



I-95/SR 9 Interchange at 45th Street

Project Development and Environment (PD&E) Study

(Mile Post 31.040)

Palm Beach County, Florida

FPID No.: 436519-1-22-01 | FAP No.: 0951-682-1 | ETDM No.: 14225



CATEGORICAL EXCLUSION TYPE 2

October 2017

Prepared for:
Florida Department of Transportation
District Four

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by FDOT pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding dated December 14, 2016 and executed by FHWA and FDOT.

Categorical Exclusion Type 2

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Project Development and Environment Study
(Mile Post 31.040)

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Florida Department of Transportation
District Four

Palm Beach County, Florida

Prepared by

E Sciences, Incorporated

October 2017

[DRAFT]

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
TYPE 2 CATEGORICAL EXCLUSION DETERMINATION FORM

1. PROJECT DESCRIPTION AND PURPOSE AND NEED

- a. Project Information: See Attachment 1A

Project Name: I-95/SR 9 Interchange at 45th Street

Project Limits: 45th Street from Village Boulevard to Congress Avenue

County: Palm Beach County

ETDM Number (If applicable): 14225

Financial Management Number: 4365419-1-22-01

Federal-Aid Project Number: TBD

Project Manager: Robert Lopes, PE

- b. Proposed Improvements: See Attachment 1B

- c. Purpose and Need: See Attachment 1C

- d. Project Planning Consistency: disregard providing historical details, instead focus on future phases of segments being advanced. If more than one segment is being advanced additional tables should be added.

Currently Adopted CFP-LRTP	COMMENTS					
Yes	The Palm Beach County Metropolitan Planning Organization Transportation Improvement Program Long Range Transportation Plan (LRTP) includes this project (see Appendix A)					
PHASE	Currently Approved TIP	Currently Approved STIP	TIP/STIP \$		TIP/STIP FY	COMMENTS
PE (Final Design)	Yes	Yes	TIP	\$6,000,000	2021	
			STIP	\$6,000,000	>2020	
			Total	\$12,000,000		
R/W	Yes	Yes	TIP	\$14,917,071	2022	
			STIP	\$19,516,258	>2020	
			Total	\$34,433,329		
Construction	No	No				

**Include pages from current TIP/STIP/LRTP*

2. COOPERATING AGENCIES

☐ USACE ☐ USCG ☐ USFWS ☐ EPA ☐ NMFS ☒ NONE

3. ENVIRONMENTAL ANALYSIS

Significant Impacts?*

Issues/Resources	Yes	No	Enhance	NoInv	Supporting Information**
A. SOCIAL & ECONOMIC					
1. Social	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Attachment 3A1
2. Economic	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Attachment 3A2
3. Land Use Changes	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Attachment 3A3
4. Mobility	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Attachment 3A4
5. Aesthetic Effects	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Attachment 3A5
6. Relocation Potential	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	See Attachment 3A6
7. Farmland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	See Attachment 3A7

B. CULTURAL

1. Section 4(f)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Attachment 3B1
2. Historic Sites/Districts	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Attachment 3B2
3. Archaeological Sites	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	See Attachment 3B3
4. Recreational Areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	See Attachment 3B4

C. NATURAL

1. Wetlands and Other Surface Waters	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Attachment 3C1
2. Aquatic Preserves and Outstanding FL Waters	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	See Attachment 3C2
3. Water Quality and Water Quantity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Attachment 3C3
4. Wild and Scenic Rivers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	See Attachment 3C4

5. Floodplains	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Attachment 3C5
6. Coastal Zone Consist.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	See Attachment 3C6
7. Coastal Barrier Resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	See Attachment 3C7
8. Protected Species and Habitat	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Attachment 3C8
9. Essential Fish Habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	See Attachment 3C9

D. PHYSICAL

1. Highway Traffic Noise	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Attachment 3D1
2. Air Quality	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Attachment 3D2
3. Contamination	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Attachment 3D3
4. Utilities and Railroads	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Attachment 3D4
5. Construction	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Attachment 3D5
6. Bicycles and Pedestrians	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Attachment 3D6
7. Navigation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	See Attachment 3D7
a. <input checked="" type="checkbox"/> A USCG Permit IS NOT required.					
b. <input type="checkbox"/> A USCG Permit IS required.					

* **Significant Impacts?:** Yes = Significant Impact; No = No Significant Impact;
Enhance = Enhancement; NoInv = Issue absent, no involvement

**Supporting information is documented in the referenced attachment(s).

E. ANTICIPATED PERMITS

It is anticipated that the following permits will be required for the project relative to natural resource impacts:

- United States Army Corps of Engineers (USACE) Section 404 Dredge and Fill Permit
- USACE Section 408 Authorization
- South Florida Water Management District (SFWMD) Environmental Resource Permit modification to existing permit for I-95 High Occupancy Vehicle (HOV) Permitted under 50-03525-S. Application number 030207-17
- Modification to SFWMD Right-of-Way Permit No. 2585 Issued on July 16, 2015; expired on July 31, 2016)

- Florida Department of Environmental Protection (FDEP) National Pollution Discharge Elimination System (NPDES) General Construction Permit authorization

4. COMMITMENTS

1. The Department committed to the City of West Palm Beach to extend the bicycle lanes along the project study limits, over the C-17 Canal to Congress Avenue.
2. The Department committed to the Town of Mangonia Park and the City of West Palm Beach to reduce the right-of-way impacts associated with the proposed improvements as much as possible.

5. PUBLIC INVOLVEMENT

1. ☐ A public hearing is not required.
2. ☒ A public hearing will be held on November 2, 2017. This draft document is publicly available and comments can be submitted to FDOT until November 12, 2017.

District Contact Information: Robert Lopes, P.E.

Project Manager

Florida Department of Transportation

3400 West Commercial Boulevard

Fort Lauderdale, Florida 33309

Phone: (954) 777-4425

Robert.Lopes@dot.state.fl.us

3. ☐ A public hearing was held on (insert date) and the transcript is available.
4. ☐ An opportunity for a public hearing was afforded and was documented (insert date).

6. DISTRICT DETERMINATION

This project has been developed without regard to race, color, national origin, age, sex, religion, disability, or family status.

_____/_____/_____
FDOT Project Manager Date

_____/_____/_____
FDOT Environmental Manager or Designee Date

7. OFFICE OF ENVIRONMENTAL MANAGEMENT CONCURRENCE

Signature below constitutes Location and Design Concept Acceptance:

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by the Florida Department of Transportation (FDOT) pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding dated December 14, 2016 and executed by the Federal Highway Administration and FDOT.

_____/_____/_____
Director of the Office of Environmental Management Date
or Designee

8. SUPPORTING INFORMATION

ATTACHMENTS

1A. PROJECT INFORMATION

1A1. Project Description

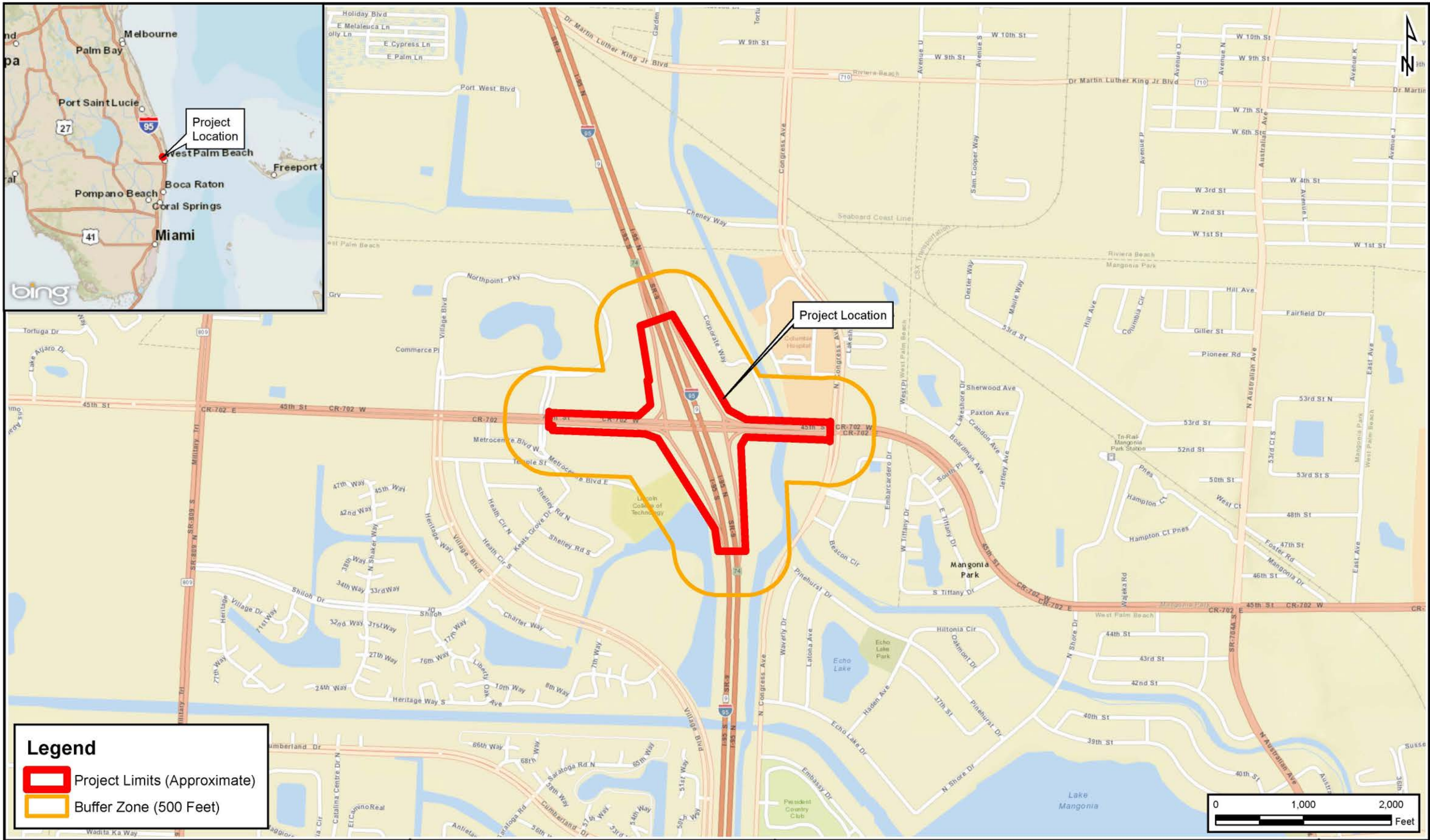
This report contains information regarding the SR 9/I-95 (I-95) from South of 45th Street to North of 45th Street Project Development and Environment (PD&E) Study (Mile Post 31.040). This project has been developed in compliance with Title VI of the Civil Rights Act of 1964 and other related federal and state nondiscrimination authorities. Neither the Florida Department of Transportation (FDOT) nor this project will deny the benefits of, exclude from participation in, or subject to discrimination anyone on the basis of race, color, national origin, age, sex, disability, or family status.

The FDOT, District Four is conducting a PD&E Study to identify short-term and long-term needs of I-95 and develop design concepts to address traffic spillback onto I-95, improve interchange operations, reduce congestion, and increase safety at the study interchange. This study will also consider Strategic Intermodal System (SIS) connector improvements needed within the project area and is consistent with plans for the I-95 mainline, including the potential extension of I-95 Express lanes through Palm Beach County. This proposed study will investigate alternatives to improve the overall operating conditions and enhance safety within the interchange.

The improvements to the I-95 Interchange at 45th Street will provide additional capacity for vehicles travelling east-west as well as operational improvements north-south through the interchange. Local and network connectivity for the City of West Palm Beach, the Town of Mangonia Park and Palm Beach County will be improved.

The 45th Street interchange of I-95 is a diamond interchange located in City of West Palm Beach, and in close proximity to the Town of Mangonia Park, and the City of Riviera

Beach in north Palm Beach County, Florida (Figure 1). The intersections in the area of influence of the interchange are Village Boulevard and Northpoint Boulevard on the west and Corporate Way and North Congress Avenue on the east. The adjacent interchanges are the Blue Heron Boulevard interchange to the north (1.75 miles) and the Palm Beach Lakes Boulevard interchange to the south (2.80 miles). I-95 is a ten-lane divided interstate freeway providing four general purpose lanes and one high occupancy vehicle (HOV) lane in each direction. Auxiliary lanes are provided on both the northbound and southbound directions between 45th Street and Blue Heron Boulevard to the north. Within the study segment, I-95 passes over 45th Street on a bridge that accommodates ten lanes (Figure 2). I-95 is a designated SIS highway corridor. Both I-95 and 45th Street are designated as evacuation routes. 45th Street is a six-lane divided roadway with a raised landscape median within the vicinity of the I-95 interchange. Sidewalks are provided along both sides of 45th Street throughout the study area. Additionally, a bicycle lane is provided in both directions along 45th Street starting at the Harley Davidson entrance (west of I-95) to Corporate Way (east of I-95). There are two dedicated left-turn lanes in each direction to access the I-95 on-ramps and three through lanes in each direction. A single free-flow right-turn lane is provided both eastbound and westbound along 45th Street to serve the I-95 on-ramps.



The land use adjacent to the interchange is mainly residential, commercial, institutional and industrial. Commercial and industrial uses are predominant on the west side of I-95, while commercial and healthcare properties are along the east side of I-95. The South Florida Rail Corridor (SFRC)/CSX Railroad passes under I-95 in this area approximately one mile northwest of the 45th Street interchange. The adjacent signalized intersections are: Village Boulevard and Northpoint Boulevard/Metrocentre Boulevard west of the I-95 southbound ramps, and Corporate Way and N. Congress Avenue east of the I-95 northbound ramps.



Figure 2

I-95 looking north just south of 45th Street.

Improvement to the I-95 interchange at 45th Street is consistent with the Cost Feasible Plan of the Palm Beach County Metropolitan Planning Organization (MPO) 2045 Long Range Transportation Plan (LRTP). “The purpose is to improve interchange operations and reduce congestion, reduce potential for traffic spillback onto I-95, and increase safety. The improvements are needed to ensure that the I-95 interchange will meet FDOT Level-of-Service standards through year 2040.”

1A2. Background

The FDOT made improvements to the I-95 mainline in Palm Beach County in the 1990s and 2000s, adding a HOV lane and auxiliary lanes from south of Linton Boulevard to north of PGA Boulevard. Minor interchange improvements were also made to eight of the existing 18 interchanges along this section of the corridor. At the time of the project, FDOT committed to re-examine the need for both short-term and long-term improvements at those interchanges that were not improved during the I-95 mainline project. FDOT District Four also identified the need to re-examine the 2003 I-95 Master Plan Study for Palm

Beach County to develop new improvements to interchanges based on changes in traffic volumes and updated design standards since the Master Plan was developed.

A Concept Development Report (CDR) was prepared by the FDOT District Four Office of Planning and Environmental Management in August of 2014. The following were the recommendations identified for short-term and long-term improvements:

1A3. CDR Short Term Improvements:

- Third southbound left-turn lane at the I-95 southbound ramp;
- Third northbound left-turn lane and third right-turn lane at the I-95 northbound ramp;
- Additional westbound through lane from Congress Avenue to the I-95 northbound ramps.

1A4. CDR Long Term Improvements:

- Fourth through lane on eastbound 45th Street between Village Boulevard and Northpoint Boulevard;
- Fourth through lane on westbound 45th Street east of Congress Avenue;
- Fourth southbound left-turn lane at the I-95 southbound ramp;
- Fourth northbound left-turn lane at the I-95 northbound ramp.

Based on the benefits identified by the proposed improvements listed in the Concept Development Report, it was recommended that FDOT implement this package of proposed improvements to address operational and safety issues/deficiencies through 2040. Due to the proposed impacts and costs associated with the proposed improvements, a PD&E Study was recommended prior to design and project implementation.

1B. PROPOSED IMPROVEMENTS

All concepts were evaluated and analyzed in order to select a recommended alternative. The concepts developed were further refined with the objective of elimination and reduction of impacts. The following describes the alternatives considered for this project.

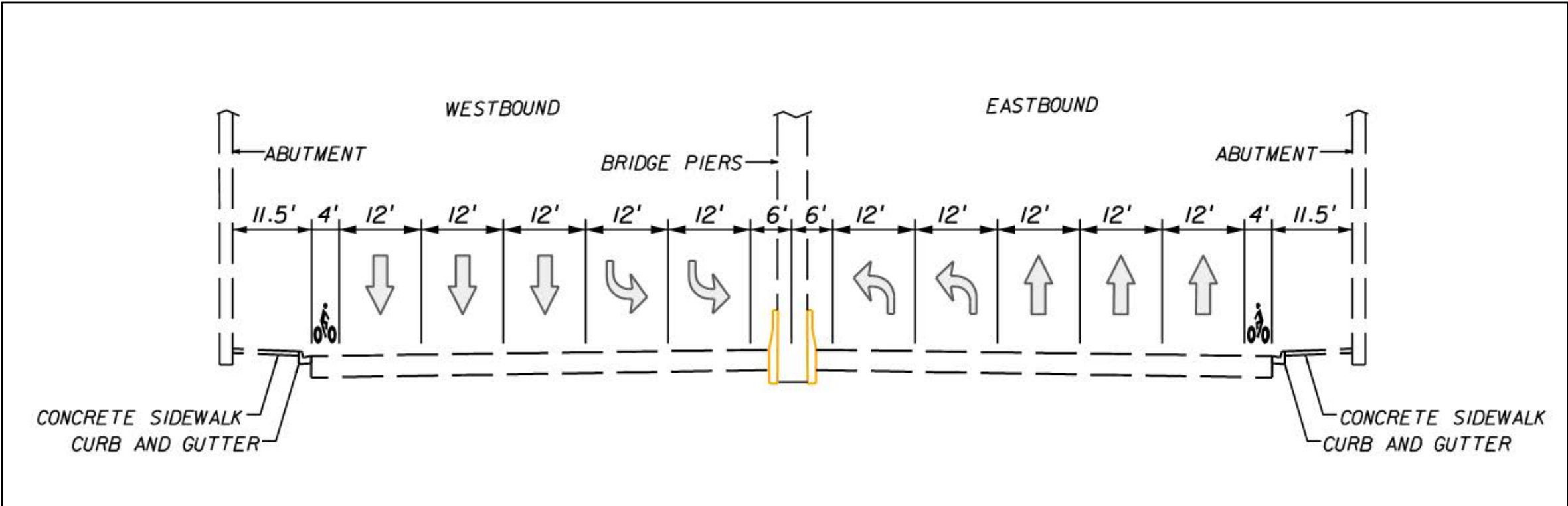
1B1. No Build Alternative (Figure 3)

The No Build Alternative proposes to keep the existing interchange roadway network into the future without improvements. This alternative is considered to be a viable alternative during the public hearing and final selection phase to serve as a comparison to the study alternatives.

The 45th Street typical section within the project limits consists of a six-lane urban divided roadway with a raised landscaped median. There are two dedicated left-turn lanes to access the I-95 on-ramps and three through lanes in each direction underneath the I-95 overpass. The EB and WB lanes are separated by median containing a raised concrete barrier wall as well as support piers for the I-95 overpass. (Figure 3)

The No Build Alternative has a number of positive aspects, since it would not require expenditure of public funds for design, right-of-way acquisition, construction, or utility relocation. Traffic would not be disrupted due to construction, therefore, avoiding inconveniences to local residents and businesses. Also, there would be no direct or secondary impacts to the environment, the socio-economic characteristics, or community cohesion of the area.

However, the No Build Alternative fails to fulfill the purpose and need of the project. Operational and safety conditions within the interchange area will become progressively worse as traffic volumes continue to increase, thereby increasing the number of crashes and deteriorating access of this interchange.



Florida Department of Transportation
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3400 West Commercial Boulevard
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TITLE:

Existing Typical Section

FIGURE:

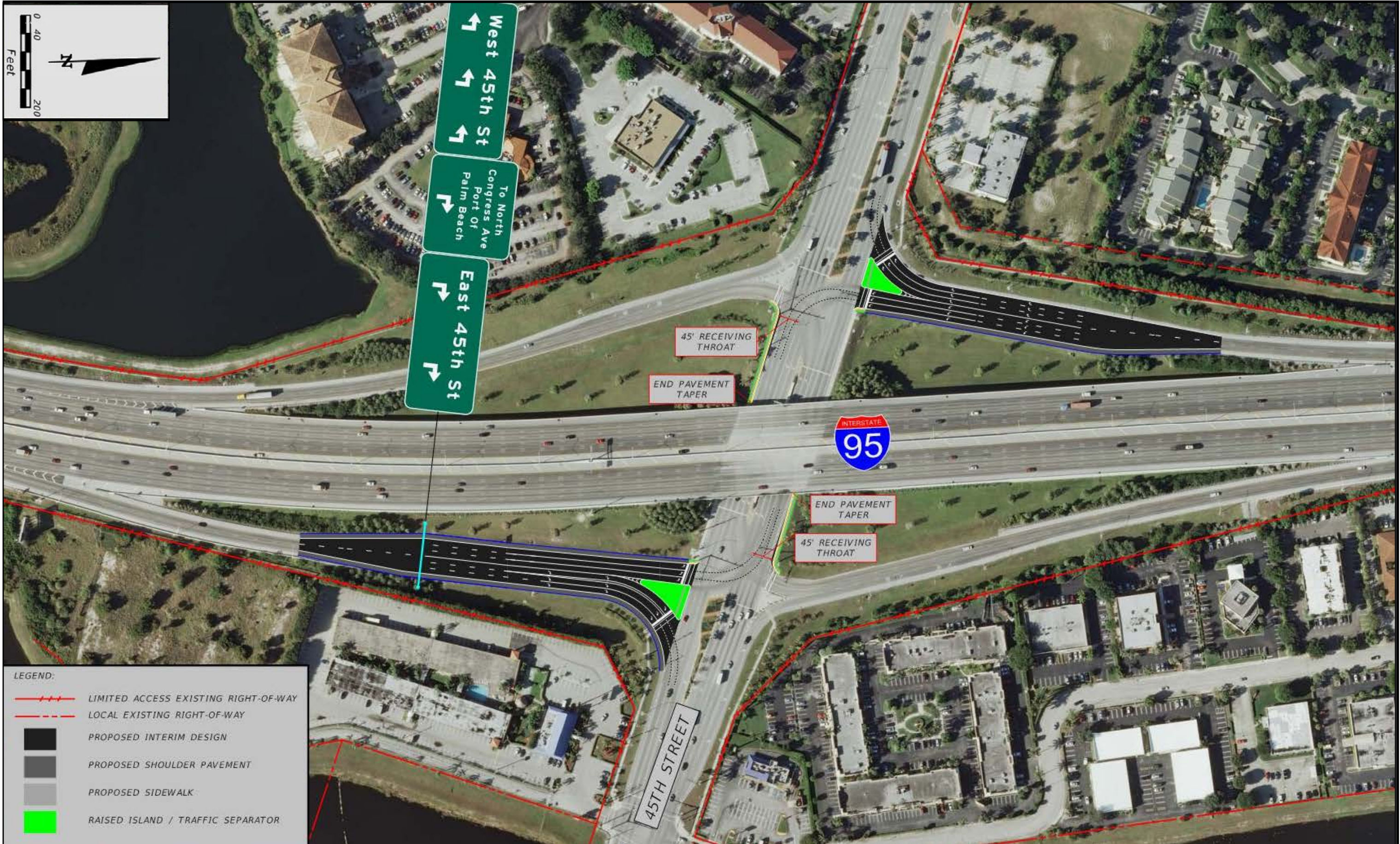
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1B2. Transportation Systems Management and Operation (Figures 4 & 5)

The Transportation Systems Management and Operations (TSM&O) alternative is comprised of minor improvement options that are typically developed to alleviate specific traffic congestion/safety problems, or to get the maximum utilization out of the existing facility by improving operational efficiency. TSM&O alternatives may include intersection improvements such as increasing turning radii, adding turn-lanes, increasing turn-lane lengths, or intelligent transportation system (ITS) enhancements such as closed circuit television (CCTV), dynamic message signs (DMS) with real-time driver information or signalization upgrades and/or optimization.

The proposed TSM&O options are as follows:

- Provide one additional right turn lane and one additional left turn lane at the I-95 southbound off-ramp intersection;
- Provide new overhead signage at the I-95 southbound off-ramp to indicate 3 lanes to East 45th Street and 3 lanes to West 45th Street;
- Provide one additional right turn lane and one additional left turn lane at the I-95 northbound off-ramp intersection;
- Provide new overhead signage at the I-95 northbound off-ramp to indicate 3 lanes to West 45th Street, 1 lanes to North Congress Avenue, and 2 lanes to East 45th Street;
- Provide travel information system;
- Develop signal system strategies;



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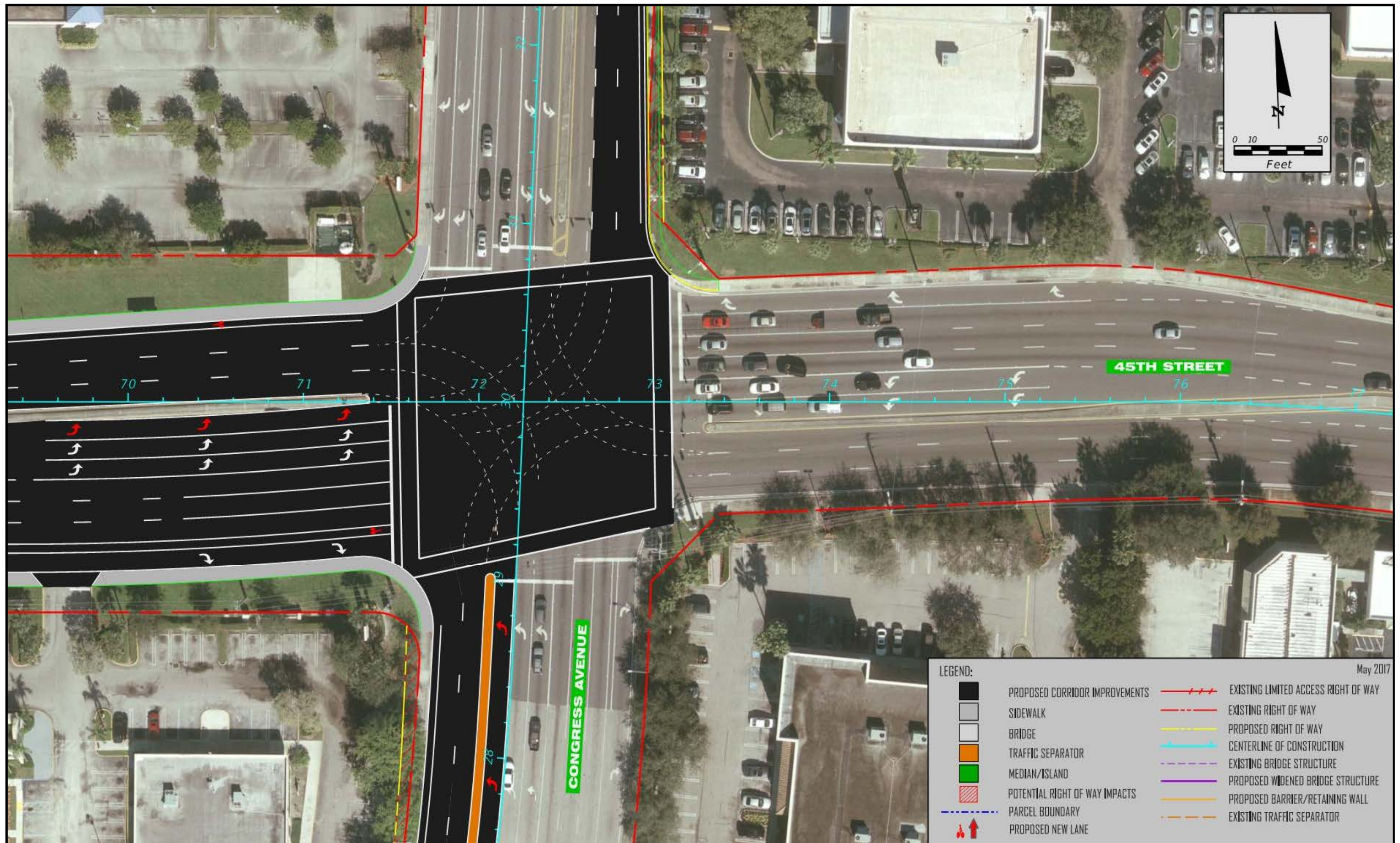
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TITLE:

TSM&O Improvements

FIGURE:

4



May 2017



Florida Department of Transportation
District Four
3400 West Commercial Boulevard
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TITLE:

TSM&O Improvements

FIGURE:

5

1B3. Build Alternatives

All conceptual build alternatives were evaluated in a general manner and analyzed in order to select the recommended Build Alternative. The concepts developed were further refined with the objective of elimination and reduction of impacts. The engineering decisions to achieve this objective are thoroughly documented in the Preliminary Engineering Report.

1B3a. Alternative 1 (Figures 6 & 7)

- Widen 45th Street to add one through lane in each direction from Northpoint Boulevard to Congress Avenue;
- Provide one bike lane in each direction from Northpoint Boulevard to Congress Avenue;
- Extend the eastbound to southbound on-ramp to start just east of Northpoint Boulevard;
- Provide one additional right turn lane and one additional left turn lane at the I-95 southbound off-ramp intersection;
- Provide new overhead signage at the I-95 southbound off-ramp to indicate 3 lanes to East 45th Street and 3 lanes to West 45th Street;
- Provide one additional right turn lane and one additional left turn lane at the I-95 northbound off-ramp intersection;
- Provide new overhead signage at the I-95 northbound off-ramp to indicate 3 lanes to West 45th Street, 1 lanes to North Congress Avenue, and 2 lanes to East 45th Street;
- Widen the existing bridge along 45th Street over the C-17 Canal to accommodate one additional through lane and one bike lane in each direction;
- Add one additional left turn lane from eastbound 45th Street to northbound Congress Avenue to provide triple left turns at the intersection;
- Add one additional left turn lane from northbound Congress Avenue to westbound 45th Street to provide triple left turns at the intersection;



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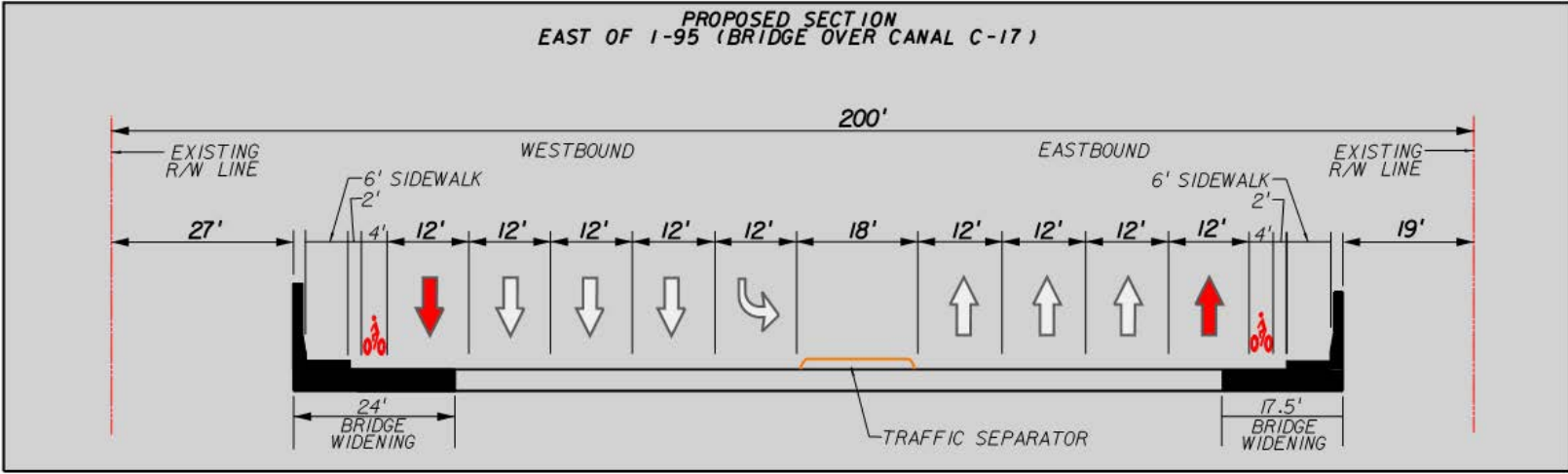
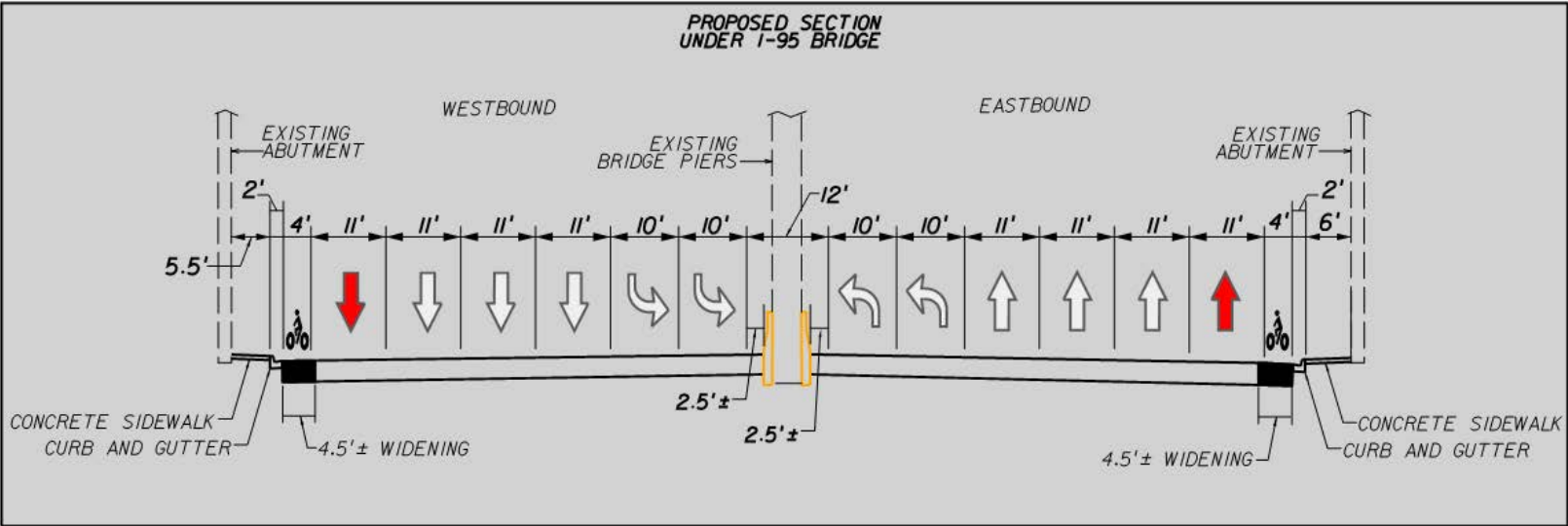
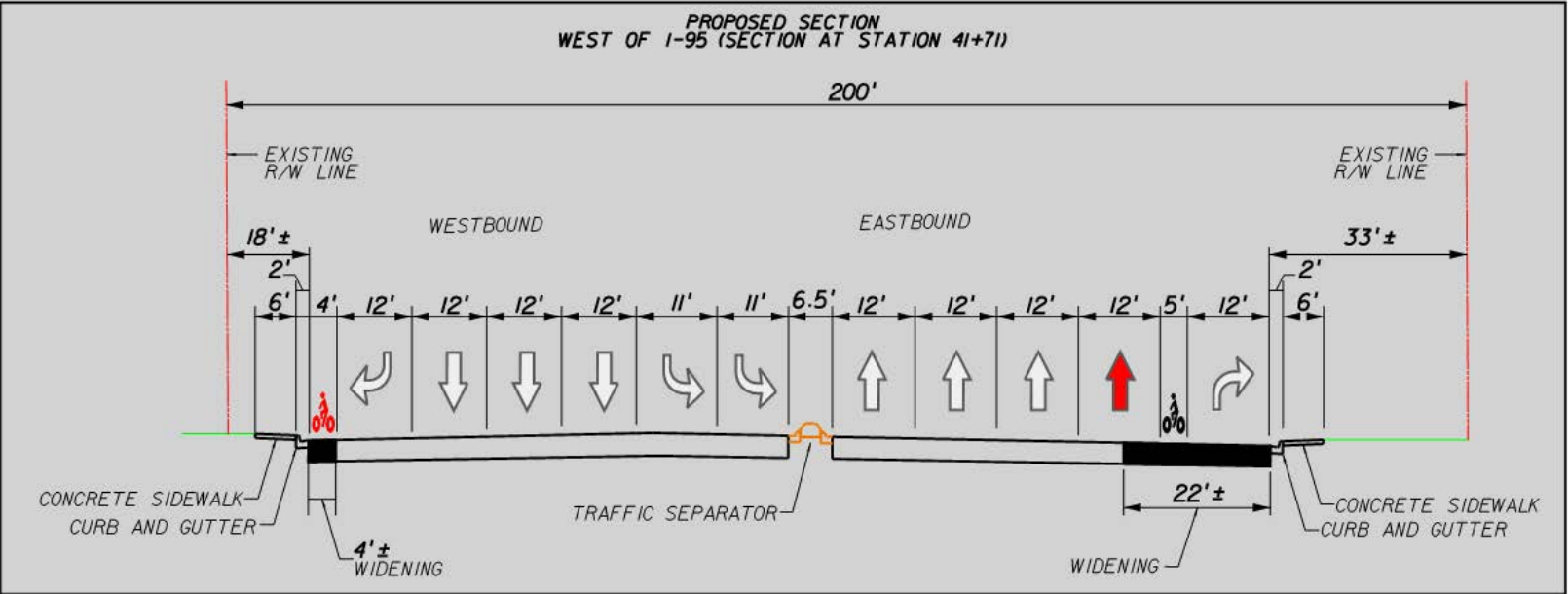
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TITLE:

Alternative 1 Improvements

FIGURE:

6

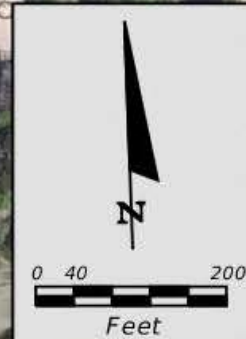


Restriped the existing 45th Street westbound right turn lane to a shared through and right;

- Provide travel information system;
- Develop signal system strategies.

1B3b. Alternative 2 (Figures 8 & 9)

- Modify the existing Diamond Interchange to a Diverging Diamond Interchange (DDI) configuration, which provides 3 continuous through lanes through the interchange with 2 free flow left turn lanes into the I-95 on ramps;
- Provide one bike lane in each direction from Northpoint Boulevard to Congress Avenue;
- Extend the 45th Street eastbound to I-95 southbound on-ramp to start at Northpoint Boulevard;
- Provide one additional left turn lane at the I-95 southbound off-ramp intersection;
- Provide new overhead signage at the I-95 southbound off-ramp to indicate 3 lanes to East 45th Street and 2 lanes to West 45th Street;
- Provide one additional right turn lane at the I-95 northbound off-ramp intersection;
- Provide new overhead signage at the I-95 northbound off-ramp to indicate 2 lanes to West 45th Street, 1 lanes to North Congress Avenue, and 2 lanes to East 45th Street;
- Widen the existing bridge along 45th Street over the C-17 Canal to accommodate one bike lane in each direction;
- Add one additional left turn lane from eastbound 45th Street to northbound Congress Avenue to provide triple left turns at the intersection;
- Add one additional left turn lane from northbound Congress Avenue to westbound 45th Street to provide triple left turns at the intersection;
- Provide travel information system;
- Develop coordinated signal system strategies.



LEGEND: May 2017

	PROPOSED CORRIDOR IMPROVEMENTS		EXISTING LIMITED ACCESS RIGHT OF WAY
	SIDEWALK		EXISTING RIGHT OF WAY
	BRIDGE		PROPOSED RIGHT OF WAY
	TRAFFIC SEPARATOR		CENTERLINE OF CONSTRUCTION
	MEDIAN/ISLAND		EXISTING BRIDGE STRUCTURE
	POTENTIAL RIGHT OF WAY IMPACTS		PROPOSED WIDENED BRIDGE STRUCTURE
	PARCEL BOUNDARY		PROPOSED BARRIER/RETAINING WALL
	PROPOSED NEW LANE		EXISTING TRAFFIC SEPARATOR

Based on the comparative analysis discussion in Section 5 of the Preliminary Engineering Report (PER) prepared for this project; which considered impacts to the natural, physical and social environment, input from the local community and local government, operational and engineering issues, and construction costs, the project team selected Alternative 2, implementation of a Diverging Diamond Interchange, as the Recommended Alternative. The Recommended Alternative will meet the purpose and need of the project, have minimal environmental impacts, require minimal amount of right-of-way acquisition, and it is the most acceptable by the community. The construction cost for this alternative is approximately \$13,880,000, which is the lowest cost of the build alternatives evaluated.

1C. PURPOSE AND NEED

The purpose of the study is to identify the short-term and long-term needs of I-95 and develop design concepts to address traffic spillback onto I-95, improve interchange operations, reduce congestion, and increase safety at the study interchange. This study will also consider SIS connector improvements needed within the project area and is consistent with plans for the I-95 mainline, including the potential extension of I-95 Express lanes through Palm Beach County.

Additional considerations for the purpose and need for this project include Capacity, Transportation Demand, Traffic Safety, Planning Consistency, Social Demands/Economic Development, Modal Interrelationships, and System Linkage.

Capacity

Traffic operational analyses were conducted at six study intersections on 45th Street to determine the existing delay and Level of Service (LOS).

During the AM and PM peak hours, the existing conditions (2016) are as follows for the following intersections on 45th Street [Name of intersection, overall LOS (AM/PM)]:



- Village Boulevard: (C/C)
- Northpoint Boulevard: (C/C)
- I-95 southbound ramps: (C/C)
- I-95 northbound ramps: (C/C)
- Corporate Way: (C/C)
- Congress Avenue: (C/D)

Operational analyses were conducted to evaluate for year 2040 No Build conditions (without roadway improvements) at the six intersections for AM and PM peak hours. The 2040 No Build conditions are predicted as follows: [Name of intersection, overall LOS (AM/PM)]:

- Village Boulevard: (D/D)
- Northpoint Boulevard: (D/D)
- I-95 southbound ramps: (F/C)
- I-95 northbound ramps: (F/D)
- Corporate Way: (C/B)
- Congress Avenue: (D/E)

Under the existing conditions scenarios, most of the intersections operate at LOS C. Under the project 2040 No Build conditions, most intersections operate at LOS D or worse. If no improvements are made by 2040, all intersections will experience excessive delays and queuing and operate below acceptable LOS standards (LOS D) during both the AM and PM peak periods.

Transportation Demand

According to the US Census, the county experienced a population growth from 1,320,134 in 2010 to 1,372,171 in 2013, representing an increase of 3.94%. Evaluating the population growth for the City of West Palm Beach, the City has grown from a population of 99,919 in 2010 to 102,436 in 2013 representing an increase of

2.52%. The population of Palm Beach County is projected to increase from 1,372,171 in 2013 to 1,715,300 in 2040 (US Census), representing an increase of 25%. The commercial areas along 45th Street and the new businesses taking advantage of areas designated as special impact zones will further increase the transportation demand along the proposed project area that will contribute to congested conditions. As the population of the county and city increases, developments in the county will continue to grow thereby increasing the amount of traffic. Improvements to the existing interchange are expected to provide mobility to the residents and commuters in this area.

Traffic Safety

The crash analysis results reveal that there was a total of 869 crashes on I-95 from Palm Beach Lakes Boulevard to Blue Heron Boulevard during the four study years (2011-2014). Of these 869 crashes, rear end crashes were the most common type of crash accounting for 37.5% of total crashes followed by sideswipe crashes accounting for 16.3% of total crashes. The 869 crashes included 1,671 vehicles. There were 627 injuries, 58 severe injuries and 10 fatalities. The average crash rate for the I-95 mainline segment within the study limits is 0.06 and is lower than the statewide average crash rate of 0.75 for similar interstate facilities. Summaries of the crash analysis are provided in Table 1.

Table 1: I-95 Crash Summary (2011 to 2014)

Crash Type	Number of Crashes				4-Year Total Crashes	Percent of Total	Mean Crashes Per Year
	Year						
	2011	2012	2013	2014			
Front to Rear (Rear End)	71	67	75	113	326	37.5%	81.5
Front to Front	2	0	1	4	7	0.8%	1.75
Angle	17	28	21	28	94	10.8%	23.5
Sideswipe, same direction	31	31	26	54	142	16.3%	35.5
Sideswipe, opposite direction	2	0	3	0	5	0.6%	1.25
Rear to Side	0	0	0	0	0	0.0%	0
Rear to Rear	0	0	1	0	1	0.1%	0.25
Other	54	60	73	79	266	30.6%	66.5
Unknown	5	5	4	14	28	3.2%	7
Total Crashes	182	191	204	292	869	100.0%	217.25

The crash analysis results reveal that there was a total of 174 crashes on 45th Street from Village Boulevard to Congress Avenue during the four study years (2011-2014). Of these 174 crashes, rear end crashes were the most common type of crash accounting for 48.3% of total crashes followed by angled crashes accounting for 25.9% of total crashes. The 174 crashes included 378 vehicles, 4 pedestrians and 2 cyclists. There were 164 injuries, 14 severe injuries and 1 fatality. The average crash rate for 45th Street within the study limits is 2.72 and is lower than the statewide average crash rate of 3.20 for similar arterial facilities. Summaries of the crash analysis are provided in Table 2.

Table 2: 45th Street Crash Summary (2011 to 2014)

Crash Type	Number of Crashes				4-Year Total Crashes	Percent of Total	Mean Crashes Per Year
	Year						
	2011	2012	2013	2014			
Front to Rear (Rear End)	12	13	29	30	84	48.3%	21
Front to Front	1	4	0	3	8	4.6%	2
Angle	8	12	10	15	45	25.9%	11.25
Sideswipe, same direction	0	3	0	6	9	5.2%	2.25
Sideswipe, opposite direction	0	0	1	0	1	0.6%	0.25
Rear to Side	0	0	0	1	1	0.6%	0.25
Rear to Rear	0	0	0	0	0	0.0%	0
Other	2	0	5	4	11	6.3%	2.75
Unknown	12	0	0	3	15	8.6%	3.75
Total Crashes	35	32	45	62	174	100.0%	43.5

Plan Consistency

The Palm Beach County MPO 2040 Long Range Transportation Plan (LRTP) identified the I-95 at 45th Street Interchange as a Local Stakeholder Project Request. The Master Comprehensive Bicycle Transportation Plan (MCBTP) - Bicycle Facility Recommendation Map designates 45th Street, both east and west of the I-95 interchange, as a "Re-Stripe Candidate" and the Bicycle Needs Map designates 45th Street, both east and west of I-95 interchange, as "Enhanced Priority, Needs Improvement" (Bike LOS C). These designations will be taken into consideration during

the PD&E phase such that the designated bicycle lanes can be provided whenever possible.

The FDOT Five-Year Work Program identifies a traffic operations project to install a new dynamic message sign (DMS) on 45th Street east and west of the I-95 interchange.

Social Demand and Economic Development

The Future Land Use Plan for the City of West Palm Beach (June, 2013) identifies the areas north of the interchange to be Industrial uses in a Special Impact Zone to the west of the interchange and Industrial, Conservation and Community Service to the east. Areas to the south of the interchange are identified to be Commercial in a Special Impact Zone and single family to the west of the interchange, and Conservation, Commercial in Special Impact Zone, and Single Family to the west. Special Impact Zones (SIZ) are areas where the City denotes heighten site plan review and compatibility analysis to reduce potential land use incompatibilities. The proposed improvements on the I-95/45th Street interchange will improve mobility and support the economic development of the local businesses as well as stimulate major construction activities that will contribute to the economic growth within the area.

The Florida Division of Emergency Management designates specific routes that residents and visitors can use in case of emergency situations to vacate specific areas. Based on Palm Beach County's Evacuation Routes and Zones Map, 45th Street is classified as an evacuation route from SR 809 to SR A1A, which includes the section of 45th Street in the vicinity of I-95. Serving as part of the evacuation route network, I-95 and 45th Street play an important role in facilitating traffic movement during emergency evacuation periods. As the population of the County continues to increase, the proposed improvements on the I-95 and 45th Street interchange will enhance capacity and mobility for residents during evacuation.

Currently, along 45th Street are commercial properties consisting of retail and professional offices with a few industrial and non-residential properties. To the north

are retail/offices such as North Village Square, Lockheed Martin, Boys & Girls Club, and various corporate plazas that house different commercial establishments. To the south are also mainly hotel and commercial and food establishments, and an educational facility, Lincoln College of Technology. There is a residential area in the southwest portion of the interchange.

Modal Interrelationships

Currently, there are sidewalks and crosswalks along both sides of 45th Street within the vicinity of the interchange; however, not all sidewalks and crosswalks meet the Americans with Disabilities Act (ADA) requirements. Bicycle lanes are currently provided along 45th Street from Corporate Way and continuing west through Village Boulevard, except for a missing section just east of Northpoint Boulevard. As part of the proposed improvements for the interchange, sidewalks and crosswalks within the limits of construction shall be upgraded to meet ADA standards. Bicycle lanes are recommended in conjunction with the recommended lane widening both east of Corporate Way as well as the missing section east of Northpoint Boulevard.

The Mangonia Park Tri-Rail Station is located on 45th Street, approximately 1.3 miles east of the I-95 interchange. The station provides 272 parking spaces and also provides a park-and-ride designated area. The Mangonia Park Tri-Rail Station is accessed by Palm Beach County Transit, Palm Tran, Routes 2, 31, and 33. 45th Street in the vicinity of the I-95 interchange is served by Palm Tran Route 31. Congress Avenue and 45th Street are also served by transit routes. 45th Street is designated as a SIS Connector from I-95 to the Tri-Rail Station. The proposed improvements on the I-95 and 45th Street interchange will improve access to the Tri-Rail Station thus encouraging ridership.

System Linkage

The proposed project at I-95 and 45th Street will help improve connectivity and capacity within the roadway network by addressing traffic spillback onto I-95 and improving interchange connections. The proposed project enhances mobility to the residential

and commercial areas along 45th Street, which provides east-west access in North West Palm Beach and Palm Beach County.

The primary need of the project is to alleviate existing and future traffic congestion thereby improving safety at the interchange. Recent studies completed in the region such as the I-95 Interchange at 45th Street Interchange Concept Development Report completed in 2014 identified operational deficiencies at ramps, the terminal intersections, and the adjacent intersections. Existing observations also show increased truck traffic from I-95 to Congress Avenue heading to the Port of Palm Beach contributing to the congestions in the study area. If no operational and safety improvements are made within the interchange area, conditions will become progressively worse as traffic volumes continue to increase, thereby increasing the number of crashes and deteriorating access of this interchange.

3A. SOCIAL AND ECONOMIC

3A1. Social

Transportation improvement projects can impact social issues for adjacent communities. The impacts of the project are a function of the existing communities within the project study area and how the project affects community cohesion, demographics, safety/emergency response times, compatibility with community goals and quality of life.

Through the Efficient Transportation Decision Making (ETDM) process, Florida Department of Transportation (FDOT) District Four assigned a summary degree of effect of moderate to social issues based on FHWA's recommendation. FDOT District Four made the following summary comments:

A review of the ETAT comments and GIS analysis identified various resources in the vicinity of the proposed project. While access to residences and businesses may be temporarily affected and right of way may be required

depending on the design chosen, the overall impacts on the social environment and community cohesion are anticipated to be limited as the proposed project is within the existing interchange footprint. FDOT acknowledges FHWA's concerns on potential right of way acquisition from community facilities and residential homes. As the project moves forward to PD&E, public outreach will be conducted to solicit input from the general public and address their concerns. A Conceptual Stage Relocation Plan shall be developed to identify any potential right of way acquisition, if any.

During the Sociocultural Effects study (referred to as “study” in Sections 3A1 through 3A6), a review of the potential impacts to demographics, community cohesion, safety and community goals/quality of life issues was conducted. Based upon this study, the degree of effect assigned to social issues is none.

It was determined that the proposed roadway improvements will not change or alter the demographic mix of the population along the corridor, and that the improvements will not impact the interaction between the three affected communities: the City of Riviera Beach, the City of West Palm Beach, and the Town of Mangonia Park. The recommended alternative will improve connectivity and ensure that the project corridor continues to meet mobility and safety goals. As FDOT District Four noted in their ETDM summary comment, the FHWA expressed concern about the social impact of potential right-of-way acquisitions and relocations of community facilities or residents. Relocations or acquisitions associated with residents or community facilities are not anticipated based upon the current project design. A public involvement plan is being implemented by FDOT District Four to ensure that both the social and transportation needs of the surrounding communities are not negatively impacted by the project.

3A2. Economic

The economic conditions are a key variable in establishing the profile of a community. These economic conditions describe a community's economic history, current economic

wellbeing, and future potential. This information considers employment levels, types of jobs, per capita income, poverty, unemployment rates, the range of incomes in the community, and trends in employment opportunities (e.g. family-owned businesses versus national chain businesses).

During the ETDM screening process, FDOT District Four assigned a summary degree of effect of Enhanced to economic issues. FDOT District Four made the following comments:

A review of the GIS analysis identified over 200 acres of commercial [sic] within the 1320-ft buffer. The project will provide better access and mobility to those resources. During construction an increase in employment opportunities in the local economy may be expected but no long-term increases or reductions in other employment opportunities are expected as a result of the proposed improvements.

During the study, a review of the potential impacts to commerce and tax base issues was conducted. The proposed improvements for the I-95/45th Street interchange will improve mobility and support the economic development of the local businesses. The project will enhance the area as a commercial destination, thus creating jobs and increasing employment rates within the study area. The degree of effect assigned to economic issues was determined to be enhanced.

3A3. Land Use Changes

Land use involves the activities that people undertake on a piece of land, particularly developed land. Land use planning provides order and regulates use of land to best meet the needs of the people of a community.

Currently, the land use adjacent to the I-95 and 45th Street interchange is mainly residential, commercial, institutional, and industrial. Along the west side of I-95, the land use is primarily commercial and industrial. The east side of I-95 is predominately commercial and healthcare properties. Residential areas are primarily located

southwest of the intersection. This area includes schools such as the New England Institute of Technology. The following land uses were identified within 500 feet of the project limits:

- Residential, Medium Density – 1.0%
- Commercial and Services – 50.0%
- Institutional – 2.53%
- Open Land – 8.5%
- Herbaceous, Dry Prairie (Dry Detention Ponds) – 10.6%
- Channelized Waterways, Canals – 3.57%
- Roads and Highways – 23.8%

The Future Land Use Plan for the City of West Palm Beach, published in June 2013, depicts areas north of the interchange to be industrial uses in a Special Impact Zone (SIZ) and conservation and community services to the east. Areas to the south were shown to be commercial in the SIZ. The area west of the interchange is depicted as commercial, conservation, commercial and single family in the SIZ. A SIZ is an area where a city denotes higher site plan review and compatibility analysis to reduce potential land use incompatibilities.

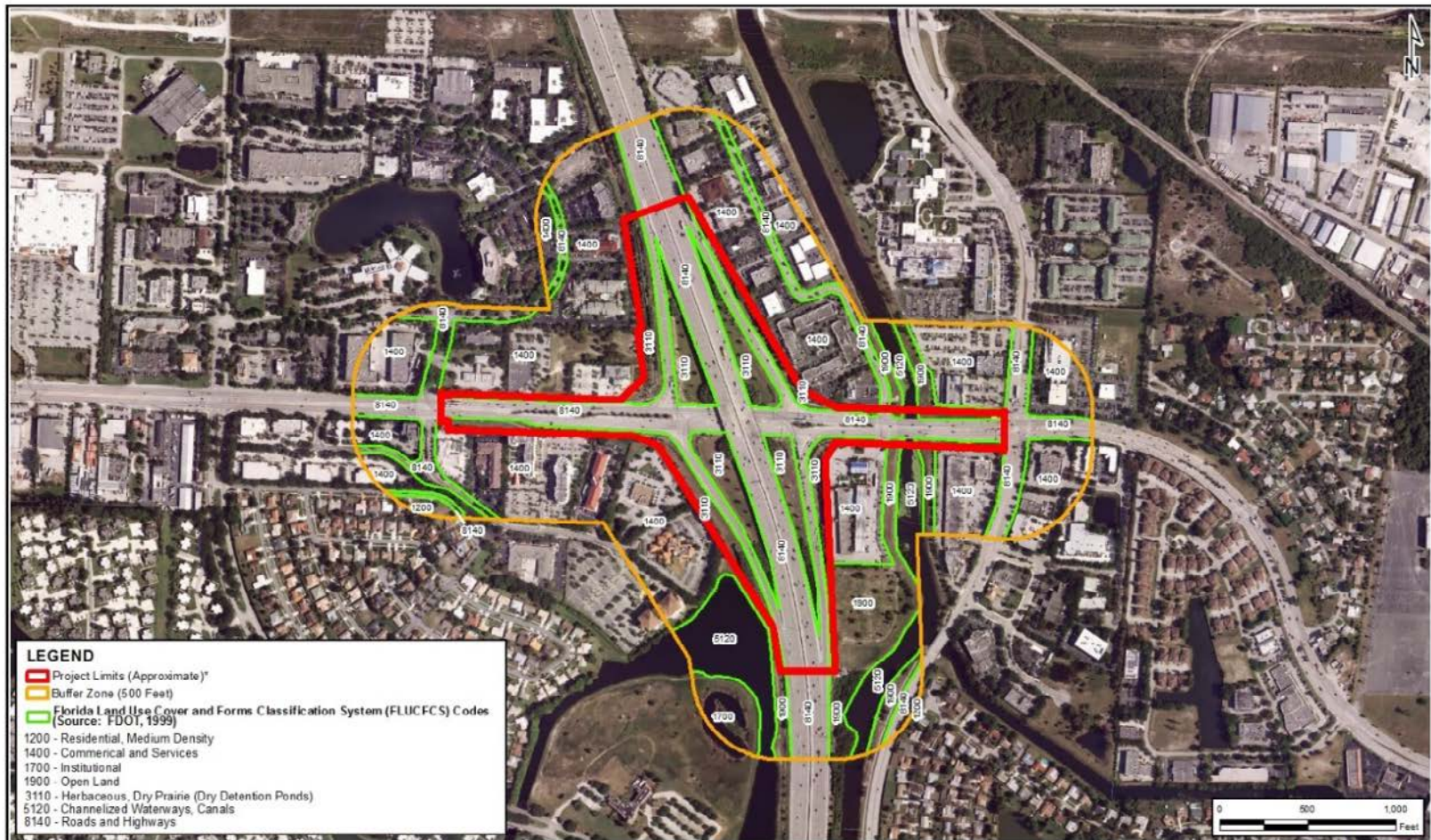
Both I-95 and 45th Street serve as hurricane evacuation routes; however, the project is not located an Area of Critical State Concern (ACSC), Coastal High Hazard Area (CHHA), or Military Base.

During the ETDM screening process, the summary degree of effect assigned to land use issues was minimal. FDOT District Four made the following summary comments:

A review of the ETAT comments and GIS analysis identified that the proposed project is generally compatible with the Town of Mangonia and City of West Palm Beach's development goals and comprehensive plan. The proposed project is located in an area consisting of commercial, industrial, education and residential properties. GIS analysis identified 206 acres of commercial, 54.7 acres of roads

and highways, 21.8 acres of institutional, 8.2 acres of open land, and 0.3 acres of multiple dwelling units. The proposed project is not within an area of critical state concern, does not encroach a military base and is not within a coastal high hazard area. As the proposed project is within the existing interchange footprint, land use changes are not anticipated to be altered.

During the study, a review of the potential impacts to land use patterns, plan consistency and growth trends was conducted. It was determined that the proposed improvements will not alter land use or growth trends and is consistent with the comprehensive plans. On this basis, a degree of effect of minimal was assigned to land use changes.



Florida Department of Transportation
District Four
3400 West Commercial Boulevard
Fort Lauderdale, FL 33309



I-95/SR-9 Interchange at 45th Street
Project Development and Environment Study
FPID No.: 436510-1-22-01
ETDM No.: 14225

Title:

Land Use Map

Figure:

10

3A4. Mobility

FDOT's mission statement is centered on providing a "safe transportation system that ensures the mobility of people and goods, enhances economic prosperity and preserves the quality of our environment and communities." Mobility is the ability of people to move about freely and it encompasses all modes of travel including pedestrian, bicycles and transit.

During the ETDM screening process, the summary degree of effect assigned to mobility issues was enhanced. FDOT District Four made the following summary comments:

The proposed project will serve to improve access to the commercial and residential properties near the interchange and improve evacuation times for surrounding citizens as well as residents of Palm Beach County. I-95 is an evacuation route designated by the Florida Division of Emergency Management, and 45th Street, as an east-west evacuation route, will assist I-95 to facilitate residents to safety as well as provide connections to and from other major highways and arterials.

During the study, a review of the potential impacts to mobility, accessibility, traffic circulation and public parking was conducted. It was determined that the proposed improvements would upgrade the existing sidewalks and crosswalks located along both sides of 45th Street within the vicinity of the interchange to ADA standards. Bicycle lanes are also currently along 45th Street from Corporate Way and continuing west through Village Boulevard, but bicycle lanes are absent just east of Northpoint Parkway/Metrocentre Boulevard. The proposed improvements would connect the discontinuous bicycle lanes between Corporate Way and Congress Avenue.

The Mangonia Park Tri-Rail Station is located on 45th Street east of the I-95 Interchange. With additional mobility and movement of passengers from the proposed improvements, it is anticipated that more passengers will be encouraged to use the Tri-Rail System.

Based on the results of this analysis, the degree of effect assigned to mobility is enhanced.

3A5. Aesthetic Effects

Aesthetic issues, which include how the community is affected by a project regarding visual and noise/vibration impacts, are subjective. They are best defined by the collective community vision of what constitutes a pleasing environment. It includes actual or perceived impacts to noise/vibration, viewsheds and compatibility of the project with the surrounding area.

The project study area consists of well-developed commercial, community properties, and some residential areas are adjacent to the southwest portion of the I-95/45th Street interchange.

During the ETDM screening process, the summary degree of effect assigned to aesthetic issues was minimal. FDOT District Four made the following summary comments:

A review of the GIS analysis identified 32.2 acres of single family residential within the 1320-ft buffer, of which 1.4 acres are located within the 500-ft buffer. The proposed project will result in increased traffic, but as no residential or other noise sensitive receptors are located in the immediate area, FDOT agrees with FDOT 4 and FHWA and assigns a summary degree of effect of Minimal to Aesthetics Effect.

During the study, a review of the potential visual and noise/vibration impacts, changes in viewshed and compatibility issues was conducted. Potential project impacts on character, compatibility, community values, sensitive areas and visual features of the area were considered. Because the proposed improvements will be within the interchange, the proposed project should not impact these aesthetic affects the degree of effect assigned to aesthetics is minimal.

3A6. Relocation Potential

During the ETDM screening process, the summary degree of effect assigned to relocation potential was moderate. FDOT District Four made the following summary comments:

Potential design alternatives as identified in the Interchange Concept Development Report may reduce right of way. Drainage and storm-water analysis reports have not yet been prepared to determine if sufficient right of way is available for drainage purposes. As part of the PD&E process, drainage analysis will be conducted and a Conceptual Stage Relocation Plan will be prepared if relocations are determined to be necessary during the PD&E phase. If right of way or relocations are required, FDOT will carry out a right of way and relocation program in accordance with Florida Statute 339.09 and the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended by the Public Law 100-17.) FDOT agrees with FHWA and assigns a summary degree of effect of Moderate to Relocation.

During the study, a review of the potential impacts to residential and non-residential properties was conducted. Based upon the current design of the proposed improvements, right-of-way acquisition is anticipated to be minimal and no relocation is anticipated. Drainage and stormwater analysis have indicated that the existing drainage system for the interchange will be utilized for drainage improvements. Therefore, the degree of effect assigned to relocation potential is no involvement.

3A7. Farmland

During the ETDM screening process, the summary degree of effect assigned to farmlands was minimal. FDOT District Four made the following summary comments:

A review of the GIS analysis identified 8 acres of Prime Farm Land with a classification of Farmland of Unique Importance within 500-ft of the proposed

project. FDOT acknowledges NRCS concern to minimize impacts to these agricultural lands; its concerns regarding the loss of such farmlands and the requirement for Federal agencies to minimize farmland conversion, such as to non-agricultural use, as per the Farmland Protection Policy Act. As the proposed project advances to the PD&E Phase, if it is determined that the project may have impacts to farmlands, such as requiring additional right of way, coordination with the NCRS, including the preparation of a Farmland Conversion Impact Rating form or a Farmland Protection Policy Act (AD-1006) environmental assessment, will occur.

During this study, farmland was not identified within the project area. It was determined that the Prime Farmland classification was related to soil map units designated to have important soil properties for agricultural uses that were mapped in the project area. A GIS review for soil types in the area determined the presence of Okeelanta soil type within the vicinity of the project. An correlation of the location of the soil type onto an aerial image overlay determined the soil type to be mapped along Corporate Way, east of I-95. The mapped soils correspond with an area that is completely developed with buildings, roads and parking lots. Therefore, it was confirmed that no prime farmlands are located within the project area. An effect determination assigned to farmlands is no involvement.

3B. CULTURAL

3B1. Section 4(f)

Through the Efficient Transportation Decision Making (ETDM) process, Florida Department of Transportation (FDOT) District Four assigned a summary degree of effect of none to Section 4(f) potential. FDOT District Four made the following summary comments:

A review of the GIS analysis identified two bridges (#934100 and #930520) within the 500-ft buffer. There are no existing recreational trails, national or state

parks, and public lands within one mile of the project. In addition, no known significant historic resources (National Register of Historic Places) are identified within one mile of the project.

During this study, the project area was reviewed for the potential presence of 4(f) resources. Based upon this evaluation it was determined that there is not a direct or indirect use of Section 4(f) resources. There are no existing public parks or recreational lands, wildlife and waterfowl refuge, or historical sites located within the project area that will be affected by the proposed project improvements. A Determination of Applicability (DOA) was prepared for the project to document this process. A copy of the DOA Memorandum dated May 16, 2017 is included in Appendix B. An effect determination of none is assigned to this project.

3B2. Historic Sites/Districts

Through the ETDM process, FDOT District Four assigned a summary degree of moderate to historic sites. This was because the project area had not been comprehensively surveyed and the degree of potential right of way acquisition and ground disturbance were unknown at that time. FDOT District Four made the following summary comments:

A review of ETAT comments and GIS Analysis indicated several CRAS prepared within 500-ft of the project area. FDOT acknowledges Florida Department of State's concern that surveys may not be comprehensive as it did not include the entire project area. The proposed project, depending on the alternative chosen may require additional right of way and may involve ground disturbance and create potential for impacts to historic and archaeological resources. An updated comprehensive CRAS will be conducted to identify, document and access all cultural resources, including potential historic districts within the proposed project area.

Therefore, in accordance with the procedures contained in 36 CFR, Part 800, a Cultural Resource Assessment Survey (CRAS), including background research and a field survey coordinated with the State Historic Preservation Officer (SHPO), was performed for the project. The CRAS was prepared to identify cultural resources within the project area of potential effect (APE) and assess their eligibility for listing in the National Register of Historic Places (National Register) according to criteria set forth in 36 CFR Section 60.4.

The survey conducted for the project resulted in the identification of one newly recorded historic resource, the Earman River Canal (C-17 Canal) (8PB17116). This resource is considered eligible for inclusion in the National Register of Historic Places under Criteria A and C, in the areas of Community Planning and Development and Engineering. Based upon the current conceptual design plans, adverse effects to the canal are not anticipated and the degree of effect assigned to cultural resources is minimal at this time.

FDOT submitted a copy of the CRAS to SHPO for their review and to request for SHPO to confirm that the CRAS is complete and sufficient and provide concurrence with the report recommendations and findings. A copy of the transmittal letter, dated October 5, 2017, is included in Appendix B. Following FDOT's receipt of concurrence by SHPO, a Section 106 Determination of Effects Document will be prepared for this project.

3B3. Archaeological Sites

For the same reasons indicated in Section 3B2, FDOT initially assigned a summary degree of effect of moderate to archaeological sites and a CRAS was prepared for the project. No newly or previously recorded archeological sites were identified within the archaeological APE. Subsurface testing was not feasible within the archaeological APE due to the presence of existing pavement, sidewalks, landscaping, existing retention ponds and canal, berms and buried utilities. A pedestrian survey of the archaeological APE confirmed the developed nature of the project corridor and confirmed the developed nature of the project corridor and confirmed the low potential for finding intact

archaeological sites. Therefore, the project is anticipated to have no involvement with archaeological sites.

3B4. Recreational Areas

Through the ETDM process, FDOT District Four assigned a summary degree of none to recreational areas. FDOT District Four made the following summary comments:

A review of the GIS Analysis identified 133.1 acres designated as Ecological Greenways Critical Linkages of "Unknown Description" within the 500-ft. buffer. No existing recreational trails, state parks, hiking trail priorities, multi-use or padding trails opportunities within one mile of the proposed project. FDOT agrees with the FHWA, USEPA, FL Dept of Environmental Protection, National Park Service and South Florida Water Management District and assigns a summary degree of effect of None to Recreation Areas.

Based upon an updated review of the project area during this study, it was confirmed that the proposed project will have no involvement with public parks or recreational land as none exist within the vicinity of the project area. The Florida Ecological Greenways Network model was reviewed in ArcGIS for the project area. This model was created to delineate the ecological component of the Statewide Greenways System Plan developed by the FDEP Office of Greenways and Trails. The map viewed was last modified on August 22, 2014 and it did not indicate the presence of ecological greenways or trails within the 500-foot project buffer. Based upon the updated review, the summary degree of effect to recreational areas is no involvement.

3C. NATURAL

3C1. Wetlands and Other Surface Waters

During the ETDM process, the summary degree of effect assigned to wetlands was moderate. FDOT District Four made the following comments:

A review of the ETAT comments and GIS Analysis identified 0.7 of palustrine, 4.4 of estuarine and 5.7 of riverine wetlands within the 500-ft of the proposed project. Hydric soils classified by the Natural Resources Conservation Service (NRCS) occur within the 100 to 500-ft buffer proposed project. A Wetlands Evaluation Report (WER) and a Water Quality Impact Evaluation (WQIE) will be conducted during Project Development. FDOT acknowledges the ETAT comments regarding potential permit requirements, including a SFWMD ERP and USACE regional permit.

However, based on the desktop analysis and field reviews, no jurisdictional wetlands are present within the 500-ft buffer zone. The C-17 Canal and an un-named drainage lake along the west side of I-95 are present within the project limits and buffer zone.

Since these bodies of water have steep banks that are too deep to support emergent wetland vegetation, these bodies of water qualify as “other surface waters” and not as “wetlands.” In addition, no freshwater submerged aquatic vegetation was observed within the portions of the C-17 Canal that fall within the project limits and buffer zone. Therefore, no impacts to wetlands are anticipated that would require mitigation from regulatory agencies.

Project construction along the banks of the C-17 Canal will require shoreline stabilization and erosion and sediment control measures to avoid/minimize secondary water quality impacts from project construction. The impact determination of minimal is assigned to wetlands and other surface waters.

3C2. Aquatic Preserves and Outstanding Florida Waters

During the ETDM process, the summary degree of effect assigned to aquatic preserves and Outstanding Florida Waters was none. FDOT District Four made the following comments:

There are no Outstanding Florida Waters, aquatic preserves, scenic highways/byways. Or wild or scenic rivers identified in the proposed project vicinity.

During this study it was confirmed that no impacts to Aquatic Preserves and Outstanding Florida Waters are in the vicinity of the proposed project improvements; therefore, a degree of effect of no involvement is assigned.

3C3. Water Quality and Water Quantity

Water Quality

FDOT assigned a summary degree of effect of Moderate to Water Quality. FDOT District Four made the following comments:

A review of the ETAT comment and GIS Analysis identified that the proposed project corridor is within the Surficial Aquifer System and the C-17 canal is within the 500 ft buffer. FDOT acknowledges the ETAT agency's comments regarding the project's potential permit requirements, including a SFWMD ERP and a Right of Way permit should the bridge over the C-17 canal be impacted. FDOT will obtain all required permits during final design. FDOT also acknowledges the ETAT's agency's concerns regarding the project's potential impacts to wetlands/surface waters and water quality as the C-17 canal is listed as an impaired water body for nutrients and/or dissolved oxygen; pollutant loads (pre v. post) may need to be assessed.

As part of this study a Water Quality Impact Evaluation has been developed for this project. The project is located in the jurisdiction of the SFWMD. An interagency coordination meeting was held with the SFWMD on August 17, 2017 to present the project and the proposed drainage concepts were discussed.

The project lies almost entirely within the C-17 Canal segment of the Lake Worth Lagoon, WBID# 3242. This watershed has been classified as verified impaired for

Nutrients and Dissolved Oxygen. However, it was delisted for Nutrients in 2016. It is listed on FDEP's Strategic Monitoring Plan to monitor for bacteria and metals by June 2020. Modifications to the stormwater management systems within this impaired waterbody would require an additional 50% water quality treatment volume as well as nutrient loading analysis demonstrating no increase in nutrient loading over the existing condition.

Existing dry detention ponds associated with the I-95/SR 9 Interchange at 45th Street will be used to treat and attenuate additional runoff associated with the project. Based on the scope of this project, the degree of effect on water quality is minimal for this project.

Water Quantity

Existing dry detention ponds associated with the I-95/SR 9 Interchange at 45th Street will be used to treat and attenuate additional runoff associated with the project. Each existing dry detention pond was modeled using Interconnected Channel and Pond Routing (ICPR) version 3.10 Service Pack 10. FDOT and SFWMD design storms were run to insure compliance with applicable design criteria. It was determined that the stormwater for the constructed project may be managed by modifying the existing stormwater management facilities. It is recommended to modify the existing infield dry detention ponds in Basins B, C and D associated with I-95 at the interchange by re-grading the side slopes and minor modification to the control structures. Based on the scope of this project, the degree of effect to water quantity is minimal.

3C4. Wild and Scenic Rivers

No wild and scenic rivers are located within the project study area; therefore, a degree effect of no involvement is assigned to wild and scenic rivers.

3C5. Floodplains

A review of the Flood Insurance Rate Map published by Federal Emergency Management Agency (FEMA) indicates that Zone A, AE, and X500 are within 100 feet of the proposed project (see [Figure 11](#)). Zone A areas are subject to 1% annual chance flooding. However, since no detailed hydraulic analyses have been performed for this zone, no Base Flood Elevations or flood depths have been determined. Areas identified in zone AE have a 1% annual change of flooding during the Base Flood (100-year flood) with base elevations ranging from 5.0-ft. to 7.0-ft. NGVD. Areas identified in Zone X500 are estimated to have less than 1 foot or no flooding and are protected by levees from the 100-year flood. A degree of effect of minimal was assigned to Floodplains.

3C6. Coastal Zone Consistency

The proposed project is not within an area of critical state concern, does not encroach a military base and is not within a coastal high hazard area. The effect determination for Coastal Zone Consistency is no involvement.

3C7. Coastal Barrier Resources

The project is not within the Coastal Barrier Resources System; therefore, the impact determination is no involvement.

3C8. Protected Species and Habitat

During the ETDM summary review, a degree of effect of minimal was assigned to wildlife and habitat. FDOT District Four had the following comments:

The commenting agencies have all come to the conclusion based on the ETDM EST and other desktop analytic tools, that the Degree of Effect to Wildlife and Habitat is minimal. According to the FHWA and the USFWS, the only listed species that has the potential to be affected is the wood stork (Mycteria Americana) as the proposed project is located within a core foraging area (CFA) of a nesting wood stork colony.

A 500-foot buffer zone was used to evaluate the presence of protected wildlife species and their habitats during field reconnaissance conducted May 31, 2016. Protected wildlife species are those listed as “species of Special Concern (SSC),” “threatened,” or “endangered” by the Florida Fish and Wildlife Conservation (FWC) and/or U.S. Fish and Wildlife Service (USFWS).

The majority of the existing land use within the project study area is roads and highways and commercial development. Additional land uses adjacent to the intersection in relatively low abundance include dry detention ponds, open land, medium-density

residential development, channelized waterways, institutional, and other roadways. No undeveloped natural areas are present within the project limits or a 500-foot buffer.

During a site visit on May 31, 2016 it was noted that the vast majority of the project corridor consisted of developed land (commercial, residential, and industrial). Small areas of undeveloped uplands were observed within the buffer zone. However, these areas were either actively maintained (i.e. mowed), overgrown with invasive/exotic vegetation, or displayed disturbed soil conditions (i.e. fill materials) and therefore, provide negligible habitat value for protected upland species. Due to the absence of littoral zones and emergent wetland vegetation within the canals, habitat for wetland-dependent protected species is also negligible.

No protected species were observed within the 500-foot buffer zone during the field review. However, the following species have a reasonable likelihood of occurrence within the project study area based on desktop analyses.

Table 3: Listed Species with Reasonable Probability of Occurrence within Project Buffer Zone

Species	Federal Status	State Status	Probability of Occurrence	Location if Observed	Effects Determination
<i>Aphelocoma coerulescens</i> (Florida Scrub Jay)*	T	T	Low	N/A	No Effect
<i>Drymarchon corais couperi</i> (Eastern indigo snake)	T	T	Low	N/A	MANLAA*
<i>Egretta caerulea</i> (Little blue heron)	N	T	Low	N/A	MANLAA
<i>Egretta tricolor</i> (Tricolor heron)	N	T	Low	N/A	MANLAA
<i>Mycteria americana</i> (Wood stork)**	T	T	Low	N/A	MANLAA*
<i>Platalea ajaja</i> (Roseate spoonbill)	N	T	Low	N/A	MANLAA
<i>Trichechus manatus</i> (West Indian manatee)	T	T	Low	N/A	No Effect

Species: * = Project falls within USFWS Consultation Area for this species; ** = Project falls within the Core Foraging Areas of one wood stork nesting colony (PBC-SWA)

Status: E = Endangered; F(S/A) = Federal Threatened due to similarity of appearance; N = Not Listed; SAT = Treated as threatened due to similarity of appearance to a species which is federally listed such that enforcement personnel have difficulty in attempting to differentiate between the listed and unlisted species; T = Threatened

Probability of Occurrence: Low = potential habitat is present for this species, but habitat value is marginal

Location if Observed: N/A = Not Applicable (species not observed)

Effects Determination: MANLAA = "May affect, not likely to adversely affect"; * = determination based on Federal Effects Determination Key included in Appendix A (all other determinations based upon observations of potential species habitat and the quality of that habitat relative to species requirements)

FDOT submitted a copy of the Natural Resources Evaluation Report to United States Fish and Wildlife Service (FWS) with a cover letter requesting written concurrence on the effects to listed species. A copy of the transmittal letter dated October 2, 2017 is included in Appendix B. A response has not yet been received.

3C9 Essential Fish Habitat

Per review of the National Oceanic and Atmospheric Administration (NOAA) Essential Fish Habitat (EFH) Mapper (<http://www.habitat.noaa.gov/protection/efh/efhmapper/>), no EFH areas are present within the portion of the C-17 within the project limits and buffer zone. Therefore, an impact determination of no involvement is assigned to EFH.

3D. PHYSICAL

3D1. Highway Traffic Noise

A desktop review was performed to determine if noise levels will likely increase as a result of the proposed improvements. The Federal Highway Administration (FHWA) Traffic Noise Model (TNM) Version 2.5 (February 2004) was used to predict traffic noise sensitive locations along the project corridor for the existing (2015) conditions and the design year (2040) No-Build and recommended build alternative (Alternative 2). Noise sensitive receptor sites represent any property where frequent exterior human use occurs and where lowered noise would benefit, including outdoor uses at restaurant and hotels and interior uses for sites such as medical facilities.

Eleven noise sensitive sites, including nearby hotel pools and patios, medical facilities and a restaurant patio, were identified to be potentially impacted by the proposed improvements along 45th Street near I-95. No other noise sensitive sites were identified to be impacted by the planned improvements.

The worst-case design year traffic noise levels with the Build Alternative are predicted to be no more than 3.2 dB(A) greater than the existing levels and 2.1 dB(A) greater than the expected design year No-Build noise levels. The greatest increase in traffic noise level is predicted to occur at the hotel pools on the south side of 45th Street west of I-95. However, the predicted traffic noise levels do not result in any substantial noise increase (i.e. greater than 15 dB[A] over existing levels). In addition, the nearest residences along the corridor are located more than approximately 750 feet from the planned improvements. Therefore, no noise impacts to residential land use are expected as a result of this project. The degree effect assigned to noise impacts is minimal.

A reassessment of the project corridor for sites particularly sensitive to construction noise and/or vibration will be performed during design to ensure that impacts to such sites are minimized. Coordination between the FDOT and the operators of any construction noise/vibration sensitive locations identified during design should occur and Technical Special Provisions should be developed for the project's contract package in order to ensure that impacts to such businesses are minimized.

3D2. Air Quality

Potential air quality impacts in the area surrounding the project corridor were assessed for all viable project alternatives, including the No-Build Alternative, in accordance with the Federal Highway Administration (FHWA) discussion paper *Appropriate Level of Highway Air Quality Analysis for a CE/EA/FONSI and EIS* and guidelines contained in Part 2, Chapter 19 on the FDOT PD&E Manual (Dated June 14, 2017).

Much of the project corridor is bordered by commercial land use such as hotels, medical offices, restaurants and retail establishments. Areas at these sites that may potentially be impacted by changes to air quality include hotel pools and restaurant patios.

The pollutants of primary concern with roadway traffic are ozone (O₃), oxides of nitrogen (NO_x), hydrocarbons (HC), small particulate matter (PM₁₀) and carbon monoxide (CO). CO is analyzed at a project level since it is a localized pollutant that is emitted directly into the atmosphere. The other pollutants mentioned above are typically analyzed at a program level, unless specific review of an individual project is requested by appropriate reviewing agencies. The National Ambient Air Quality Standard (NAAQS) for CO is 35 parts per million (PPM) for one-hour periods and 9 PPM for eight-hour periods.

The CO screening analysis for this project indicates that the worst-case one-hour CO level is 9.9 PPM during the build year and design year. The predicted worst-case eight-hour CO level is estimated to be 5.9 PPM during the build year and the design year. Therefore, the project is not expected to cause any exceedances of the one-hour or eight-hour NAAQS for CO. An effect determination factor of minimal was therefore, assigned to air quality.

3D3. Contamination

A preliminary evaluation of the project was conducted, in accordance with the FDOT PD&E Manual guidelines (Part 2, Chapter 20, effective June 14, 2017), to identify potential contamination within the proposed project limits from properties or operations located within the vicinity of the project. A review of FDOT ETDM Environmental Screening Tool (EST), FDEP records and a field reconnaissance conducted on May 17, 2017 were conducted to identify potential contamination concerns within the vicinity of the project.

This Contamination Screening Evaluation revealed the presence of four low concern sites (Site 1 to Site 4), three medium concern sites (Sites 5 to Site 7) and one high concern site (Site 8). Those sites assigned a medium or high concern level were

evaluated to determine if further assessment was deemed necessary to determine the actual presence of contamination that may affect the project area. Table 4 presents a summary of project recommendations:

Table 4: Recommendations		
Site ID	Site Name	Recommendations
Medium Concern		
5	7-ELEVEN STORE #37252 ROYAL PALM CLEANERS VILLAGE PROMENADE SHOPPING CNTR VILLAGE CLEANERS 2100 45TH ST	<p>This property has both an operating gasoline station and historic drycleaner operations. The USTs associated with the gasoline station were installed in 2016 and no contamination associated with these tanks has been documented. The historic dry cleaner operated within the center section of the plaza, approximately 400 feet south of the corridor.</p> <p>The historic dry cleaner does have documented solvent contamination in the soil and groundwater. The proposed work in the project area is limited to lane widening. If invasive work that requires dewatering is proposed, then groundwater assessment would be recommended. If groundwater testing is conducted, laboratory analysis should include volatile organic halocarbons using EPA Test Method 8021.</p>
Medium Concern		
6	RACETRAC # 562 2995 45TH ST	<p>The southwest corner of this property has been identified for ROW acquisition. The former soil and groundwater petroleum contamination reported at this site was localized in the eastern portion of the property and the contamination has been remediated to achieve regulatory standards, as documented in four consecutive quarters of groundwater monitoring. The facility recently received regulatory closure, releasing the facility for conducting additional assessment or remediation.</p> <p>Based on the historical presence of contamination impacts and the current use of petroleum underground storage tanks at this site as well as the planned ROW acquisition, assessment is recommended to further evaluate potential contamination impacts to the project. If assessment is conducted, it is recommended that the groundwater be tested for the presence of petroleum compounds to include polynuclear aromatic hydrocarbons using EPA Test Method 8260 and 8270, volatile organic aromatics using EPA Test Method 80 total recoverable petroleum hydrocarbons using the Florida Residual Petroleum Organics Method.</p>

Table 4: Recommendations		
Site ID	Site Name	Recommendations
Medium Concern		
7	MAROONE CADILLAC AUTONATION CADILLAC WEST PLAM BEACH 2101 45TH ST	This site is adjacent to the project corridor and proposed acquisition is limited to a sliver of the southwestern corner of this large property (property size is over 9 acres). Based upon the site reconnaissance and review of regulatory records, the USTs and documented contamination at this facility are located at least 450 feet from the acquisition area. Due to fact that actual contamination has not been documented at this site, the distance between the USTs and the ROW acquisition area and the minimally invasive work anticipated for this portion of the project, additional assessment is not recommended. However, if assessment is conducted, it is recommended that the groundwater be tested for the presence of petroleum compounds to include polynuclear aromatic hydrocarbons using EPA Test Method 8270, volatile organic aromatics using EPA Test Method 8260 and total recoverable petroleum hydrocarbons using the Florida Residual Petroleum Organics Method and volatile organic halocarbons using EPA Test Method 8260.
High Concern		
8	NATIONAL FREIGHT SPILL I-95 AT 45TH ST	<p>Petroleum contamination is anticipated to exist in the soils beneath the asphalt pavement of the northbound on-ramp to I-95. It is recommended that assessment for the presence of petroleum impacts be conducted or that FDOT assume that contaminated soil will be impacted in this area and that the project incorporates provisions for management of the contaminated soils by the CAR contractor.</p> <p>If assessment is conducted, it is recommended that the soils be tested for the presence of petroleum compounds to include polynuclear aromatic hydrocarbons using EPA Test Method 8270, volatile organic aromatics using EPA Test Method 8260 and total recoverable petroleum hydrocarbons using the Florida Residual Petroleum Organics Method.</p>

In addition to the recommendations provided in [Table 4](#), it should be noted that level II contamination assessment investigations are recommended for any areas that have proposed dewatering or subsurface work activities (e.g. pole foundations, drainage features) occurring at, or adjacent to, medium and high concern rated sites. If dewatering will be necessary during construction, a SFWMD Water Use Permit will be required. The contractor will be held responsible for ensuring compliance with any

necessary dewatering permit(s). A dewatering plan may be necessary to avoid potential contamination plume exacerbation. All permits will be obtained in accordance with Federal, State, and local laws and regulations and in coordination with the District Contamination Impact Coordinator (DCIC). The degree effect of minimal is assigned to contamination.

3D4. Utilities and Railroads

Thirteen utility companies could potentially be impacted by the proposed improvements or will at least require further coordination during the design and construction phases. [Table 5](#) lists utility owners with facilities within the project area. Coordination with utility companies will continue during the design phase. Further refinement of the proposed design and utility field verification will be conducted during the final design phase. Special construction equipment and techniques may be utilized to avoid utility conflicts. In unique locations, where the special construction equipment and techniques cannot avoid utility relocations, the need for relocation of the particular utility and the cost will be determined during the design phase. Minimal effect is assigned to Utilities.

Table 5: Involved Utilities

Utility Agency Owner	Contact Person	Phone
American Traffic Solutions	Santiago Martinez	480-596-4595
AT&T Distribution	Garth Bedward	561-540-9263
City of Riviera Beach	Leighton Walker	561-845-4185
City of West Palm Beach	Khanh Uyen Dang	561-494-1087
Comcast	Anthony Springsteel	561-804-0973
Crown Castle	Bryant Lowe	724-416-2193
Fibernet Direct	Danny Haskett	305-552-2931
FPL Distribution	Jorge Sanchez	561-616-1612
FPL Transmission	George Beck	561-904-3604
FPL Oil/Gas	Kevin Gordon	561-845-4875
Florida Public Utilities	Dale Butcher	561-366-1635
Level 3 Communications	Michael Nunez	720-888-0916
Palm Beach County Traffic	Pete Bouchard	561-540-9263

No railroads are located within the project study area.

3D5. Construction

Water quality effects resulting from erosion and sedimentation will be controlled in accordance with the FDOT's latest edition of *Standard Specifications for Road and Bridge Construction* and through the use of BMPs.

Maintenance of traffic and sequence of construction will be planned and scheduled to minimize traffic delays throughout the project. Signing for other pertinent information will be provided to the public.

During construction of the project, there is the potential for noise and vibrations impacts because of the heavy equipment typically used to construct roadways. Therefore, early identification of potential noise/vibration sensitive sites along the project corridor is important in minimizing noise/vibration. Noise sensitive medical facilities are located within the project corridor along 45th Street and the northbound I-95 on-ramp from 45th Street. Construction noise and vibration impacts to these sites will be minimized by adherence to the controls listed in the latest edition of the FDOT's *Standard Specifications for Road and Bridge Construction*.

Short-term air quality impacts within the immediate vicinity of the project may potentially occur due to the construction activities. Temporary increases in air pollutant emissions in the form of dust from earthwork and unpaved roads and smoke from open burning may occur during construction. Such emissions and potential impacts will be minimized by adherence to all applicable State and local regulations and to the FDOT's *Standard Specifications for Road and Bridge Construction*.

Due to temporary potential impacts to water quality, noise, and air quality, the impact determination for construction is minimal.

3D6. Bicycles and Pedestrians

Currently, there are sidewalks and crosswalks along both sides of 45th Street within the vicinity of the interchange. However, not all the sidewalks and crosswalks meet ADA requirements. As part of the proposed improvements for the interchange, sidewalks and crosswalks within the limits of construction shall be updated to meet ADA standards.

Bicycle lanes are currently provided along 45th Street from Corporate Way and continuing west through Village Boulevard, except for a missing section just east of Northpoint Parkway/Metrocentre Boulevard. The Master Comprehensive Bicycle Transportation Plan (MCBTP) – Bicycle Facility Recommendation Map designates 45th Street, both east and west of the I95 interchange, as a “Re-Stripe Candidate” and the Bicycle Needs Map designates 45th Street, both east and west of I-95 interchange, as “Enhanced Priority, Needs Improvement” (Bike LOS C). Bicycle lanes are recommended in conjunction with the recommended lane widening both east of Corporate Way as well as the missing section east of Northpoint Parkway/Metrocentre Boulevard. The proposed project would improve existing bicycle lanes and make it continuous. Therefore, an impact determination of enhanced is assigned to bicycles and pedestrians.

3D7. Navigation

There are no navigable waters present within the project limits and thus no involvement.

Appendix A

Project Funding Information

Phase	Fund Source	2018	2019	2020	2021	2022	Total
I-95 FROM NORTH OF GLADES ROAD TO SOUTH OF CONGRESS AVE - Proj# 4124203					Length: 3.800 MI	*SIS*	
Type of Work: INTERCHANGE (NEW)					Lead Agency: FDOT		
Description: Construct a new interchange at I-95 and Spanish River Boulevard					LRTP#: Pages 112-116		
ROW	DS	150,000	0	0	0	0	150,000
ROW	DDR	52,000	75,649	0	0	0	127,649
Total		202,000	75,649	0	0	0	277,649
Prior Years Cost		86,262,232	Future Years Cost		Total Project Cost		86,539,881
I-95 FROM S OF 45TH STREET TO N OF 45TH ST - Proj# 4365191					Length: .998 MI	*SIS*	
Type of Work: INTERCHANGE - ADD LANES					Lead Agency: FDOT		
Description: Reconstruct I-95 Interchange (add lanes) at 45th Street					LRTP#: Pages 91-92		
PE	DIH	0	0	0	100,000	0	100,000
PE	DI	0	0	0	5,900,000	0	5,900,000
ROW	ACNP	0	0	0	0	14,917,071	14,917,071
Total		0	0	0	6,000,000	14,917,071	20,917,071
Prior Years Cost		1,839,353	Future Years Cost		85,031,273	Total Project Cost	107,787,697

FDOT Federal Aid Management Office

STIP Project Detail and Summaries Online Report

Item Number: 436519 1		County: PALM BEACH					Type of Work: INTERCHANGE - ADD LANES		Project Description: SR-9/1-95 FROM S OF 45TH STREET TO N OF 45TH ST	
District: 04		Project Length: 998MI								
Extra Description:		PD&E STUDY TO DOCUMENT THE ENVIRONMENTAL & SOCIAL ENVIRONMENT IMPACTS WHICH RESULT IN WIDENING THE I-95 EXIT RAMPS & 45TH S TREET FROM VILLAGE BLVD. TO SOUTH PLACE.								
		Fiscal Year								
Phase / Responsible Agency		<2017	2017	2018	2019	2020	>2020	All Years		
CONSTRUCTION / MANAGED BY FDOT										
Fund Code: ACNP - ADVANCE CONSTRUCTION NHPP							80,432,086		80,432,086	
P D & E / MANAGED BY FDOT										
Fund Code: ACSA - ADVANCE CONSTRUCTION (SA)			108,209	41,790					149,999	
DS - STATE PRIMARY HIGHWAYS & PTO			715,993	15,001					730,994	
SA - STP ANY AREA			909,532						909,532	
Phase: P D & E Totals			1,733,734	56,791					1,790,525	
PRELIMINARY ENGINEERING / MANAGED BY FDOT										
Fund Code: DI - ST - SW INTER/INTRASTATE HWY							5,900,000		5,900,000	
DIH - STATE IN-HOUSE PRODUCT SUPPORT							100,000		100,000	
Phase: PRELIMINARY ENGINEERING Totals							6,000,000		6,000,000	
RIGHT OF WAY / MANAGED BY FDOT										
Fund Code: ACNP - ADVANCE CONSTRUCTION NHPP							19,516,258		19,516,258	
Item: 436519 1 Totals			1,733,734	56,791			105,948,344		107,738,869	
Project Totals			1,733,734	56,791			105,948,344		107,738,869	

Palm Beach MPO 2040 Long Range Transportation Plan



AMENDMENT #6



***Published by the
Palm Beach Metropolitan Planning Organization (MPO)
in coordination with
Leftwich Consulting Engineers, Inc.***

***Adopted October 16, 2014
by the
Board of Directors
Palm Beach Metropolitan Planning Organization***

As Amended September 17, 2015: AMENDMENT #1

As Amended February 18, 2016: AMENDMENT #2

As Amended April 20, 2017: AMENDMENTS #3 and 4

As Amended June 15, 2017: AMENDMENT #5

As Amended July 20, 2017: AMENDMENT #6



The preparation of this report has been financed in part through grant(s) from the Federal Highway Administration and Federal Transit Administration, U.S. Department of Transportation, under the State Planning and Research Program, Section 505 of Title 23, U.S. Code. The contents of this report do not necessarily reflect the official views or policy of the U.S. Department of Transportation.

CAPACITY EXPANSION

Funds that can be applied to provide capacity expansion beyond the existing transportation system have been identified for the various transportation modes associated with the MPO's TIP. An overview of the methodology utilized in preparing the revenue forecasts for the years 2020, 2021-2025, 2026-2030, and 2031-2040 is presented. The application of the funds and how they were utilized to derive the Year 2040 Cost Feasible Plan are discussed in detail in Section 8, Cost Feasible Plan.

SIS and Turnpike

Strategic Intermodal System (SIS) and the Florida's Turnpike are distinguished from other revenue sources within the Plan. For these funds, the projects identified as being cost feasible for the adopted Plan equate to the amount of revenues forecast to be available. Appendix C provides a table summary of the individual Cost Feasible Plan SIS and Turnpike projects in terms of total estimated Year of Expenditure (YOE) capital costs.

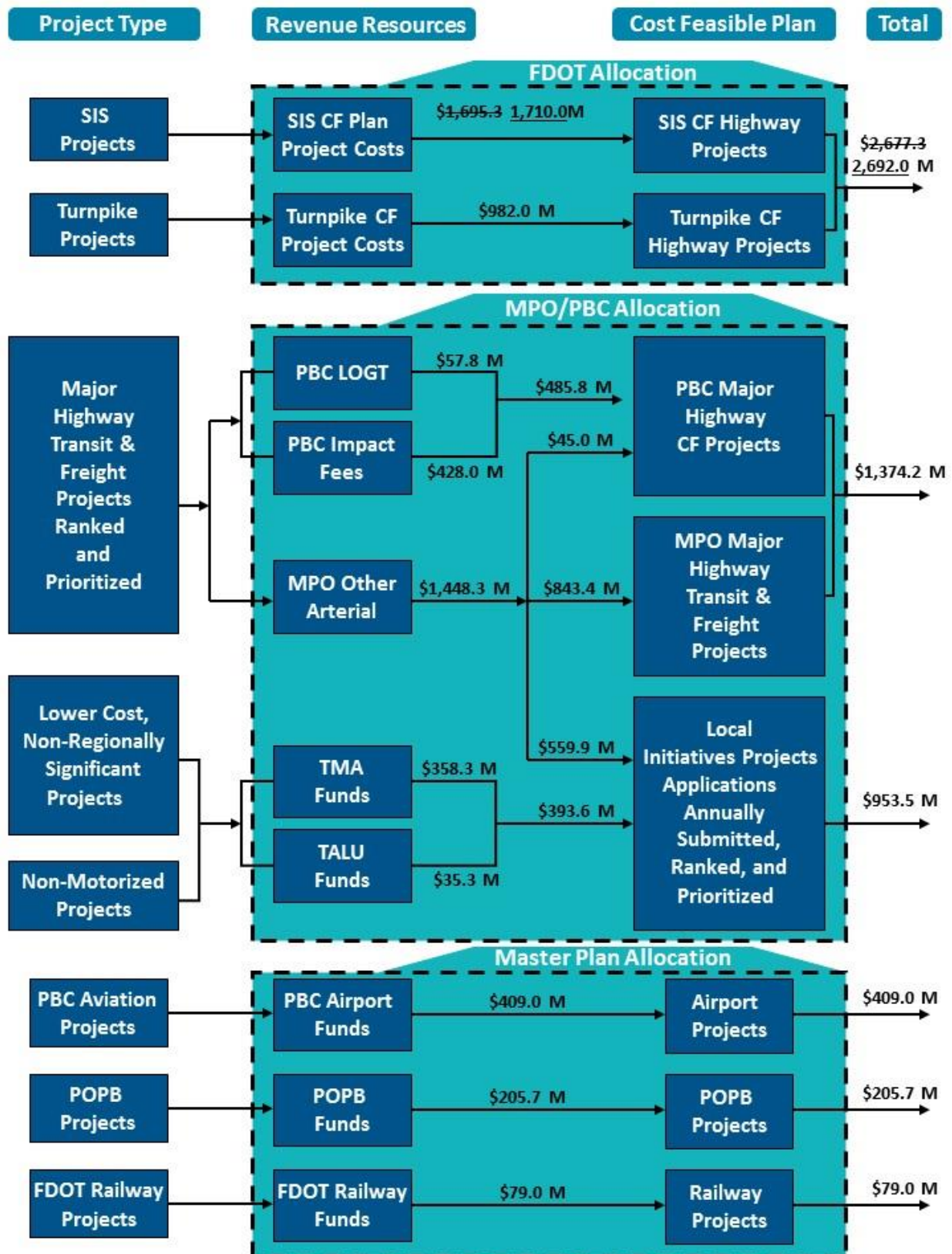
Strategic Intermodal System



FDOT has identified specific SIS cost feasible projects and corresponding project costs in its "SIS FY 2019/2020 through FY 2023/2024 Second Five Year Plan" and its "SIS FY 2024 through FY 2040 Long Range Cost Feasible Plan." These revenue resources are included in Appendix C. The project costs have been summarized for each of the Plan phasing years and are shown in the table below.

Strategic Intermodal System Capacity Program (Millions of Dollars)						
CATEGORY	YEARS 2015-19	YEAR 2020	YEARS 2021-25	YEARS 2026-30	YEARS 2031-40	TOTAL
SIS Plans (Highway)	\$530.3 532.0	\$52.0	\$449.4 453.4	\$473.1 482.1	\$190.4	\$1,695.3 1,710.0

Directions 2040 Cost Feasible Plan System Improvement Funding Summary



Categorical Exclusion Type II - DRAFT

PROJECTS FUNDED WITH STRATEGIC INTERMODAL SYSTEM & TURNPIKE REVENUES

Map No.	Facility Name	From	To	Improvement	2015-2040 Total Capital Cost (Million\$)	2015-2019	2020	2021-2025	2026-2030	2031-2040
Proposed Strategic Intermodal System Improvements										
H-9	I-95	@ Donald Ross Rd		Interchange Improvement	\$4.5	C				
H-25	I-95	@ Blue Heron Blvd		Interchange Improvement	\$2.8	R/C				
H-65	I-95	@ Linton Blvd		Interchange Improvement	\$20.9	C				
H-64	I-95	@ Atlantic Ave		Interchange Improvement	\$9.4	D/R/C				
H-69	I-95	@ Spanish River Blvd		New Interchange	\$81.9	R/C				
H-44	Southern Blvd/SR 80	L-8 Canal	Crestwood/Forest Hill Blvd	Widen 4L to 6L	\$46.3	R/C				
H-1	SR 710	Martin/PBC Line	W of Indiantown Rd	Widen 2L to 4L	\$10.0	D/R/C				
H-6	SR 710	W of Indiantown Rd	W of Pratt Whitney Rd	Widen 2L to 4L	\$41.3	D/R/C				
H-29	SR-710	W of Congress Ave	W of Australian Ave	Widen 2L to 4L	\$42.0	R/C				
	SR 710	Australian Ave	Old Dixie Hwy	Widen 2L to 4L	\$75.0	D/R/C				
H-67	I-95 Managed Lanes	Broward/PBC Line	Linton Blvd	Add Managed Lanes	\$165.0	D/C	C	C		
H-57	I-95	@ Gateway Blvd		Interchange Improvement	\$87.9		D	R/C		
H-46	I-95	@ SR 80		Interchange Improvement	\$116.7		D	C		
H-20	SR 710	Northlake Blvd	Blue Heron Blvd	Widen 4L to 6L	\$35.3	D		R/C		
H-15	SR 710	PGA Blvd	Northlake Blvd	Widen 4L to 6L	\$63.3			C		
H-80	I-95	@Northlake Blvd		Interchange Improvement	\$54.9	D	R	R/C		
H-81	I-95	@45th St		Interchange Improvement	\$14.7	D		D/R	C	
H-14	I-95	@ Central Blvd or PGA Blvd		Interchange Improvement	\$86.7	D			C	
H-58	I-95	@ Boynton Beach Blvd		Interchange Improvement	\$97.7			D/R	R/C	
H-42	I-95	@ Palm Beach Lakes Blvd		Interchange Improvement	\$150.1				D/R/C	
H-48	I-95	@ 10th Ave N		Interchange Improvement	\$53.3				D/R/C	
H-52	I-95	@ 6th Ave S		Interchange Improvement	\$71.4				D/R/C	
H-56	I-95	@ Hypoluxo Rd		Interchange Improvement	\$73.9				D/R/C	
H-54	I-95	@ Lantana Rd		Interchange Improvement	\$86.7				D/R	C
H-79	I-95	@ Woolbright Rd		Interchange Improvement	\$39.5	D		D/R/C		
H-78	I-95	@ Glades Rd		Interchange Improvement	\$27.1	D/R/C				
H-4	I-95 Managed Lanes	Indiantown Rd	Martin/PBC Line	Add Managed Lanes	\$56.4			D	R	C
H-11	SR 710	W of Seminole Pratt Whitney Rd	PGA Blvd	Widen 4L to 6L	\$59.6					R/C
Proposed Turnpike Improvements										
H-27	Turnpike Mainline	Okeechobee Blvd/Jog Rd (Mile Post 98)	PGA Blvd (Mile Post 109)	Widen 4L to 6L	\$296.2			D/R/C		
H-45	Turnpike Mainline	Boynton Bch Blvd (Mile Post 86)	Okeechobee Blvd/Jog Rd (Mile Post 98)	Widen 4L to 6L	\$274.9			D/R/C		
H-59	Turnpike Mainline	Broward/PBC Line (Mile Post 73)	Boynton Bch Blvd (Mile Post 86)	Widen 6L to 8L	\$297.8			D/R/C		
H-55	Turnpike	@ Hypoluxo Rd		New Interchange	\$113.1					D/R/C

Note: D = Design (Preliminary Engineering & PD&E)

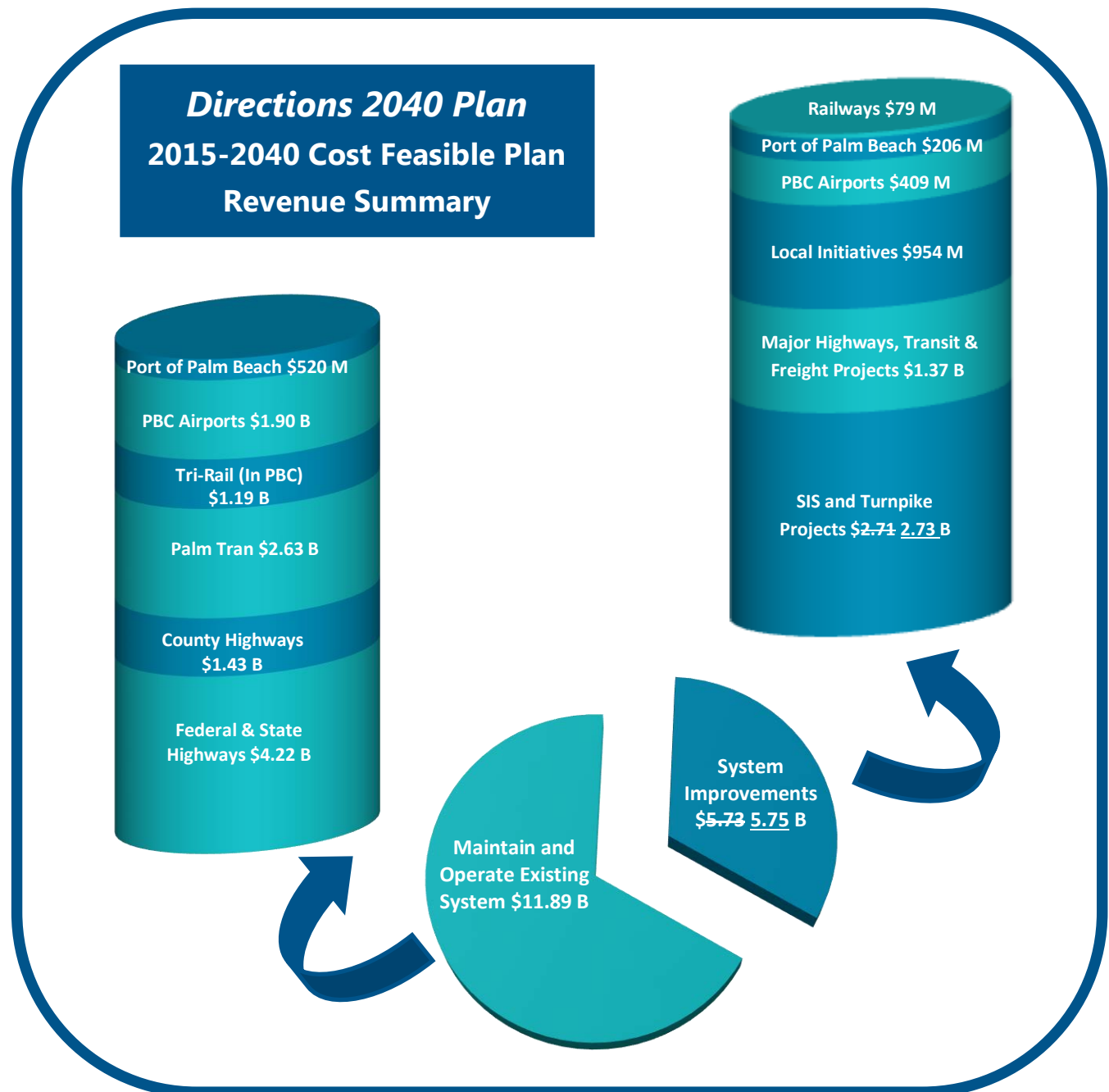
R = Right of Way acquisition

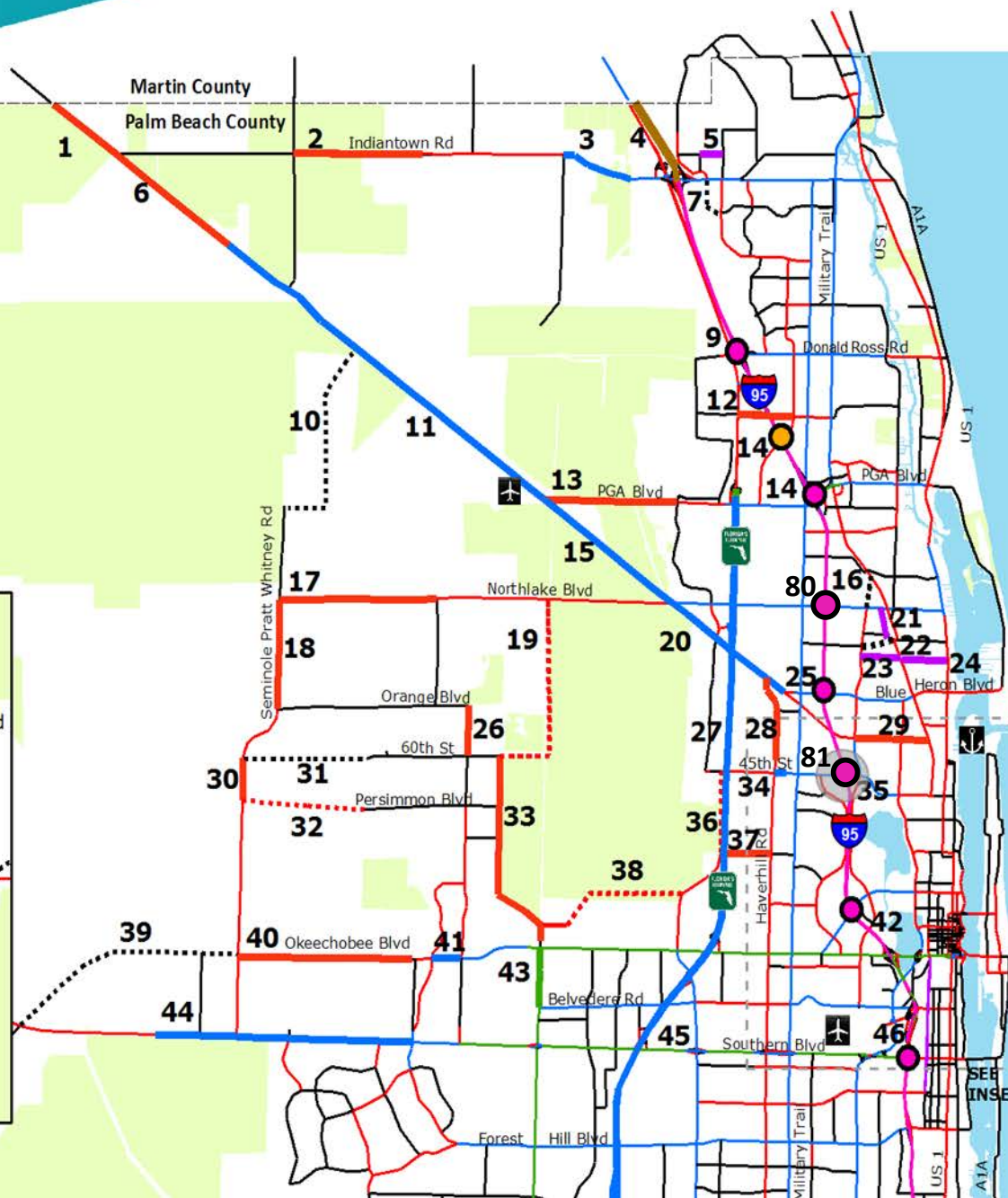
C = Construction

The Directions 2040 Cost Feasible Plan Transit and Freight Projects and the Cost Feasible Highway Projects are illustrated in the maps on the next four pages. The project identification numbers are included in the maps for easy coordination with the Cost Feasible Plan tables.

Summary of Cost Feasible Plan Revenue

The presented Directions 2040 Cost Feasible Plan tables and maps focus on the transportation system improvements adopted through the year 2040. It is critical to acknowledge that approximately two thirds of the overall available revenue for the period FY 2015 through FY 2040 consists of funds for maintaining and operating the existing system. The below figure illustrates the breakdown in funds.





Privately Funded Projects

The Directions 2040 Cost Feasible Plan includes the following three privately funded projects:

- ◆ New All Aboard Florida regional passenger rail service from Miami to Orlando with stops in Fort Lauderdale and West Palm Beach
- ◆ Persimmon Boulevard from Seminole Pratt Whitney Road to 140th Avenue North
- ◆ Glades Area Intermodal Logistics Center for Freight

The projects were assumed to be entirely funded through private funds. No federal, state, or local funds were allocated to their implementation. The Directions 2040 Cost Feasible Plan acknowledges their significance to the overall Palm Beach area transportation system for future planning purposes.

Unfunded Desires Plan Projects

The projects from the Desires Plan which were not funded in the Cost Feasible are as follows:

- ◆ Tri-Rail Coastal Link from Boca Raton to Miami
- ◆ Tri-Rail Coastal from Jupiter to Fort Lauderdale
- ◆ 10 Tri-Rail Coastal Link Stations proposed on the Florida East Coast (FEC) Rail Corridor
- ◆ US 27 Freight Rail Corridor from the Lake Okeechobee Region to Port of Miami
- ◆ SR 80 Widening from Forest Hill/Crestwood Boulevard to Royal Palm Beach Boulevard
- ◆ 67 I-95 Interchange Improvements at Northlake Boulevard, Indiantown Road, 45th Street, Okeechobee Boulevard, Belvedere Road, Forest Hill Boulevard, and Woolbright Road
- ◆ I-95 Managed Lanes from Linton Boulevard to Indiantown Road
- ◆ Direct Connect from Florida's Turnpike to I-95 at Indiantown Road

The Desires Plan projects which were not able to be funded are presented in Appendix C. The total cost of the **unfunded Desires Plan projects amounted to \$4.59 4.60 Billion** and was based on equivalent 2040 YOE cost projections.



Appendix B

Agency Coordination Documentation

MEMO

TO: Robert Lopes, PE
FROM: Jeff V. Easley, PE
SUBJECT: Section 4(f) Review for Natural and Social Resources
I-95 at 45th Street Interchange PD&E Study
FPID No.: 436519-1-22-01
ETDM No.: 14225

DATE: May 16, 2017

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by the Florida Department of Transportation (FDOT) pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 14, 2016 and executed by the Federal Highway Administration and FDOT.

The project research regarding potential Section 4(f) resources included review of the project specific Efficient Transportation Decision Making (ETDM) Report, city and county records, and conducting a site, database and desktop review. The methodology of this review was to identify if a property qualified as a type of Section 4(f) site, determining if the proposed project has a potential “use” of the protected property as defined in Section 4(f) to assist in preparing, if needed, the Section 4(f) Determination of Applicability.

Figure 1 – EST Research Boundary

There were no potential Section 4(f) resources reported in the ETDM Programming Screen Summary Report for this study area and the Degree of Effect was NONE. Since the project study area has expanded since the ETDM screen, an EST database research was conducted for the expanded project study area using a 1000' buffer (Figure 1). The results of the EST analysis are summarized below in Table 1. The location of each resource is shown in Figure 2.

The closest resources to the project study limits are three private residences located along SR 710 that are all over 55 years old. Each has been previously determined ineligible for listing in the National Register by SHPO.

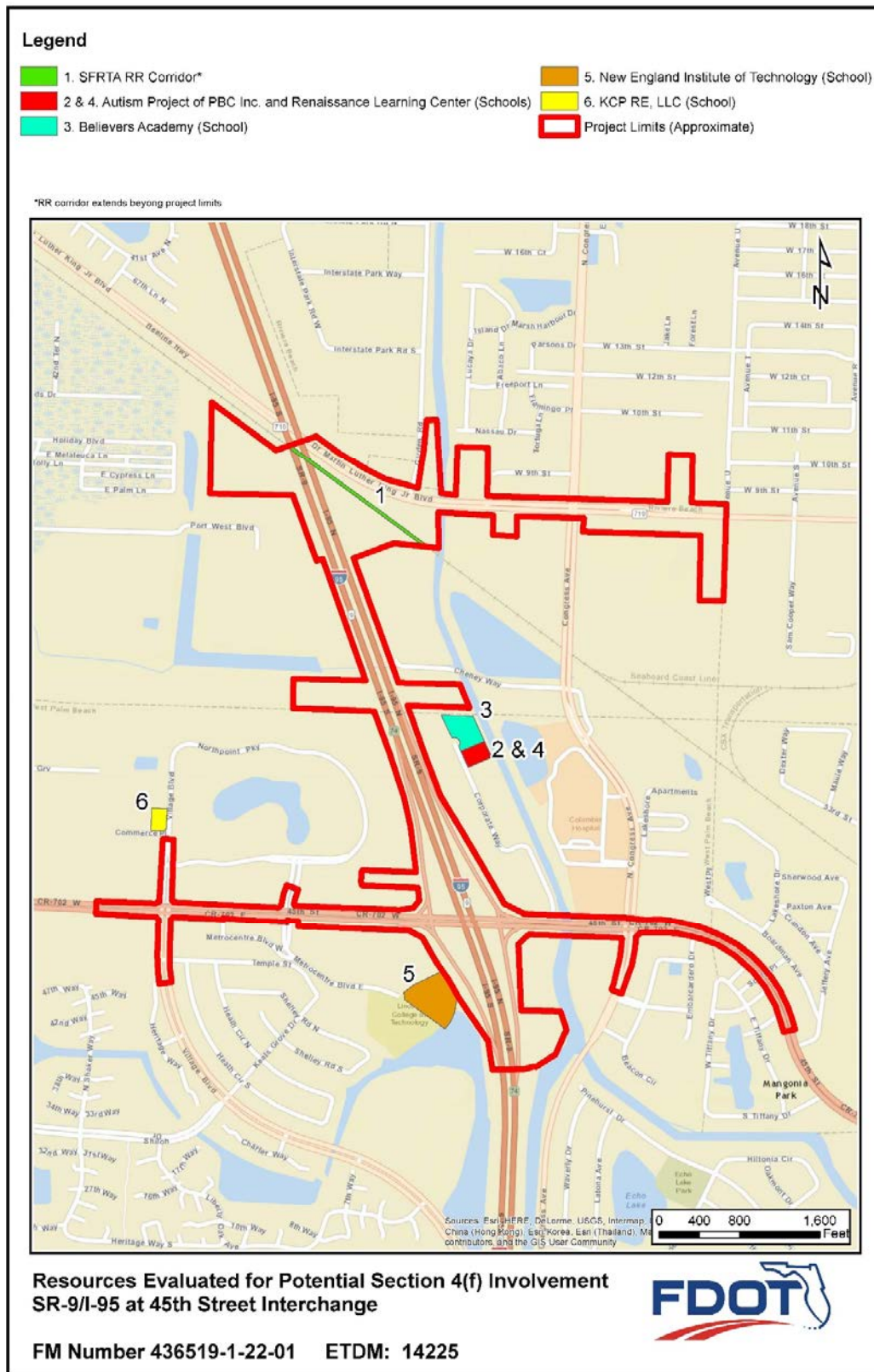
Based on the above evaluation, the recommendation for the resources is there is not a direct or indirect use under Section 4(f), and the recommended Section 4(f) ranking is NONE for parks, natural resources, wildlife refuges and recreation areas.



Table 1 – Resources Evaluated for Potential 4(f) Involvement

Number	Resource Name	Resource Address	Resource Type	Distance to Project Area (Miles)	Potential for Section 4(f) Involvement
1	SFRTA RR Corridor	N/A	FGTS land Trail Opportunities	Crosses underneath I-95 south of and parallel to SR 710	NONE
2	Autism Project of PBC Inc.	5800 Corporate Way	School Facilities	0.30 miles NE of project	NONE
3	Believers Academy	5840 Corporate Way, STE 100	School Facilities	0.34 miles NE of project	NONE
4	Renaissance Learning Center	5800 Corporate Way	School Facilities	0.30 miles NE of project	NONE
5	New England Institute of Technology	2400 Metrocentre Boulevard	School Facilities	0.16 miles SW of project	NONE
6	KCP RE, LLC	3200 Commerce Place	School Facilities	0.64 miles NW of project	NONE

Figure 2 – Potential Section 4(f) Resource Location Map





Florida Department of Transportation

RICK SCOTT
GOVERNOR

3400 West Commercial Blvd.
Fort Lauderdale, FL 33309

MIKE DEW
SECRETARY

October 5, 2017

Dr. Timothy Parsons, Director and
State Historic Preservation Officer
Division of Historical Resources
500 South Bronough Street
Tallahassee, Florida 32301

Subject: **Request for Review**
Cultural Resource Assessment Survey
Sr-9/I-95 Interchange at 45th Street
Financial Management #: 436519-1-32-01
Palm Beach County, Florida

Attention: Ginny Jones

Dear Ms. Jones;

The Florida Department of Transportation (FDOT), District Four, is currently conducting a Project Development and Environment (PD&E) Study that proposes improvements to SR 9/I-95 from South of 45th Street to North of 45th Street (Mile Post 31.040), Palm Beach County, Florida. The project limits of this report include the I-95 interchange at 45th Street. The intersections on 45th street that were studied extend from Village Boulevard to N. Congress Avenue. In accordance with the Section 106 Programmatic Agreement which was executed on March 15, 2016, this report is not being reviewed by FHWA.

No newly or previously recorded archaeological sites were identified within the archaeological APE. Subsurface testing was not feasible within the archaeological APE due to the presence of existing pavement, sidewalks, landscaping, existing retention ponds and canal, berms, and buried utilities. Background research identified no previously recorded archaeological sites within the archaeological APE and suggested a low archaeological site potential within the archaeological APE. The pedestrian survey of the archaeological APE confirmed the developed nature of the project corridor and confirmed the low potential for finding intact archaeological sites.

The historic resources survey resulted in the identification of one newly recorded linear resource, the Earman River Canal (C-17) (8PB17116). This resource is considered eligible for inclusion in the National Register under Criteria A and C, in the areas of Community Planning and Development and Engineering. The Earman River Canal (C-17) retains considerable integrity of location, design, and materials. It has not been re-routed, disrupted, or substantially widened or thinned. Those slight

enlargements conducted over the years by free digging contracts have not visually impacted the canal. Additionally, the canal has not been severed from its associated waterways and continues to serve its historic function. Based on its demonstrated significance in Engineering, the Earman River Canal (C-17) appears to meet National Register Criterion C for listing. A Section 106 Determination of Effects Document will be prepared for this project.

If there are any questions, please feel free to contact me at (954) 777-4324 or Lynn Kelley at (954) 777-4334.

Sincerely,



Ann Broadwell
Environmental Administrator
FDOT - District 4

Enclosures
cc. file

The Florida State Historic Preservation Officer finds the attached Cultural Resources Assessment Report complete and sufficient and concurs with the recommendations and findings provided in this cover letter for SHPO/DHR Project File Number _____.

SHPO Comments:

Timothy A. Parsons
State Historic Preservation Officer
Florida Division of Historical Resources

Date



Florida Department of Transportation

RICK SCOTT
GOVERNOR

3400 West Commercial Boulevard
Fort Lauderdale, FL 33309

MIKE DEW
SECRETARY

October 2, 2017

South Florida Ecological Services Office
US Fish and Wildlife Service
1339 20th Street
Vero Beach, FL 32960

Attn: John Wrublik

Subject: ESA Section 7 Consultation/Concurrence Request Letter
Project Name: I-95/SR 9 Interchange at 45th Street (MP 31.040)
Financial Management No.: 436519-1-22-01
FAP No.: 0951-82-1
ETDM No.: 14225
County: Palm Beach County

Dear Mr. Wrublik:

The Florida Department of Transportation (FDOT) is conducting a Project Development and Environmental Study (PD&E) for the referenced project. The interchange project extends along SR 9/I-95 from South of 45th Street to North of 45th Street (Mile Post 31.040) in the City of West Palm Beach, Palm Beach County, Florida. The purpose of this study is to identify the short-term and long-term needs of I-95 and develop design concepts to address traffic spillback onto I-95, improve interchange operations, reduce congestion, and increase safety at the study interchange. The project was screened through the Efficient Transportation Decision Making (ETDM) Environmental Screening Tool (EST) and the programming screen summary report was re-published on February 22, 2016 (ETDM #14225).

A Natural Resource Evaluation (NRE) was prepared for the project. The No-Build, one Transportation System Management and Operations (TSM&O) and two Build Alternatives were analyzed as part of this study. Please note Essential Fish Habitat (EFH) is not present within the project corridor, and no wetlands are located within the project limits or within a 500-foot buffer. Drainage canals qualifying as "other surface waters" are present within the project limits and buffer (i.e. C-17 Canal along the east side of I-95). Per the latest design plans, impacts to the C-17 canal will be limited to the portions of the canal adjacent to the bridge at 45th Street. No submerged aquatic vegetation was observed in this portion of the canal, therefore, no direct impacts to these resources will occur. The effects to listed species are the same for all build alternatives.

The project corridor is located within the Core Foraging Area (CFA) of one active wood stork colony (BPC-SWA) and the USFWS-designated Consultation Areas for the Florida Scrub Jay

(*Aphelocoma coerulescens*). The section of the C-17 Canal within the project limit/buffer zone does not display an open surface water connection to coastal marine waters. In addition, surface water impacts will be limited to minor expansions of the 45th Street Bridge over the C-17 Canal, therefore, no effects on the manatee are anticipated.

Four federally listed species were evaluated to determine if the proposed project will adversely affect them and the FDOT concluded the project will have *No Effect* on two out of the four (see the attached NRE for reference). Based on a review of available data, in conjunction with field reconnaissance, the following effect determination was made:

Species	Federal Status	Probability of Occurrence	Location if Observed	Effects Determination
<i>Drymarchon corais couperi</i> (Eastern indigo snake)	T	Low	N/A	MANLAA**
<i>Mycteria americana</i> (Wood stork)*	T	Low	N/A	MANLAA**

Note: Species: * = Project falls within the Core Foraging Areas of one wood stork nesting colony (PBC- SWA);

Status: T = Threatened

Probability of Occurrence: Low = potential habitat is present for this species, but habitat value is marginal

Location if Observed: N/A = Not Applicable (species not observed)

Effects Determination: MANLAA = "May affect, not likely to adversely affect"; ** = determination based on Federal Effects Determination Key included in Appendix A of NRE (all other determinations based upon observations of potential species habitat and the quality of that habitat relative to species requirements)

FDOT commits to adhere to the most recent version of the U.S. Fish and Wildlife Service's (USFWS) "*Standard Protection Measures for the Eastern Indigo Snake*" during construction to prevent adverse impacts to this species.

The purpose of this letter is to request written concurrence on the effects to listed species. Enclosed is the NRE for your review and my contact information. Please call me at (954) 777-4325 if you have any questions.

Sincerely,



Ann Broadwell
Environmental Manager
FDOT – District 4

cc: Robert Lopes, P.E., FDOT District 4, Project Manager
Fernando Ascanio, FDOT District 4, Sr. Environmental Specialist
Jeff Easley, Hanson Professional Services, Inc.
Julieta Rivero-Manso, P.E., Hanson Professional Services, Inc.
Nadia Locke, E Sciences, Incorporated

Enclosure: Natural Resources Assessment Report



Florida Department of Transportation

RICK SCOTT
GOVERNOR

3400 West Commercial Blvd.
Fort Lauderdale, FL 33309

MIKE DEW
SECRETARY

October 5, 2017

Dr. Timothy Parsons, Director and
State Historic Preservation Officer
Division of Historical Resources
500 South Bronough Street
Tallahassee, Florida 32301

Subject: **Request for Review**
Cultural Resource Assessment Survey
Sr-9/I-95 Interchange at 45th Street
Financial Management #: 436519-1-32-01
Palm Beach County, Florida

Attention: Ginny Jones

Dear Ms. Jones;

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SHPO Comments:

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Date



Florida Department of Transportation

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MIKE DEW
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October 2, 2017

South Florida Ecological Services Office
US Fish and Wildlife Service
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Vero Beach, FL 32960

Attn: John Wrublik

Subject: ESA Section 7 Consultation/Concurrence Request Letter
Project Name: I-95/SR 9 Interchange at 45th Street (MP 31.040)
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Enclosure: Natural Resources Assessment Report