



FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT), DISTRICT 4  
BROWARD COUNTY, FLORIDA • FPID: 448942-1

Project Update for:  
Downtown Fort Lauderdale Civic Association  
Project Update  
February 17, 2022

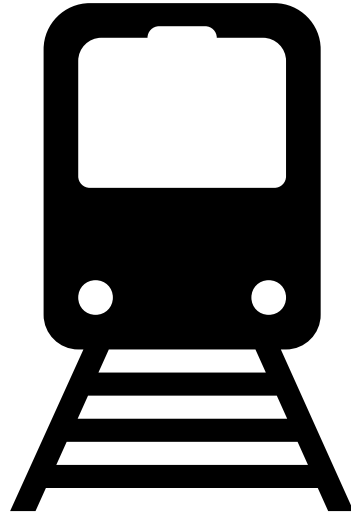


- ❑ **Project Background and Overview**
- ❑ **Locally Preferred Alternative (LPA) considerations and process**
- ❑ **New River Crossing Alternatives**
- ❑ **Project Costs and Funding**
- ❑ **Next Steps**



# Background:

## What is *Commuter Rail?*



### Key Characteristics:

1. Typically shares tracks on freight rail lines.
2. Historically has served white collar workers commuting to work in large cities from outlying suburban residential areas.
3. Requires wider spacing of stations to allow relatively heavier locomotives to reach higher average speeds
4. Leverages existing infrastructure, but provides less options for locomotive types (third rail & overhead catenary lines normally not feasible).
5. Safety and traffic considerations for at-grade crossings.

### Transit Rail Modes:

- **Light Rail** (e.g., TECO Street Car in Tampa, Dart in Dallas) :
  - Routes typically 5-15 miles,
  - Avg. speeds 10-30 mph
  - ¼ - 1 mile typical station spacing
  - Frequency 10-20 minutes (5 @ peak)
- **Heavy Rail** (e.g., MetroRail Miami, Wash. DC Metro, MARTA, NYC Metro):
  - Routes from 5-15 miles
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  - ½ to 2-mile typical station spacing
  - Dedicated rail lines. grade separated. elevated or subway tracks
- **Commuter Rail** (e.g., Tri-Rail, SunRail, WA Sounder, Caltrain, Metro North NY):
  - Routes from 20-50 miles,
  - Avg. speeds 30-50 mph
  - 2 ½ - 5 mile typical station spacing
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- **High Speed Rail** (Brightline, Acela Express, Bullet train Japan):
  - Much longer routes (NY-Wash = 250 miles)
  - Avg. speeds: 50-250 mph
  - Inter-City station spacing (25+ miles)
  - Frequency: 1 hour +



**MOBILITY** – More and enhanced Transit options can increase transit use, improve travel times and provide congestion relief on roadways



**ENHANCE QUALITY OF LIFE** - Enhances quality of life by increasing mobility, transportation choices, and access to jobs and services



**ECONOMIC & RESIDENTIAL GROWTH** - Economic development increases tax base, affordable/workforce housing incentives, and funding and use of overall transit facilities



**COMMUTER RAIL BENEFITS FOR EMPLOYERS** - Employer benefits include access to a wider talent pool and enhanced productivity



**ENVIRONMENTAL** - Environmental benefits include sustainability, reduced vehicle emissions, and cleaner air



# Overview of Project

- ❑ Broward MPO endorsed Tri-Rail Coastal Link (TRCL) LPA in 2010 and is unfunded in needs plan (MTP)
- ❑ Miami-Dade has advanced the NE Corridor Project from Aventura to Downtown Miami with FTA
- ❑ Per Memorandum of Understanding (MOU)
  - FDOT will lead the environmental study and technical analysis
  - Broward County is responsible for the access fee, maintenance, operations, the Finance Plan and Consensus Building
- ❑ Aventura to Deerfield Beach (27 miles of the FEC corridor)
- ❑ Technical recommendations have been made for 6 station locations (general) in Broward
- ❑ Coordination with Brightline, FECR, USCG, FTA, MPO, municipalities, Broward and Miami-Dade Counties
- ❑ Stakeholder meetings and workshop focused on the New River Crossing



- ❑ Study is being conducted in coordination with many parties that have an interest in the FEC railroad corridor
- ❑ Shared-use corridor with FEC freight trains and intercity (Brightline) passenger trains
- ❑ Florida East Coast Railway, L.L.C. owns the FECR right of way and operates freight service
- ❑ Brightline operates inter-city passenger rail trains via a passenger easement in the corridor





- **Over 227 attendees at the recent Alternatives Public Workshop**
  - 183 Virtual, 44 In-Person
  - 10 Elected Officials (3 county commissioners)
  - Virtual Meetings have been posted on project website as well as exhibits



- **Most common topics included:**

- Safety
  - Number of Trains (particularly rush hour)
  - Overall Impacts to Vehicles, Boats, Pedestrians and Bicyclists
  - Quiet Zone Concerns
  - Costs and Fundings
  - Schedule and 'Rush' to LPA
  - Some associations have requested separate meetings with their groups
- **Broad support for the project (The City of Oakland Park has received over 350 signatures through their website on a form to support the project)**
  - **Many city of Fort Lauderdale stakeholders support the tunnel, including the city commission (passed resolution supporting Tunnel alternative)**
  - **Also, public concern over potential costs of the project as well as potential risks with the tunnel alternative**



- ❑ LPA must be approved by Broward County Commission and also approved by Broward MPO prior to entering the FTA Project Development and NEPA process
- ❑ Approval of an LPA is not a commitment to fund and build the project
- ❑ Primary LPA components include:
  - Mode – Commuter Rail Transit
  - Technology – Push-pull locomotive
  - Alignment – Florida East Coast Railroad Corridor, utilizing Brightline passenger rail easement and crossing of the New River
  - Recommended Station Locations
    - Deerfield Beach (south of Hillsboro Blvd.)
    - Pompano Beach (north of Atlantic Blvd.)
    - Oakland Park (north of Oakland Park Blvd.)
    - Ft. Lauderdale (Downtown Brightline Station)
    - Airport Station (joint station with Brightline)
    - Hollywood (north of Hollywood Blvd.)
  - Selection of an alternative to cross the New River
    - Low-Level Bascule Bridge
    - Mid-Level Bascule Bridge
    - High-Level Fixed Bridge
    - Tunnel

**Note:** Significant opposition to selected/approved LPA could cause delays and/or result in the project not being allowed into FTA's Project Development or requiring a more significant environmental document (EIS).

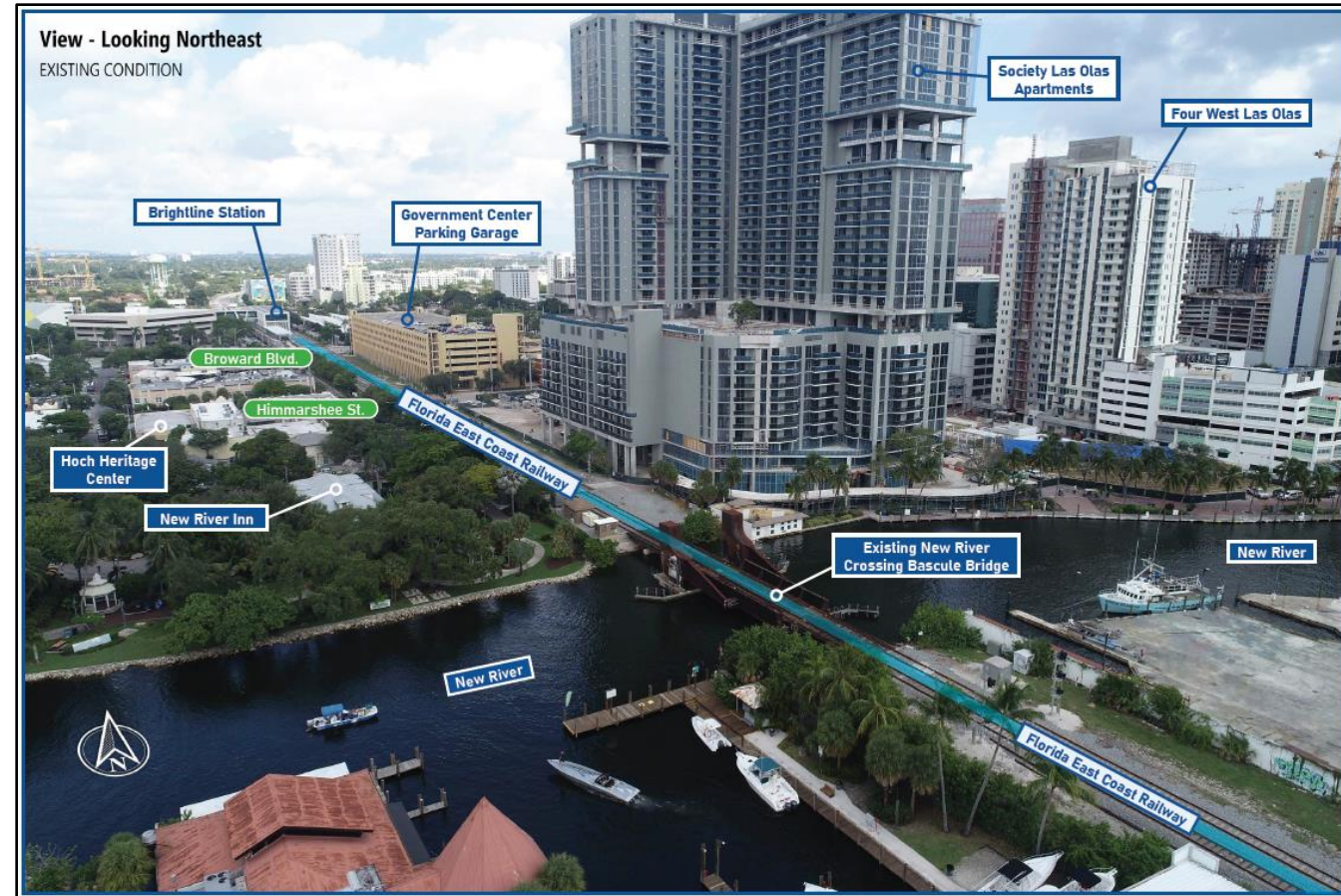


## ❑ Considerations

- Navigation
- Freight and Brightline operations
- Downtown Station (existing Brightline Station) and access to it
- Historic District
- Numerous communities in downtown area (RW, Noise, Visual, other)
- Connectivity of neighborhoods (bike, ped, vehicle)
- Vehicle Traffic Operations

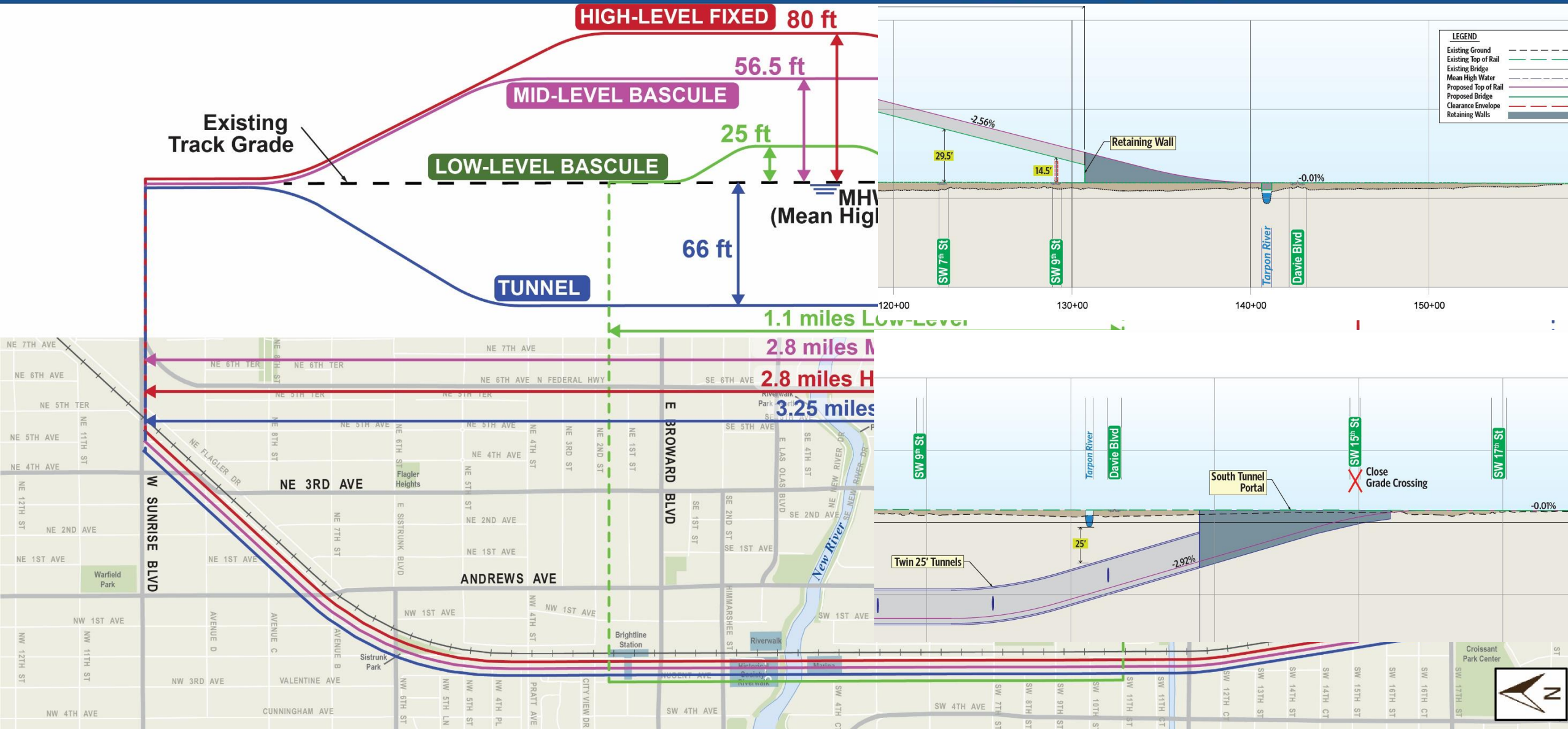
## ❑ Four Crossing Alternatives

- Low-Level Bascule Bridge: \$240\* Million
- Mid-Level Bascule Bridge: \$444\* Million
- High-Level Fixed Bridge: \$452\* Million
- Tunnel: \$1.82\* Billion



\*Note: Preliminary construction cost estimates shown, do not include RW costs.

# Alternatives Overview



Note: The lengths shown above includes the crossing alternative length plus necessary rail track work associated with each alternative.

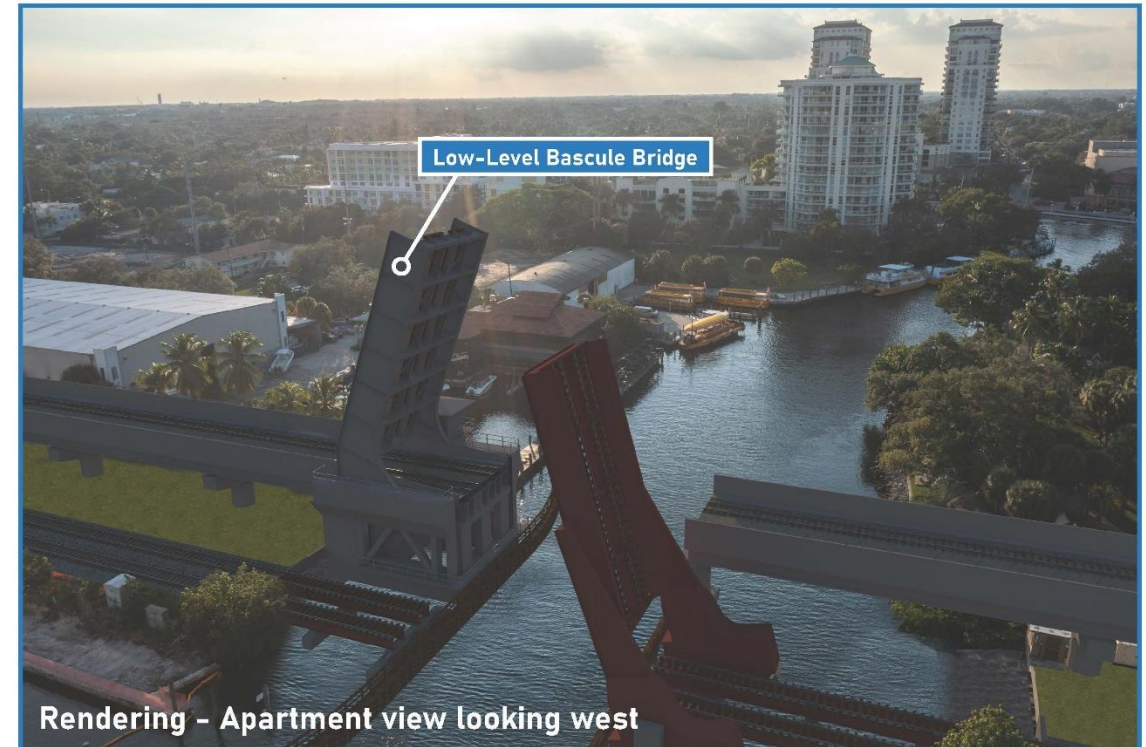
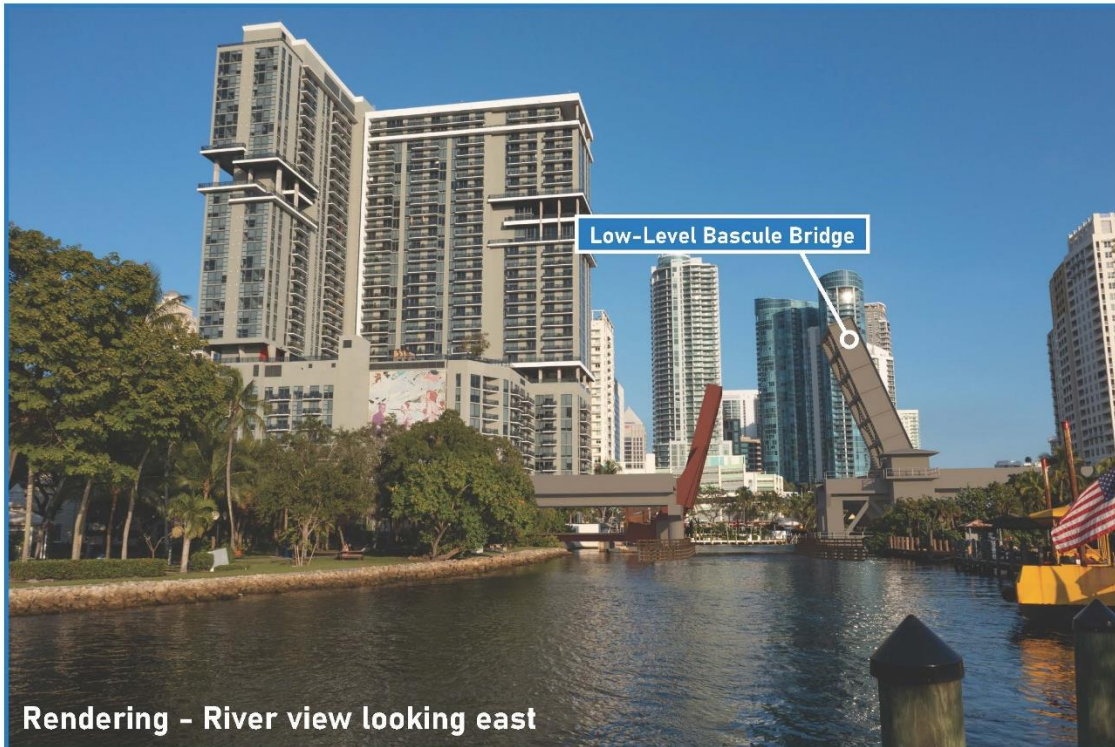


## ❑ Benefits

- 25-foot clearance above water surface
- 90% of vessels pass when bridge is closed (Note: 80% of the boats serviced by marinas are large and require the bridge to open to pass)
- Existing Brightline station can remain at-grade with minor modifications
- Lowest construction cost and disruption
- Least number of right of way impacts

## ❑ Challenges

- Large pier/column to support bascule
- Bascule bridge requires annual operations and maintenance
- Bridge tender needed full-time
- Closes SW 5th Street
- Passenger trains remain at-grade across Broward Boulevard



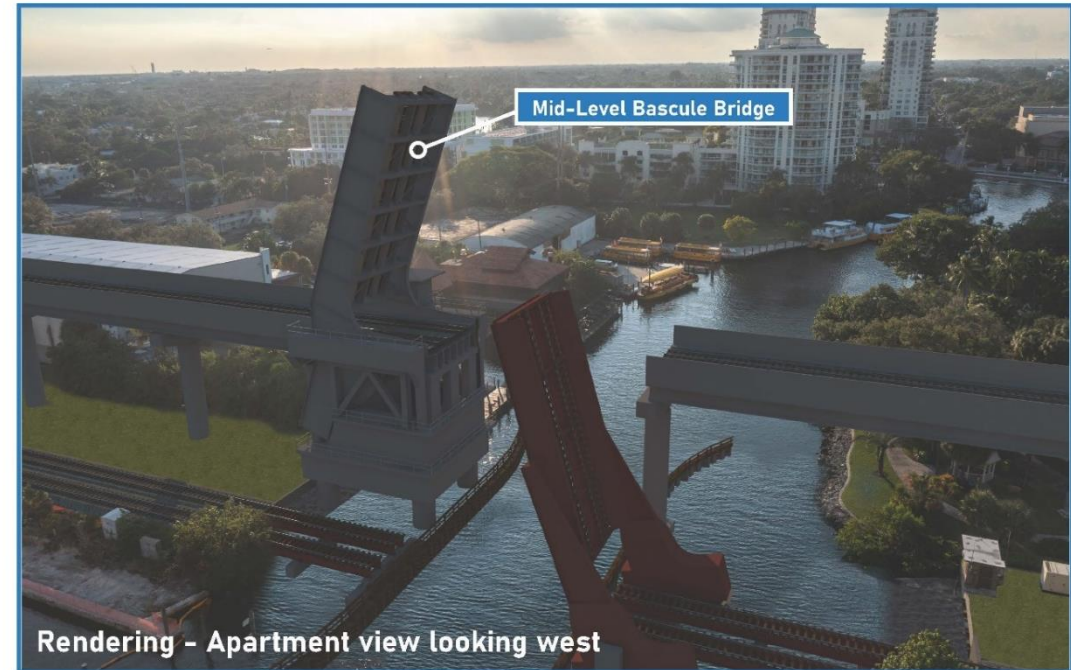
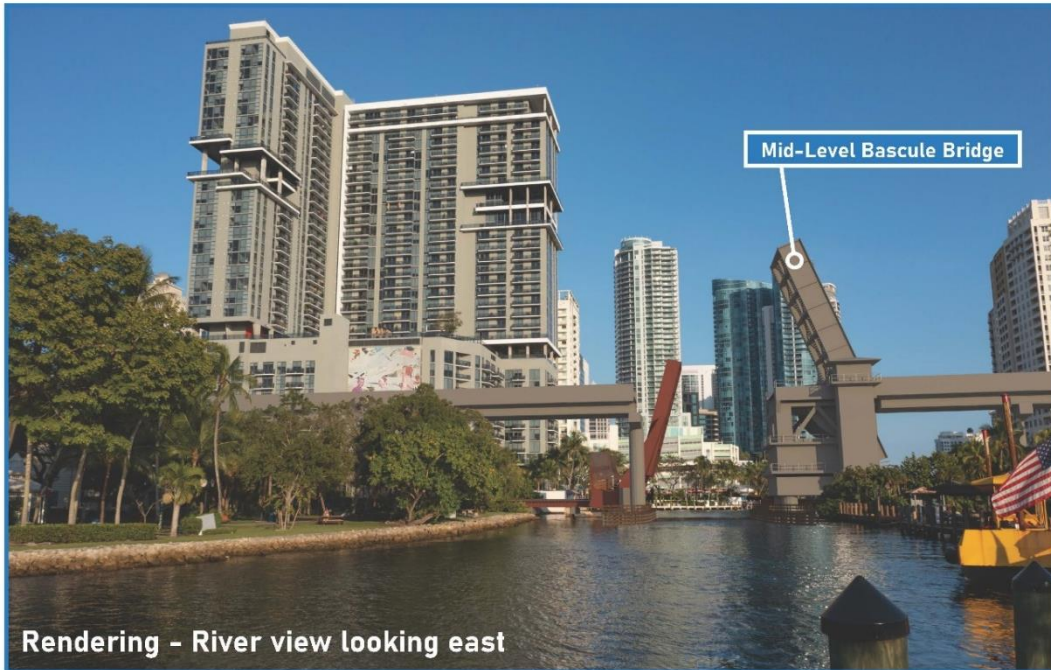


## ❑ Benefits

- 56.5-foot clearance above water surface
- 99% of vessels pass when bridge is closed
- No cross street closures
- Passenger trains pass over these cross streets: N Andrews Avenue, Sistrunk Boulevard, N 4th Street, Broward Boulevard, Himmarshee Street, SW 5th Street, SW 6th Street, SW 7th Street, and SW 9th Street

## ❑ Challenges

- Large pier/column to support bascule
- Higher costs compared to Low-level alternative
- Higher number of right of way impacts compared to Low-Level alternative
- Bascule bridge requires annual operations and maintenance
- Bridge tender needed full time
- Requires elevated station
- Short segment of SW 2nd Avenue closed between SW 10th Street and SW 11th Street



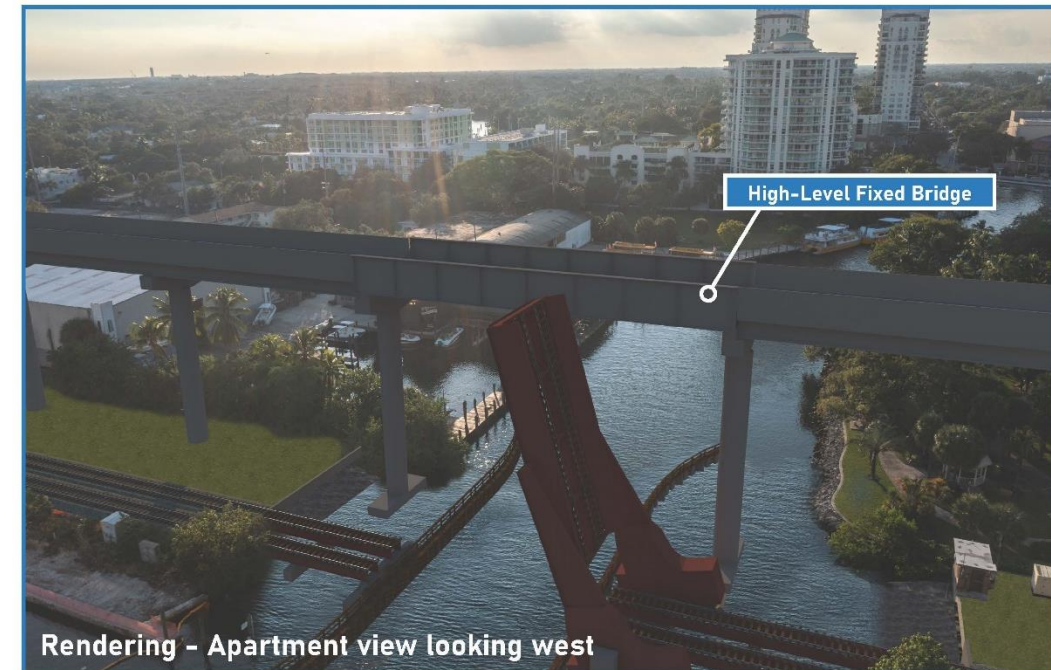
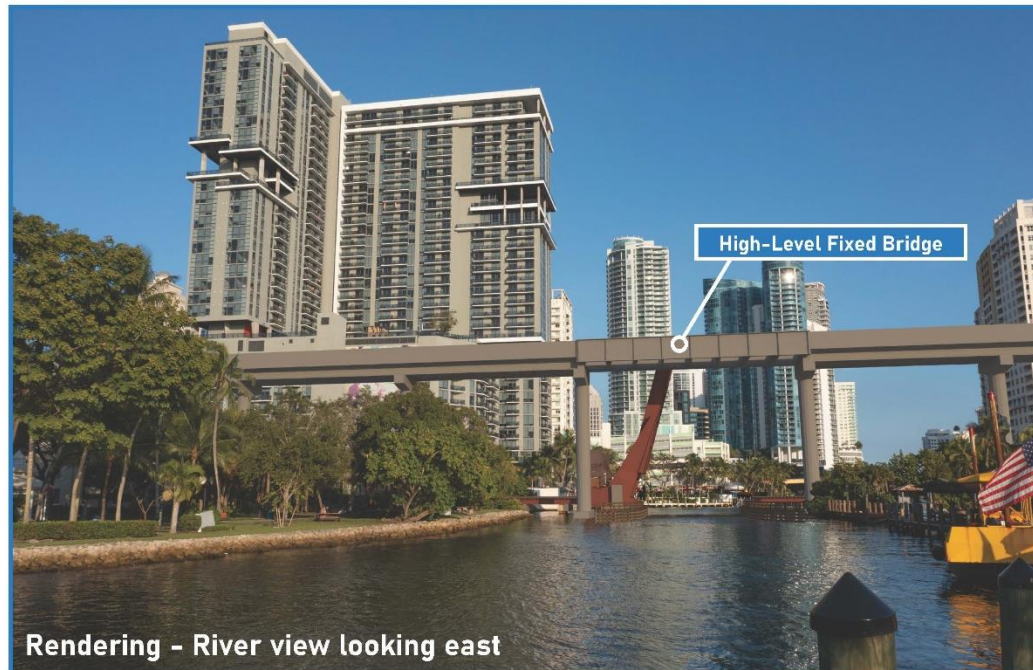


## □ Benefits

- 80-foot clearance above water surface
- 100% of vessels able to pass under bridge
- No cross street closures
- Passenger trains pass over these cross streets: N Andrews Avenue, Sistrunk Boulevard, NW 4th Street, Broward Boulevard, Himmarshee Street, SW 5th Street, SW 6th Street, SW 7th Street, and SW 9th Street
- No bascule bridge pier required to cross the river
- No bascule bridge to operate and maintain
- Lowest operations and maintenance cost alternative

## □ Challenges

- Higher construction cost compared to Low-Level alternative
- Higher number of right of way impacts compared to Low-Level alternative
- Requires elevated downtown station
- Short segment of SW 2nd Avenue closed between SW 10th Street and SW 11th Street



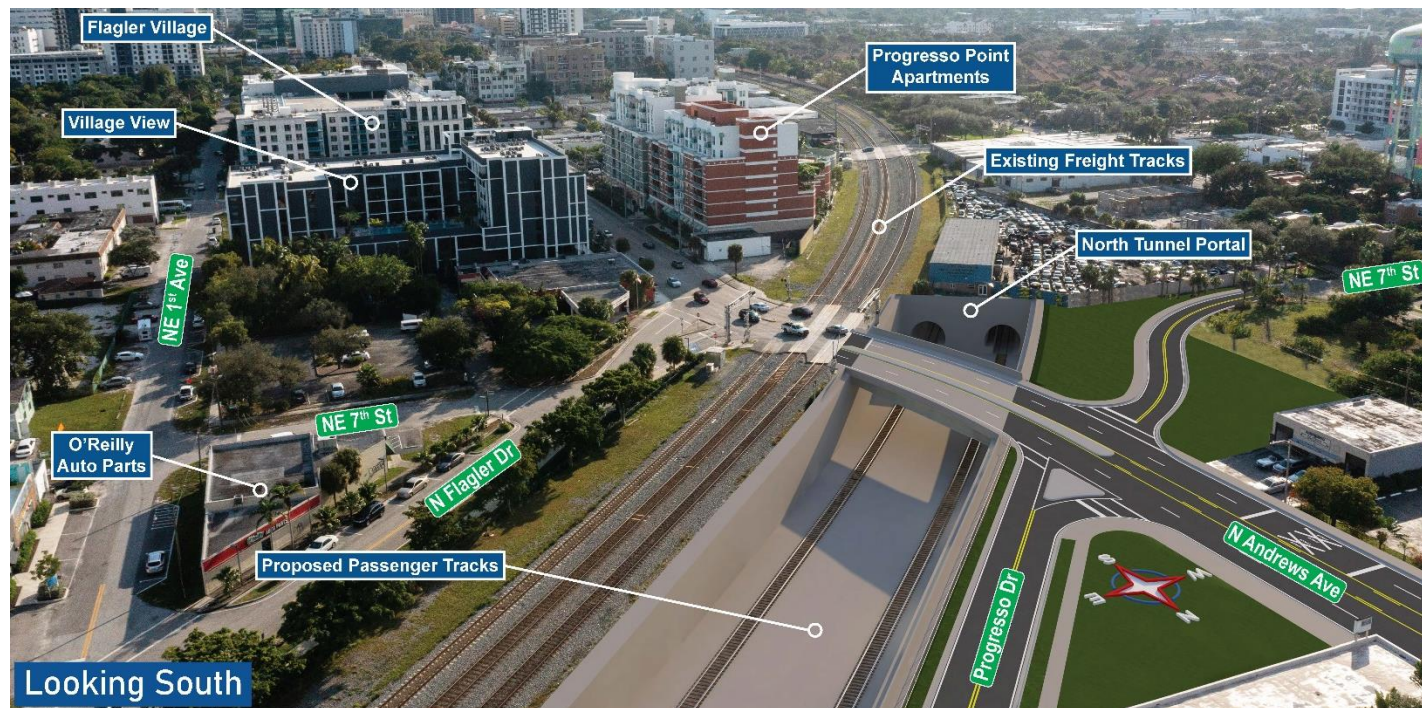


## Benefits

- Eliminates vertical clearance issue at New River
- Avoids temporary impacts to the river
- No additional permanent impediment to navigation
- 100% of vessels able to pass
- Passenger trains pass under these cross streets: N Andrews Avenue, Sistrunk Boulevard, N 4th Street, Broward Boulevard, Himmarshee Street, SW 5th Street, SW 6th Street, SW 7th Street, SW 9th Street, and Davie Boulevard

## Challenges

- Highest construction cost of all the New River Crossing Alternatives
- Highest number of right of way impacts
- Tunnel has additional operations and maintenance costs: jet fans, air conditioners, pumps, lights, tunnel wall sealing, ventilation, sensors, cameras, underground station, tunnel cleaning, etc.
- Passenger rail station must be relocated underground
- NE 5th Terrace at Sunrise Boulevard intersection closure
- Closes SW 15th Street
- Additional bridge at Andrews Avenue
- Portals are required at tunnel openings





- ❑ **Proposed Right of Way – Purchase of full property rights of the area needed to construct, secure, and operate the Broward Commuter Rail**
- ❑ **Aerial Easement – Purchase of rights to construct, operate and maintain the Broward Commuter Rail above the property, that will allow the property owner to use the area below the structure overhang**
- ❑ **Underground Easement – Purchase of rights to construct, operate and maintain a tunnel below the property, that will allow the property owner to use the property above the tunnel**

		New River Crossing Alternatives								
Description/Alternative	BCR Corridor		Low-Level Alternative		Mid-Level Alternative		High-Level Alternative		Tunnel Alternative	
Type of Property Impact	Number	Area (Acres)	Number	Area (Acres)	Number	Area (Acres)	Number	Area (Acres)	Number	Area (Acres)
Number of Properties Affected (Private Owners)	36		0		34		34		103	
Proposed Right of Way (Slivers) (From Private Owners)	36	7.5	0	0	32	2.4	32	2.4	58	5.1
Proposed Aerial Easements (From Private Owners)	0	0	0	0	8	0.3	11	0.3	0	0
Proposed Underground Easements	0	0	0	0	0	0	0	0	48	12.3

- ❑ Projection based on
  - FTA STOPS model for Design Year 2045
  - Developments approved in the MPO plans
- ❑ BCR ridership projected at 9,500 daily riders
- ❑ BCR and NE Corridor combined ridership of 24,000 (Broward and Miami-Dade)
- ❑ Compares favorably to other commuter rail systems in Florida (pre-COVID data)
  - Tri-Rail averages 14,900 daily riders as a mature system
  - SunRail averages 4,100 daily riders as a new system
- ❑ Ridership grows as development occurs and population density increases
- ❑ Function of stations and train frequency – balance between access and travel time
- ❑ Future stations can be added once BCR is operational, similar to Tri-Rail
- ❑ Project's cost-benefit ratio (cost per rider) is a key to obtaining federal funds



## New River Crossing Alternative Cost Table (\$2021)

Alternative	Low-Level Bascule	Mid-Level Bascule	High-Level Fixed	Tunnel
<b>New River Crossing</b>	\$240 M	\$444 M	\$452 M	\$1.82 B <sup>4</sup>
<b>Right-of-Way (Private)</b>	\$0	\$98 M	\$98 M	\$148 M
<b>Operations &amp; Maintenance<sup>1</sup></b>	- Bridge Tender - Mechanical Systems	- Bridge Tender - Mechanical Systems	- Regular Maintenance	- Underground Station - Ventilation Systems

## Corridor Cost Table (\$2021)

<b>Corridor Capital Cost<sup>2</sup></b>	\$495 M			
<b>Right-of-Way (Stations)</b>	Under Analysis will be the same for each alternative			
<b>Total Capital Cost</b>	\$735 M	\$1.04 B	\$1.05 B	\$2.46 B

## Other Project Cost Table (\$2021)

<b>Operations &amp; Maintenance<sup>1</sup></b>	\$18 - \$28 M	\$18 - \$28 M	\$17 - \$27 M	\$18 - \$28 M
<b>Access Fee and Agreements<sup>3</sup></b>	TBD			

<sup>1</sup> O&M costs are per year and are not calculated in the total cost. There are differences among the NRC alternatives , with the tunnel O&M costs expected to increase in the outer years.

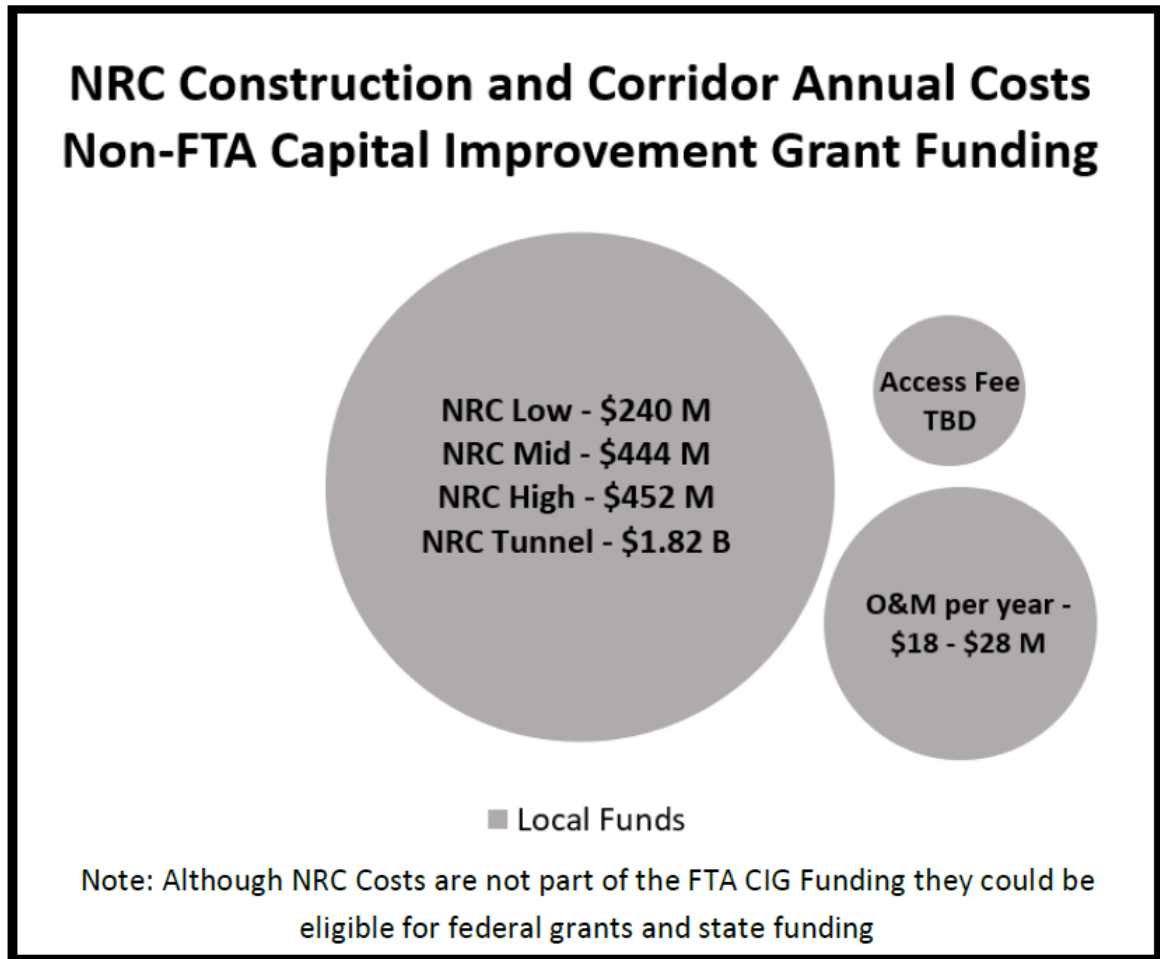
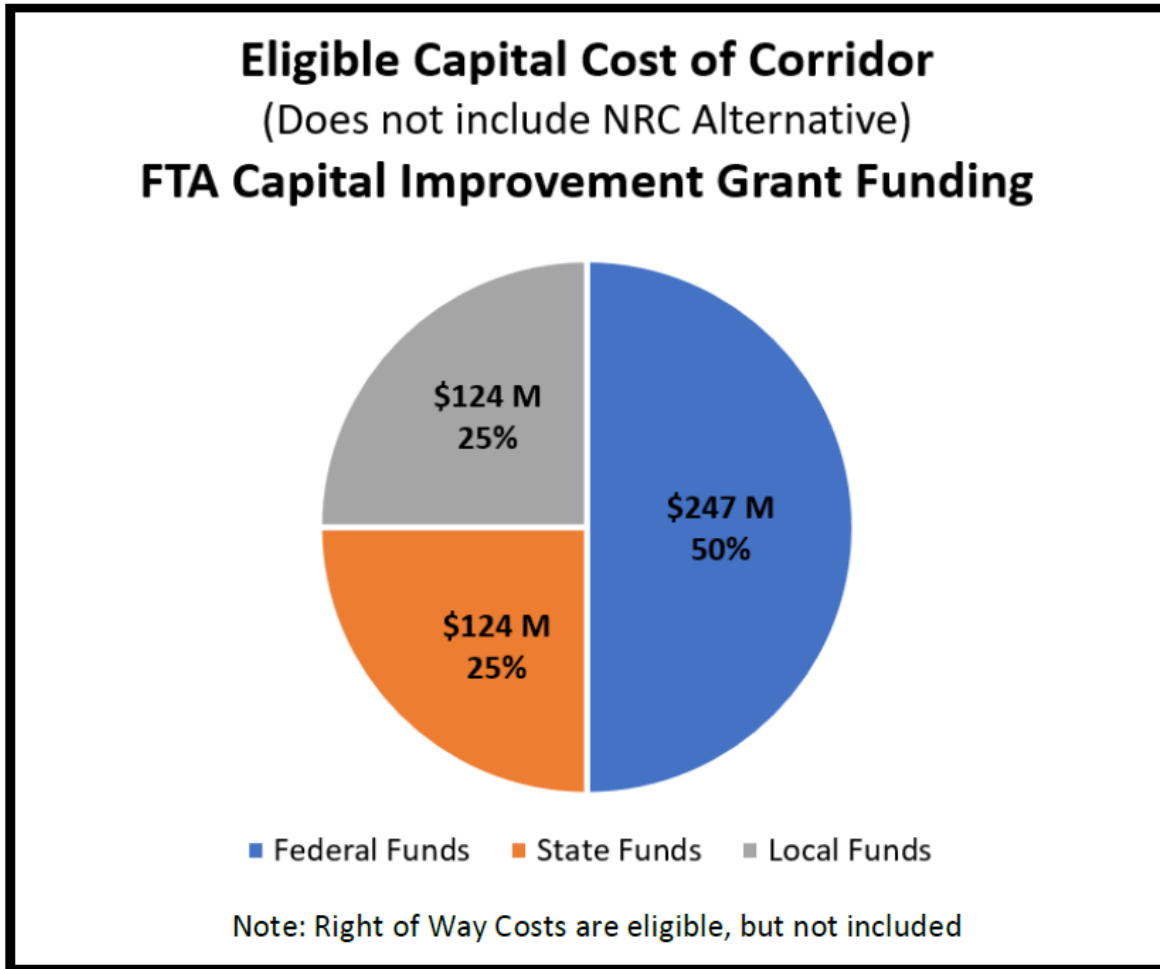
<sup>2</sup> Capital Cost Includes Construction, Stations, Vehicles, Yards, Parking, etc. (Costs shown are in 2021 dollars and will need to be escalated for year of expenditure

<sup>3</sup> Access Fee and Agreements - A negotiated fee to allow commuter trains to use the Brightline passenger easement on the FEC corridor, also may need to cover potential compensation for temporary and permanent operational impacts associated with the New River Crossing and station impacts

<sup>4</sup> Tunnel construction cost does not address potential need for resiliency infrastructure that may be necessary, such as portal covers, additional pumps, salt water intrusion protection



- ❑ Capital Improvement Grant (CIG) funding is competitive, and the capital cost must meet FTA's cost effectiveness requirements.
- ❑ Corridor cost is split funded (per the graphs below) and the NRC Capital Cost, Corridor Access Fee, and Operations and Maintenance are local responsibilities.



- ❑ The LPA will be refined and evaluated against the No-Build Alternative during the NEPA environmental process.
- ❑ Subject to change: All categories will require further analysis as the project continues.

Evaluation Category	Low-Level Bascule	Mid-Level Bascule	High-Level Fixed	Tunnel
Navigational Accommodations	Orange	Yellow	Teal	Teal
Vehicular Traffic Operations	Orange	Yellow	Yellow	Teal
Socio-Cultural Resources (Historic)	Yellow	Yellow	Yellow	Teal
Contamination Risk	Teal	Yellow	Yellow	Orange
Resiliency	Yellow	Teal	Teal	Orange
Right-of-Way Impacts	Teal	Yellow	Yellow	Orange
Noise	Yellow	Yellow	Yellow	Teal
Neighborhood Connectivity - Bicycle/Pedestrian/ Vehicle Local Connections	Yellow	Teal	Teal	Orange
Operations and Maintenance Costs (O&M)	Yellow	Yellow	Teal	Orange
Capital Costs	See Cost Table on Slide 14			

Worst Better Best



## Process to Enter FTA Project Development (starts with an LPA)

County Commission selects an LPA

- Mode, Technology, Alignment, Stations and NRC
- Does not commit the county to funding and building the project

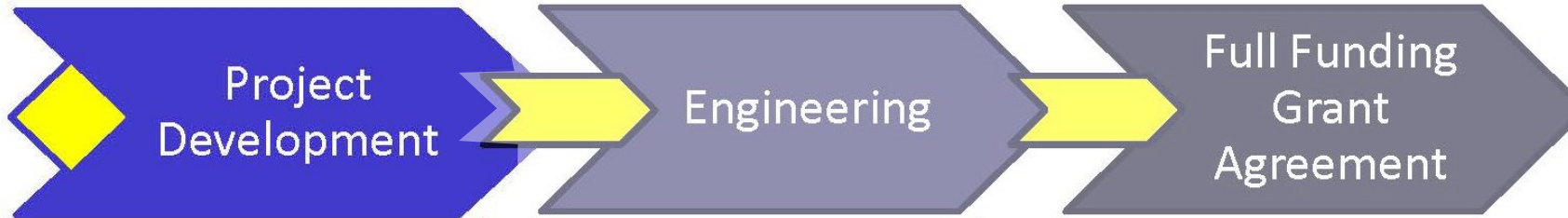
Gain resolutions supporting LPA decision from cities and Stakeholders as necessary

MPO Concurs/Approves LPA

- Amends work program that includes Project Development funding only

Submit Class of Action checklist and preliminary analysis which includes the environmental screening and support of the LPA requesting entry into Project Development

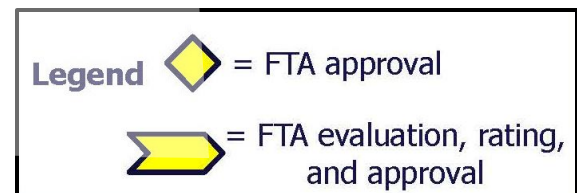
## FTA New Starts Process



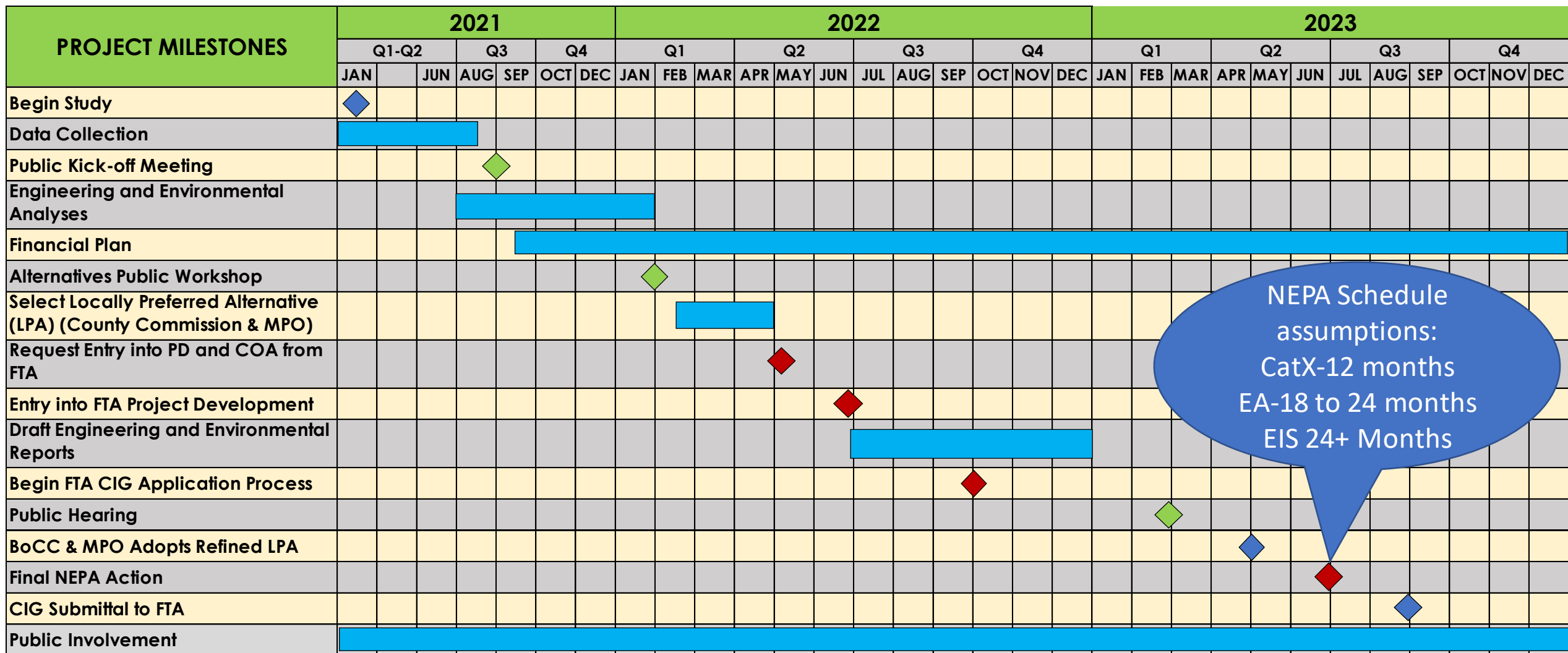
- Complete environmental review process including refining the LPA and evaluating versus No-Build
- Adopt LPA into the fiscally constrained Metropolitan Transportation Plan
- Conduct Public Engagement

- Gain commitments of all non-New Starts funding
- Complete sufficient engineering and design

- Construction



# PD&E Study Milestone Schedule



NEPA Schedule assumptions:  
 CatX-12 months  
 EA-18 to 24 months  
 EIS 24+ Months

**NOTE: Design can begin in 2023, with R/W acquisition and construction could begin in 2025 with initial operations potentially starting in 2028, depending upon adoption of the Refined LPA and associated access agreement, funding and implementation plans and FTA approvals.**

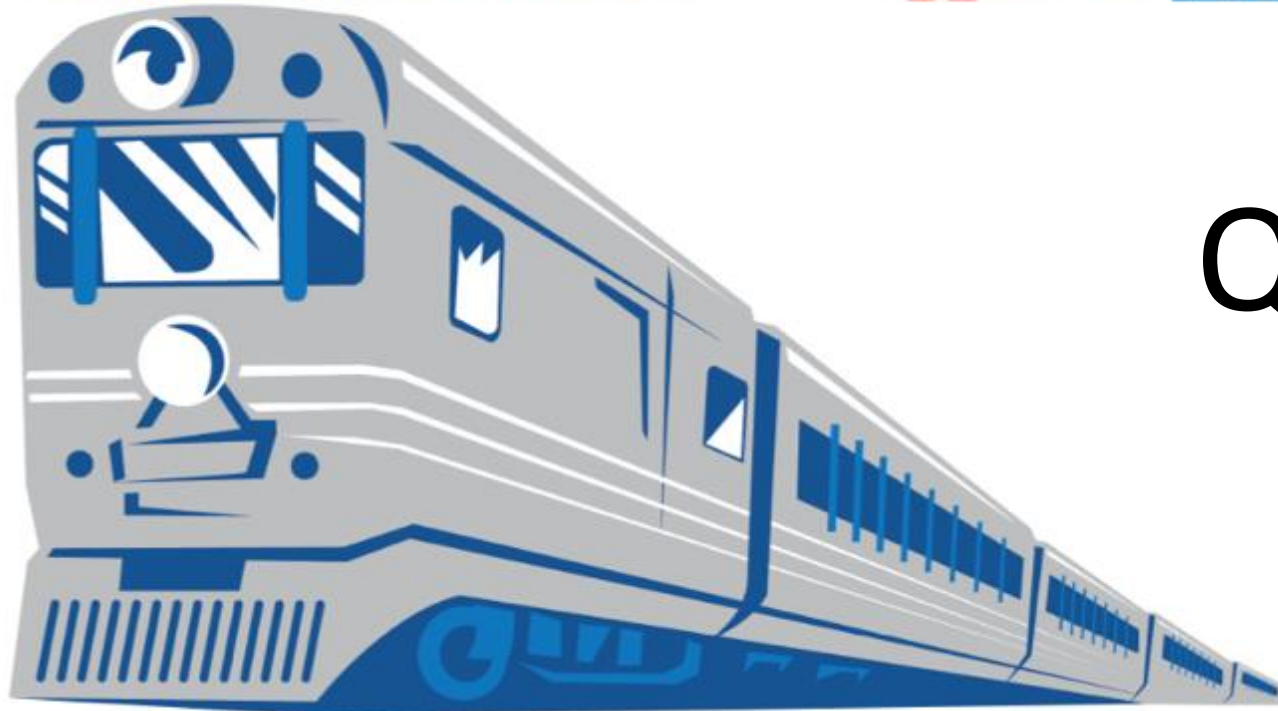




# BROWARD COMMUTER RAIL (BCR)

## PROJECT DEVELOPMENT & ENVIRONMENT (PD&E) STUDY

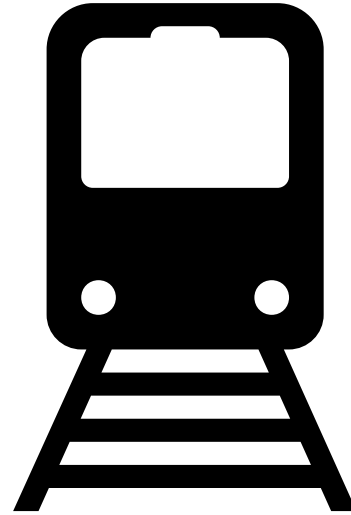
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Questions???

# Background:

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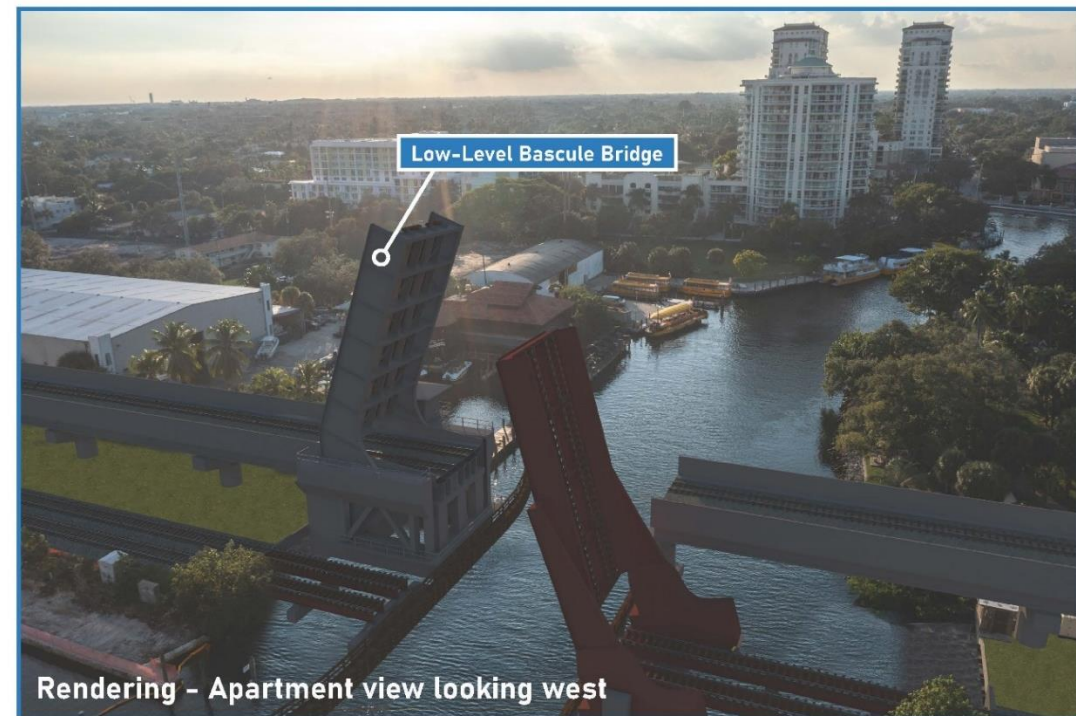
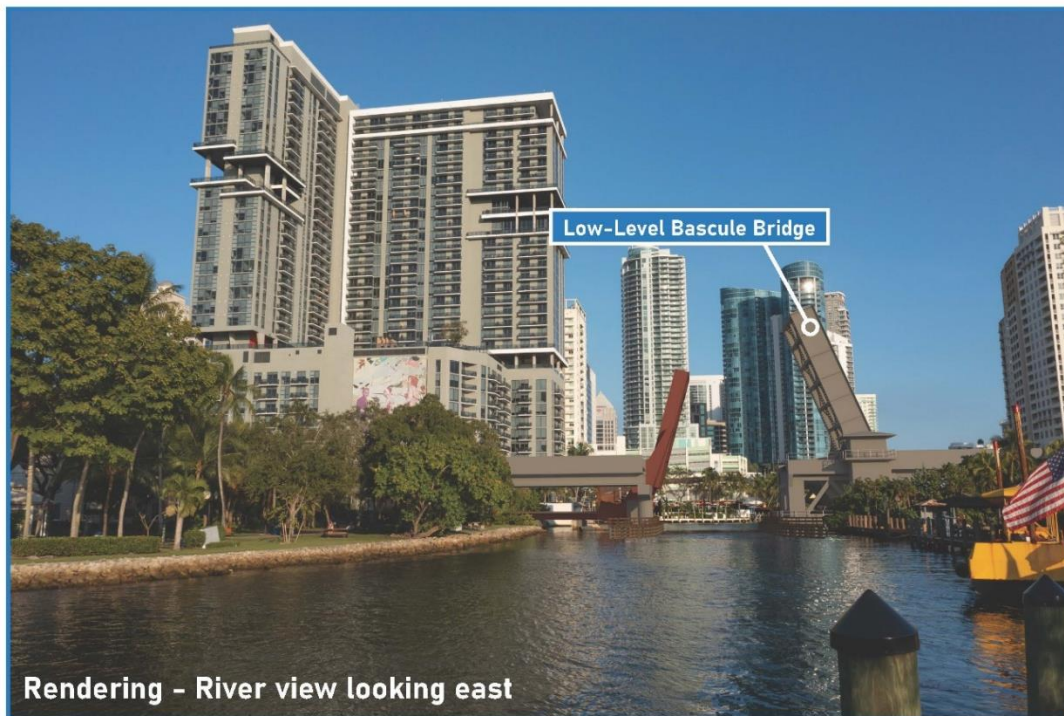
1. Typically shares tracks on freight rail lines.
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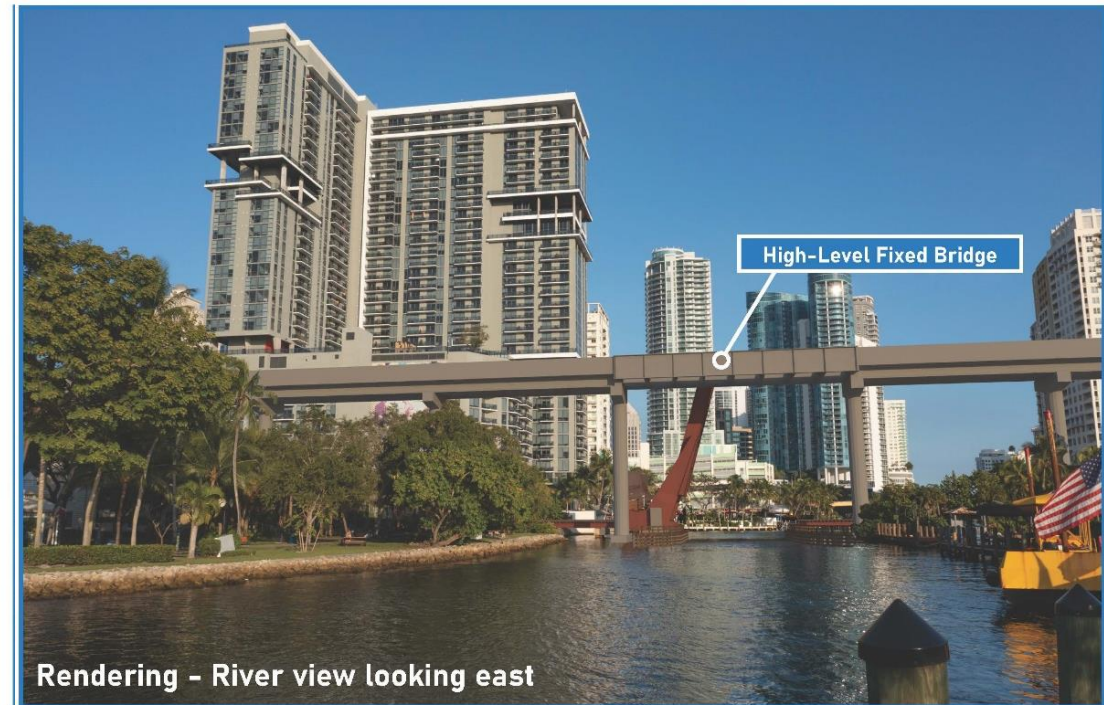
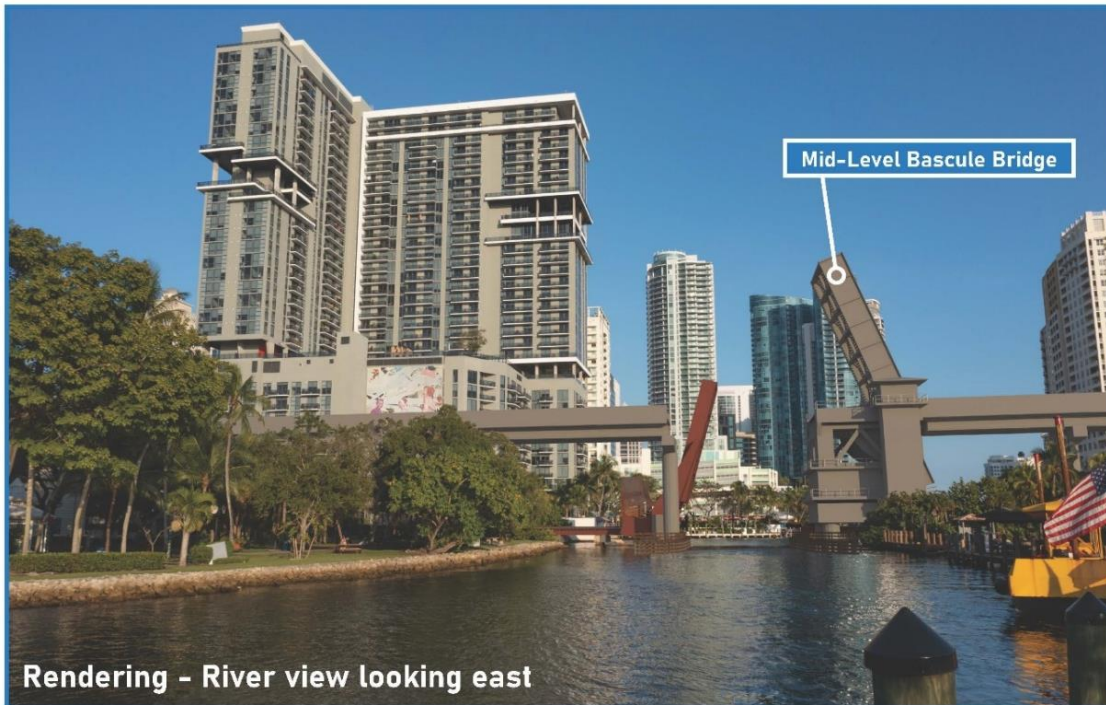


- ❑ Freight Trains remain on existing tracks and will continue to use existing bridge that will be shifted east
- ❑ \$240 M for Construction and no private Right-of-Way required
- ❑ No bridge throughout the downtown area
- ❑ Closes Grade Crossing at SW 5<sup>th</sup> Street
- ❑ Does not By-Pass the Broward Boulevard (a separate road project could be evaluated to place Broward Blvd under the tracks and potentially re-purpose some of the area above)
- ❑ Does accommodate 90% of Navigation and will most likely operate on a schedule that will reduce boat congestion at the crossing and provide for a known bridge operating schedule





- ❑ Freight Trains remain on existing tracks and will continue to use existing bridge that will be shifted east Mid-Level and High-Level Bridges By-Pass Broward Boulevard
- ❑ Mid and High Level require bridge structure throughout the downtown area (charettes and aesthetic design of structures most likely will be required if these alternatives move forward)
- ❑ Mid and High Level do not close any grade crossings
- ❑ Mid Level will have a large bascule pier and requires additional maintenance and a full-time bridge tender
- ❑ Has full support of the Marina community with the Mid-Level accommodating 99% of boats when closed
- ❑ \$444M for construction of the Mid-Level and \$452M for the High-Level and both require \$98M in Right of Way





- ❑ Supported by many City of Fort Lauderdale stakeholders, including the city commission
- ❑ Will provide the best noise protection and least visual concerns in the areas between the portals
- ❑ Bypasses both Broward and Davie Boulevards with passenger rail
- ❑ \$1.8 Billion for construction and \$150M in Right of Way,
- ❑ Lengthy permitting and construction schedule
- ❑ Larger local disruptions for trucking of excavation and dewatering as well as concern for the protection of the existing structures in the area with the tunneling operations
- ❑ Higher risks for contamination, permitting, construction and resiliency than the other alternatives

