Florida Department of Transportation, District Four

Broward Commuter Rail

Project Development and Environment (PD&E) Study
Financial Management #: 417031-5-22-01
Efficient Transportation Decision Making #: 14474

BROWARD COMMUTER RAIL (BCR)
PROJECT DEVELOPMENT & ENVIRONMENT (PD&E) STUDY

STAY INFORMED and GET INVOLVED: www.browardcommuterrailstudy.com

PROJECT UPDATE

The Florida Department of Transportation (FDOT) District Four and Broward County are performing a Project Development and Environment (PD&E) Study for the Broward Commuter Rail (BCR) to provide commuter rail service for a 27-mile segment along the Florida East Coast (FEC) Railway from Aventura in Miami-Dade County to Deerfield Beach in Broward County.

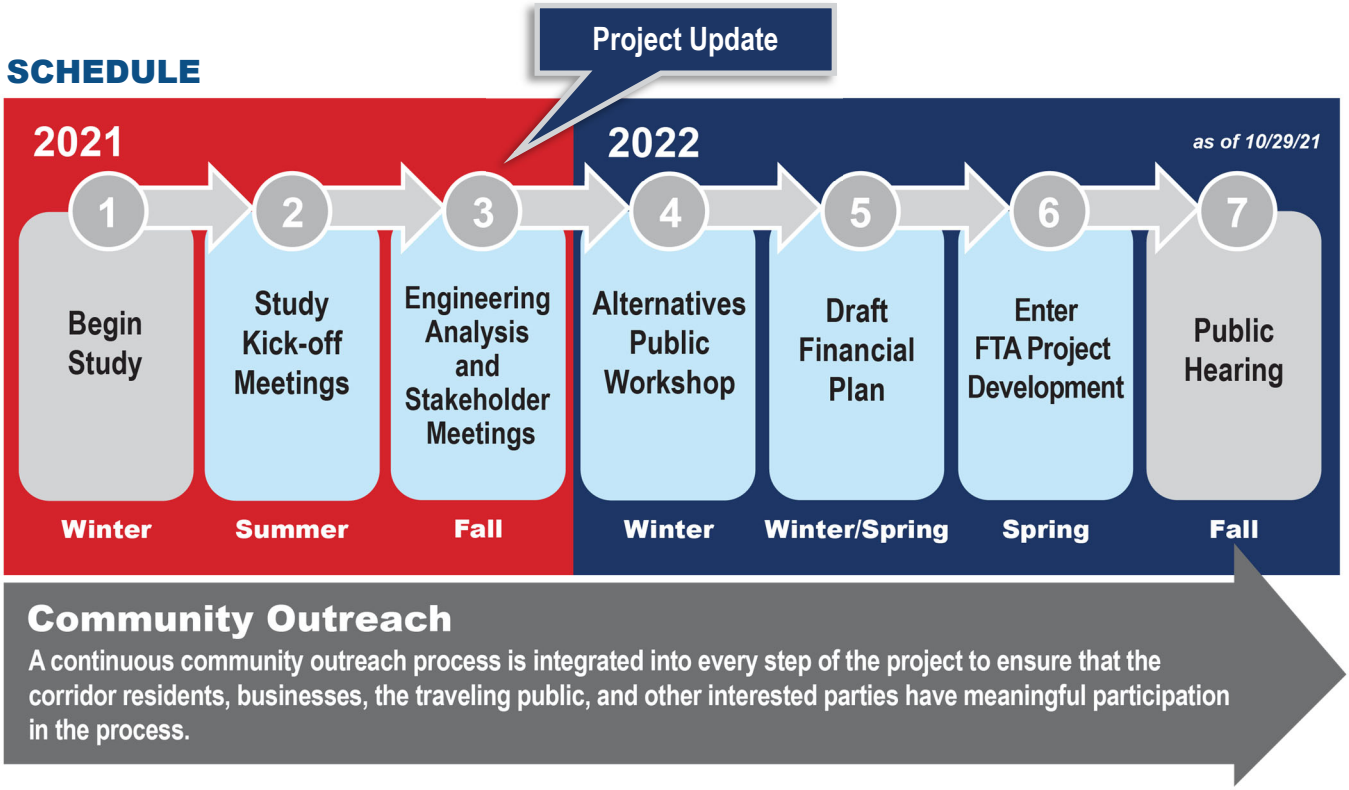
Broward County has a unique opportunity to improve transportation in the region and provide residents and visitors with more transportation choices. Commuter Rail, along with the Transit Oriented Development will provide the needed infrastructure that will help support the County's population and economic growth. Transit systems are designed to provide a mode of travel as an alternative to congested roadways to reduce traffic congestion and improve travel times for our community.

The project had tremendous public participation at the Public Kickoff Meetings in August 2021 with over 300 participants. At these meetings, the project team explained the PD&E process and associated analyses that will be completed during the study or had already been completed. Technical recommendations for station locations including the evaluation report, meeting materials, and recordings of those sessions are available on the project website.

The station locations and determining how the passenger rail facility will cross the New River in Fort Lauderdale are key aspects to consider in the recommendation of a Locally Preferred Alternative (LPA). An LPA is an alternative that is adopted as the desired alternative by the appropriate state and/or local agencies and elected official boards through the public involvement process and is identified as the preferred alternative as part of the National Environmental Policy Act (NEPA) process. The study has now progressed the analysis sufficiently for four New River Crossing (NRC) Alternatives, from the feasibility study completed in 2020, to conduct a workshop for NRC stakeholders. This newsletter will help explain the alternatives and the many factors that are being considered in their evaluations. The study goals for each alternative include:

- Improve connectivity and mobility
- Avoid, minimize, or mitigate potential impacts to environmental and community resources
- Enhance aesthetic/visual effects by including themes, decorative walls, landscaping, streetscaping, and architectural features for structure designs
- Minimize and mitigate any temporary impacts
- Evaluate cost effectiveness and cost feasibility

SCHEDULE



BROWARD COMMUTER RAIL (BCR)
PROJECT DEVELOPMENT & ENVIRONMENT (PD&E) STUDY

Florida Department of Transportation, District Four

Broward Commuter Rail

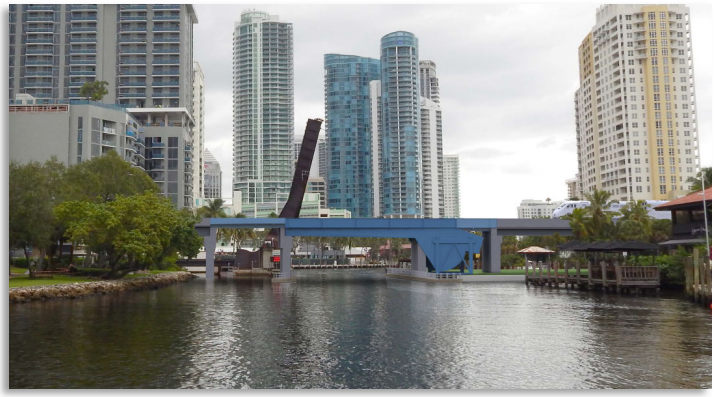
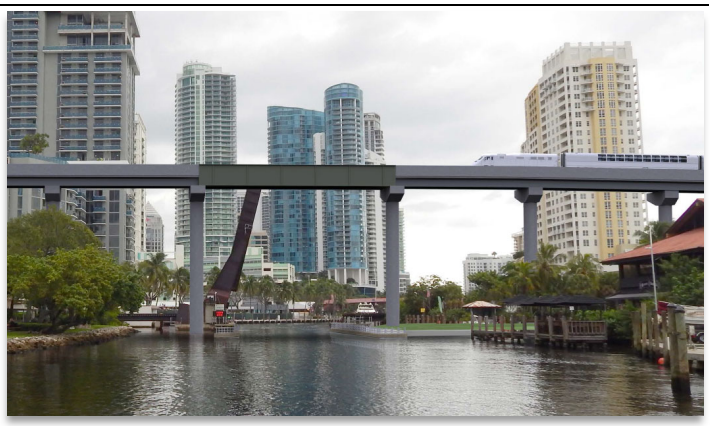
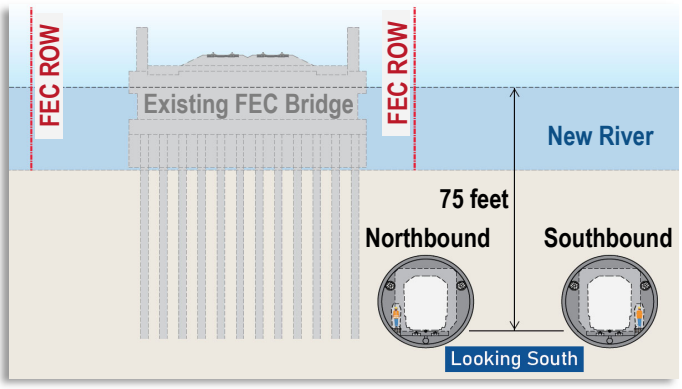
Project Development and Environment (PD&E) Study
Financial Management #: 417031-5-22-01
Efficient Transportation Decision Making #: 14474

BROWARD COUNTY FLORIDA

FDOT

STAY INFORMED and GET INVOLVED: www.browardcommuterrailstudy.com

NEW RIVER CROSSING ALTERNATIVES

Alternative		Considerations	Visual
Low-Level Bascule Bridge	• 25 feet clearance above water surface	• Accommodates approximately 90% of vessels when closed (Note: This does not accommodate 80% of the vessels from the Marinas)	
	• 1.1 mile overall length	• Minor impacts to existing station • Closes SW 5th St	
	• Bridge length = 1,400 feet	• Lowest Construction cost	
	• Station remains at-grade	• Lowest construction impacts	
	• Freight remains at-grade	• Bascule bridge requires operations and maintenance	
Mid-Level Bascule Bridge	• 56.5 feet clearance above water surface	• Accommodates approximately 99% of vessels when closed	
	• 2.8 miles overall length	• Requires elevated train station • Closes SW 7th St • Passenger trains pass over Broward Blvd	
	• Bridge length = 7,000 feet	• Moderate construction cost	
	• Elevated station	• Considerable construction impacts	
	• Freight remains at-grade	• Bascule bridge requires operations and maintenance	
High-Level Fixed Bridge	• 80 feet clearance above water surface	• Accommodates 100% of vessels	
	• 2.8 miles overall length	• Requires elevated train station • No street closures • Passenger trains pass over Broward Blvd	
	• Bridge length = 8,000 feet	• Moderate construction cost	
	• Elevated station	• Considerable construction impacts	
	• Freight remains at-grade	• No bascule bridge to operate and maintain	
Tunnel	• 75 feet below water surface	• Accommodates 100% of vessels	
	• 3.25 miles overall length	• Passenger trains pass under Broward Blvd • Closes SW 15th St	
	• Twin 25-foot diameter tunnels for 9,400 feet	• Highest construction cost	
	• Underground station	• Highest construction impacts	
	• Freight remains at-grade	• Tunnel requires operations and maintenance	

Note: The No-Build (no construction) alternative is also being evaluated and compared to the Build Alternatives throughout the PD&E study process.

NEW RIVER CROSSING (NRC) ALTERNATIVE CONSTRUCTION COSTS

While the overall project costs within the project limits are still being developed, the cost of the alternatives being considered for the NRC is a substantial element of the overall project costs. This section of the newsletter focuses on the NRC construction costs and associated key considerations.

Station impact is a key consideration of the New River Crossing alternatives' costs. Both the mid and high-level bridge alternatives require elevated stations, and due to the existing track configuration near the station, the structures must extend further north which increases the structure length for these alternatives considerably compared to the low-level bridge. The tunnel encounters the same challenge as it requires an underground station and must be extended to the north to connect with the existing tracks.

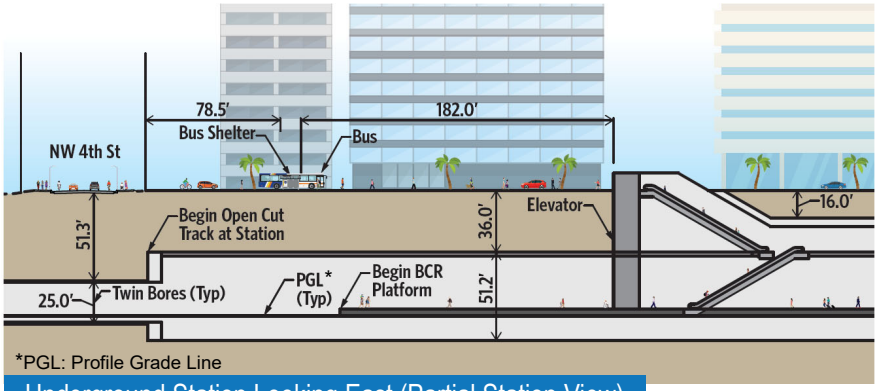
The construction cost estimates developed for the four NRC alternatives follow the Federal Transit Administration (FTA) guidance for both professional services and contingencies which accounts for a large percentage of the overall construction costs. Below is a summary table that reflects the estimated construction costs for each alternative, as well as a standard range of 10% below to 35% above the estimated construction costs. It is important to note that these estimates are prepared with very preliminary information and incorporate the most recent data from the industry and will be monitored and updated as the project progresses.

New River Crossing Alternatives	Construction Cost Range (in Millions)*
Low-Level Bascule Bridge (25' Clearance)	$216 M to $324 M
Mid-Level Bascule Bridge (56.5' Clearance)	$400 M to $600 M
High-Level Fixed Bridge (80' Clearance)	$407 M to $611 M
Tunnel	$1,640 M to $2,460 M

**Costs represent the NRC alternative limits only that range from 1.1 miles to 3.25 miles. The remaining 24-26 project miles are not included in these costs.*

The tunnel construction cost estimates have been a key focus of the study since tunneling is not common in Florida; the estimate has undergone a peer review by external additional tunnel experts to help ensure its accuracy. The table to the right represents a summary key components of the estimate, which also includes the professional services and contingency items that are required to achieve consideration for federal funding.

It should be noted that the tunnel alternative includes two 25-foot bores that will accommodate diesel passenger trains and include all life-safety requirements including ventilation and cross-passages. The actual tunnel bore and tunnel shell cost turns out to be only 10.4% of the direct construction costs of the tunnel alternative, as shown on the table to the right.



Underground Station Looking East (Partial Station View)

Accommodating the station north of Broward Blvd is a key consideration when evaluating the NRC alternatives

Construction Category	Tunnel Alternative Construction Cost Estimate ($ Millions)
Mobilization and Traffic Control	$57 M
Roadway and Bridge (Roadway)	$15 M
Tunnel	
Bore	$152 M
Dewatering & Precast Panels	$48 M
Cross Passages	$10 M
Portals (Tunnel Entrances/Exits)	
Earthwork	$10 M
Structural	$205 M
Dewatering	$15 M
Underground Station	
Earthwork	$40 M
Structural	$88 M
Dewatering	$15 M
Tunnel - Secant /Curved Walls	$173 M
Building	$81 M
Trackwork	$27 M
Train Signals and Control	$29 M
Ventilation, Power, and Lighting	$111 M
Communications	$32 M
Utilities	$14 M
Professional Services	$336 M
Total	$1,458 M
Contingency (25%)	$364 M
Total with Contingency	***$1,822 M***

Cost at New River Crossing only. Does not include total project costs.

Florida Department of Transportation, District Four

Broward Commuter Rail

Project Development and Environment (PD&E) Study
Financial Management #: 417031-5-22-01
Efficient Transportation Decision Making #: 14474

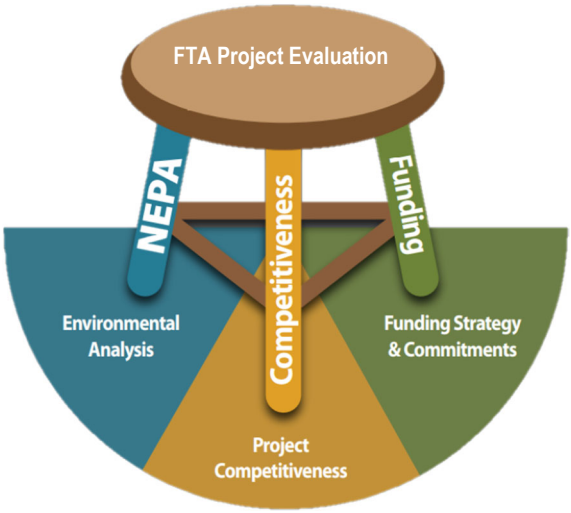
BROWARD COMMUTER RAIL (BCR)
PROJECT DEVELOPMENT & ENVIRONMENT (PD&E) STUDY

STAY INFORMED and GET INVOLVED: www.browardcommuterrailstudy.com

MOVING FORWARD

The PD&E study continues to evaluate the various crossing alternatives at the New River in Fort Lauderdale while conducting preliminary engineering efforts, stakeholder coordination, environmental reviews, and public engagement to formally select a Locally Preferred Alternative (LPA) for the project.

Identification of an LPA is a critical step in pursuit of federal funding. The selection of an LPA tells FTA which alternative local agencies expect to be the most competitive in achieving support at the local, regional, and federal levels. All transit projects receiving federal funds or transit projects that involve major federal actions must work with FTA to complete the Project Development and Engineering Phase to enter into a Full Funding Grant Agreement (FFGA) in order to receive funding to build the project. The Capital Investment Grant (CIG) Program is FTA's primary grant program for funding major transit capital investments. Federal legislation sets forth requirements for evaluating and rating transit projects seeking federal funds.



U.S. Department of Transportation
Federal Transit Administration

As part of the overall project rating, project justification criteria outlined by law includes: **mobility improvements, environmental benefits, congestion relief, economic development, land use, and cost-effectiveness**. The law also requires transit projects that seek federal funds to be supported by an acceptable degree of local financial commitment including evidence of stable and dependable financing sources to construct, maintain, and operate the transit system and maintain and operate the entire public transportation system without requiring a reduction in existing services.

Project Development and Environment (PD&E) Study

- **Preliminary Engineering**
- **Alternatives evaluation to enhance, avoid, minimize, or mitigate potential environmental impacts**
- **Coordination with stakeholders, federal, state, and local agencies**
- **Engage the public in the alternatives evaluation process**
- **Recommendation of a Locally Preferred Alternative that satisfies the Federal Transit Administration NEPA* process with evaluation of the following:**
  - ⇒ *Cost Feasibility*
  - ⇒ *Engineering*
  - ⇒ *Environmental/Social*
  - ⇒ *Public Involvement*

**NEPA: National Environmental Policy Act*

UPCOMING EVENTS

- Alternatives Public Workshop - Winter (JAN 2022)
- Recommendation of LPA - Winter 2022
- Broward County Commission LPA Vote - Winter/ Spring 2022
- Entry to FTA Project Development - Spring 2022
- Public Hearing - Fall 2022
- Broward Metropolitan Planning Organization Adopts LPA - Fall 2022
- Location and Design Concept Acceptance (PD&E Study Approval - Early 2023

FLORIDA DEPARTMENT OF TRANSPORATION MISSION STATEMENT

The Department will provide a safe transportation system that ensures the mobility of people and goods, enhances economic prosperity, and preserves the quality of our environment and communities.

Project Manager Contact Information

Phil Schwab, P.E.
Florida Department of Transportation, District Four
3400 W. Commercial Boulevard
Fort Lauderdale, FL 33309
954-777-4524
866-336-8435
Phil.Schwab@dot.state.fl.us

Project Website:
www.browardcommuterrailstudy.com