the life of the program to be selected for expedited grants. Eligible projects must demonstrate local financial commitment, technical capacity, existing transit in a state of good repair and supported through a public-private partnership.



4.1.13 Pilot Program for Transit-Oriented Development Planning

This program provides funding assistance to local communities to integrate land use and transportation planning with a transit capital investment seeking funding through the CIG Program.

4.1.14 Highway Bridge Replacement and Rehabilitation

This program funds bridge replacements and rehabilitative activities for bridges. Funds become available at the beginning of each fiscal year and 12-35% of these funds must be used on public roads.

4.1.15 The Trust for Public Land Conservation Services

The Trust for Public Land (TPL) uses public funds for acquisition of public land to build trails, sidewalks, etc., and ensures completion of the transaction. However, this is not a grant and expenditures by the TPL must be reimbursed.

4.1.16 Federal Lands Access Program

The primary purpose of this program is to provide funding for projects that are located on or adjacent to, or that provide access to, federal lands (public highway, road, bridge, trail or transit system). State, tribal and local governments that title or maintain a federal lands access transportation facility are eligible to request funding.

4.1.17 Community Development Block Grant

The Community Development Block Grant (CDBG), through the US Department of Housing and Urban Development, provides funding for property acquisition, improvements to neighborhood parks and facilities, new and resurfaced streets and sidewalk installation.

4.1.18 Rails-to-Trails

The Rails-to-Trails Conservancy, an American nonprofit, offers funds for acquisition of land for greenways and trails. The goal is to create a network of trails from former rail lines.

4.1.19 Energy Efficiency and Conservation Block Grant

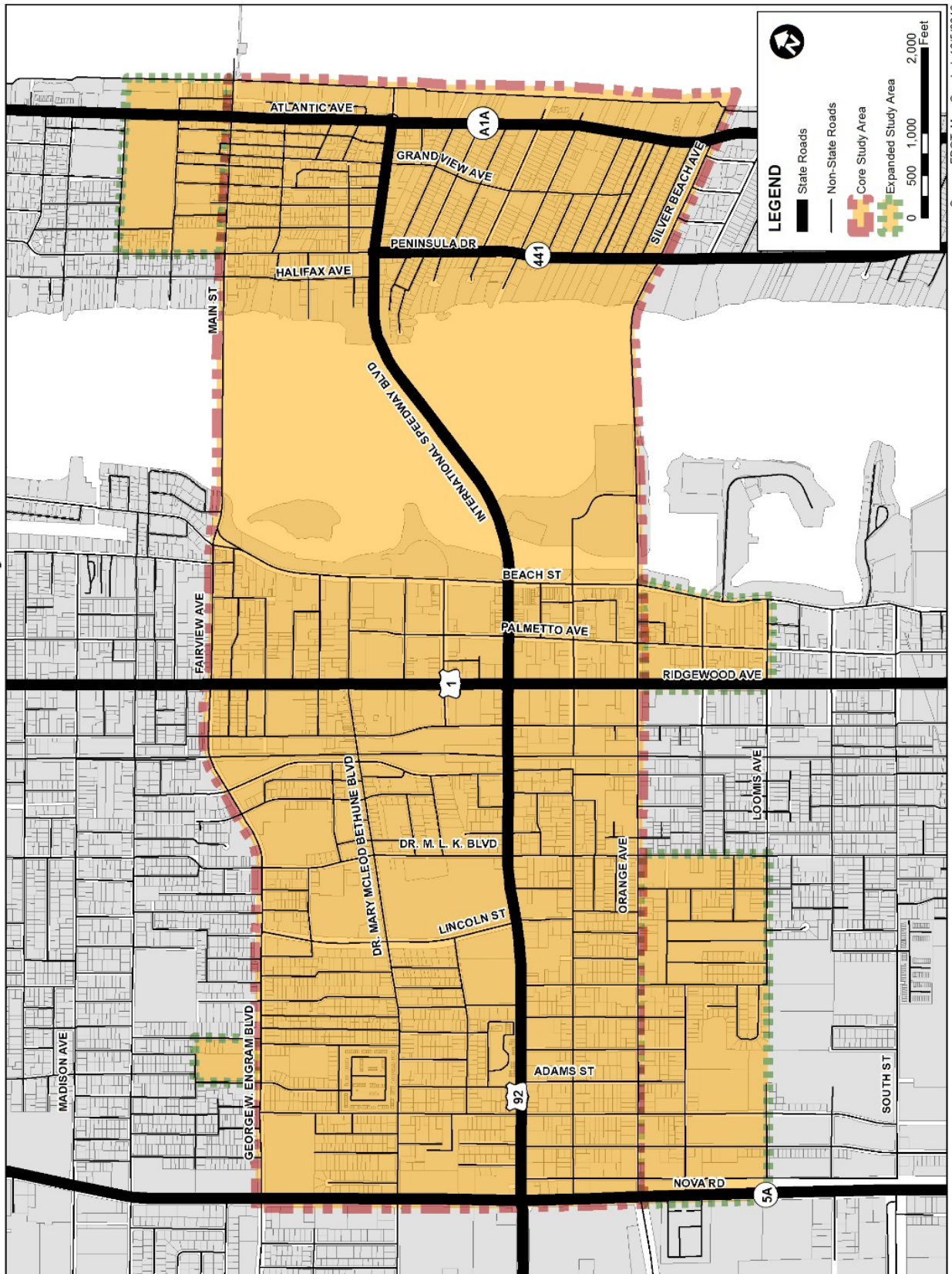
The US Department of Energy awards the Energy Efficiency and Conservation Block Grant (EECGB) to provide funding for projects that increase energy efficiency and promote conservation. Some transportation projects funded by this grant include signal-retiming and streetlight installation

4.2 STATE

Figure 5 depicts the state roads within the study area. There are five state roadways within the study area. US 92/SR 600/ISB and US 1/Ridgewood Avenue, both of which also have Federal designation, as well as SR 5A/Nova Road, SR 441/Peninsula Drive, and SR A1A/Atlantic Avenue. State funding options are summarized in Table 7.

4.2.1 Florida Urban and Community Forestry Grant

The Florida Urban and Community Forestry Grant can be used for tree ordinance development or revision, tree inventories, management plans, master plans, in-house training, temporary staffing, student internships, and equipment purchases.



Source: FDOT, Map Created: 10/5/2016

Figure 5: State Roadways



Table 7: State Funding Options Table

Program/Grant Name	Source	Deadline	Funding Range	Match	Project Type/Description	Website or Contact
State						
Florida Urban and Community Forestry Grant	Florida Department of Agriculture and Consumer Services	March	\$250,000 - \$300,000 annually	50:50	Tree ordinance development or revision, tree inventories, management plans, master plans, in-house training, staffing, student interns, and equipment purchases.	Lou Shepherd, 850-681-5881 Lou.shepherd@FreshFormFlorida.com
Florida Communities Trust Program	FDEP	August	None	None	Acquisition of land for community-based parks, open spaces, and greenways.	Linda Reeves, 850-245-2702 linda.reeves@dep.state.fl.us
Transportation Disadvantaged Trust Fund	Florida Commission for the Transportation Disadvantaged	-	-	-	Funds local services for the transportation disadvantaged. Refer to the River to Sea TPO's Transportation Disadvantaged Local Coordinating Board (TDLCB).	Joshua Wagner, TDLCB Chairman 386-626-6688 jwagner@volusia.org , http://www.r2ctpo.org/board-committees/tlcb



4.2.2 Florida Communities Trust Program

The Florida Communities Trust Program is a Florida Department of Environmental Protection (FDEP) program that can provide funding for local governments to acquire land for parks, open space and greenways.

4.2.3 Transportation Disadvantaged Trust Fund

The Florida Commission for the Transportation Disadvantaged funds local services for the transportation disadvantaged. The River to Sea TPO's Transportation Disadvantaged Local Coordinating Board (TDLCB) is the designated planning agency for this service.

4.3 RIVER TO SEA TRANSPORTATION PLANNING ORGANIZATION (R2CTPO)

The entire US 92 PCSA Phase 2 study falls within the boundaries of the R2CTPO's Metropolitan Planning Area (MPA). TPOs were created by Federal law to review and administer all policies and procedures applicable for state and federal transportation funding. The R2CTPO provides transportation planning services within its MPA, which includes Volusia County, Beverly Beach, Flagler Beach and portions of the cities of Palm Coast and Bunnell as well as portions of unincorporated Flagler County. The R2CTPO coordinates transportation plans for the area's local jurisdictions and transportation authorities. A major element of this process is the R2CTPO's development of a long-range transportation plan (LRTP). Once the plan is adopted by the R2CTPO it becomes the urbanized area's official guide for programming federal transportation funds. If a capacity enhancing transportation project (i.e., roadway widening, extension, or the construction of a completely new road) is not part of the LRTP adopted by the TPO, then that project is not eligible for federal transportation funding.

Annually, the R2CTPO issues a call for projects to be added to its list of Priority Projects. The R2CTPO's seven categories of Priority Projects are Strategic Intermodal System (SIS) Roadway Projects, Regionally Significant Non-SIS Roadway Projects, Bascule Bridge Replacement Projects, XU Public Transit Set-aside Projects, XU Traffic Operations/ITS/Safety Set-aside Projects, XU Bicycle/Pedestrian Set-aside Projects, and Transportation Alternatives Projects.

All XU-funded projects require a 10% local match for the feasibility study and project implementation. Transportation Alternatives projects require a 20% local match.

Multimodal projects are also given consideration as important elements of the transportation system and are funded using a combination of sources. Transportation Management Area (TMA) funds are allocated to Intelligent Transportation System (ITS), Traffic Operations and Safety improvements, Bicycle and Pedestrian projects and Transit. In addition, the 2040 LRTP has allocated approximately \$38 million in funding between 2019 and 2040 for Local Initiative projects, which address complete streets retrofits, roundabouts, major ITS technology improvements, climate change adaptation, aesthetics and other improvements that support the goals of the plan.



4.4 LOCAL

Figure 6 depicts the local roads within the study area. Local roads include all non-federal and non-state roadways. These roads are under the jurisdiction of either the City of Daytona Beach or Volusia County. Local funding options are summarized in Table 8.

4.4.1 City of Daytona Beach Five Year Capital Program

The City of Daytona Beach has \$500,000 set aside for ADA sidewalk compliance construction between FY 2015/16 and FY 2019/20.

4.4.2 Volusia County Sidewalk Funding

Volusia County has reduced the repair of sidewalks to only include trip hazards. County roads eligible for this funding include: George Engram Boulevard/Fairview Avenue/Main Street and Orange Avenue/Silver Beach Avenue east of US 1/Ridgewood Avenue.

4.4.3 Volusia ECHO Grants-In-Aid

The Volusia Environmental, Cultural, Historical and Outdoor (ECHO) program provides grant funds to finance acquisition, restoration, construction or improvement of facilities to be used for environmental, cultural, historical and outdoor recreational purposes.

4.4.4 Community Redevelopment Area (CRA) Trust Fund

Community Redevelopment Area (CRA) Trust Funds are stimulated from the incremental growth in taxable value within the area subsequent to establishment of a CRA. Funds received must be used for specific redevelopment purposes, such as land acquisition and streetscapes within that area. The majority of the PCSA Phase II study area falls within the boundaries of an established CRA. Established CRAs within the study area include the Midtown, Downtown, Main Street and South Atlantic Redevelopment Areas.

4.4.5 The Capital Projects Fund

A portion of the City of Daytona Beach's funds are set aside for capital projects each year. This includes funding for street and sidewalk projects. Currently, there are funded streetscape projects on US 92/SR 600/ISB and Martin Luther King Jr. Boulevard within the study area.

4.4.6 Community Foundation of Volusia and Flagler Counties

This is a local organization that improves local access to health and human services. This organization receives donations from donors. The Community Foundation awards grants to various organizations which could possibly improve the safety of pedestrians and bicyclists within Daytona Beach.

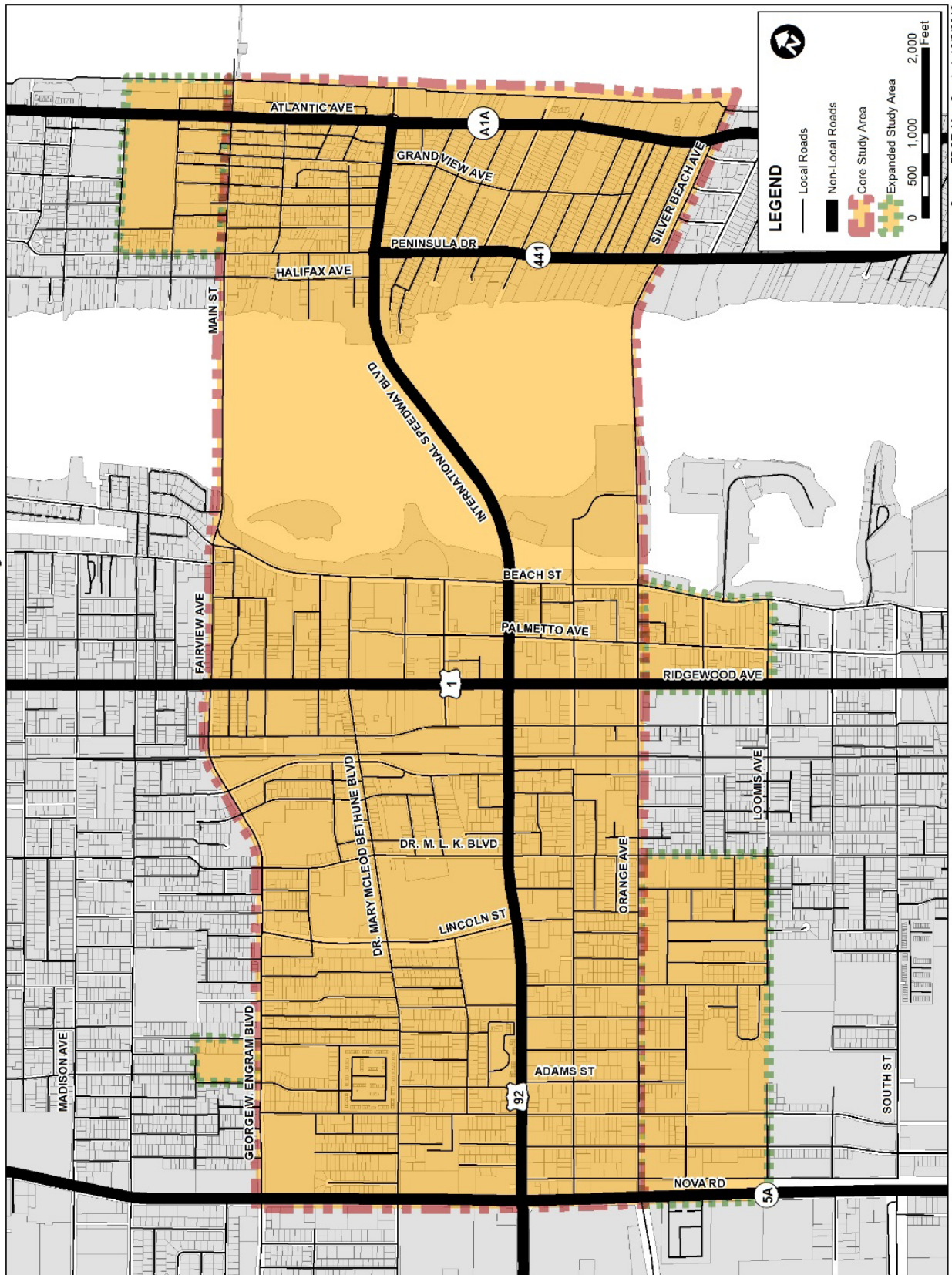


Figure 6: Local Roadways



Table 8: Local Funding Options Table

Program/Grant Name	Source	Deadline	Funding Range	Match	Project Type/Description	Website or Contact
Local						
Daytona Beach 5 Year Capital Program	City of Daytona Beach	Annual Budget Item	\$100,000	-	ADA Sidewalk Compliance	http://codb.us/Archive/ViewFile/Item/3115
Volusia County Sidewalk Funding	Volusia County	-	None	-	Sidewalk Construction.	Gerald Brinton or Jon Cheney 386-736-5967 gbrinton@co.volusia.fl.us
Volusia ECHO Grants-In-Aid	Volusia County	Determined Annually	\$12,500-\$600,000	1:1	Environmental/ecological, cultural, historical, or outdoor recreation purposes that MUST be open for public use. (must be city/county).	www.volusiaforever-echo.com 866-345-0345
Community Redevelopment Area Trust Fund	City of Daytona Beach	-	-	-	Land acquisition, streetscapes etc.	-
The Capital Projects Fund	City of Daytona Beach	-	-	-	Includes funding for street and sidewalk projects.	-
Community Foundation of Volusia & Flagler Counties	Community Foundation of Volusia & Flagler Counties	-	-	-	Improves local access to health and human services.	http://foundation.unitedwayvfc.org/CFWebTemplate/pages/about/index.htm



Table 9: Funding vs. Improvements Matrix and Key

Impr. Funding	Shared Use Path	Curb Cuts & Ramps	Bicycle Lanes	Spot Impr.	Sidewalk New or Retrofit	Crosswalk New or Retrofit	Bus Stops	Detection Pads	Utility Pole or Xing Relocation
CMAQ	*	*	*		*	*		*	
NSFHP									*
RHCP									*
TA	*	*	*	*	*	*		*	
TIFIA	*	*	*	*	*	*	*	*	*
FTA			*		*	*	*		
TIGER	*	*	*	*	*	*	*	*	*
BBFG							*		
CIG				*			*		
EPDCI				*			*		
PTOD		*		*	*	*	*	*	*
HBRR	*		*		*				
TPL	*		*		*				
FLAP	*		*		*	*			
CDBG	*	*	*		*	*		*	
RTT	*	*			*	*		*	
EECB	*		*		*				
UCFG	*								
FCTP	*								
R2T	*		*						
CP	*	*	*	*	*	*	*	*	*
VCS		*			*			*	
ECHO	*		*		*				
CRA	*	*	*	*	*	*	*	*	*
CF									
TDTF									



Key to Table 9

CMAQ	Congestion Mitigation/Air Quality Program	TPL	The Trust for Public Land Conservation Services
NSFHP	Nationally Significant Freight & Highway Program	FLAP	Florida Lands Access Program
HSIP	Highway Safety Improvement Program	CDBG	Community Development Block Grant
RHCP	Railway-Highway Crossings Program	R2T	Florida Rails to Trails
TA	Transportation Alternatives	EECB	Energy Efficiency and Conservation Block Grant
TIFIA	Transportation Infrastructure Finance and Innovation Act Program	UCFG	Urban Community and Forestry Grant
FTA	Federal Transit Administration	FCT	Florida Communities Trust Program
TIGER	Transportation Investment Generating Economic Recovery Discretionary Grants	R2C	Volusia ECHO Grants-In-Aid
BBFG	Buses and Bus Facilities Grants Programs	CP	Capital Projects Fund
CIG	Capital Investment Grants Program	VCS	Volusia County Sidewalk Funding
EPDCI	Expedited Project Delivery for Capital Investments Grants Pilot Program	ECHO	Volusia ECHO Grants-In-Aid
PPTOD	Pilot Program for Transit Oriented Development Planning	CRA	Community Area Redevelopment Trust Fund
HBRR	Highway Bridge Replacement and Rehabilitation	CF	Community Foundation of Volusia & Flagler Counties
STBG	Surface Transportation Block Grant Program	TDTF	Transportation Disadvantaged Trust Fund



5 IMPLEMENTATION STRATEGIES

The improvements identified in this study can be implemented as a series of smaller projects with different timeframes, funding sources and responsible agencies executing the implementation.

5.1 TIMING

In order to implement the recommended improvements, it may be necessary that they be developed as either individually or bundled into a group of projects, according to whether they are more feasible in the short-term or long-term. For the purposes of this discussion, the following time frames are established:

- Short-term: 2016-2021
- Long-term: 2021-2040

5.1.1 Short Term

It is recommended that short-term projects be advanced for project development. Design of these improvements can generally occur without extensive environmental documentation, complex design and permitting requirements, or right-of-way acquisition. It is anticipated that these improvements could be programmed for construction in the FDOT Work Program without extensive design and/or permitting requirements. Other listed improvements have been designated as short-term because they are included within funded projects that have a construction date within the next five years. An example of this is the Veterans Memorial (Tom Staed) Bridge, a bridge replacement project currently under construction that will add sidewalks and bicycle lanes to Orange Avenue.



A rendering of the Veterans Memorial (Tom Staed) Bridge featuring wide sidewalks and bicycle lanes. The bridge is currently under construction.



5.1.2 Long Term

The long-term projects category include those for which the feasible horizon for implementation is greater than five years from now.

Each of these projects will require acquisition of additional right-of-way and/or easements to accommodate the multi-use path, and more detailed survey and engineering to provide the necessary data to implement the projects. The graphic below illustrates a perspective view of US 92/SR 600/ISB pedestrian and beautification improvements proposed by the City of Daytona Beach in Midtown. Some features included are: wider sidewalks, buried utilities and enhanced crosswalks.

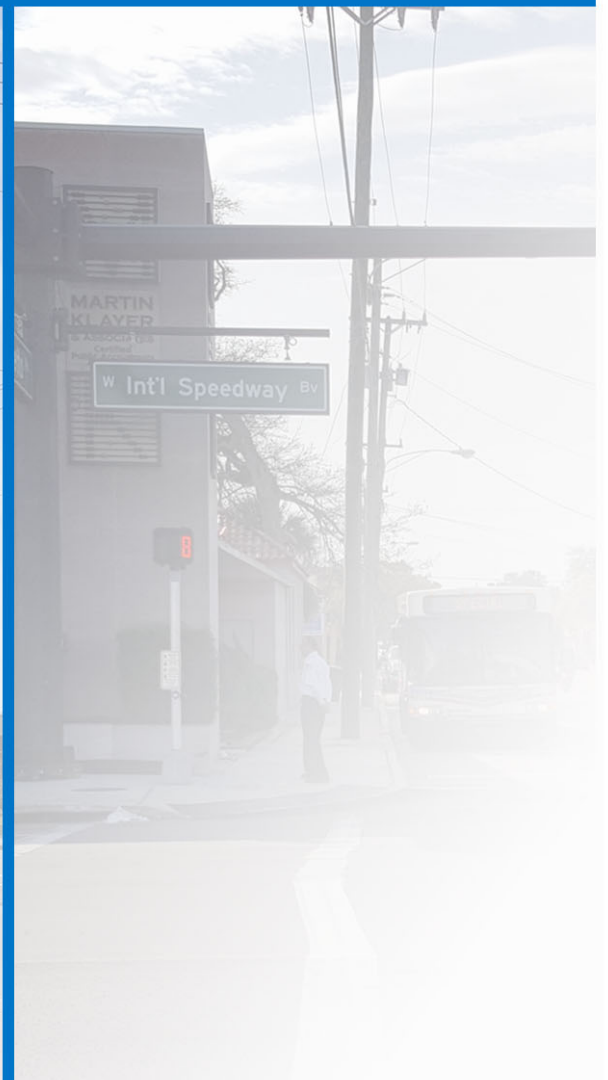


A Midtown Master Plan rendering of the future streetscaping of US 92/SR 600/ISB near BCU

5.2 PROJECT DEVELOPMENT & OWNERSHIP

While the improvements identified through the Pedestrian Safety & Connectivity Phase 2 Study are located within or adjacent to existing State right-of-way, other entities might assume control of the funding, implementation and even ownership of the facilities that are constructed. Examples include transit facilities, that are the responsibility of the City of Daytona Beach, and sidewalks that are owned and maintained by Volusia County.

In addition, funding from private sources might be used to supplement public funds to advance project development. For example, increased connectivity between major activity centers could be coordinated with private entities, such as the colleges/universities. Private developers, such as the Gateway Daytona project, can incorporate pedestrian-friendly features into their design to enhance the appeal of their retail/commercial developments.



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