



City of Dania Beach  
**Bridge Projects Preliminary  
 Implementation Plan**  
 September 2010

Prepared for:



Prepared by:





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## INTRODUCTION

The City of Dania Beach's Community Redevelopment Agency (CRA) was established in 2002, to promote redevelopment efforts within the blighted areas of the downtown and surrounding properties. The original 525-acre Community Redevelopment Area covering the Dania Beach downtown was recently expanded to approximately 1,349 acres. An updated Community Redevelopment Plan was adopted by the Dania Beach CRA Board in January 2009 to provide a new vision for redevelopment.

The goal of the Redevelopment Plan is to create an environment, through physical improvements and policy changes, that will attract sustainable and economically viable redevelopment. The overall implementation strategy in the Redevelopment Plan recommends a two-pronged approach of coordinated action and physical improvements. The first step involves addressing the lower cost improvements that will result in significant movement towards the accomplishment of redevelopment goals in the CRA. The second step involves implementation of cost intensive, long-term investments to provide a foundation upon which the City's central economic development aspirations can be met.

To this end, the Redevelopment Plan identifies several capital improvement projects that will serve as the foundation for redevelopment and economic development within the CRA. These include:

- Rebuilding of the bridge at Federal Highway over the Dania Cut-Off Canal to provide greater vertical clearance under Federal Highway to accommodate taller vessels.
- Rebuilding of the bridge on the FEC line across the Dania Cut-Off Canal to accommodate taller vessels.
- Construction of a bridge over the C-10 Canal from Bryan Road to NW 3<sup>rd</sup> Terrace (realigned Old Griffin Road).
- Demolition of the existing NW 1<sup>st</sup> Street bridge over C-10 Canal.
- Construction of a bridge across the C-10 Canal at Dania Beach Boulevard.

The City of Dania Beach is currently home to several small marine based businesses along the City's waterways including the Dania Cut-off Canal and the C-10 Canal. The City has excellent deep water access with the several canals and waterways traversing the City. During the development of the CRA Redevelopment Plan, the City worked closely with representatives from the marine industry to identify incentives for expansion of marine uses within the City. The existing marine industry sector has a huge potential for growth within the CRA as several parcels bordering the waterways offer development opportunities for expansion of existing marine industry related businesses. However, aged low bridges and tressel heights restrict larger watercrafts from accessing the waterways. Currently, the vertical clearance under the existing bridges are limited to approximately 10 – 15 feet and hence only allow for navigation of smaller vessels. Based on the input obtained from the marine industry during development of the Redevelopment Plan, the need to increase the vertical clearance under the bridges to 22 feet was identified in order to allow medium sized boats within



the waterways. The bridge projects identified above are reflective of the City's goals for redevelopment as well as set the framework for expansion of marine uses within the CRA.

These bridge projects involve reconstruction/widening of two existing bridges, construction of two new bridges and demolition of one existing bridge. The projects are complex in magnitude and are cost intensive. They involve federal and state facilities in addition to local facilities. Hence, the implementation of these projects will involve extensive coordination with federal, state and regional agencies including the Broward County Metropolitan Planning Organization, the Florida Department of Transportation, the Florida East Coast (FEC) Railway, the Federal Highway Administration, the United States Coast Guard, and other applicable state and federal agencies. Due to the magnitude of construction costs, there might be a need to seek federal funding, grants, and other alternative sources of funding. In order to qualify for federal funds, the projects will need to comply with the National Environmental Policy Act (NEPA) requirements. The implementation of these improvements will involve significant planning and engineering, therefore, it is important to identify an implementation plan to move from vision to construction. In addition, there might be other impacts from these projects including right-of-way, access, maintenance of traffic, natural habitat, wildlife and marine environment.

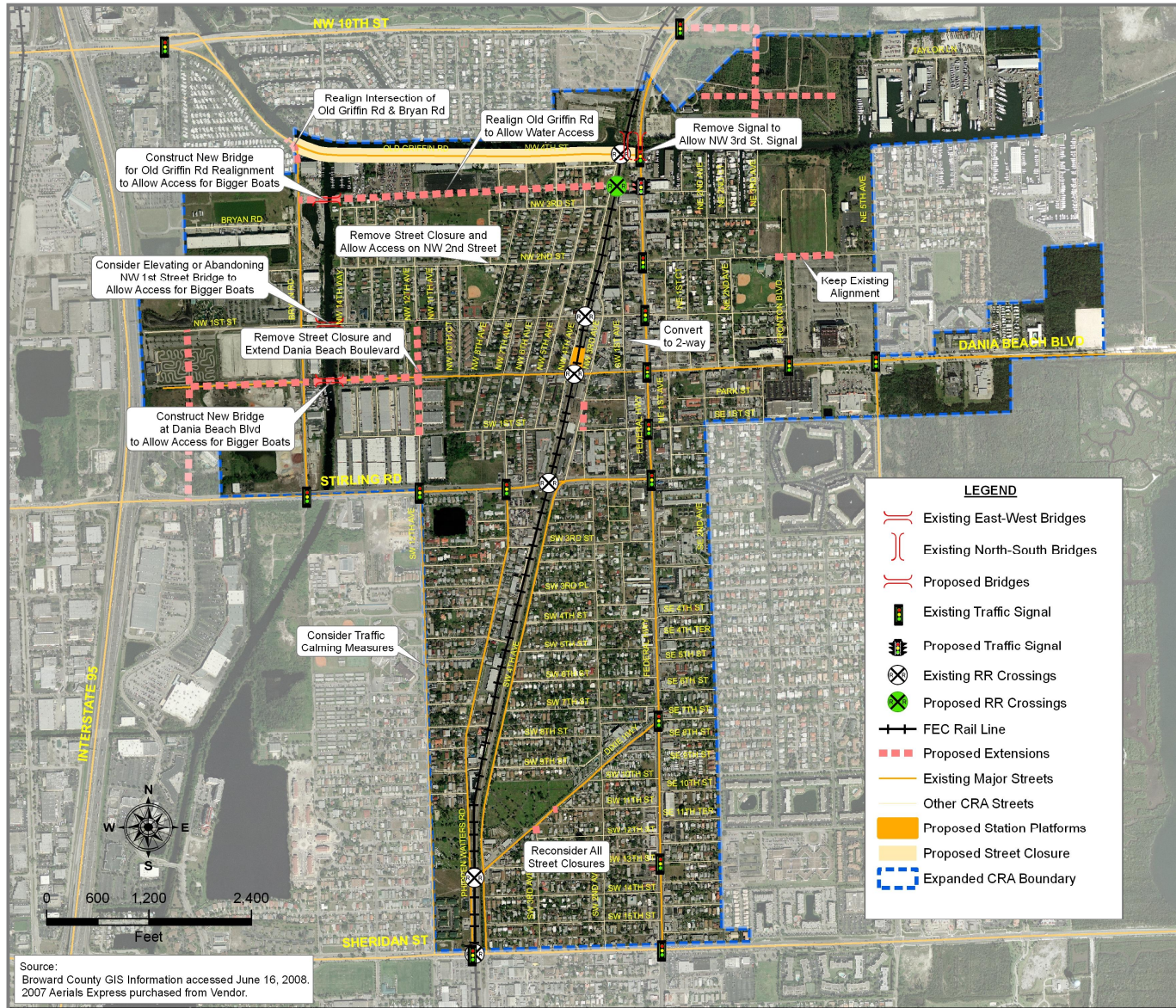
Kimley-Horn was retained by the Dania Beach CRA to assist with evaluating the feasibility of the long-term improvements identified in the Redevelopment Plan and lay the foundation for implementation of these projects. This report summarizes the tasks that were performed towards this end, including:

- summary of technical review of the bridge projects including design criteria, cost components, and project impacts
- summary of coordination efforts with regional agencies
- review of potential grants and funding sources that could be utilized for these projects
- recommended priority and phasing of bridge projects

The Future Transportation Network, as illustrated in the Dania Beach CRA Redevelopment Plan, is provided as *Figure 1* and identifies these bridge projects in addition to other projects.



Figure 1: CRA Redevelopment Plan Future Transportation Network



## REVIEW OF EXISTING CONDITIONS

The sites of the existing and potential bridges were evaluated during a field review on July 7, 2009, and follow-up visits. The issues and constraints associated with each of the proposed projects were reviewed. The summary of existing conditions is provided below as well as illustrated in *Figure 2*.

### ***US 1/Federal Highway Bridge over Dania Cut-off Canal***

The US 1/Federal Highway bridge is located over the Dania Cut-off Canal just north of Old Griffin Road. The bridge was built in 1931. The bridge is owned and maintained by the Florida Department of Transportation (FDOT). According to FDOT's 2008 bridge inspection reports, the bridge has a sufficiency rating of 68.4 and has a performance rating labeled as "good." The bridge is currently functionally obsolete based on present design standards. The vertical clearance of this bridge is indicated as 12.1 feet. Some photos taken at the intersection of Federal Highway and the Dania Cut-off Canal are provided below.





The existing bridge of US 1/Federal Highway over the Dania Cut-off Canal serves as the entryway to the City and the CRA. Federal Highway is the primary north-south corridor through the City and the CRA. It is a six-lane roadway to the north of Griffin Road and narrows down to a four-lane roadway just north of the bridge. Federal Highway is a constrained corridor and is not planned for widening to more than the existing lane configuration. This bridge is relatively narrow in width compared to the rest of the roadway. The transition of the roadway from six to four lanes to the north of the bridge creates a bottleneck for traffic during peak hours. The uses along the corridor are primarily retail, office, and institutional uses.

There are several issues and constraints that will need to be addressed as part of widening this bridge to meet current design standards and raising this bridge to increase the vertical clearance from 12 feet to 22 feet. These issues are explained below and illustrated in *Figure 3*:

1. Right-of-Way Issues – The reconstruction of the bridge to provide for an additional 10 feet of vertical clearance will require additional right-of-way resulting from the widening and lengthening of the footprint of the bridge. Currently, US 1 is a constrained corridor and the future reserved right-of-way is limited to 92' through a City ordinance and agreement with FDOT.
2. Construction Phasing – Since US 1 is the only continuous regional north-south roadway to the east of I-95, it serves as a critical transportation link. Hence, reconstruction of the bridge should be phased in a manner so as to maintain traffic along the corridor while the new bridge is being constructed. A temporary bridge to maintain traffic along the corridor may need to be a consideration.
3. FPL Substation and Transmission Lines – Currently, there is an FPL substation located on the east side of US 1/Federal Highway to the north of the Dania Cut-off Canal. The impact of bridge construction on this property will need to be evaluated as part of the planning process. Additionally, there are several major FPL transmission lines crossing over Federal Highway immediately north of the Dania Cut-off Canal.
4. Property Impacts – The reconstruction of the bridge will impact properties along US 1/Federal Highway in terms of access and right-of-way needs. The properties that are located closest to the bridge and might be impacted include:
  - a. Chris Craft Boat Yard (SE of bridge)
  - b. Dockers Restaurant (south of Chris Craft)
  - c. Cozy Court (south of Dockers)
  - d. Chevron gas station (SW corner of US 1 and Old Griffin Road)
  - e. Petro American gas station (south of Chevron)
  - f. Building under construction (south of Petro American)
5. Potential Signal Location – The reconstruction of the bridge will have potential impacts on the proposed future traffic signal at the intersection of proposed realigned Old Griffin Road (existing NE 3rd Terrace) and US 1/Federal Highway. The allowable grade for the US 1 bridge will determine whether or not the intersection will be at grade or above grade.

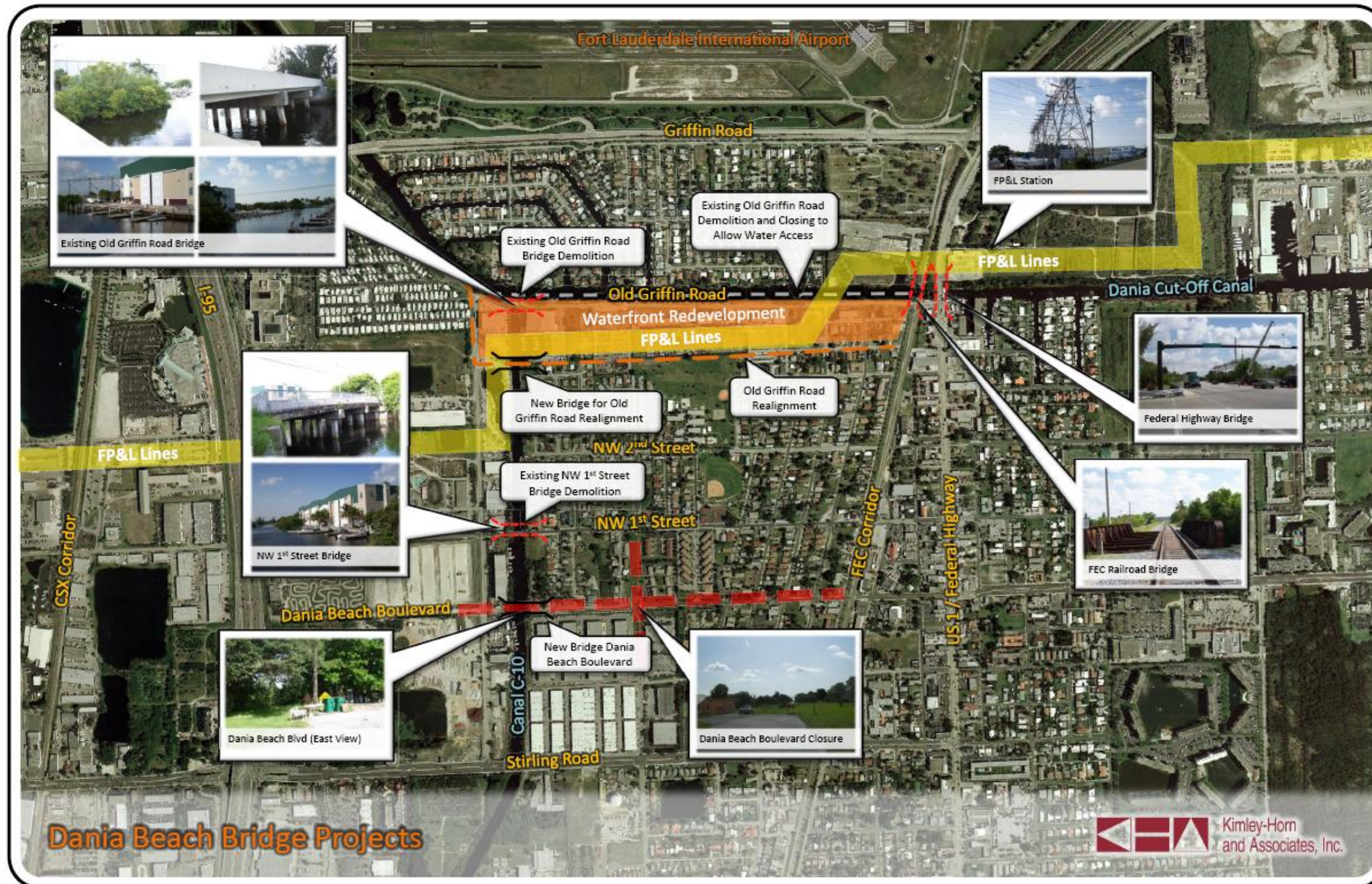




6. Fort Lauderdale/Hollywood International Airport South Runway Extension Plan – The proposed bridge improvement must be coordinated with the Airport South Runway extension plans.

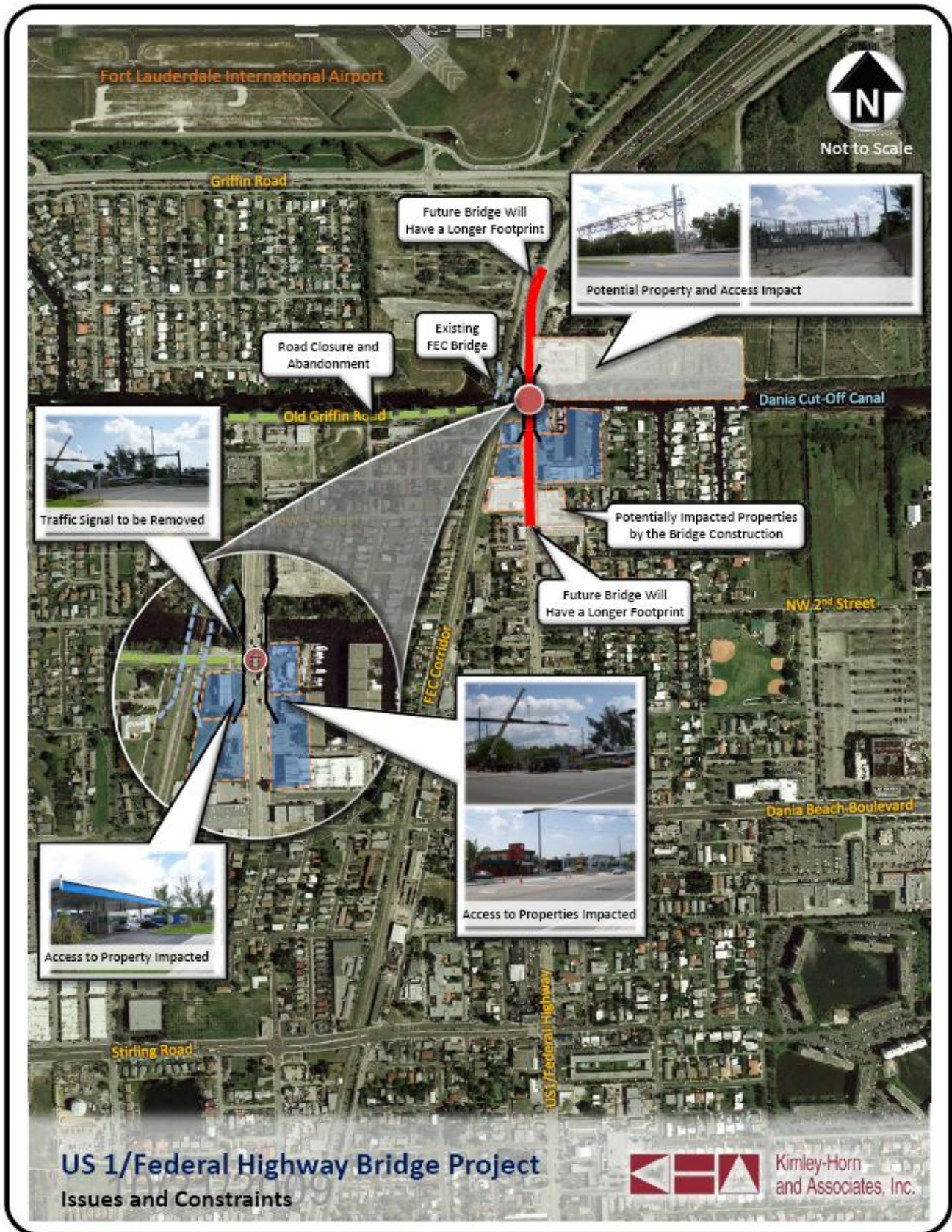


Figure 2: Dania Beach Bridge Projects - Summary of Existing Conditions





### Figure 3: US 1/Federal Highway Bridge – Issues and Constraints





### *FEC Railroad Bridge over Dania Cut-off Canal*

The existing Florida East Coast (FEC) railway bridge was built in 1927 according to the information shown on the railroad track diagram. However, based on site observations and discussions with the FEC, the existing bridge appears to have been reconstructed since the original construction and appears to be in satisfactory condition. The rail corridor is located within a 100' right-of-way and is owned, maintained and operated by the FEC Railway. Currently, there is only one track along this section of the corridor which carries freight trains. The bridge inspection report was not available at the time of this report and hence is not analyzed. Some photos of the FEC Railroad Bridge over the Dania Cut-off Canal are provided below.





The South Florida East Coast Corridor Study under the leadership of FDOT is currently evaluating the potential for providing commuter rail service along the FEC rail corridor, with the potential for expanding the corridor to provide up to four tracks. As part of the study, there is also a potential for locating a transit station for the future FEC commuter rail service within the Dania Beach CRA near Dania Beach Boulevard. The station will be of particular significance and will support the uses within the Downtown City Center.

The South Florida East Coast Corridor (SFECC) Transit Analysis Study was undertaken to study the FEC rail corridor's land uses and develop a methodology for determining suitability of passenger service along the 85-mile Florida East Coast Railway Corridor from Tequesta to Downtown Miami. The goal of the study is to determine the feasibility of providing passenger and freight service within the SFECC study area while also analyzing the various transit alternatives and available routes. The study is currently in its second phase. However, funding for the implementation of the project has not been identified.

Any plans for raising the FEC rail bridge will need to consider the potential commuter rail service along the corridor as well as the potential expansion to four tracks to accommodate passenger and freight service. The issues and constraints that will need to be addressed as part of raising this bridge are described below and illustrated in *Figure 4*:

1. Construction Phasing – Currently, the FEC Railroad Corporation operates freight along the FEC rail corridor. Hence, reconstruction of the bridge should be phased in a manner so as to maintain freight traffic along the corridor while the new bridge is being constructed. Due to the available right-of-way of 100 feet along the rail corridor, it might be possible to build a new bridge while allowing the existing bridge to operate. Once the new bridge is completed, the existing bridge can be removed and replaced if necessary.
2. Potential Future Right-of-Way and Service Expansion Plans – The SFECC Study is currently underway and there are several options that are being evaluated as part of the study. The options being evaluated include:
  - a. Commuter vs. Freight Service – the SFECC Study is evaluating the potential of providing commuter service along the corridor in addition to freight service. The design criteria for maximum allowable grade and curvature may differ for the two service types.
  - b. Two-track vs. Four-track Alignment – the SFECC Study is also evaluating the future requirements for two tracks and four tracks in the rail corridor. The selection of the preferred option will have an impact on the bridge design and other associated impacts.
3. Railroad Profile – The maximum allowable grade along the rail corridor for the future commuter and freight service will determine the potential bridge limits to the north and south. There are several constraints associated with the bridge limits including the grade-crossing at Griffin Road to the north, the proposed grade-crossing at the realigned Old Griffin Road to the south, the need for closure of existing railroad crossings, and consideration of alternative railroad crossings. Generally, the allowable grades reviewed by the SFECC study design criteria include a range of 1 percent to 3 percent. However, FEC staff

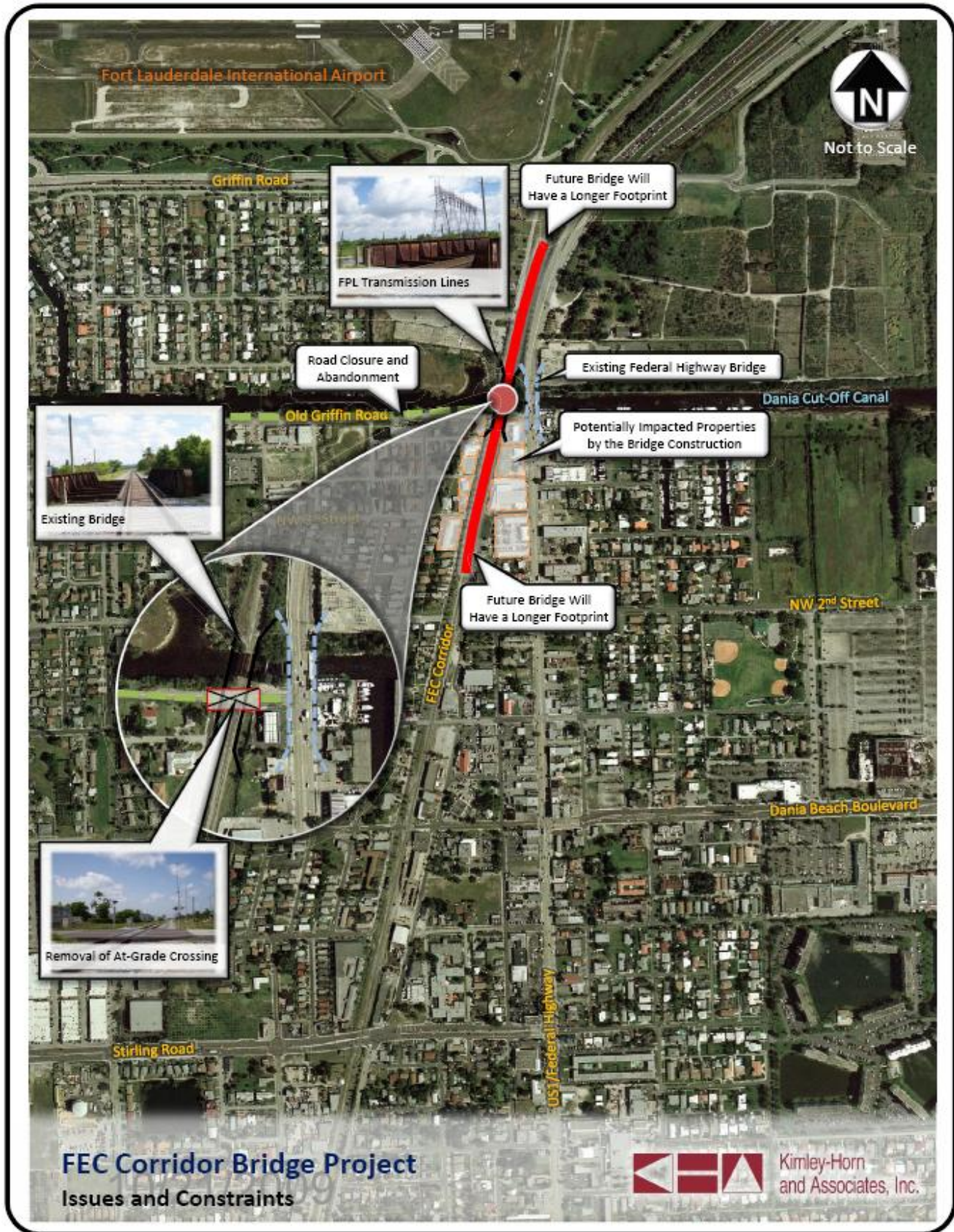


has indicated that 0.6 percent would be the preferable grade and 1 percent would be the maximum grade that they would consider for the freight corridor.

4. Feasibility of Grade-Crossing at NW 3<sup>rd</sup> Terrace – The CRA Redevelopment Plan proposes realigning Old Griffin Road to the existing NW 3<sup>rd</sup> Terrace. Based on the future significance of the corridor, it would be desirable to have a grade-crossing at NW 3<sup>rd</sup> Terrace. The feasibility of a grade-crossing at this location will be impacted by the maximum allowable grade along this corridor.
5. FPL Transmission Lines – Currently, there are several major FPL transmission lines crossing over the FEC rail line just north of the existing bridge. There might be impacts to the bridge resulting from the clearance under these transmission lines.
6. Noise Impacts associated with Elevated Rail Section – There might be additional noise impacts to the residential neighborhoods along the rail corridor resulting from elevating the rail section. The noise impacts will have to be evaluated and potential noise mitigation measures proposed along the raised rail section.
7. Fort Lauderdale/Hollywood International Airport South Runway Extension Plan – The proposed bridge improvement must be coordinated with the Airport South Runway Extension Plans to ensure that adequate vertical clearance is provided above the rail corridor.



### Figure 4: FEC Rail Bridge - Issues and Constraints





### ***Old Griffin Road Bridge over C-10 Canal***

Old Griffin Road is an east-west corridor located immediately south of the Dania Cut-off Canal. There are currently a few marine related uses fronting the south side of the roadway. Due to the proximity of the CRA to the Atlantic Ocean and Intracoastal Waterway (ICWW), along with the City's existing waterways and marine related uses, one of the primary economic goals of the CRA includes expansion of the marine industry. One of the recommendations from the Dania Beach CRA Redevelopment Plan consists of realigning existing Old Griffin Road further south to NW 3<sup>rd</sup> Terrace. The realignment of Old Griffin Road to NW 3<sup>rd</sup> Terrace will provide additional developable waterfront property along the C-10 canal for expansion of marine-based businesses. Some photos taken at the intersection of Old Griffin Road and the C-10 Canal are provided below.







The realignment of Old Griffin Road to NW 3rd Terrace will result in removal of the existing traffic signal at US 1 and the addition of a new traffic signal on US 1 at the realigned Old Griffin Road (NW 3rd Terrace). The realignment of Old Griffin Road will also result in removal of the railroad crossing at the existing alignment and addition of a crossing at the proposed alignment along NW 3rd Terrace. The realignment will involve demolition of the existing C-10 Canal bridge at Old Griffin Road and constructing a new bridge over the C-10 Canal at the realigned Old Griffin Road at NW 3rd Terrace.

The issues and constraints that will need to be further evaluated as part of construction of the realignment of Old Griffin Road and the construction of a new bridge over the C-10 Canal are described below.

1. Right-of-Way Requirement – The construction of a new bridge over the C-10 Canal might require additional right-of-way along the corridor and the canal. The canal is maintained by the South Florida Water Management District (SFWMD). The construction of the bridge will require coordination with the SFWMD.
2. Length of bridge – The length of the bridge will have potential impacts on adjacent properties along the corridor.
3. Filling of Water Basin – The construction of the bridge at this alignment will require filling of the north portion of the water basin to the east of the C-10 Canal.
4. FPL Transmission Lines – Currently, there are several major FPL transmission lines crossing over Bryan Road just south the existing NW 3rd Terrace alignment. There could be potential constraints (vertical clearance) to the bridge resulting from crossing under the transmission lines.
5. Bryan Road intersection alignment – The design of the new bridge over the C-10 Canal will be impacted by the alignment of the intersection with Bryan Road. In addition, there is a need to provide access to the proposed Broward International Commerce Center located on the west side of Bryan Road.
6. Community Impacts – The construction of the new bridge will need to consider impacts to the surrounding residential neighborhoods, parks and schools, existing local streets and the grid network, and low-income communities. Additionally, the benefits of accessibility should be balanced with the potential impacts on crime prevention within the community. There is a need to look at the larger grid network as a whole – US 1/Federal Highway to east, Bryan Road to west, Old Griffin Road to north, and Stirling Road to south.



### ***NW 1st Street Bridge over C-10 Canal***

The NW 1st Street bridge is an existing bridge that is located over the C-10 Canal. It is a two lane bridge and was built in 1958. The bridge is owned and maintained by the City of Dania Beach. According to the FDOT's 2009 Bridge Inspection Report, the bridge has a sufficiency rating of 66.6. The bridge is functionally obsolete, as its width does not meet current design standards. Some photos taken at the intersection of NW 1<sup>st</sup> Street and the C-10 Canal are provided below.

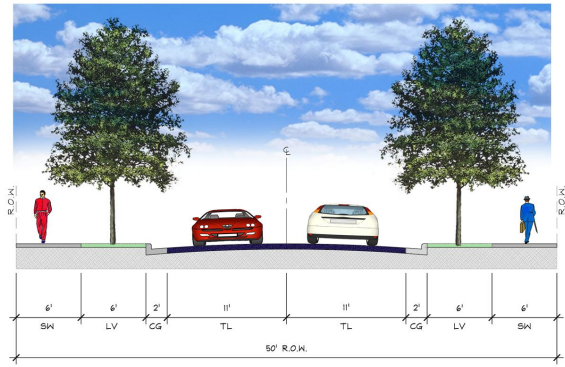




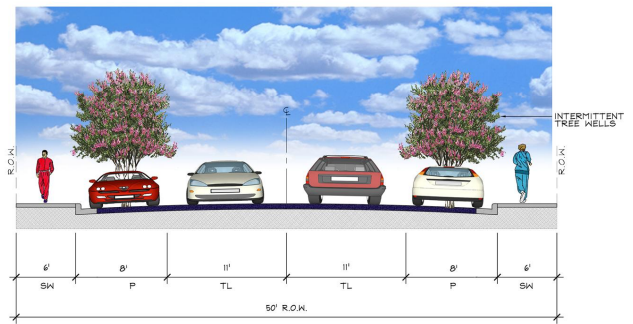
### Dania Beach Boulevard Bridge over C-10 Canal

Dania Beach Boulevard is the primary east-west corridor within the Dania Beach CRA. Currently, Dania Beach Boulevard is a four-lane roadway to the east of US 1/Federal Highway with 80 feet of right-of-way. Dania Beach Boulevard narrows to a two-lane road within 50 feet of right-of-way to the west of Federal Highway. Dania Beach Boulevard is a discontinuous roadway to the west of the FEC rail corridor. The street is closed west of SW 12th Avenue for approximately 300 feet and then continues west truncating at the C-10 Canal. Dania Beach Boulevard again continues with a short segment west of Bryan Road that stops approximately 250 feet east of Interstate 95.

To support the redevelopment goals of the CRA, the Redevelopment Plan recommends extending Dania Beach Boulevard as a continuous east-west corridor to Bryan Road. Dania Beach Boulevard will serve as a gateway to the CRA and a link to connect residential neighborhoods with the regional commercial and employment centers. The proposed options for roadway cross sections for Dania Beach Boulevard are illustrated to the right. Some photos taken at Dania Beach Boulevard to the east of C-10 Canal are provided below.



Dania Beach Boulevard  
OPTION 1:  
EXISTING 50' R.O.W.



Dania Beach Boulevard  
OPTION 2:  
EXISTING 50' R.O.W.





The extension of Dania Beach Boulevard with a bridge over the C-10 Canal will require consideration of the following issues, including:

1. Arterial Grid Network Impact – The construction of Dania Beach Boulevard as a continuous east-west corridor through the CRA between US 1/Federal Highway and Bryan Road will result in changes in traffic patterns. Some regional trips destined to the north that currently use US 1, Old Griffin Road and Griffin Road to access I-95 will shift their travel pattern to Dania Beach Boulevard and Bryan Road to access I-95. Likewise, some trips destined to the south that currently use US 1 to access Stirling Road will shift their travel pattern to Dania Beach Boulevard and Bryan Road to access Stirling Road.
2. Proposed Future Cross Section – The width of the preferred cross section for Dania Beach Boulevard will impact the design of the bridge including access and right-of-way requirements.
3. Coordination with Regional Agencies – Even though Dania Beach Boulevard is maintained by the City of Dania Beach, the roadway is included in the Broward County Trafficways Plan. Hence, the implementation of this bridge will require coordination with Broward County, the Broward MPO and FDOT.
4. Right-of-Way Requirement – There might be a need to acquire additional right-of-way including residential property along the existing Dania Beach Boulevard corridor between US 1 and Bryan Road for the bridge construction.

Issues and constraints associated with the realigned Old Griffin Road, NW 1<sup>st</sup> Street and Dania Beach Boulevard bridges along the C-10 Canal are illustrated in *Figure 5*.



### Figure 5: C-10 Canal Bridges – Issues and Constraints





## REVIEW OF PROPOSED IMPROVEMENTS

The four bridge construction projects – US 1 bridge, FEC Rail bridge, realigned Old Griffin Road bridge and the Dania Beach Boulevard bridge – were evaluated to identify design criteria that will be applicable for these bridges. The design criteria are summarized in the following sections.

### ***US 1/Federal Highway Bridge over Dania Cut-off Canal***

The US 1/Federal Highway roadway and bridge improvements must be designed in accordance with the latest FDOT Plans Preparation Manual, roadway and bridge specifications, and Federal Highway Administration requirements. The existing roadway transitions from a six-lane divided highway with a median north of Griffin Road, along the airport frontage, to a five-lane section south of the Dania Cut-off Canal. The five-lane section includes two lanes in each direction and a center turn lane.

The proposed project scope is to reconstruct the US 1 bridge over the Dania Cut-off Canal to allow approximately 22 feet of vertical clearance for marine traffic under the bridge. In order to accomplish this goal, the existing bridge may have to be raised approximately 10 feet from its current vertical clearance. Raising the profile grade approximately 10 feet vertically at the canal crossing will be the most significant change from the existing conditions and may cause impacts to adjacent properties along Federal Highway.

Preliminary design alternatives will be developed during the Project Development and Environment (PD&E) study, which is the process developed to meet the requirements of the National Environmental Policy Act (NEPA) in order for the project to be eligible for federal funds. The PD&E study will evaluate profile and cross section designs for the bridge along with potential property impacts. For this initial review, a preliminary profile design was developed as illustrated in *Figure 6*. The preliminary design determined that the project length would be approximately 1,440 linear feet, starting approximately 70 feet south of the NW 3<sup>rd</sup> Street intersection and extending to approximately 550 feet south of the Griffin Road intersection. The preliminary profile included a maximum grade of 3.5 percent, with two sag vertical curves at each end of the project to transition to the existing grade and a 360-foot crest vertical curve on each side of the proposed crossing of the Dania Cut-off Canal.

During the PD&E study, alternative design concepts will consider potential profile design modifications to balance the roadway design with the potential impacts to adjacent properties. The properties adjacent to the right-of-way to the south of the Dania Cut-off Canal are developed on both sides of the corridor. Therefore, the design criteria must consider alternatives to minimize impacts to property access caused by grade differentials. The section north of the canal has only two existing vehicular access connections. One existing access connection is to the existing FPL substation and the other connection is to an unpaved private access road. Both of these existing connections are located north of the canal on the east side of the right-of-way. The PD&E study will identify potential impacts to adjacent properties and potential right-of-way acquisitions and/or easement requirements.



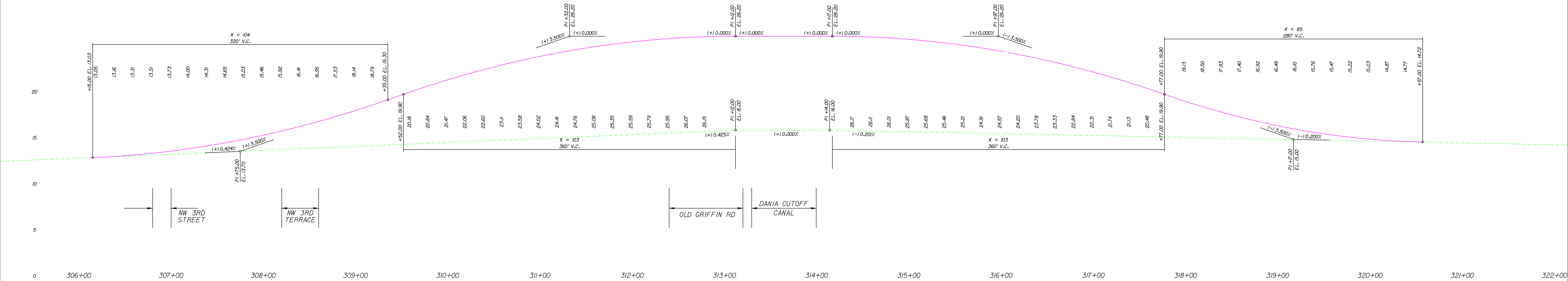
The PD&E study will also have to consider the maintenance of traffic during construction and the potential sequence of construction. During construction only approximately half of the right-of-way may be used for construction of the proposed improvements at any time, as traffic will need to be maintained in the remaining portion of the right-of-way. The construction staging area requirements will also be an important consideration due to right-of-way constraints and potential property impacts. Impacts to adjacent properties which may be impacted in order to maintain traffic during construction will also have to be considered.

The PD&E study will also determine potential costs for each design alternative. The total project costs may include a number of items such as preliminary design studies, final design, permitting, right-of-way acquisition, construction easements, utility adjustments, roadway improvements, canal navigation improvements and bridge improvements. The project will require approvals from several governmental agencies, which may impose mitigation requirements or conditions on the project that could have cost implications.



**Figure 6 - Potential Profile for US 1**





SCALE  
 1" = 50' HORIZONTAL  
 1" = 5' VERTICAL

DANIA BEACH NEPA IMPLEMENTATION  
 STATE ROAD 5 VERTICAL GEOMETRY  
 AUGUST 10, 2009





### ***FEC Railroad Bridge over Dania Cut-off Canal***

The Florida East Coast Railway (FEC) railroad bridge improvements must be designed in accordance with the latest American Railway Engineering and Maintenance-of-Way Association (AREMA) standards and the latest FEC design standards. The existing railroad bridge over the Dania Cut-off Canal is designed and constructed to accommodate a double-track section; however, the existing section only has a signal main line track. The proposed bridge would have to replace the existing bridge with a comparable structure.

The proposed project scope is to reconstruct the existing FEC railroad bridge over the Dania Cut-off Canal to allow approximately 22 feet of vertical clearance for marine traffic under the bridge. In order to accomplish this goal, the existing bridge may have to be raised approximately 10 feet from its current vertical clearance. Raising the profile grade approximately 10 feet vertically at the canal crossing will impact the track profile grades at the approaches to the bridge. The existing railroad profile grade at the approaches to the Dania Cut-off Canal is 0.3 percent. The proposed profile grade at the approaches to the new railroad bridge, as shown in *Figure 7*, is 1.0 percent and would require the project track improvements to extend approximately 3,670 linear feet. The project would begin approximately 200 feet north of the existing NW 1<sup>st</sup> Street crossing and end approximately 300 feet north of Griffin Road.

Design alternatives such as a draw bridge and alternate profile and bridge structure designs to maximize the navigation vertical clearance and minimize the profile grade slopes would be analyzed in a PD&E Study. FEC typically prefers maximum profile grades of 0.3 to 0.6 percent due to freight train operational considerations. Based on preliminary coordination with FEC staff regarding proposed improvements, they indicated a willingness to consider grades up to 1.0 percent; however, the preliminary designs and alternatives must be reviewed by FEC to confirm that they are acceptable.

The track improvements will also have to consider the proposed airport improvements related to the south runway expansion at the Fort Lauderdale/Hollywood International Airport. The preliminary profile would connect to the existing track profile grade south of the future extension of the airport's south runway. However, the change in elevation would be within the ultimate approach and departure path of the south runway. The evaluation of proposed profile grade alternatives would have to consider the Broward County's Airport expansion plans during the PD&E study.

The track improvements will also impact the existing Old Griffin Road crossing of the FEC railway. Old Griffin Road is proposed to be realigned to NW 3<sup>rd</sup> Terrace in order to increase the amount of land available for marine related industries along the Dania Cut-off Canal. It may be difficult to relocate the FEC crossing to the NW 3<sup>rd</sup> Terrace alignment due to profile grade considerations along with FEC requirements for crossing separation (proximity to the existing NW 1<sup>st</sup> Street crossing). Existing freight operations along the corridor will still need to be accommodated during the construction of the proposed track improvements and the new bridge. The improvements would have to be constructed in half of the existing railroad right-of-way and then tie to the existing track alignment with smooth reverse curves at the north and south ends of the project. Safety procedures

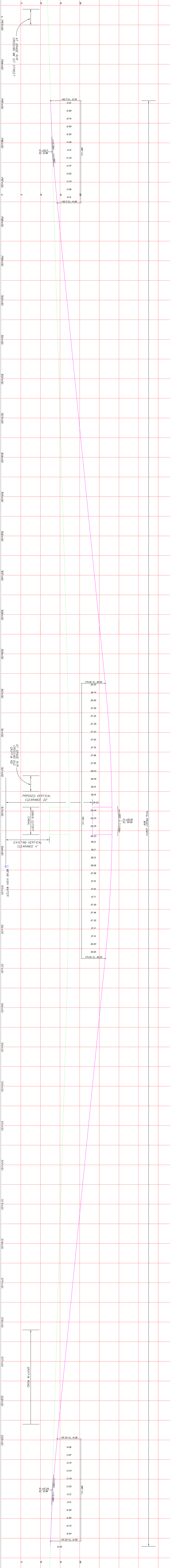


and considerations for railroad operations and maintenance will have to be implemented throughout the construction phase of the project.

The potential bridge project limits for the US 1 and FEC bridges are illustrated in Figure 8.



**Figure 7 - Potential Profile for FEC Bridge**



SCALE  
 1" = 50' HORIZONTAL  
 1" = 5' VERTICAL

DANIA BEACH NEPA IMPLEMENTATION  
 PROPOSED FEC VERTICAL GEOMETRY  
 AUGUST 10, 2009

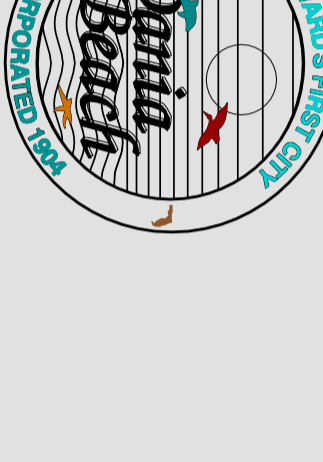




Figure 8 - Potential Project Limits for US 1 and FEC Bridge



**Dania Beach Bridge Projects**  
US 1 and FEC Railroad Bridge Project Limits



5/30/2014.09



### ***Old Griffin Road Bridge over the C-10 Canal***

The relocation of the Old Griffin Road Bridge over the C-10 Canal will require consideration and analysis of several issues specific to the bridge design. The design criteria must consider the profile grade, design of the proposed intersection with Bryan Road, potential right-of-way acquisition requirements, FPL transmission lines, the length of span requirements to cross the canal, and various environmental permitting requirements.

Prior to initiating the preliminary design for the proposed relocation of Old Griffin Road Bridge, future traffic circulation and access requirements for the new marine industry development should be evaluated. The CRA Redevelopment Plan's vision of relocating the Old Griffin Road railroad crossing to a new crossing at the proposed realignment near NW 3<sup>rd</sup> Street may be difficult to achieve due to grade considerations resulting from the proposed raising of the rail line over the Dania Cut-off Canal and FEC's crossing separation requirements (see FEC Bridge section above). Additional neighborhood traffic circulation and roadway improvements studies may identify more cost effective alternatives which do not require the bridge relocation even if the existing Old Griffin Road bridge over the C-10 Canal is removed.

### ***Demolition of the Existing NW 1<sup>st</sup> Street Bridge over the C-10 Canal***

The demolition of the existing NW 1st Street bridge should be considered in the previously recommended traffic circulation and access requirements analysis. The analysis may identify benefits to maintaining or reconstructing the NW 1st Street Bridge.

### ***Dania Beach Boulevard Bridge over the C-10 Canal***

The proposed Dania Beach Boulevard Bridge over the C-10 Canal will need to be evaluated in conjunction with the Old Griffin Road bridge and the NW 1<sup>st</sup> Street bridge projects. The study should evaluate the environmental impacts and identify permitting requirements for bridge construction.

The development of the typical section for the bridge section should consider both the immediate and potential future capacity requirements, as the corridor may be impacted by additional traffic resulting from the connectivity gained from the project as well as traffic resulting from redevelopment in the CRA. A continuous Dania Beach Boulevard corridor from US 1 to Bryan Road could potentially provide transportation network benefits and reduce congestion in other corridors such as US 1 between Stirling Road and Old Griffin Road. From an implementation consideration, the time and budget requirements for this bridge is anticipated to be less than for the other proposed bridge projects.



## CONSISTENCY WITH REGIONAL TRANSPORTATION PLANS

The proposed bridge improvements are consistent with the vision of regional transportation plans including the Broward County Long Range Transportation Plan and the South Florida East Coast Corridor Study as described below. However, ongoing coordination is necessary to ensure that projects are appropriately identified in the 2035 Broward County Long Range Transportation Plan.

### *Broward County Long Range Transportation Plan*

The bridge projects are not currently listed in the existing Broward County Metropolitan Planning Organization's (MPO) Long Range Transportation Plan (LRTP). The Broward County MPO is currently updating its LRTP and extending its horizon year 2035. The 2035 LRTP was adopted by the Broward County MPO Board on November 19, 2009. The potential roadway and bridge improvement projects are consistent with the goals and objectives of the regional LRTP since the projects provide improvements to the regional transportation network modes and support regional economic development.

Broward County's 2035 LRTP has taken a new approach to project prioritization in contrast with the past approach of identifying specific transportation improvement projects by mode. The proposed LRTP provides an increased emphasis on transit improvements for funding. Mobility Hubs are defined in the LRTP, and funding is allocated to these hubs for transportation projects which enhance mobility and connections to the transit system. Mobility Hubs are further defined as Gateway Hubs, Anchor Hubs, and Community Hubs depending on their hierarchical function within the County's transportation system and their service areas. The Mobility Hubs included within the proposed LRTP were selected based on ranking of their potential to serve as transportation nodes within the County in accordance to the following evaluation criteria.

Criteria	Evaluation Criterion	Measure	Note
1	Critical Connections along Selected Cost Feasible Transit Corridors	Types of transit corridors served	Highest score for high capacity transit projects
2	Serves Existing Developed Areas	Number of jobs within ½ mile of hub	Highest score for 76 – 100th percentile of employment density
3	Local Request/Support through LRTP Input or Other Plan Designation	Number of published plans/studies and requests	Highest score for areas with plans or request to be included as a hub location
4	Near Term Funding Opportunities for Planning, Design, and/or Implementation	Project status/initiative	Highest score for project in design phase
5	Public/Private Partnership Opportunities	Project status/initiative	Highest score for PPP project currently underway
6	Tax Increment Financing Opportunities	Land Use Status	Highest score for location in established CRAs





Currently, the 2035 LRTP Cost Feasible Plan includes 20 Gateway Hubs, 22 Anchor Hubs and 59 Community Hubs. There are no Mobility Hubs that are currently located completely within the City of Dania Beach. An Anchor Hub is located at the intersection of Sheridan Street and Federal Highway, which is the boundary of the cities of Hollywood and Dania Beach.

The City of Dania Beach submitted a request to the Broward County MPO to designate an Anchor Hub at the intersection of Dania Beach Boulevard and US-1 in April 2010. The designation of an Anchor hub at this location will facilitate funding for the regionally significant bridge projects identified in the Dania Beach CRA Masterplan. The following sections summarize how criteria for designation of a Mobility Hub are met at this location and may serve as justification for the designation of the intersection of Dania Beach Boulevard and US-1 as an Anchor Hub. The following justification was provided to the Broward County MPO for consideration for designation of an Anchor Hub at Dania Beach Boulevard and US 1.

### **Criteria 1: Critical Connections along Selected Cost Feasible Transit Corridors**

To meet the public transportation demand, the MPO has identified transit projects that will enhance regional mobility in its 2035 LRTP Cost Feasible Plan. These projects provide critical mobility connections and will allow people to increasingly rely on transit. These planned transit projects will complement existing transit services and will function as the backbone of an expanded regional transportation system. The transit system may include various transit modes such as commuter rail, light-rail, and bus rapid transit. Current proposed high capacity transit projects in proximity to the Dania Beach Boulevard/US-1 node, which support its designation as an Anchor Hub, include:

- Rapid Bus/Breeze along Dania Beach Boulevard
- Bus Rapid Transit along Federal Highway/US-1
- Florida East Coast Corridor (Commuter Rail System)

In addition, US-1 and Dania Beach Boulevard are already served by regional transit routes from Broward County Transit (BCT) as well as community routes. BCT Route 4 and the Community West Route currently operate along Dania Beach Boulevard. BCT Routes 1 and 55 operate north-south along US-1. The existing transit routes within the Dania Beach CRA are illustrated in the figure below from the CRA Redevelopment Plan.



Figure 20: Existing Transit Map

## Criteria 2: Serves Existing Developed Areas

An Anchor Hub in the vicinity of the Dania Beach Boulevard/US-1 node would be located in the heart of Dania Beach's downtown core area/central business district and would be ideally located near transit lines, major roadways, and the Intracoastal Waterway. The FEC Rail, US-1 and Dania Beach Boulevard corridors currently run through existing developed areas. The FEC Rail (future passenger rail) and parallel US-1 corridors (future bus rapid transit corridor) provide direct access from Dania Beach's downtown area to the neighboring downtown areas of Fort Lauderdale and Hollywood. In addition, the FEC Rail and US-1 corridors link these downtown areas to important industrial complexes, Port Everglades, and the Fort Lauderdale/Hollywood International Airport.

Furthermore, the City of Dania Beach has moved forward and defined the land use in its downtown core area as transit supportive high density/mixed uses through the designation of a Transit Oriented Development zoning district to support the future transit station and facilitate transit oriented development around the future station. The entire CRA also has a Regional Activity Center future land use designation.

### Criteria 3: Local Request/Support through LRTP Input or Other Plan Designation

The City of Dania Beach CRA adopted its updated Redevelopment Plan in January 2009 to guide redevelopment within its boundaries which encompass the Dania Beach Boulevard/US-1 node. The Redevelopment Plan contains specific short-term and long-term implementation measures to promote sustainable development, transit supportive land uses, economic development through expansion of marine industry, and employment density. The Redevelopment Plan has established the framework to support a multimodal transportation network providing for enhanced transit opportunities, increased roadway connectivity, and a bicycle-pedestrian friendly environment centered around the future FEC Passenger Rail Station, all of which are consistent with the designation of the area as an Anchor Hub. The location of the future FEC passenger rail station is located in close proximity to the intersection of Dania Beach Boulevard and US-1 and will ensure excellent connectivity between the various modes. The Redevelopment Plan also designates Dania Beach Boulevard as the main east-west thoroughfare within the CRA as well as a community gateway. An illustration from the Dania Beach CRA Redevelopment Plan evaluating pedestrian connectivity within downtown Dania Beach is provided below.



Figure 25: Pedestrian Connectivity Under Existing CRA Plan



Figure 26: Pedestrian Connectivity Under Proposed CRA Plan

### Criteria 4: Near Term Funding Opportunities for Planning, Design, and/or Implementation

The City of Dania Beach and the Dania Beach CRA have programmed \$500,000 in local funds to seed transportation improvements in the vicinity of the Dania Beach Boulevard/US-1 node. The transportation improvements are targeted to improve transportation conditions within the CRA as well as to serve as an economic development tool by providing greater water access to the marine industry. The potential economic benefits of the transportation improvements identified in the CRA Redevelopment Plan have regional significance in terms of job creation and stimulating the regional economy.



The local funds from the City and CRA may be used to initiate planning and preliminary engineering studies needed to address the requirements of the National Environmental Policy Act (NEPA). As the transportation projects advance through the planning process, the City of Dania Beach will seek to partner with state and federal agencies to fund transportation projects which are of regional significance.

### **Criteria 5: Public-Private Partnership Opportunities**

Public-Private Partnership Opportunities have already been initiated by the City of Dania Beach and the CRA in the vicinity of the Dania Beach Boulevard/US-1 node. Through a Public-Private Partnership a new library and City Hall complex will be developed on city-owned land in close proximity to the future FEC passenger rail station. Through another Public-Private Partnership a mixed-use development including a hotel, office and retail space will be developed on city-owned land. The project will contain a 150-room hotel, 9,000 square feet of retail, 30,000 square feet of office and a 430- space parking garage.

### **Criteria 6: Tax Increment Financing Opportunities**

This criterion evaluates whether hubs are located in an area identified for infill, mixed use development, a potential CRA or TOD area. The proposed location of Dania Beach Boulevard and US-1 more than meets this evaluation criterion. The City of Dania Beach's CRA was initially established in 2002, to promote redevelopment efforts within the blighted areas of the downtown and surrounding area. The original 525-acre CRA covering the Dania Beach downtown was recently expanded to approximately 1,349 acres. An updated Community Redevelopment Plan was adopted by the Dania Beach CRA Board in January 2009 to provide a new vision for redevelopment. The proposed Anchor Hub in the vicinity of the Dania Beach Boulevard/US-1 node would be located in the heart of the Dania Beach CRA. As mentioned earlier, the City has a Regional Activity Center future land designation for the entire CRA as well as an underlying Transit Oriented Development zoning designation. The CRA boundary map, as contained in the Dania Beach CRA Redevelopment Plan, is illustrated in the figure below.

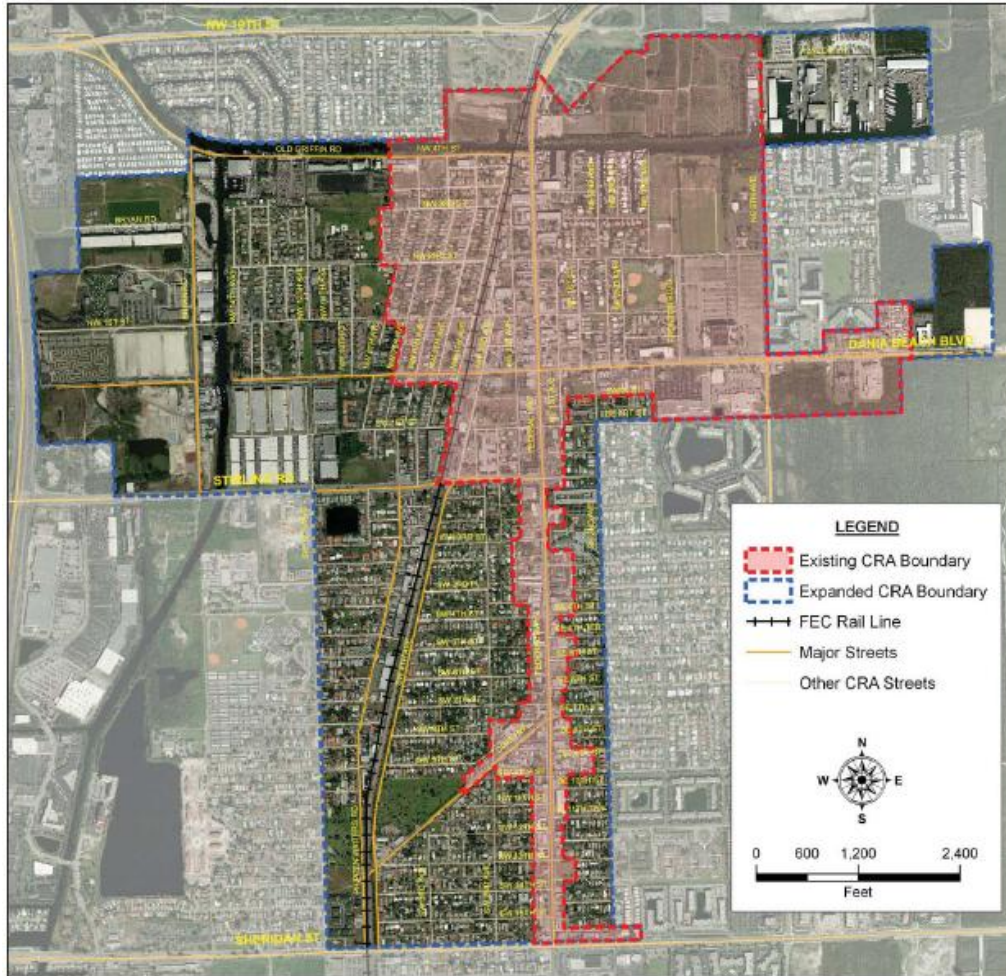


Figure 14: Existing and Expanded CRA Boundary

In summary, the designation of an Anchor Hub at the Dania Beach Boulevard/US-1 intersection is consistent with the evaluation criteria presented in the 2035 LRTP, as demonstrated by the hub's providing critical connections (serving 3 high capacity transit projects), serving existing developed areas (City of Dania Beach central business district), local support (consistent with adopted CRA Master Plan), funding opportunities (City funds available to initiate planning and preliminary engineering studies), PPP opportunities (ongoing joint development projects in vicinity of future FEC Passenger Rail Station), and TIF (located within the City of Dania Beach's CRA).

### ***South Florida East Coast Corridor (SFECC) Study***

The South Florida East Coast Corridor Study is currently evaluating the potential for providing commuter rail service along the FEC rail corridor which may necessitate expanding the corridor to accommodate up to four sets of tracks. A passenger rail station is being considered within the Dania Beach CRA at Dania Beach Boulevard. The station will support the land uses within the Downtown City Center.

The Dania Beach CRA Redevelopment Plan has established the framework for future development around the proposed passenger rail station at Dania Beach Boulevard with a vision to support a



multimodal transportation network providing for enhanced transit opportunities, increased roadway connectivity, and a bicycle-pedestrian friendly environment.

***Fort Lauderdale/Hollywood International Airport Expansion***

The proposed bridge projects can be designed not to conflict with the south runway extension plans at the Fort Lauderdale/Hollywood International Airport.



## COORDINATION WITH REGIONAL AGENCIES

Through the course of this effort, several meetings were conducted with the regional agencies including the Florida Department of Transportation (FDOT), Broward County Metropolitan Planning Organization (MPO), the Florida East Coast (FEC) Railroad, and the Florida Inland Navigation District (FIND). The summary and outcome of these coordination efforts are described in this section of the report.

### ***Florida Department of Transportation (FDOT)***

US 1/Federal Highway is maintained by the FDOT; hence improvements to this roadway must be coordinated with the FDOT. The proposed projects were presented to several FDOT staff to identify the best course of action for the City. Representatives from the City and the consultant, Kimley-Horn, met with the following staff from FDOT District 4 to discuss the City's bridge projects:

- Richard Young, District Project Development Engineer, Planning and Environmental Management
- Scott Seeburger, SFEC Study Project Manager
- Stacy Miller, FDOT District Management Engineer
- Barbara Handrahan, District 4 LAP Coordinator
- Lynn Kelley, Senior Environmental Specialist, Planning and Environmental Management
- Gus Schmidh, Office of Planning and Environmental Management
- Jeff Weidner, Office of Modal Development

The following recommendations were provided by the FDOT staff:

#### **Funding:**

- A crucial first step involves adding the bridge projects to the Broward County 2035 Long Range Transportation Plan (LRTP).
- If the City desires federal funding to assist with construction of the bridge projects, then NEPA requirements (PD&E Study) must be met.
- Funding must be programmed for the PD&E Study in order to initiate the project development process. Funding for next phases such as design and construction needs to be identified before completion of PD&E Study.
- A funding plan should be developed for the bridge projects.



Lead Federal Agency:

- FHWA will likely serve as the lead federal agency for the NEPA (PD&E) phase of the US 1 bridge project.
- The Coast Guard (CG) or the Federal Railroad Administration (FRA) will likely serve as the lead federal agency for FEC bridge project.
- If a CG permit is required, the CG will likely serve as the lead federal agency for both the US 1 and FEC bridge projects. The CG process is typically shorter than the FHWA process.
- Right-of-way acquisition must conform with the FDOT Uniform Relocation Act

***Florida Inland Navigation District (FIND)***

Kimley-Horn and Associates contacted Mr. David Roach, Executive Director of FIND to discuss replacing the US 1/Federal Highway bridge over the Dania Cut-off Canal. Mr. Roach indicated that the plans for the proposed maintenance dredging of the Dania Cut-off Canal are presently in the permit review process. The permits are expected to be issued in February of 2010. The dredging project is scheduled to begin around July or August of 2010 and is expected to take one year or longer to complete. The project will include some sections of the Intracoastal Waterway and the Dania Cut-off Canal.

The Dania Cut-off Canal maintenance dredging is designed to provide a minimum of 17-foot depth at mean low water. The 17-foot depth dredging limits will stop approximately 1,000 – 1,200 feet east of the US 1 bridge and the dredging depth will transition from 17-foot depth to the existing canal depth. The existing canal is approximately 6- to 8-foot deep near the approach to the US 1 bridge.

Mr. Roach recommended that widening of the channel should be considered as part of the bridge reconstruction to provide more clearance for two-way boat traffic and to reduce channel flow velocities. These measures would provide navigational improvements along the Dania Cut-off Canal.

There may be approximately 500,000 cubic yards of material resulting from the dredging project. This material may be available for fill for construction of the bridge projects if a stockpile site is provided for FIND and agreements can be made prior to the implementation of the dredging project.

Mr. Roach indicated that FIND provides some grant assistance for maintenance, dredging and navigational improvements along waterways. However, FIND does not reimburse funds until construction starts. He indicated that FIND would need assurance that the bridge project has a high likelihood of being approved and funded for construction in order to approve grant assistance for additional dredging.





### ***Broward County Metropolitan Planning Organization (MPO)***

As part of the coordination process, the City of Dania Beach CRA Director and representatives from Kimley-Horn and Associates met with the Broward County Metropolitan Planning Organization (MPO) Director, Mr. Greg Stuart, on September 15, 2009. The purpose of the coordination meeting was to determine the steps necessary for the proposed bridge projects to be included in the Broward County 2035 Long Range Transportation Plan (LRTP). Mr. Stuart encouraged that the City of Dania Beach coordinate with the City of Hollywood regarding moving an Anchor Hub from the Sheridan Street/Federal Highway intersection to Dania Beach Boulevard/Federal Highway intersection.

Following this meeting, the City of Dania Beach met with representatives from the City of Hollywood in the presence of Mr. Stuart on September 29, 2009. The City of Hollywood emphasized that a hub at the intersection of Sheridan Street and Federal Highway was important to their vision of roadway improvements along Sheridan Street which have been under consideration for many years. Following the meeting, it was determined that the City of Dania Beach would request designation of a new Anchor Hub at the intersection of Dania Beach Boulevard and Federal Highway rather than relocating the hub from Sheridan Street. Subsequently, the City of Dania Beach presented justification for an Anchor Hub at Dania Beach Boulevard to Broward MPO staff. Mr. Stuart advised that the City of Dania Beach request the addition of an Anchor Hub at the Dania Beach Boulevard/Federal Highway intersection through the LRTP amendment process. Coordination with the MPO staff regarding this issue is currently ongoing.

The City of Dania Beach Vice Mayor (then Mayor), Ms. Anne Castro, and the Community Development Director, Mr. Bob Daniels, attended the public hearing for the adoption of the Broward County 2035 LRTP on November 19, 2009. Vice Mayor Castro and Mr. Daniels communicated to the MPO Board of the City's intention of requesting an LRTP amendment in 2010 to include an Anchor Hub at the intersection of Dania Beach Boulevard and US 1.

Subsequently, in April 2010, the City of Dania Beach submitted a request to the Broward County MPO for an amendment to the 2035 LRTP to include the US 1 and Federal Highway bridges into the future roadway needs network and to provide an anchor hub at the intersection of Dania Beach Boulevard and US 1. Based on recommendations from the MPO's Technical Advisory Committee (TAC) and the Community Involvement Roundtable (CIR), the MPO made an administrative amendment to the LRTP to include the US 1 and FEC bridge projects into the Unfunded Needs Plan. The provision of an anchor hub at the intersection of US 1 and Dania Beach Boulevard will be evaluated as part of the livability studies conducted by the MPO in 2011.

### ***Florida East Coast (FEC) Railway***

Kimley-Horn and Associates contacted Charles Stone, Director of Engineering at the Florida East Coast Railway, to obtain his input on any proposed improvements along the FEC railroad corridor as well as FEC's concerns about any such improvements. Mr. Stone indicated that he was not aware of any maintenance concerns or of any FEC plans for improvement to the bridge over the Dania Cut-off Canal. Kimley-Horn noted that the FEC straight line diagram indicated that the bridge was



built in 1927. Mr. Stone stated that the original 1927 bridge had been replaced, but did not know of the year that the existing bridge was built. Mr. Stone noted that he was not aware of any planned railroad improvements proposed for the Fort Lauderdale Airport Expansion. Any airport improvements would have to span the existing railroad right-of-way and provide adequate vertical clearance to meet FEC's requirements.

Mr. Stone stated that the FEC would like to keep any profile grades to 0.6 percent or less, if possible. He also indicated that FEC would prefer draw bridges to steeper grade profiles. However, he stated that FEC may review proposed profile grades of up to 1.0 percent. Justification for the steeper profile grades would have to be provided and the potential impacts to operations would have to be evaluated. Additionally, any proposed FEC bridge improvements will require reviews, approvals and agreements with FEC Railway.



## FUNDING RESEARCH

The bridge projects outlined in the Dania Beach Redevelopment Plan are large scale, cost intensive projects that will require significant financial resources. These projects will serve as the catalyst for redevelopment within the City. In order to implement these projects, the City is taking an active role by contributing local funding, but the City will require financial assistance from state, regional and federal funding sources.

As part of the funding research for these bridge projects, the feasibility of obtaining federal stimulus dollars was evaluated. The Transportation Investment Generating Economic Recovery (TIGER) Discretionary Grants were made available for local transportation projects through the federal stimulus package. A total of \$1.5 billion is being made available through the program. Grants can range from \$20 to \$300 million to support high impact transportation projects. The deadline for applying for TIGER grants was September 15, 2009.

The City evaluated the feasibility of obtaining TIGER funds for the major redevelopment projects. The primary and secondary selection criteria listed by the TIGER grant program were evaluated against the City's proposed projects. The primary selection criteria included:

- **Long-Term Outcomes** – Priority to projects that have a significant impact on desirable long-term outcomes.
  - Improving the condition of existing transportation facilities and systems
  - Contributing to the economic competitiveness of the US over medium- to long-term
  - Improving quality of living/working environments
  - Improving energy efficiency, reduced dependence on oil
  - Improving safety of facilities and systems
- **Jobs Creation and Economic Stimulus** – Priority to projects that quickly create and preserve jobs and stimulate rapid increases in economic activity

The secondary selection criteria included:

- **Innovation** – Priority to projects that use innovative strategies to pursue long-term outcomes described above
- **Partnership** – Priority to projects that demonstrate strong collaboration among a broad range of participants and/or integration of transportation with other public service efforts

In addition to the selection criteria, the TIGER grant application also specified preference criteria for projects that will have a higher chance of being awarded stimulus funding. A comparison of the preference criteria against the current status of the Dania Beach bridge projects is provided below:



TIGER Grant Preference Criteria	Status of Bridge Projects
Shovel ready projects	No
Have necessary National Environmental Policy Act clearances	No
Using Federal funding only to complete overall financing	No
Projects that can be constructed by February 2012	No
Inclusion in State and County transportation plans	No
Completion of substantial preliminary engineering	No

Based on the above evaluation criteria, it was determined that the City was not well positioned to receive federal stimulus funding at this time. Therefore, research was conducted to identify other potential funding sources that can be sought by the City.

One potential source of funds is the re-authorization of the Surface Transportation Authorization Bill. The existing transportation legislation, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), was enacted in 2005. The legislation set funding levels for highways, highway safety, and public transportation totaling \$244.1 billion over six (6) years. Previous to SAFETEA-LU, two previous bills defined the transportation program. These bills were known as the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and the Transportation Equity Act for the 21st Century (TEA-21). SAFETEA-LU builds on these bills, allocating the funds and refining the programmatic framework for investments needed to maintain and grow transportation infrastructure.

A main focus of the SAFETEA-LU is to address challenges our transportation system faces including improving safety, reducing traffic congestion, improving efficiency in freight movement, increasing intermodal connectivity, and protecting the environment. SAFETEA-LU promotes more efficient and effective Federal surface transportation programs by focusing on transportation issues of national significance, while giving State and local transportation decision makers more flexibility for solving transportation problems in their communities.

SAFETEA-LU was set to expire in September 2009 but may be extended for up to 18 months with funding maintained at its present level. The bill may be extended in order to give lawmakers until after the 2010 midterm elections to reach agreement on a comprehensive reauthorization. Chairman James Oberstar of the House Transportation and Infrastructure Committee has already introduced a plan for the successor to SAFETEA-LU known as The Surface Transportation Authorization Act of 2009: A Blueprint for Investment and Reform. The "Blueprint" seeks to transform Federal surface transportation to a performance-based framework for intermodal investment. The \$450 billion proposed for highway and transit investments over six years in the "Blueprint" represents a 38 percent increase over the SAFETEA-LU funding level. The increased investment would be accompanied by greater transparency and oversight to ensure that taxpayer dollars are spent effectively.



Several potential applicable funding programs for the CRA Redevelopment Plan bridge projects are proposed in the “Blueprint” including the Critical Asset Investment Program, Metropolitan Mobility and Access Program, and Freight Improvement Programs. Information on these programs is provided in *Table 1*. In addition, opportunities may exist to obtain an appropriation in the “Blueprint” to help fund the bridge projects. An appropriation could specifically direct reauthorization funds to the bridge projects. Therefore, it is recommended that the City of Dania Beach immediately initiate discussions with its Congressional representatives to provide information regarding the economic and mobility benefits associated with the bridge projects.

Additional potential funding programs may be generally grouped into the below categories and are further described in *Table 1*.

- Waterfront Redevelopment
- Transportation Improvements
- Navigable Waters Improvements
- Job Creation

**Table 1 – Funding Programs and Opportunities**

Grants	Available Funds (1)	Application Deadline	Applicable Projects	Description	More Information
<b>Coastal Partnership Initiative Grants</b>	\$ 20,000 – 60,000	October 2010	Old Griffin Road Realignment	Provides financial assistance to support innovative local coastal management projects. Projects may be categorized within the following four program areas: resilient communities, public access, working waterfronts, and coastal stewardship. Governmental non-profit entities may also apply for community projects such as waterfront revitalization.	<a href="http://www.dep.state.fl.us/">http://www.dep.state.fl.us/</a>
<b>Waterfronts Florida Program</b>	\$ 25,000	June 2011	Old Griffin Road Realignment	The Waterfronts Florida Program helps participating communities revitalize, renew and promote interest in their waterfront district. Waterfront revitalization targets environmental resource protection, public access, retention of viable traditional waterfront economies, and hazard mitigation.	<a href="http://www.dca.state.fl.us/">http://www.dca.state.fl.us/</a>
<b>Cooperative Assistance Program</b>	Up to \$ 1,000,000	Every Year (April 1 <sup>st</sup> )	Old Griffin Road Realignment	The Cooperative Assistance Program was established to provide assistance to state and regional governments for waterway related projects. These projects must be located on natural, navigable waterways within the District. Eligible waterway related projects may include boat ramps, docking facilities, fishing & viewing piers, and waterfront boardwalks.	<a href="http://www.aicw.org/">http://www.aicw.org/</a>
<b>Stan Mayfield Working Waterfronts Florida Forever Grant Program</b>	\$ 7,500,000	August of each year	Old Griffin Road Realignment	Funds are available for the acquisition of a parcel(s) of land strictly used for purposes of marine commercial establishments or other facilities operated to provide waterfront access to licensed commercial fishermen or business entities.	<a href="http://www.floridacommunitiestrust.org/">http://www.floridacommunitiestrust.org/</a>
<b>Build America Bond</b>	TBD	January 2011	All proposed projects	This program is intended to help local governments obtain financing for their economic development projects, such as public infrastructure development.	<a href="http://www.irs.gov/pub/irs-drop/n-09-26.pdf">http://www.irs.gov/pub/irs-drop/n-09-26.pdf</a>
<b>Recovery Zone Economic Development Bond</b>	\$ 40,000,000	(2)	All proposed projects	This program is intended to help local governments obtain financing for their economic development projects, such as public infrastructure development. This Bond will allow the state and local governments to obtain lower borrowing costs through a direct federal payment subsidy.	<a href="http://www.ustreas.gov/press/releases/tg168.htm">http://www.ustreas.gov/press/releases/tg168.htm</a>



<b>Recovery Zone Facility Bond</b>	\$ 60,000,000	(2)	All proposed projects	This program is intended to help local governments obtain financing for their economic development projects, such as public infrastructure development. This bond is a type of traditional tax-exempt private activity bond and may be used to finance capital projects.	<a href="http://www.ustreas.gov/press/releases/tg168.htm">http://www.ustreas.gov/press/releases/tg168.htm</a>
<b>Community Development Block Grant Program</b>	TBD	(2)	All proposed projects	This program allows cities to fund projects to revitalize and/or improve downtown area access roadways. The primary focus of this program is to create jobs and stimulate economic development.	<a href="http://www.dca.state.fl.us/Fhcd/cdbg/index.cfm">http://www.dca.state.fl.us/Fhcd/cdbg/index.cfm</a>
<b>The Surface Transportation Authorization Act of 2009: A Blueprint for Investment and Reform</b>					
<b>Critical Asset Investment Program</b>	\$ 100,000,000,000	(3)	Federal Highway Bridge	The Critical Asset Investment Program seeks to bring the National Highway System into a state of good repair. Funds will be available for preservation, rehabilitation, protection, or replacement of an eligible facility. Facility may be located on the National Highway System and/or a bridge located in a Federal-aid Highway.	<a href="http://www.narc.org">www.narc.org</a>
<b>Metropolitan Mobility and Access Program</b>	\$50,000,000,000	(3)	All proposed projects	Provides multimodal funding and financing to MPOs, allowing MPOs broad multi-modal flexibility in planning and implementing programs of surface transportation projects to reduce vehicular congestion, to maximize mobility and access of people to goods, and to improve safety.	<a href="http://www.narc.org">www.narc.org</a>
<b>Freight Improvement Programs</b>	TBD	(3)	All proposed projects	Funds may be available for freight transportation projects that provide community and highway benefits. Benefits may be defined in terms of economic, congestion, security and safety issues associated with freight transportation.	<a href="http://www.narc.org">www.narc.org</a>

Notes:

1. Funding in each category is subject to state or federal appropriations.
2. Deadline date information was not available.
3. Immediate communication with Congressional representatives is recommended to initiate discussions and provide information regarding the economic and mobility benefits associated with the bridge projects.



## NEPA PROCESS

One of the prerequisites for projects to receive federal funding is compliance with the National Environmental Policy Act (NEPA). Any transportation improvement is subject to mandatory compliance with NEPA when:

- Federal funds or assistance is used at some phase of project development or implementation;
- Federal funding or assistance eligibility is being sought for subsequent phases;
- Federal permits are required (e.g. U.S. Coast Guard Bridge permit); or
- Federal approval of an action is required (e.g. change in Interstate access control).

Since the City of Dania Beach is interested in seeking federal funding and requires federal permits for construction of the bridge projects, compliance with NEPA is mandatory. The process developed by the Florida Department of Transportation (FDOT) to implement NEPA is the Project Development and Environment (PD&E) Study. The PD&E Study process fully meets the requirements of NEPA and other related federal and state laws, rules, and regulations. The process is intended to expedite projects from preliminary engineering to construction through a series of engineering and environmental analyses along with a strong public involvement component that includes a Public Hearing to assist in selecting a preferred alternative. The PD&E process is typically implemented and overseen by the FDOT. There are three classes of actions under the NEPA process that determine the requirements of a PD&E Study, including the amount of documentation required. These three classes of action are:

- ***Class I: Environmental Impact Statement (EIS)***. This environmental Class of Action is prepared for projects that significantly affect the environment. Types of actions which would normally require an EIS include construction of a new interstate, new highway of four or more lanes, fixed rail transit, roadway for buses or high occupancy vehicles, project that have significant environmental effect and controversial projects.
- ***Class II: Categorical Exclusion (CE)***. This environmental Class of Action is applied to actions that do not individually or cumulatively have a significant environmental effect. These projects do not induce significant impacts to planned growth or land use for an area; do not require the relocation of cultural, recreational, historic, or other resources; do not involve significant air, noise, or water quality impacts; do not have significant impacts on travel patterns; or do not otherwise, either individually or cumulatively, have any significant environmental impacts. Actions categorically excluded are exempt from some of the requirements of **NEPA**. An Environmental Assessment (EA) or Environmental Impact Statement (EIS) is not prepared. A CE must, however, satisfy all other Federal environmental laws and executive orders.





- **Class III: Environmental Assessment (EA).** This environmental Class of Action is prepared for actions in which the significance of the environmental impact is not clearly established. All actions that are not Class I or Class II are considered under Class III. All actions in this class require the preparation of an EA to determine the appropriate environmental documentation required.

Generally, the Class of Action Determination is made in consultation with the lead federal agency, typically, the Federal Highway Administration (FHWA) for roadway and bridge projects. In some cases, other federal agencies, such as the Federal Transit Administration (FTA), Federal Railroad Administration (FRA), the Federal Aviation Administration (FAA), the U.S. Coast Guard (USCG), or the U.S. Army Corps of Engineers may become the lead Federal agency on a proposed transportation improvement based upon the type of project. Accordingly, the Federal Railroad Administration (FRA) may serve as the lead agency on the FEC Railroad Bridge project and the U.S. Army Corps of Engineers may serve as the lead agency on the Old Griffin Road and Dania Beach Boulevard Bridge projects.

The Class of Action for a major transportation project is often determined during the Programming Phase that takes place as part of the Efficient Transportation Decision Making (ETDM) process. Major transportation projects must complete the Programming Phase of ETDM to determine the Class of Action. ETDM is a programming screen that is applied to determine issues of concern by potential review agencies. Upon completion of the programming screen, a Class of Action determination may be made by the FDOT and the lead federal agency. The Class of Action determination along with the potential degree of effect for various environmental issues is included in the Final Programming Summary Report. Based on this information, the scope of work may be defined for the PD&E Study. During the PD&E phase all necessary engineering and environmental work is performed and impacts are evaluated to verify that the initial Class of Action determination remains valid. If, during this effort, additional impacts are identified, it is necessary to coordinate with the lead federal agency to determine if a revised Class of Action determination is appropriate.

According to FDOT staff, funding for PD&E studies needs to be identified before the roadway/bridge projects can advance through the ETDM screening process. Generally ETDM screening is done at two stages:

- Planning screen to identify fatal flaws during Long Range Transportation Plan (LRTP) development
- Programming screen for projects within the 5-year FDOT work program to define scope for the PD&E Study

ETDM screens generally require 4 months for completion. The programming screen is most appropriate just before initiating the PD&E Study. The ETDM program screen can also serve as the Advanced Notification for the PD&E Study.

The PD&E process evaluates the social, physical, cultural, and environmental impacts of a transportation project. The process involves a very detailed public involvement component at various stages of the study to obtain input from the community, elected and appointed officials, and



permitting agencies. A typical PD&E Study for a Class II (CE) or III (EA) class of action usually requires a minimum of 18 months to complete. A Class I (EIS) requires at least 48 months to complete. The Dania Beach bridge projects will require PD&E studies to ensure compliance with the NEPA process.

The US 1 and FEC Railroad bridges may require two separate PD&E studies with different federal lead agencies (\$1 – 2 million order of magnitude cost for each PD&E study). The US 1 bridge might qualify to be processed as a Categorical Exclusion since it is an existing bridge. However, other impacts including right-of-way and maintenance of traffic might elevate the project to a higher class of action.

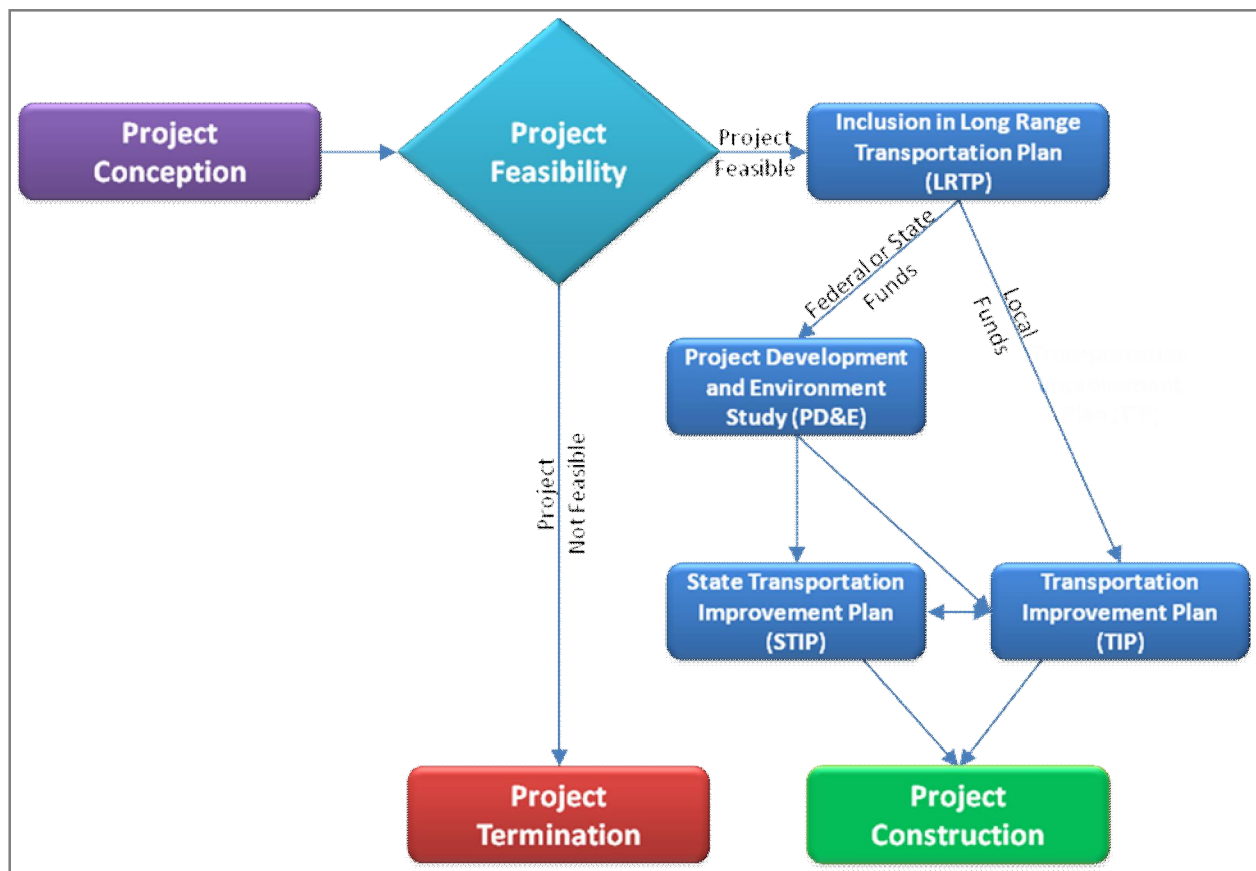
New bridge alignments have typically required Environmental Impact Statements (EIS). Hence Dania Beach Boulevard and realigned Old Griffin Road bridges may be required to be processed as an EIS. However, due to the smaller scale of these bridge projects, FHWA and FDOT may agree to process the projects as an EA or a CE.



## PROJECT IMPLEMENTATION

Based on the information obtained through coordination with regional agencies as well as the regional transportation planning process, an implementation plan was developed for the City's bridge projects. Figure 9 provides a simplified flow chart of the implementation tasks involved from project conception through the construction of a project in the regional transportation planning process. Since the City's proposed bridge projects are large scale transportation improvements, the implementation of these projects will more than likely involve several steps illustrated in the flow chart.

**Figure 9 – Project Implementation Flow Chart**





Each of these steps in the flow chart is described below along with the anticipated duration for each process.

### Project Conception

During the project conception stage the purpose, needs and goals of a project/objective are developed and stated.

### Project Feasibility

Once project conception is established, the next stage is assessing a project's feasibility. This step includes assessing fatal flaws of a project, preliminary alternatives screening, and elimination of unreasonable projects/alternatives. Basic description of the environmental setting and preliminary identification of environmental impacts can be completed at this stage.

During the planning phase, Efficient Transportation Decision Making (ETDM) screening can be used and is intended to improve the effectiveness of transportation planning early in the process by integrating the consideration of natural, cultural, and community resources. This is facilitated by improved coordination and communication between planning, regulatory and resource agencies, and with the public. In the planning phase of the ETDM process, the Environmental Screening Tool (EST) provides the Environmental Technical Advisory team (ETAT) and the public with information about environmental, social, and land use considerations that could influence how transportation projects are developed and implemented. The EST allows the ETAT to analyze the potential effects of proposed transportation projects on natural, cultural and community resources and communicate the evaluation results. These analyses are conducted during a planning screening that allows for the early identification of environmental and community issues that could influence the priority, alignment and/or design features of candidate transportation projects. The planning screen is only applied to major transportation improvement projects, including roadway and bridge widening (including the addition of auxiliary lanes), new roadways and bridges, and rail transit systems. Bridge replacement projects and county priorities in non-MPO areas using state or federal funding are evaluated in the programming screen discussed in the next section. The planning screen includes an evaluation of potential direct and indirect effects for proposed transportation projects. It also includes a system-level cumulative effects evaluation that is expected to influence future land use and transportation decisions in the comprehensive planning process. The results of the planning screen analyses are documented in a planning summary report that is posted in the EST.

### Inclusion in Long Range Transportation Plan

Once project feasibility has been established, the following activities are undertaken during the preparation of the long range transportation plan.

- (1) A systems-level, planning study is prepared to develop a program of cost feasible transportation improvements for the planning horizon year.
- (2) Public review through public meetings and outreach is held.



During the programming phase, the ETAT, District ETDM Coordinator, District Community Liaison Coordinator, and MPO update the planning screen evaluations based on newly available data and public involvement. Additionally, the programming phase has different objectives than the planning phase, and is focused on project-specific technical studies and analyses that are needed to satisfy NEPA and other applicable environmental laws and regulations, which are addressed during the Project Feasibility Phase. Priority projects may not have been evaluated during the Planning Phase. These projects will be evaluated by ETAT for the first time during the programming phase. Information about the priority projects, both new projects and projects from the planning phase, are loaded into the EST by MPO or FDOT planners, and the District ETDM Coordinator notifies the ETAT that projects are available for review. This notice to the ETAT begins the Intergovernmental Coordination and Review (ICAR) Process for both the Federal Consistency Review and initiation of the NEPA process, resulting in the Class of Action Determination and scoping for the future Project Development Phase. ETAT representatives review project and resource information available through the EST to determine the project effects. The public access website is available for all non-ETAT members. These reviews are conducted to determine effects on natural resources as well as cultural and community resources. ETAT representatives input their commentary about project effects into the EST. The ETAT representatives also identify and document the need for technical studies to be performed during the next phase, Project Development, to address project technical concerns. Information obtained from ETAT representatives during the Programming Screen is reviewed by FDOT in concert with FHWA and other co-lead federal agencies to provide the basis for the Class of Action Determination. This determination establishes the environmental documentation needed during Project Development to satisfy the requirements of NEPA. At the completion of the programming screen, the results are documented in the EST and included in the Programming Summary Report.

#### *Project Development and Environment (PD&E) Study/Inclusion in State Transportation Improvement Plan (STIP)*

For projects seeking Federal funds, a Project Development and Environment (PD&E) Study is required, as well as a review period for Federal Highway Administration (FHWA) and/or Federal Transit Authority (FTA), for the project to be included in the State Transportation Improvement Plan (STIP). Documentation of project decisions in a form that is identifiable and available for review during the National Environmental Policy Act (NEPA) scoping process is required; the PD&E Study accomplishes these requirements. Once the PD&E Study is complete, a project may be programmed in the STIP and becomes eligible to be designed, permitted, and constructed.

#### *Transportation Improvement Plan (TIP)*

Once a local project is included in the LRTP and funding sources have been identified and programmed, the project is programmed in the Transportation Improvement Plan (TIP) where it becomes eligible to be designed, permitted, and constructed.



## NEXT STEPS

The implementation of the City's bridge projects will involve extensive coordination with the Broward County MPO, the FDOT, the FIND, the FEC and several other federal review agencies. Due to the magnitude of these projects as well as the number of regional agencies involved, there are several steps that the City can take to position itself to receive federal funding for the bridge projects. The recommended next steps for the City to advance the bridge projects are provided below:

- Initiate coordination with the Florida East Coast (FEC) Railway to determine acceptable profile grades for the freight corridor to achieve desired vertical clearance
- Undertake a Concept Study to evaluate preliminary bridge concepts to provide the community, coordinating agencies, and other stakeholders an understanding of the project impacts. The findings of the Concept Study can be utilized in the PD&E study once it is initiated
- Initiate NEPA process through coordination with the FDOT to conduct Efficient Transportation Decision Making (ETDM) process
- Conduct PD&E Studies to conform with NEPA process
- Identify funding for PD&E, design and construction phases through various sources which may include:
  - Federal appropriations
  - Grants
  - State programs
  - Local funding sources

The following represents a general and approximate timeline for the implementation of the bridge projects once the PD&E process is initiated:

- |  |                |
|--|----------------|
| ▪ ETDM Screening                           | 4 – 6 months   |
| ▪ PD&E Studies                             | 18 – 60 months |
| ▪ Final Design and Permitting              | 18 – 36 months |
| ▪ Right-of-way Acquisition* (if necessary) | 12 – 24 months |
| ▪ Bidding and Construction                 | 24 – 48 months |

\* *Right-of-way acquisition can overlap with final design and permitting*