

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



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

Virtual Alternatives Public Workshop
January 27, 2022



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or

**Tallahassee Office - Florida Department of
Transportation, State Title VI Coordinator**

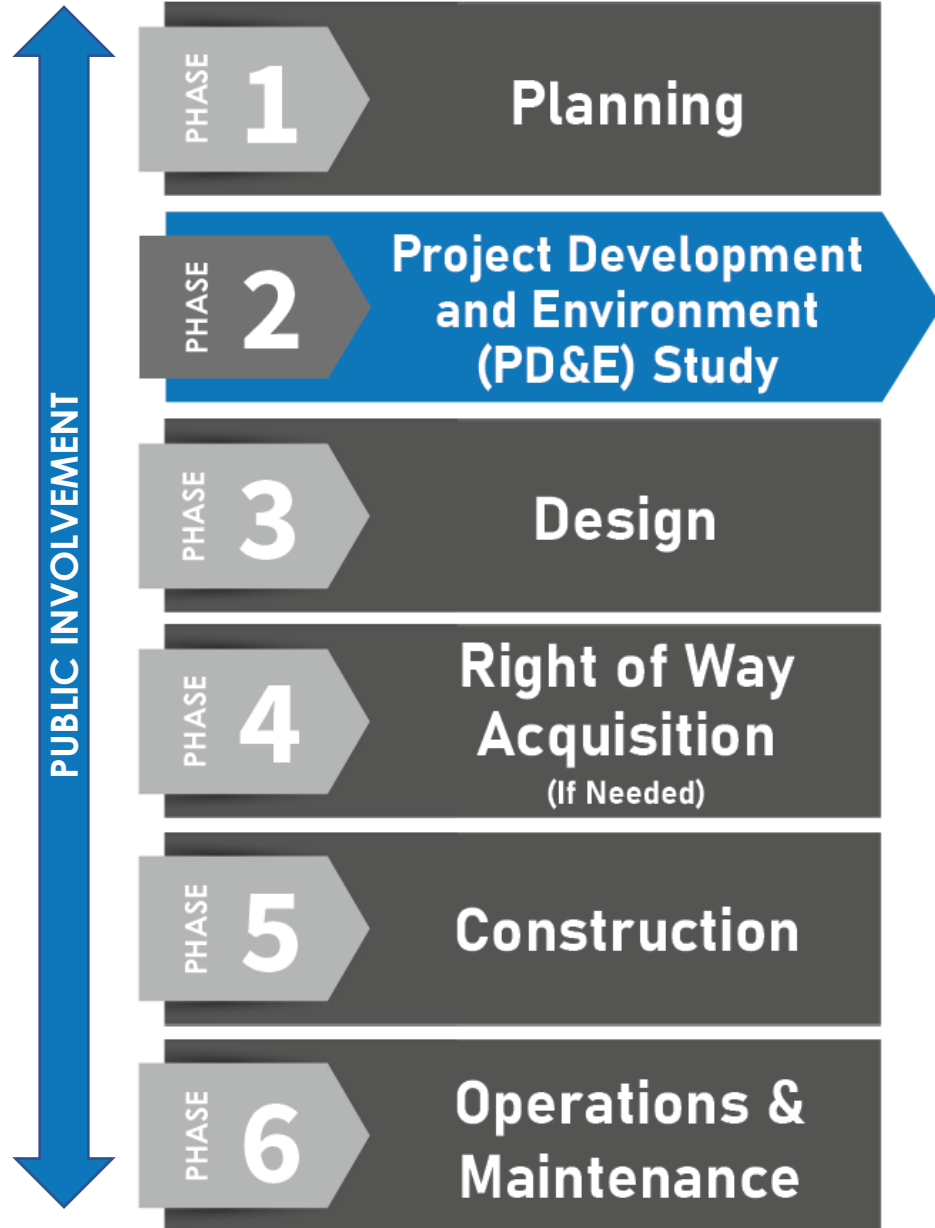
Jacqueline Paramore

Equal Opportunity Office
605 Suwannee Street, MS 65
Tallahassee, Florida 32399-0450
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Jacqueline.Paramore@dot.state.fl.us

All inquiries or complaints will be handled according to FDOT procedure and in a prompt and courteous manner.

- ❑ Share information with the public
- ❑ Serves as an official forum to review the maps, drawings, and other information about the project
- ❑ Provide an opportunity for public input
 - All public comments will become part of the project's public record
- ❑ Public input will be considered as part of the New River Crossing Alternatives evaluation
- ❑ Following the workshop, the team will make a recommendation for the Broward County Commissioners and the Broward Metropolitan Planning Organization (MPO) to vote on a Locally Preferred Alternative (LPA) for evaluation and comparison with the No-Build Alternative in the Federal Transit Administration (FTA) National Environmental Policy Act (NEPA) process





WHAT IS A PD&E STUDY?

A Project Development and Environment (PD&E) Study is FDOT's procedure for complying with the National Environmental Policy Act (NEPA) of 1969, and associated federal and state laws and regulations. During this phase, FDOT performs preliminary engineering, evaluates the projects impacts to the social, cultural, natural, and physical environments, completes interagency coordination, and engages the public. Public involvement is a key aspect throughout the life of a project. The objective of a PD&E Study is to support decisions concerning if, where, and what should be built to address the identified transportation needs.

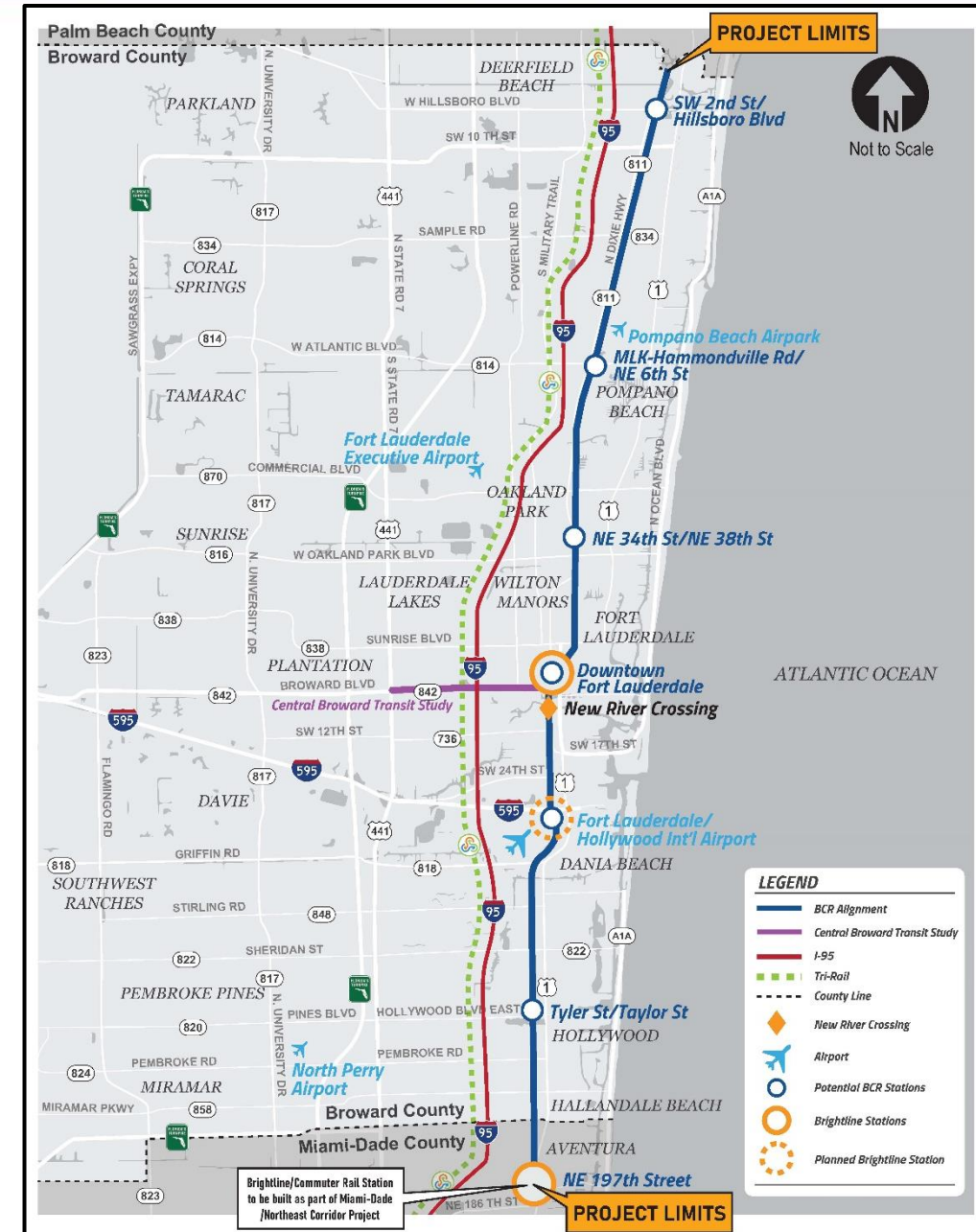
WHY IT'S DONE:

- Evaluate project feasibility, alternatives, and potential environmental impacts (natural, physical, social, and cultural)
- Comply with federal (NEPA) and state environmental laws
- Required to secure federal regulatory approval and funding

WHAT IT INVOLVES:

- Conducting preliminary engineering
- Evaluating alternatives that meet the Purpose and Need while enhancing, avoiding, minimizing, or mitigating potential environmental impacts
- Coordinating with stakeholders, federal, state, and local agencies
- Engaging the public in evaluation of the alternatives
- Select a Locally Preferred Alternative (LPA) that will move forward with the Federal Transit Administration NEPA Process.

- ❑ Aventura to Deerfield Beach (27 miles of the FEC corridor)
- ❑ Technical recommendations have been made for 6 general station locations in Broward County
- ❑ Coordination with Brightline, FECR, USCG, FTA, MPO, municipalities, Broward and Miami-Dade Counties
- ❑ Stakeholder meetings and workshop focused on the New River Crossing and stations
- ❑ 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, Finance Plan and Consensus Building



□ Purpose

- The purpose of the BCR PD&E Study is to address congestion issues and to support economic as well as land development policies in eastern Broward County by improving mobility.

□ Primary Needs

- Increase north-south travel opportunities
- Accommodate existing and future population growth
- Encourage sustainable land use and economic development

□ Secondary Needs

- Enhance intermodal connectivity
- Improve transit service to high density travel market
- Preserve and enhance the environment and safety



ECONOMIC & RESIDENTIAL GROWTH



- ❑ Transit Oriented Development (TOD)
 - Increase business investment
 - Increase tax base
 - Incentive to affordable housing

ENHANCE QUALITY OF LIFE



- ❑ Increased mobility and transportation choices
- ❑ Greater access to employment, education, and essential services

TRANSIT INCENTIVES TO THE PUBLIC



- ❑ Reduces travel times and provides more reliable commute times
- ❑ Save money on gas, parking, and car maintenance/repairs
- ❑ Increased ridership leads to a reduction in traffic and less need for additional travel lanes

ENVIRONMENTAL



- ❑ Cleaner air by reducing traffic congestion and greenhouse gas emissions

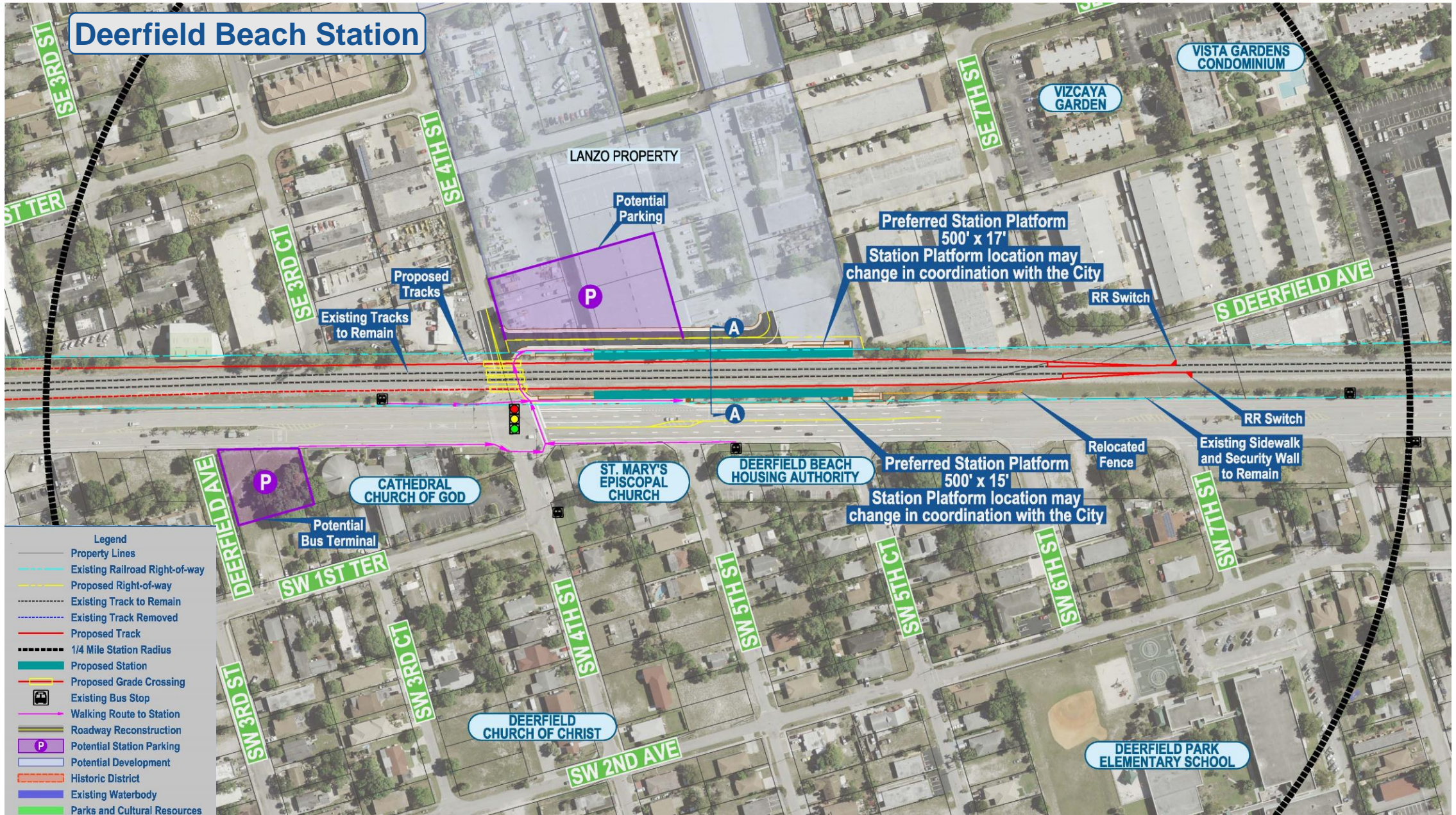
COMMUTER RAIL BENEFITS EMPLOYERS

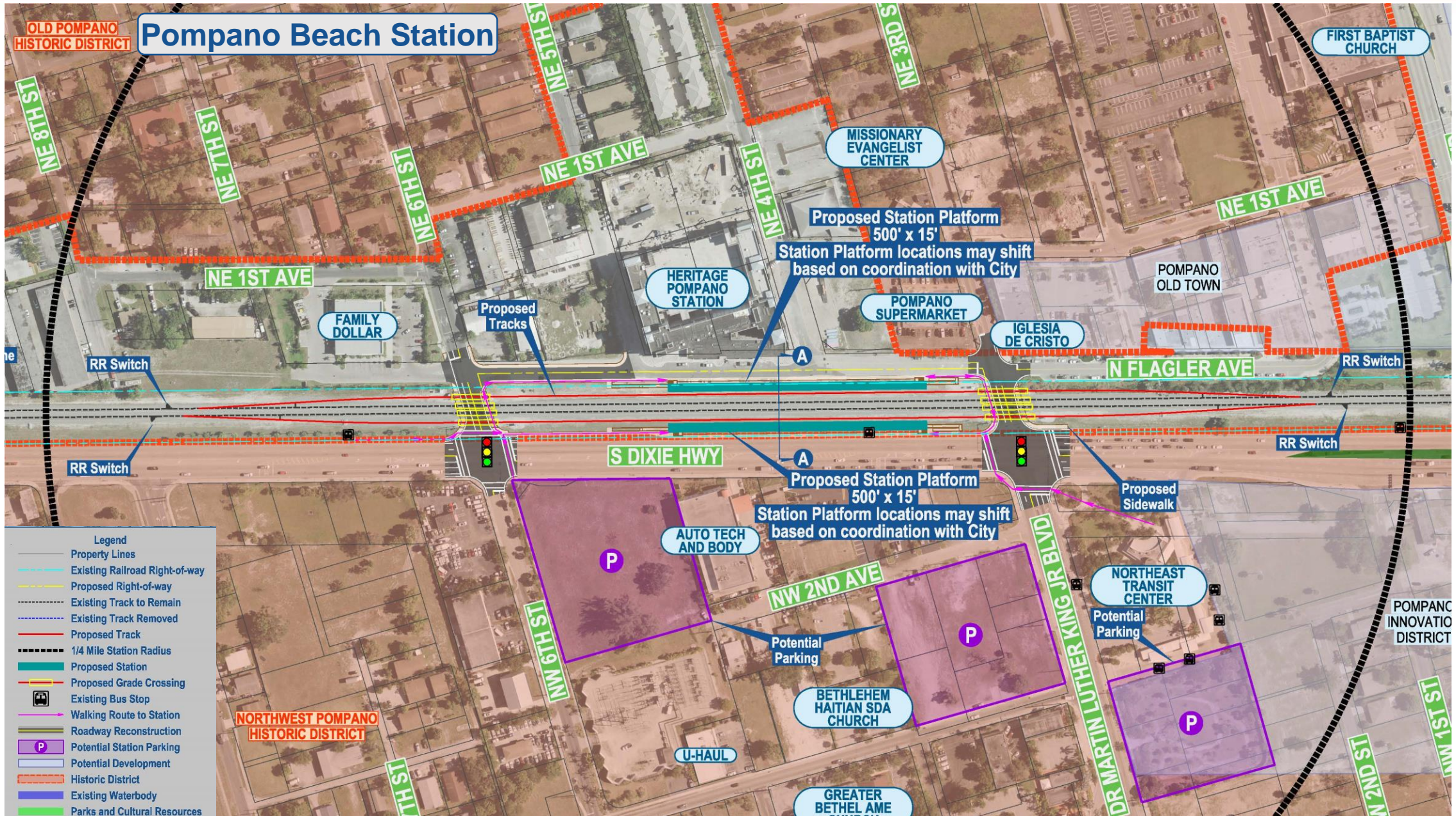


- ❑ Access to a wider pool of talent
- ❑ Dependable and reliable transit service may boost and enhance productivity

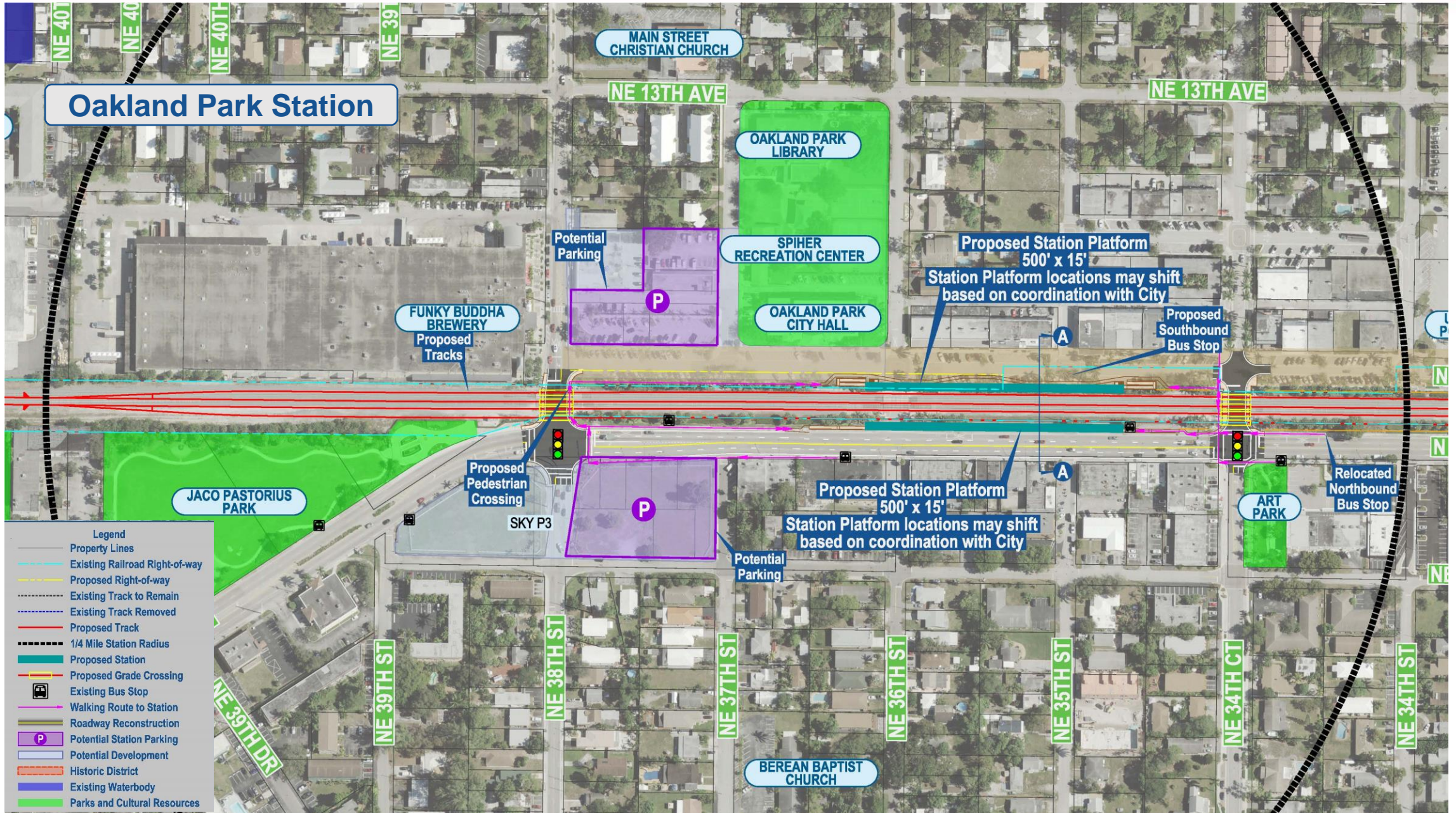
- ❑ Shared-use corridor with FEC freight trains and intercity passenger trains
- ❑ Florida East Coast Railway, L.L.C. owns the FECR right of way and operates freight service
- ❑ Brightline operates inter-city passenger rail trains via a passenger easement in the corridor

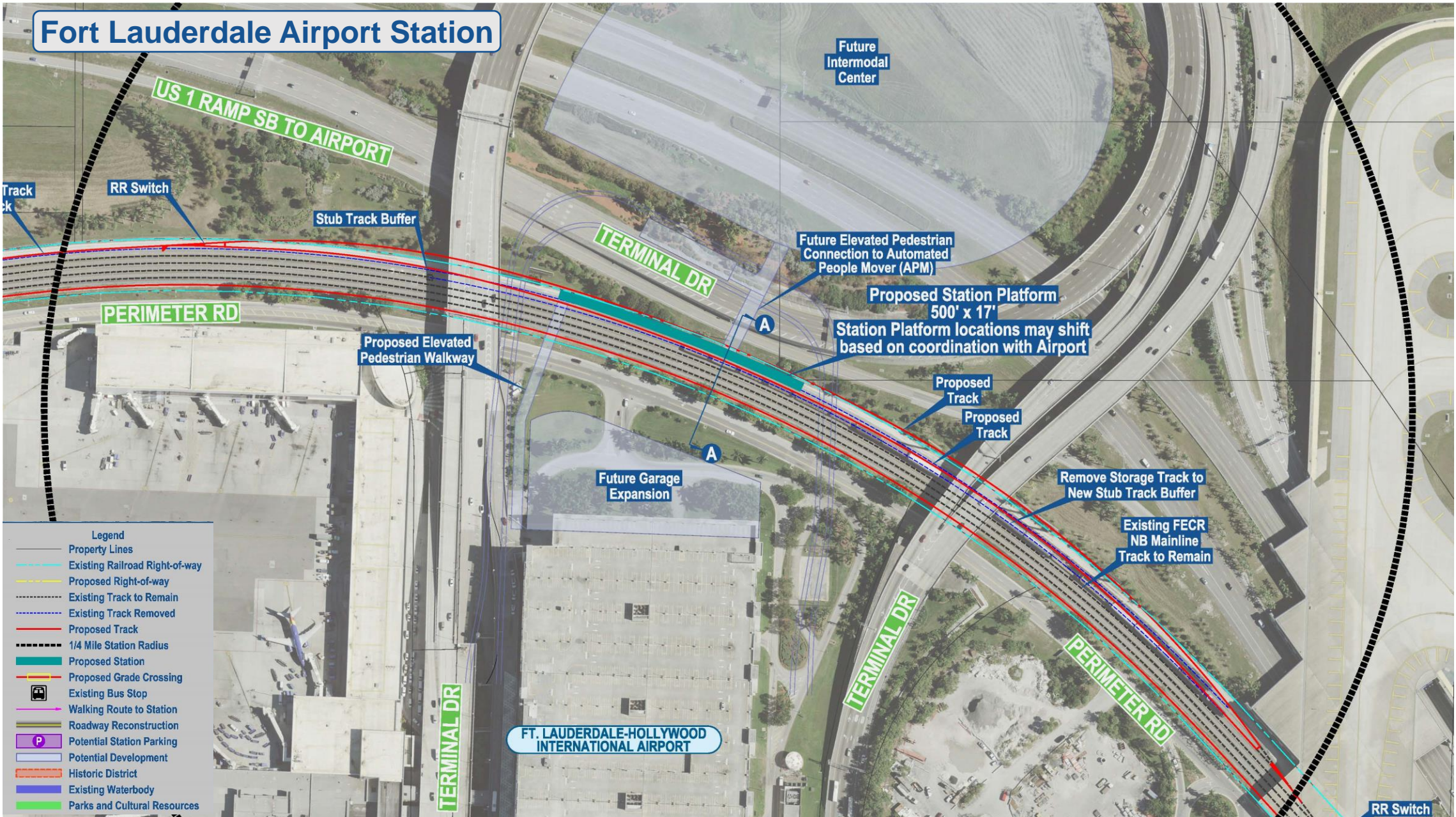




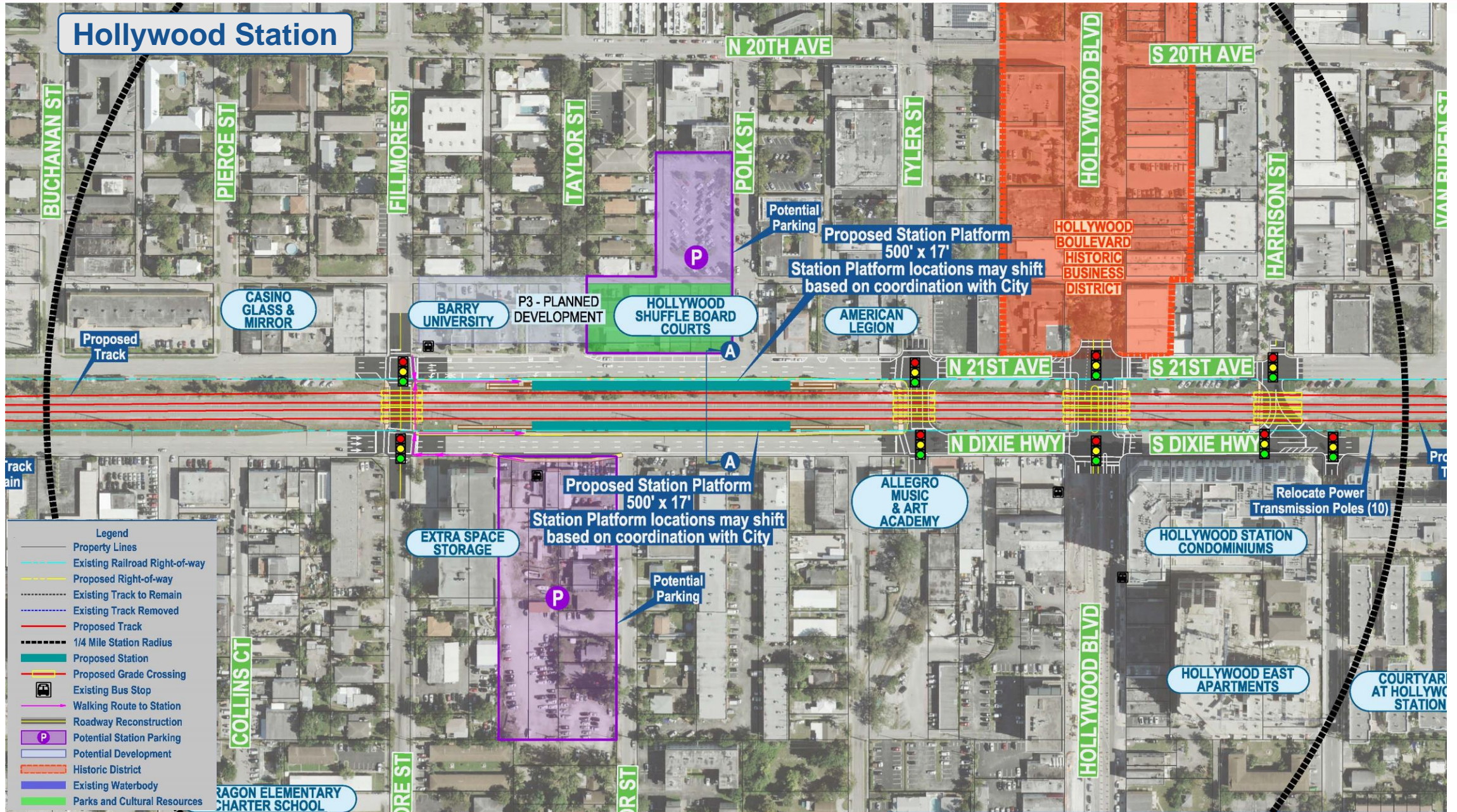


Station Locations





Station Locations



❑ Feasibility Study Completed in 2020

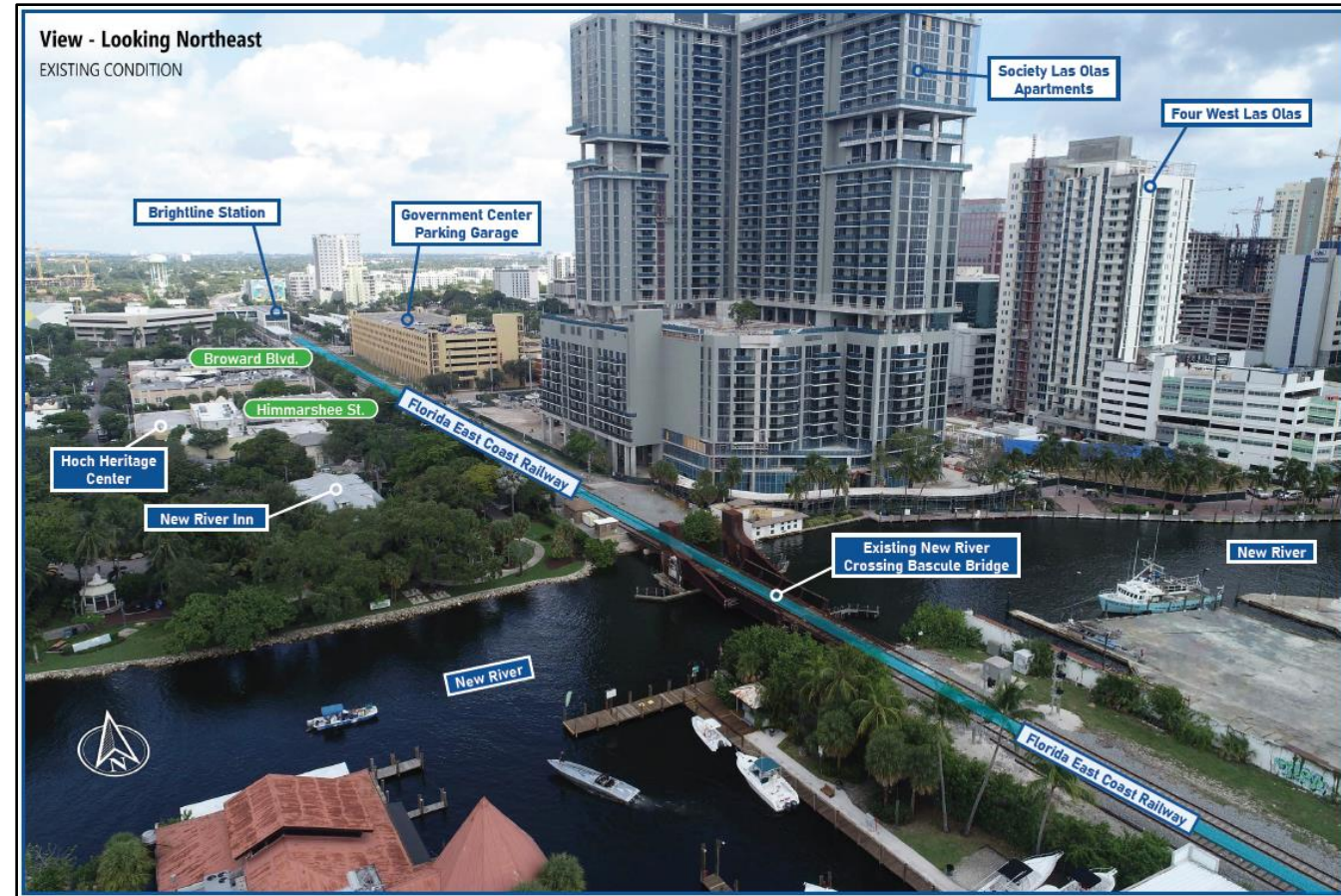
❑ Extensive Stakeholder and Agency Coordination

❑ Considerations

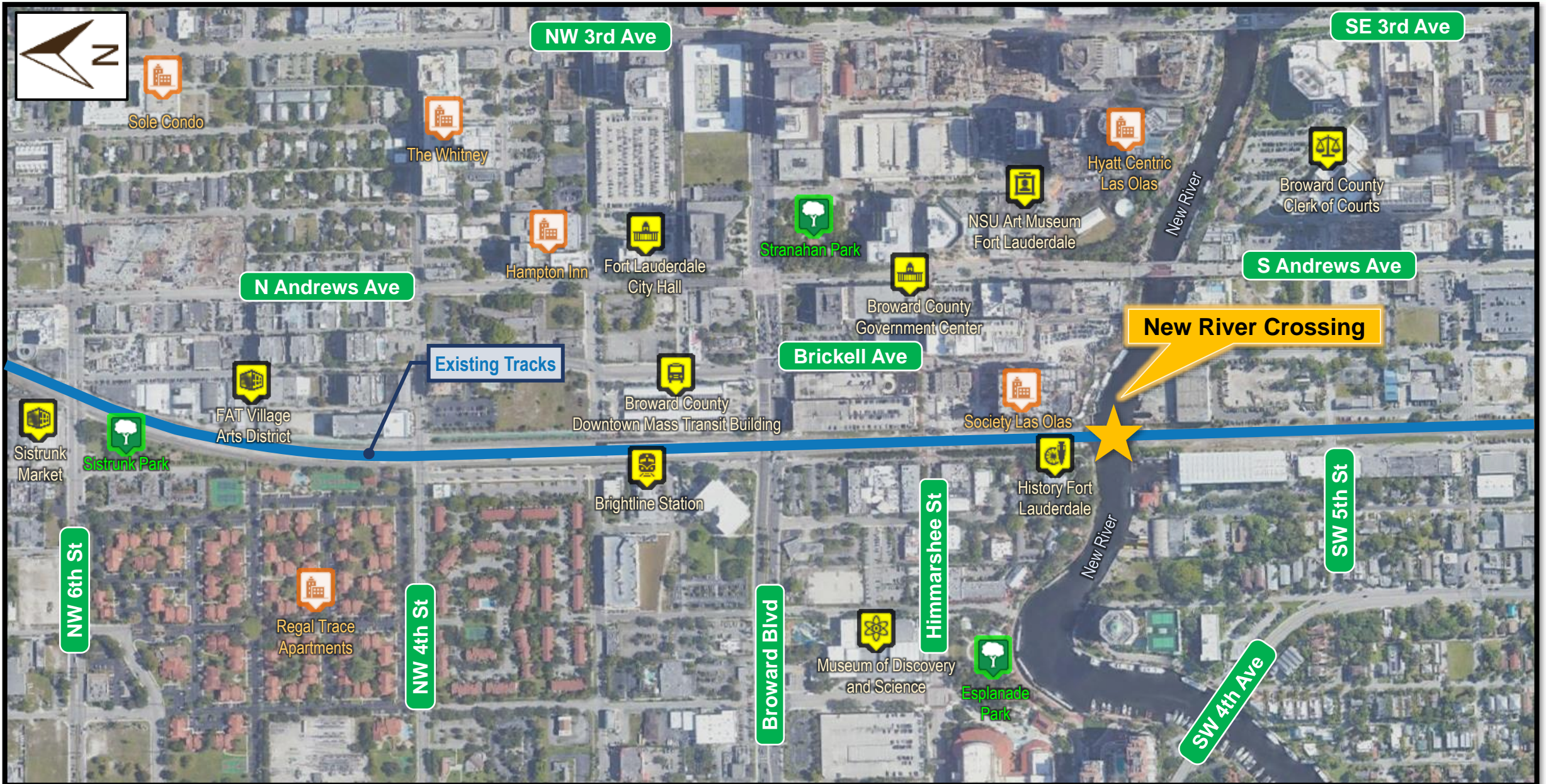
- Maintain maritime, freight and passenger rail operations
- Existing freight bascule bridge to remain
- Accommodate planned Premium Transit on Broward Boulevard
- Connect to Brightline station downtown
- Improve connectivity downtown
- Avoid, minimize, or mitigate impacts to historical resources, neighborhoods and right of way

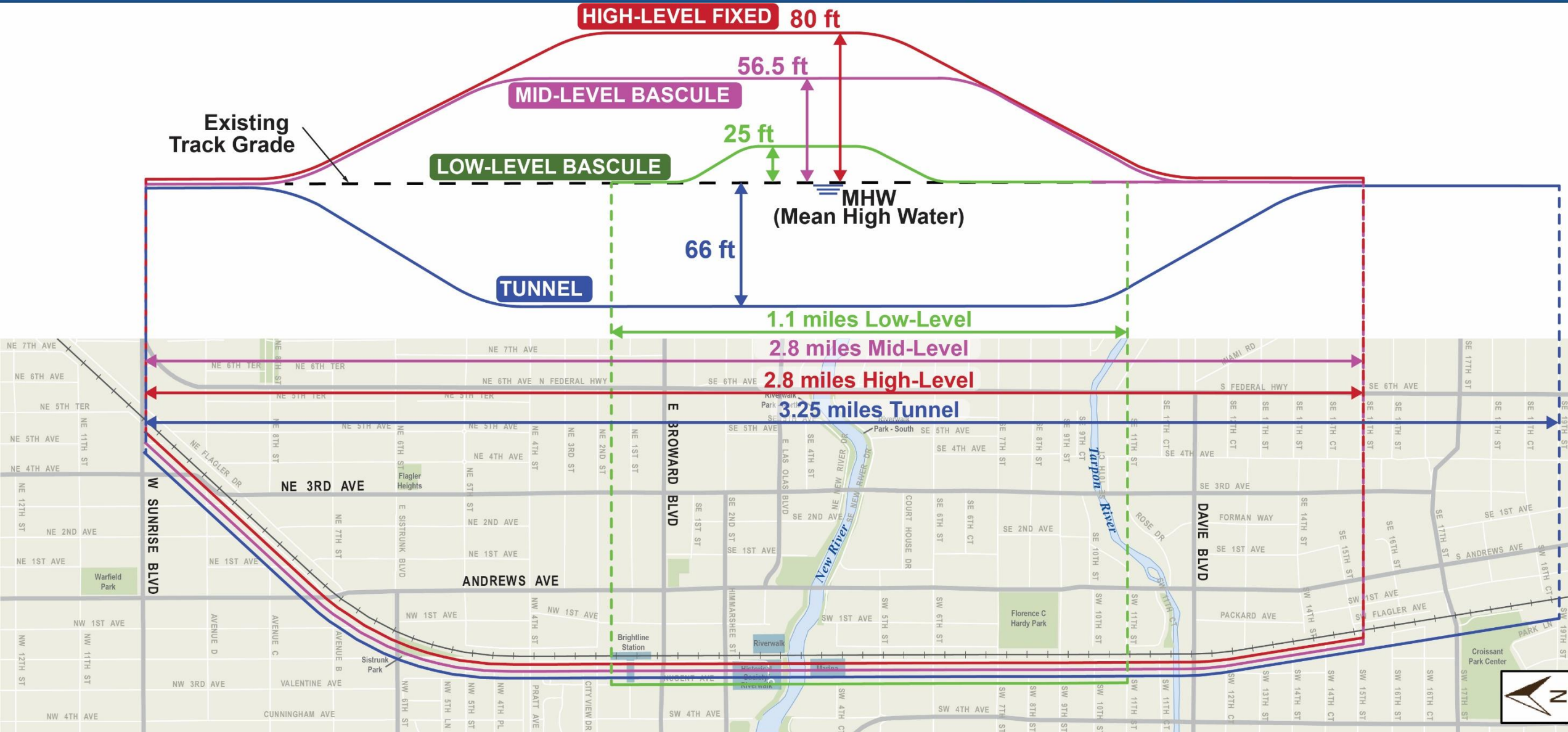
❑ Four River Crossing Alternatives under Evaluation from the Feasibility Study

- Low-Level Bascule Bridge
- Mid-Level Bascule Bridge
- High-Level Fixed Bridge
- Tunnel



Existing Conditions – NRC Location





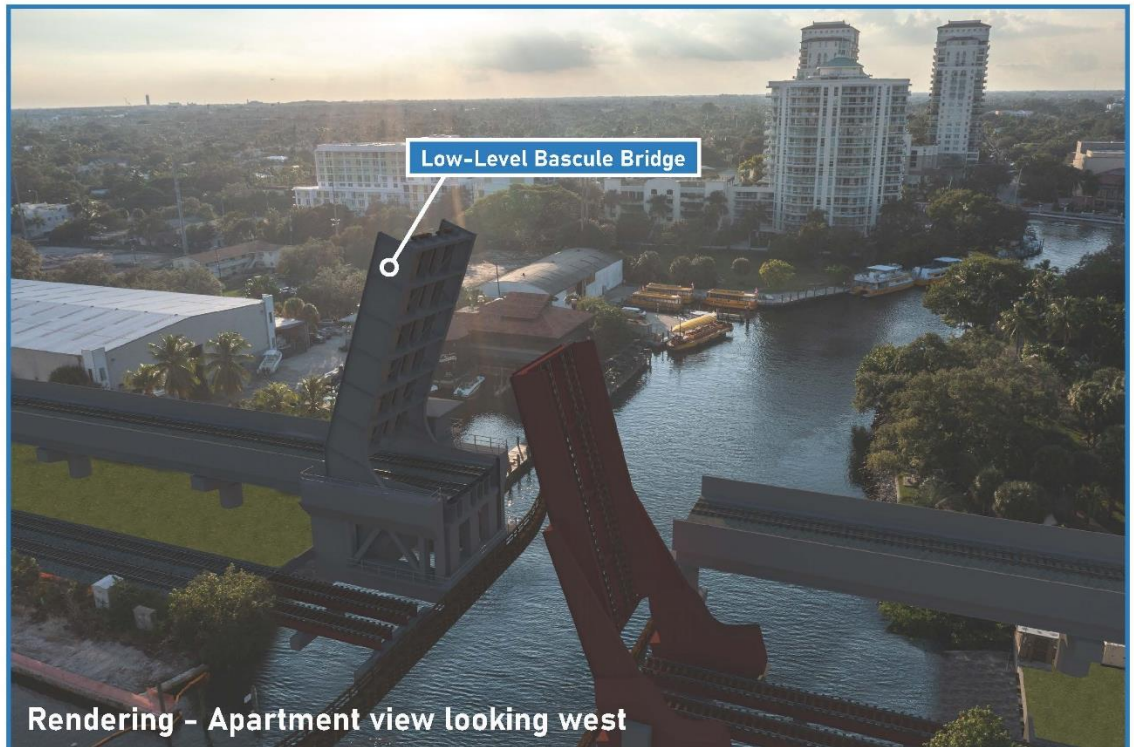
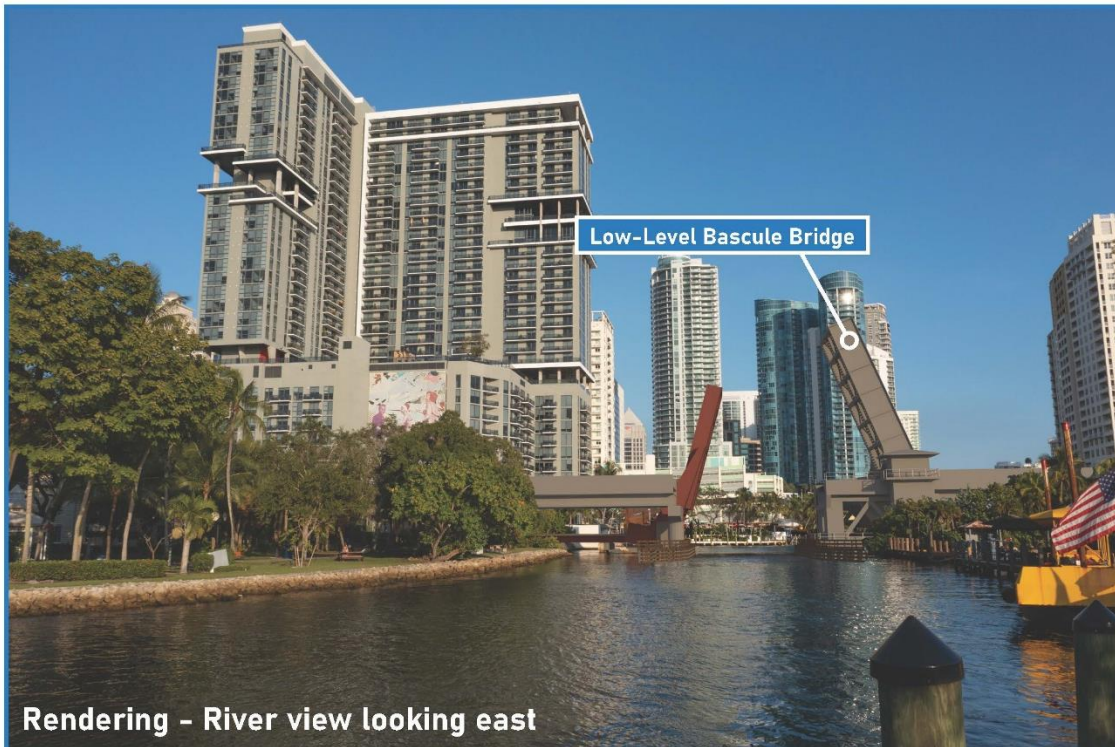
Note: The lengths shown above includes the crossing alternative length plus necessary rail track work associated with each alternative.

❑ Benefits

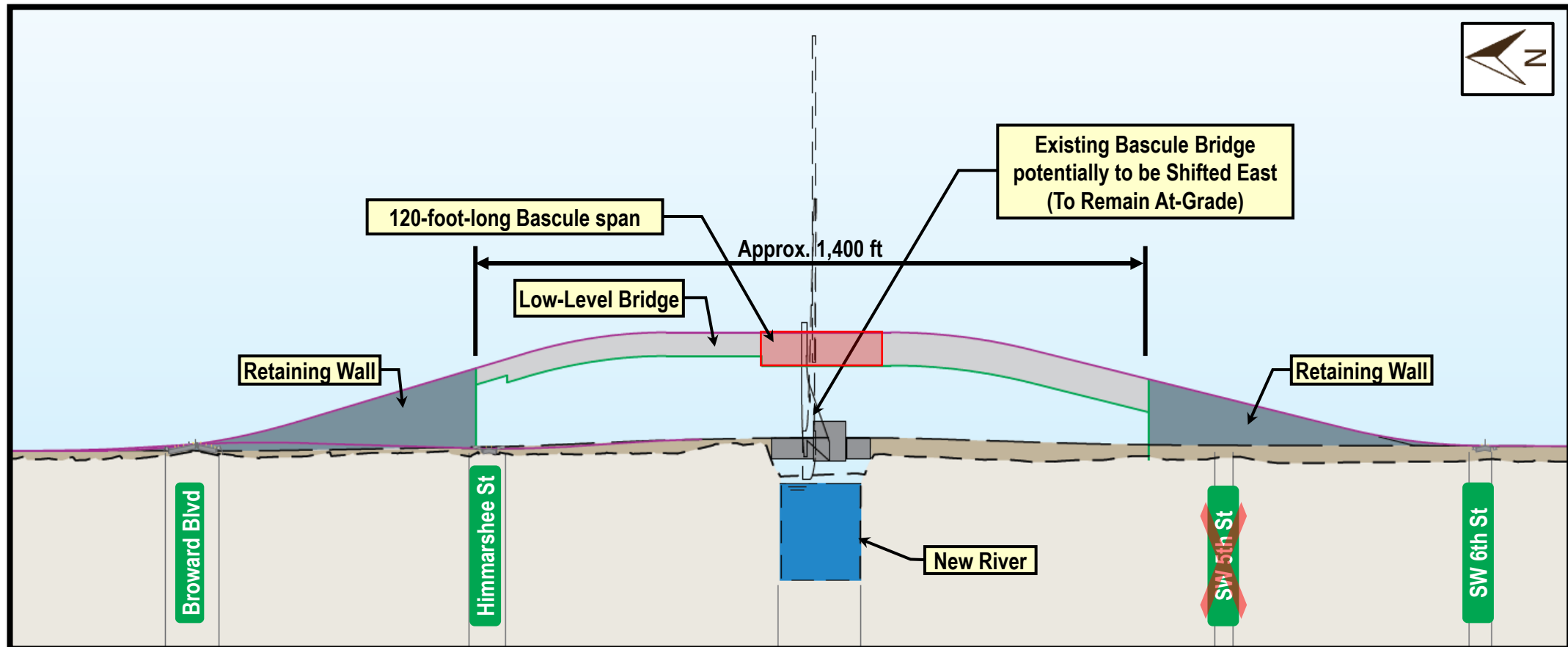
- 25-foot clearance above water surface
- 90% of vessels pass when bridge is closed (Note: 80% of the boats serviced by marinas are large and require the bridge to open to pass)
- Existing Brightline station can remain at-grade with minor modifications
- Lowest construction cost and disruption
- Least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

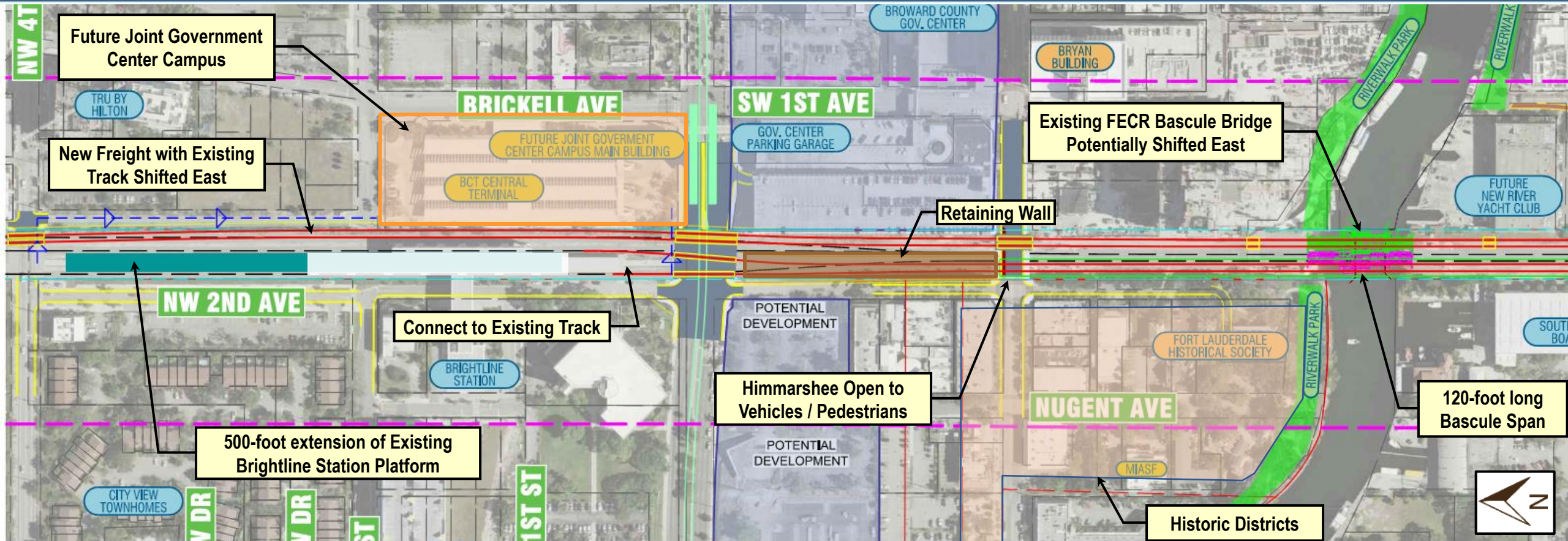
❑ Challenges

- 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



- ❑ 25-foot clearance above New River surface
- ❑ Himmarshee Street remains open to cars and pedestrian traffic
- ❑ Comes down to street level at Broward Boulevard to the north and SW 6th Street to the south
- ❑ Existing bascule bridge serving freight potentially to be shifted east and will remain at-grade

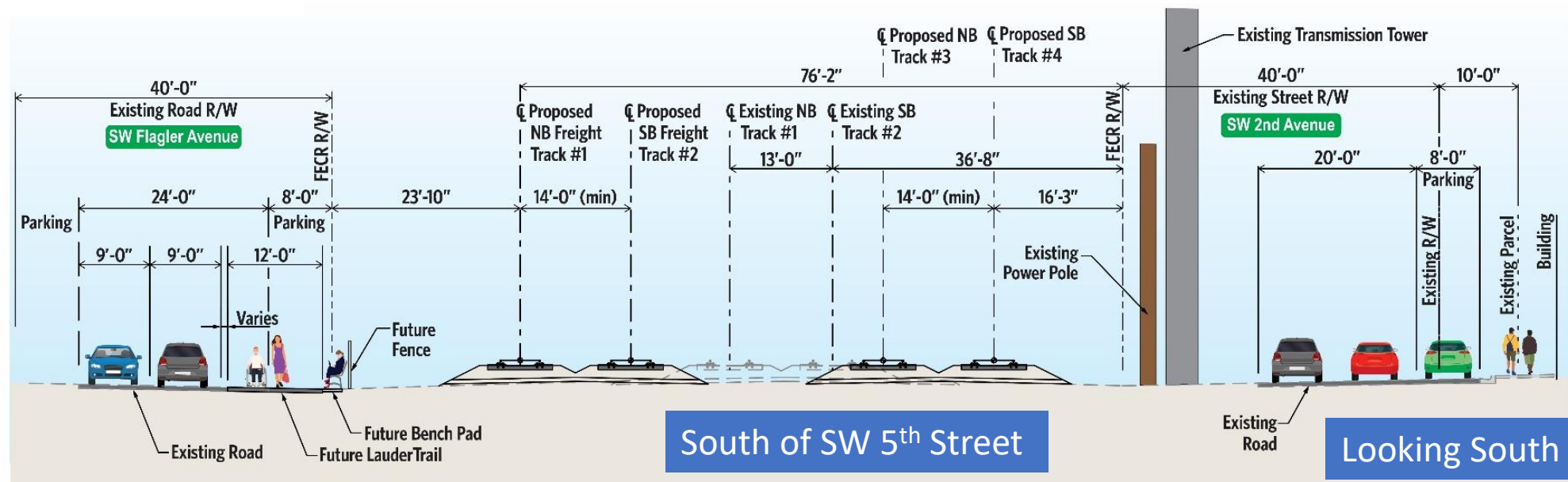
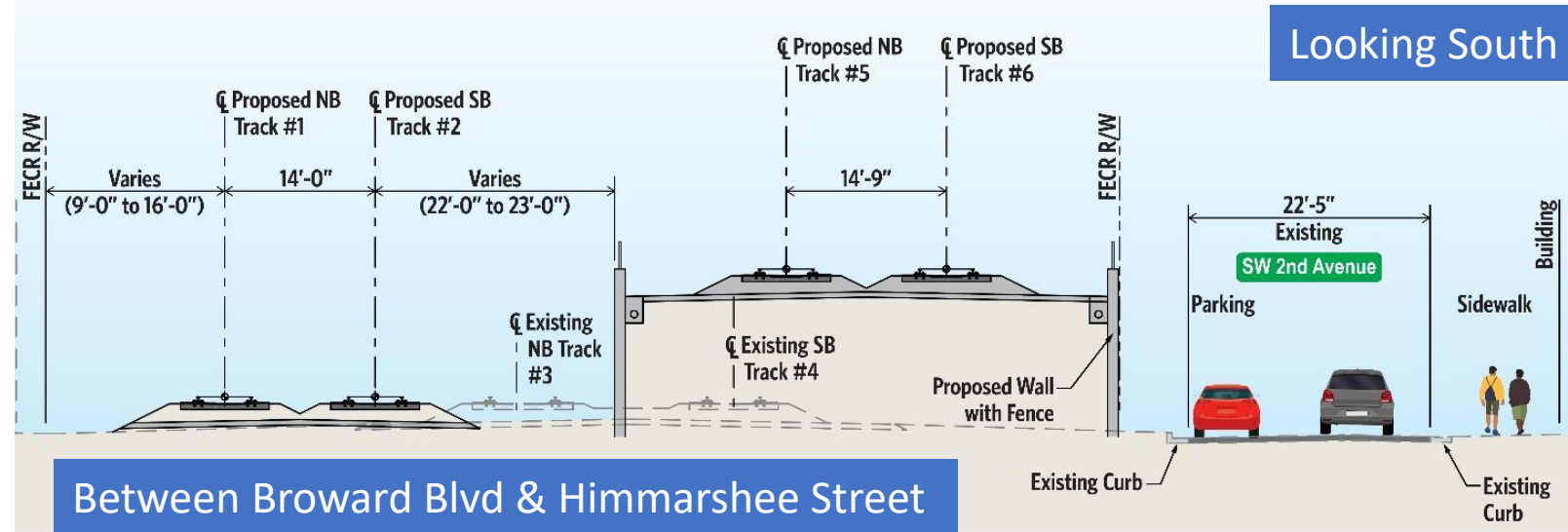




- Important features – Historic District and the Future Joint Government Center Campus
- The existing freight bridge and tracks shifted east
- Two commuter tracks on the elevated structure pass above Himmarshee
- Avoid physical impacts to the historic districts
- Maintain Brightline operations during construction
- 500-foot x 35-foot station platform extension of the existing Brightline station platform
- Right of Way Impacts – no private property needs

Low-Level Alternative: Typical Sections

- Existing Freight tracks shifted to the east
- Low-Level design (tracks, bridges and retaining walls) remains inside FECR R/W
- SW 2nd Ave between Broward and New River along Historic District is not impacted





DESIGN FEATURES CAN ACTIVATE SPACES & PROTECT NEIGHBORHOOD CHARACTER & CONTEXT:

- The project provides opportunity for partners to implement these design features as part of the station area design.
- Pavers can help convert a one-way street into a shared street or temporary plaza
- Landscaping can soften structures by adding nature in contrast to hardscape
- Public art on a retaining wall helps create a sense of place and can correspond with neighborhoods and history as well as other local art
- Lighting can be multi-colored and provide enhanced night-time aesthetics

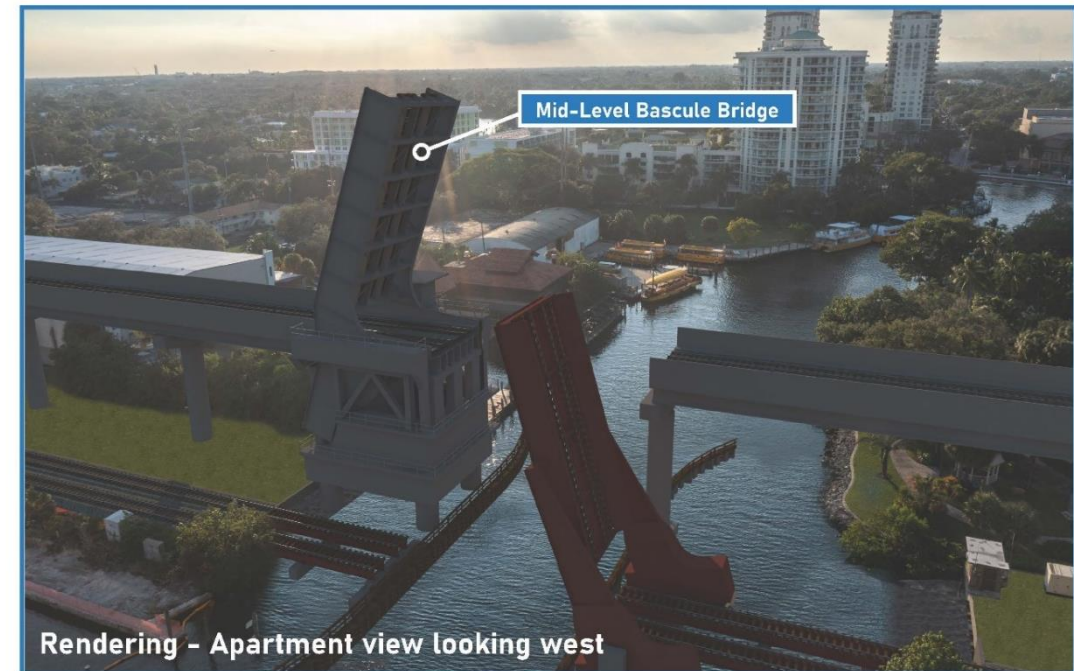
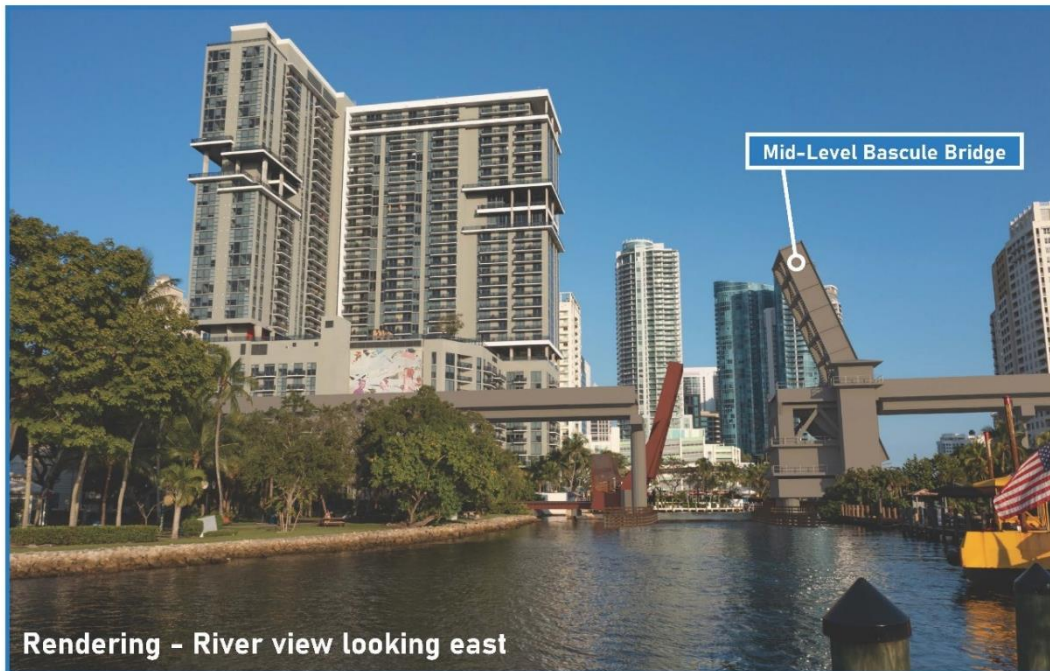


□ Benefits

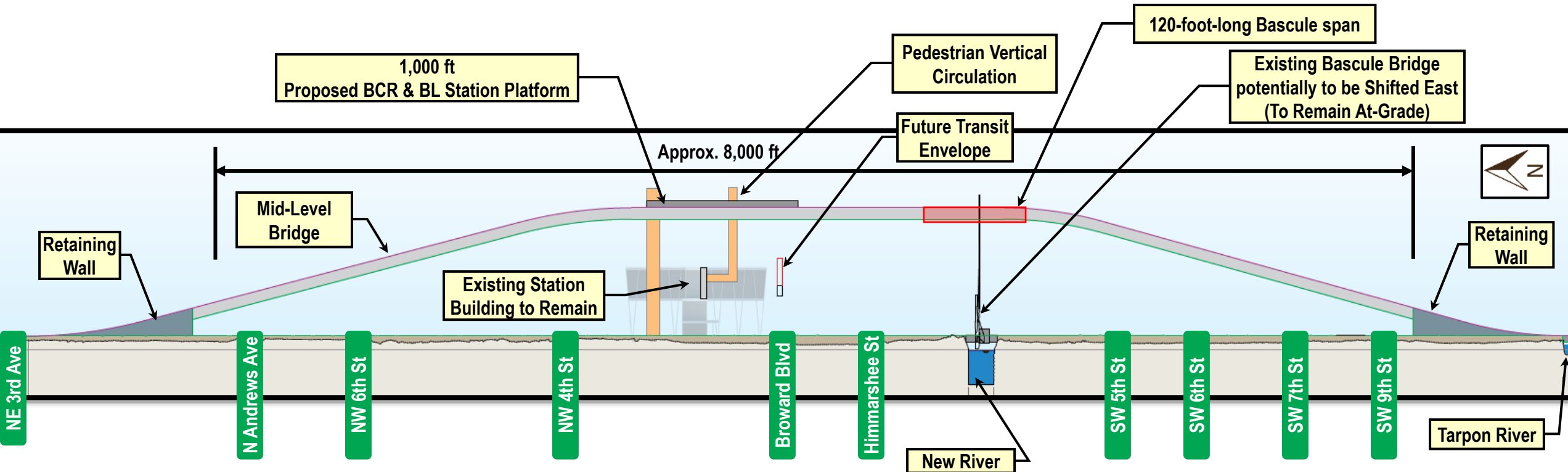
- 56.5-foot clearance above water surface
- 99% of vessels pass when bridge is closed
- No cross street closures
- Passenger trains pass over these cross streets: N Andrews Avenue, Sistrunk Boulevard, N 4th Street, Broward Boulevard, Himmarshee Street, SW 5th Street, SW 6th Street, SW 7th Street, and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

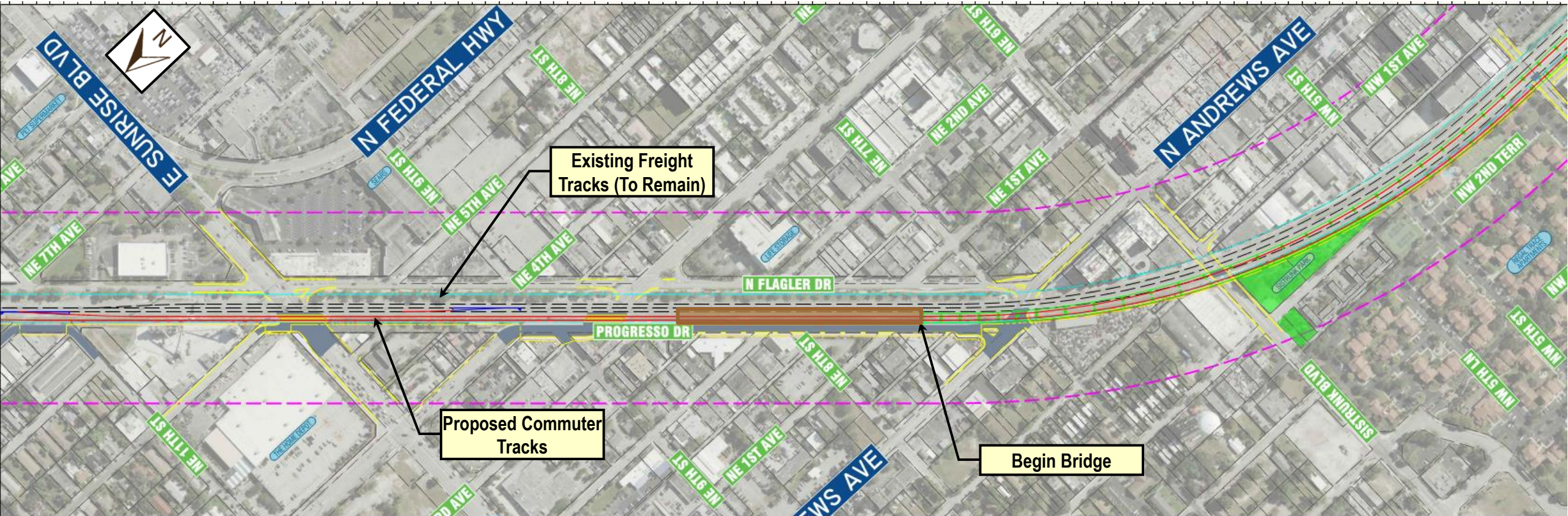
□ Challenges

- 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



- ❑ 56.5-foot clearance above New River surface
- ❑ Himmarshee Street remains open to cars and pedestrian traffic
- ❑ Comes down to street level north of Andrews Avenue and north of the Tarpon River
- ❑ No street closures
- ❑ Existing Brightline station building will be modified to accommodate vertical circulation to new platform
- ❑ Existing bascule bridge serving freight potentially to be shifted east and will remain at-grade

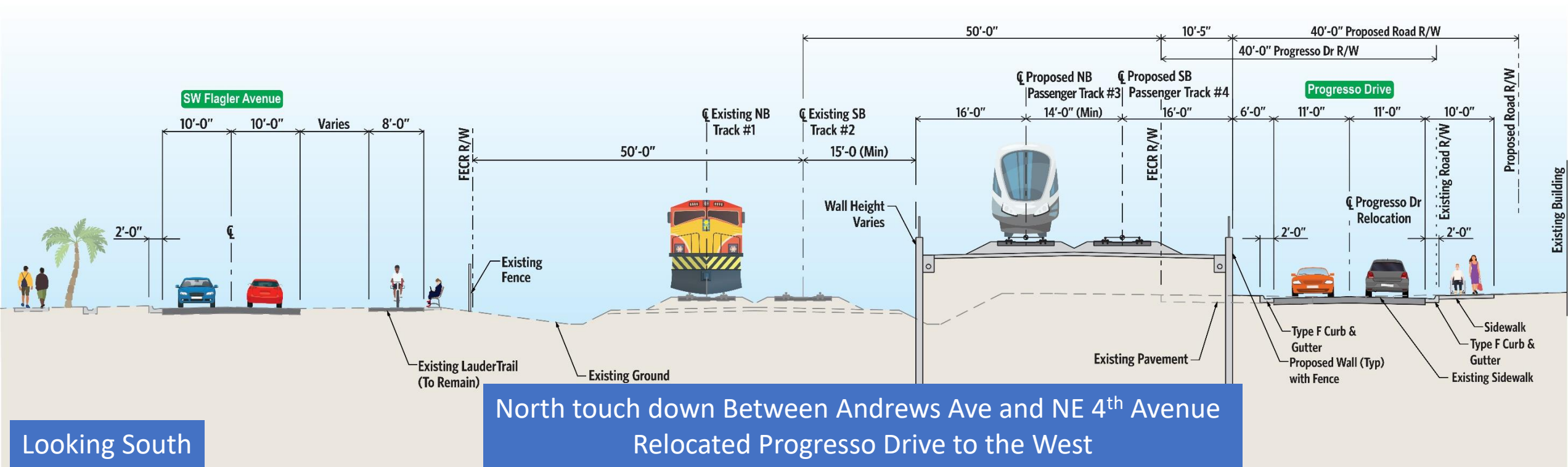




- ❑ Bridge starts just north of Andrews Avenue
- ❑ Two proposed commuter tracks west of existing freight tracks
- ❑ No impacts to Flagler Drive

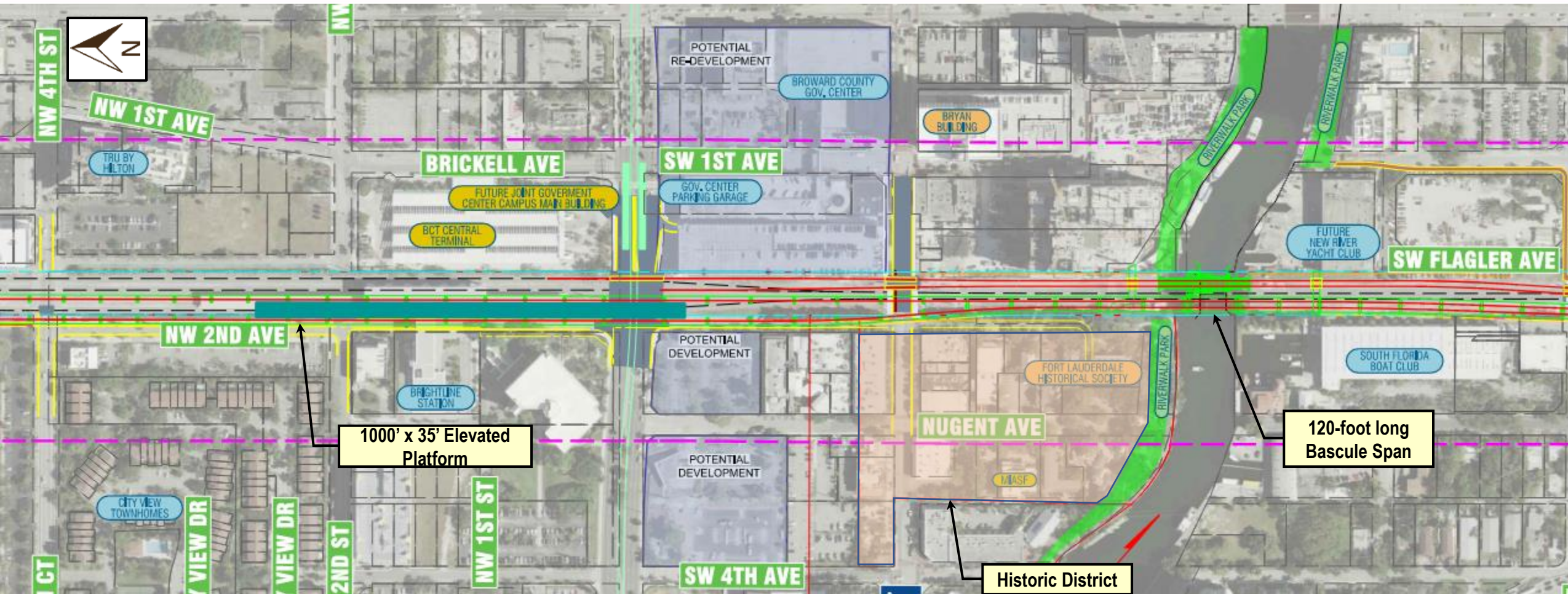
- ❑ Progresso Drive shifts west
- ❑ Right of Way – 12 foot wide slivers along Progresso Drive & south of Andrews Avenue, including 6 aerial easements

- ❑ Retaining wall at bridge touchdown points
- ❑ No impacts to Flagler Drive
- ❑ Progresso Drive shifts west
- ❑ Right of Way impacts – average 12 foot wide slivers



Looking South

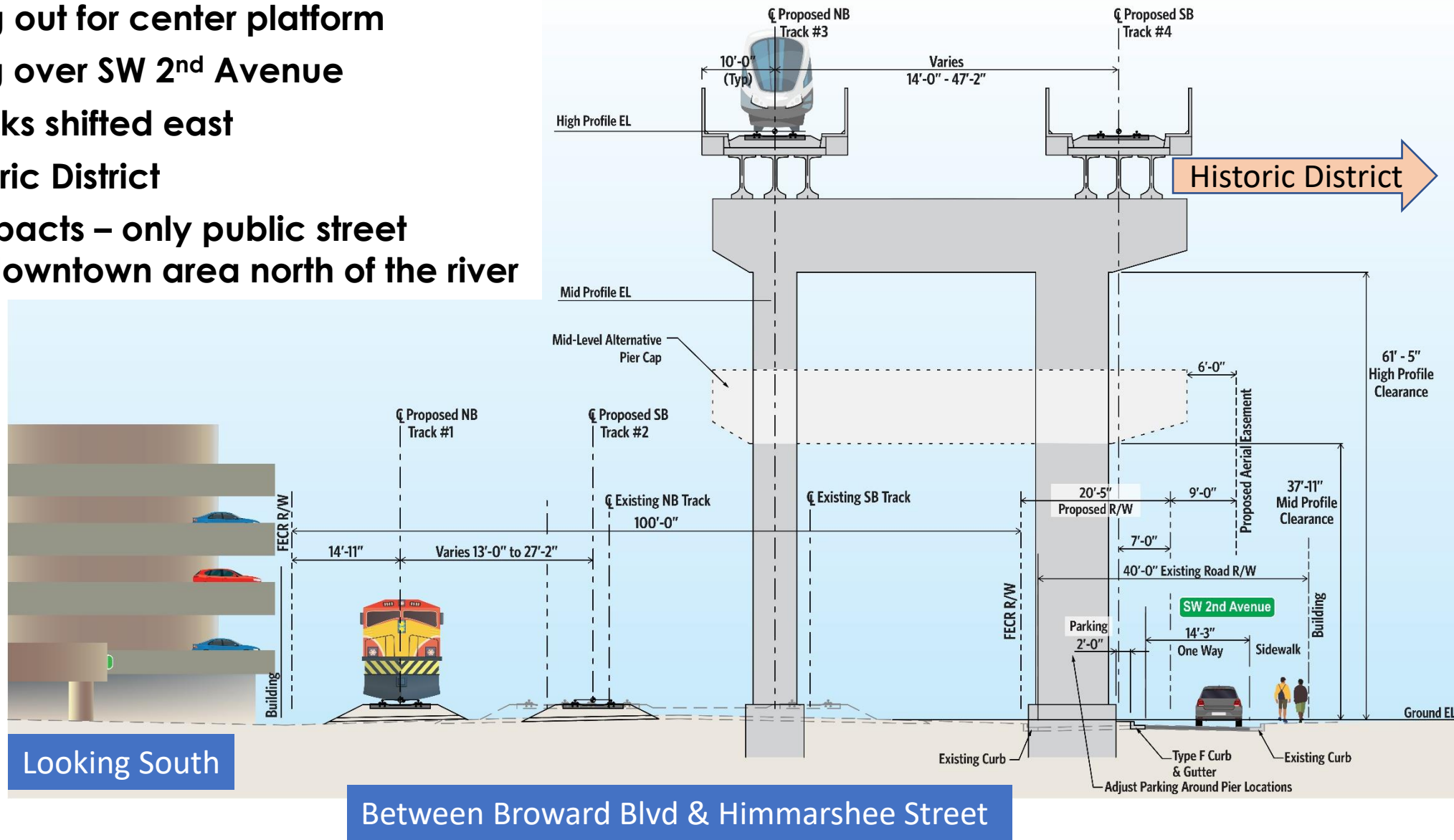
Mid-Level Alternative: Plan View Downtown



- ❑ The existing freight bridge and tracks shifted east
- ❑ Two commuter tracks on the elevated structure above all the cross streets and NW 2nd Ave
- ❑ Avoid physical impacts to the historic district
- ❑ Maintain Brightline operations during construction
- ❑ 1,000-foot x 35-foot station platform above and with connections to the existing Brightline Station
- ❑ Right of Way Impacts – two aerial easements just south of the river

Mid-Level Alternative: Typical Section

- ❑ Bridge widening out for center platform
- ❑ Aerial overhang over SW 2nd Avenue
- ❑ New freight tracks shifted east
- ❑ Avoids the Historic District
- ❑ Right of Way impacts – only public street impacts in the downtown area north of the river





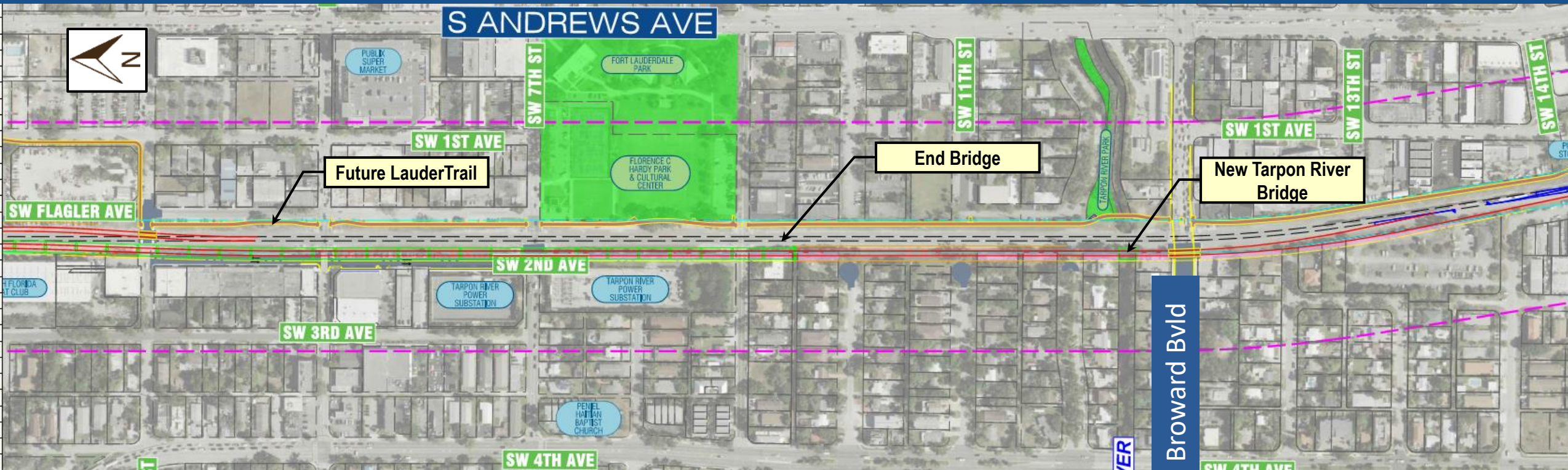
EXISTING HIMMARSHEE/SW 2ND AVENUE LOOKING SOUTH

INFRASTRUCTURE INTRODUCED AS DESIGN FEATURE WITH ADDITIONAL STREETScape TO PRESERVE OPENNESS AND ACCESS:

- Artistic column design and sound barrier adjacent to tracks
- Closed-bottom box design encloses the overhead track
- Bollards separate sidewalk from railway
- Pavers add color, texture and visual separation
- Crosswalks delineate safe area for pedestrians to cross



ARTISTIC RENDERING OF INTERSECTION OF HIMMARSHEE AND SW 2ND AVENUE LOOKING SOUTH



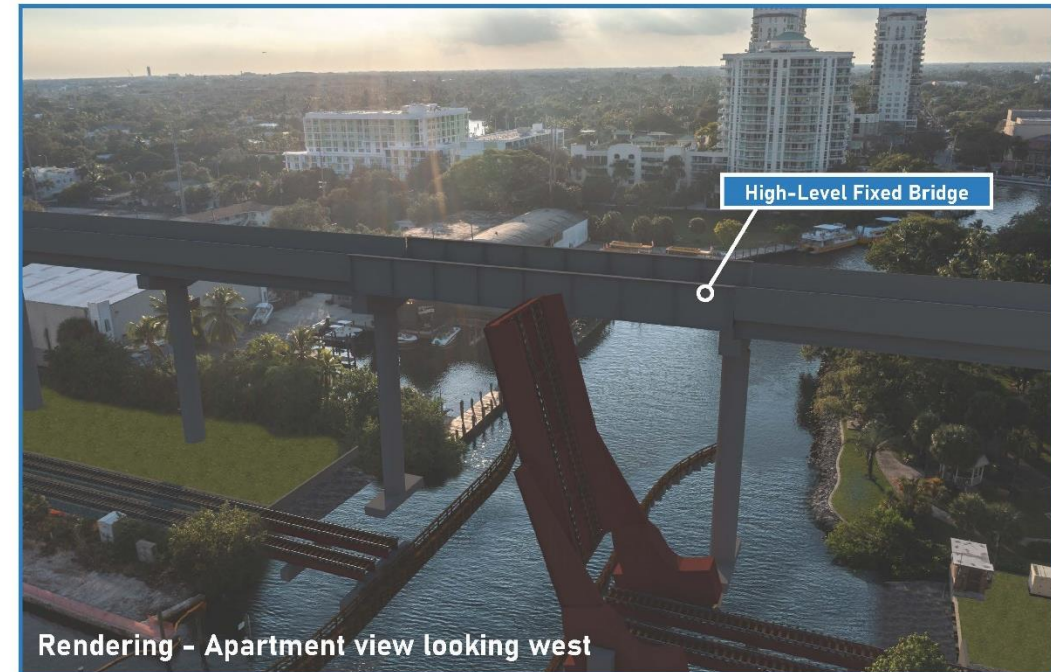
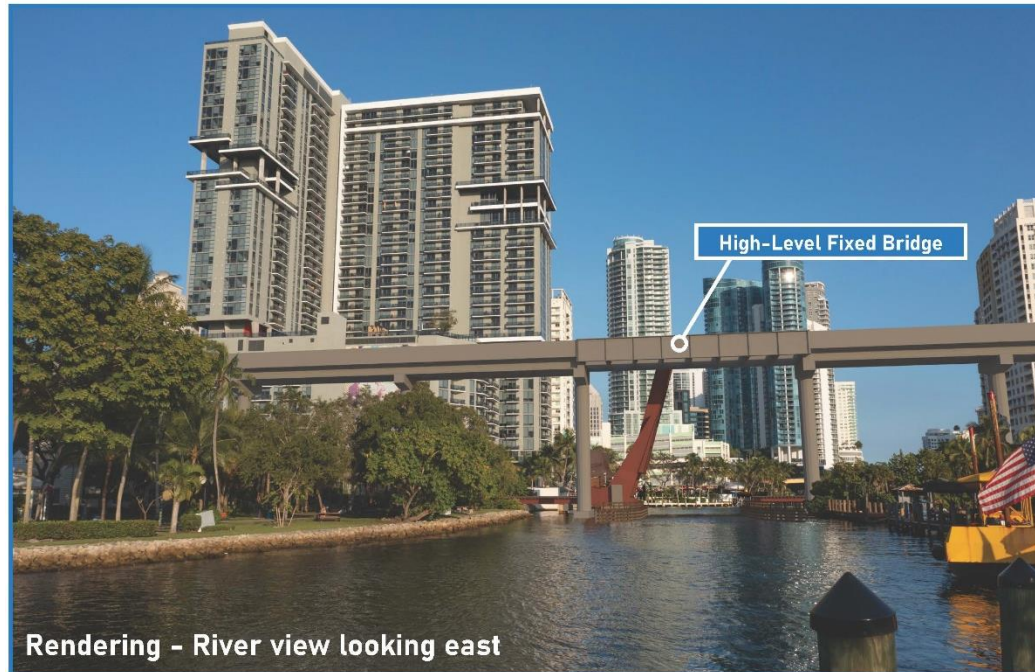
- ❑ Elevated structure ends south of SW 9th Street
- ❑ Accommodates future LauderTrail on the east side of railroad
- ❑ Two commuter tracks west of existing cross Tarpon River on new bridge (at-grade)
- ❑ Need further coordination with Florida Power & Light on transmission tower relocations
- ❑ SW 2nd Avenue closed with cul-de-sacs proposed at 10th and 11th Streets
- ❑ Right of Way Impacts – some residential and business areas averaging 15 feet wide

❑ Benefits

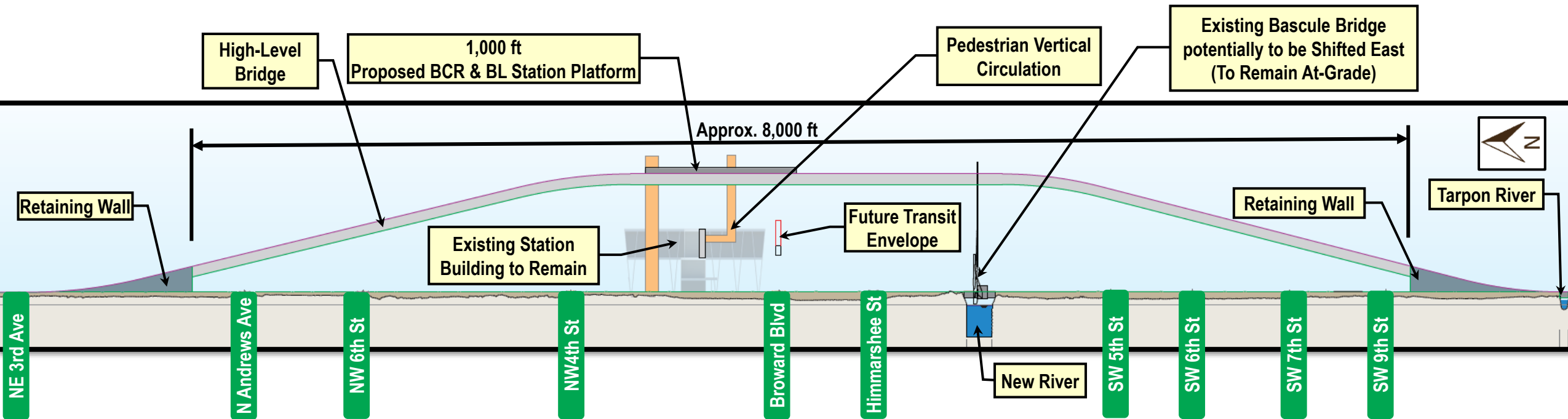
- 80-foot clearance above water surface
- 100% of vessels able to pass under bridge
- No cross street closures
- Passenger trains pass over these cross streets: N Andrews Avenue, Sistrunk Boulevard, NW 4th Street, Broward Boulevard, Himmarshee Street, SW 5th Street, SW 6th Street, SW 7th Street, and 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

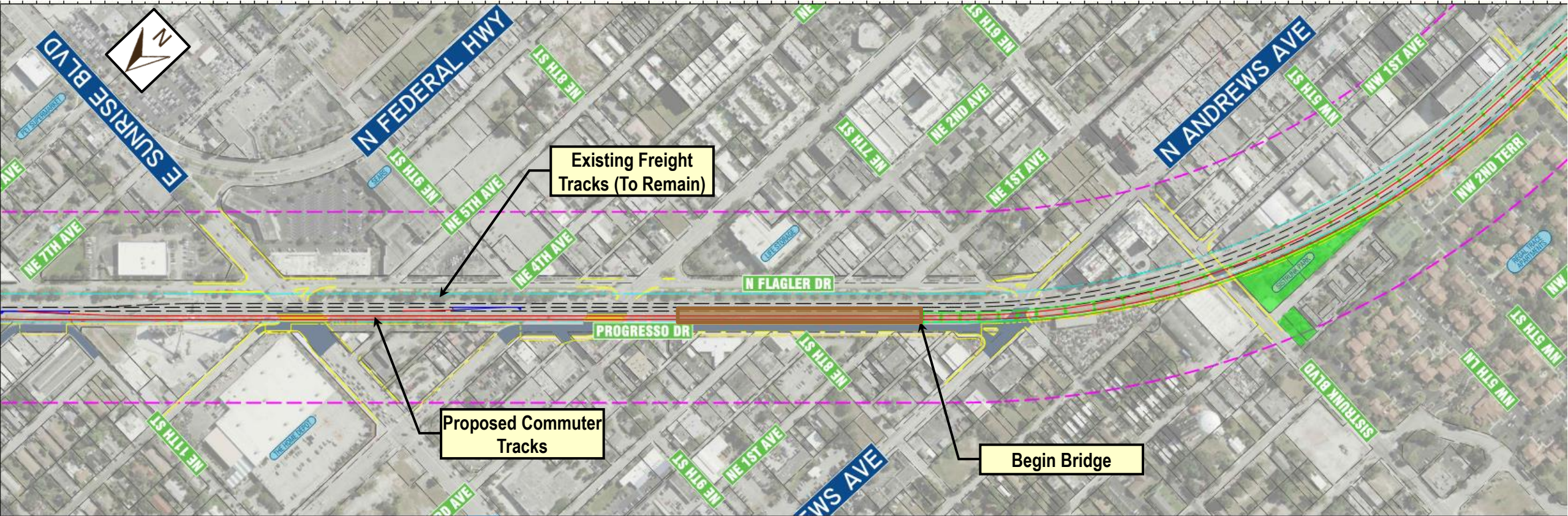
❑ Challenges

- 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



- ❑ 80-foot clearance above New River surface
- ❑ Himmarshee Street remains open to cars and pedestrian traffic
- ❑ Comes down to street level south of NE 3rd Ave and north of the Tarpon River
- ❑ No street closures
- ❑ Existing Brightline station building will be modified to accommodate vertical circulation to new platform
- ❑ Existing bascule bridge serving freight potentially to be shifted east and will remain at-grade

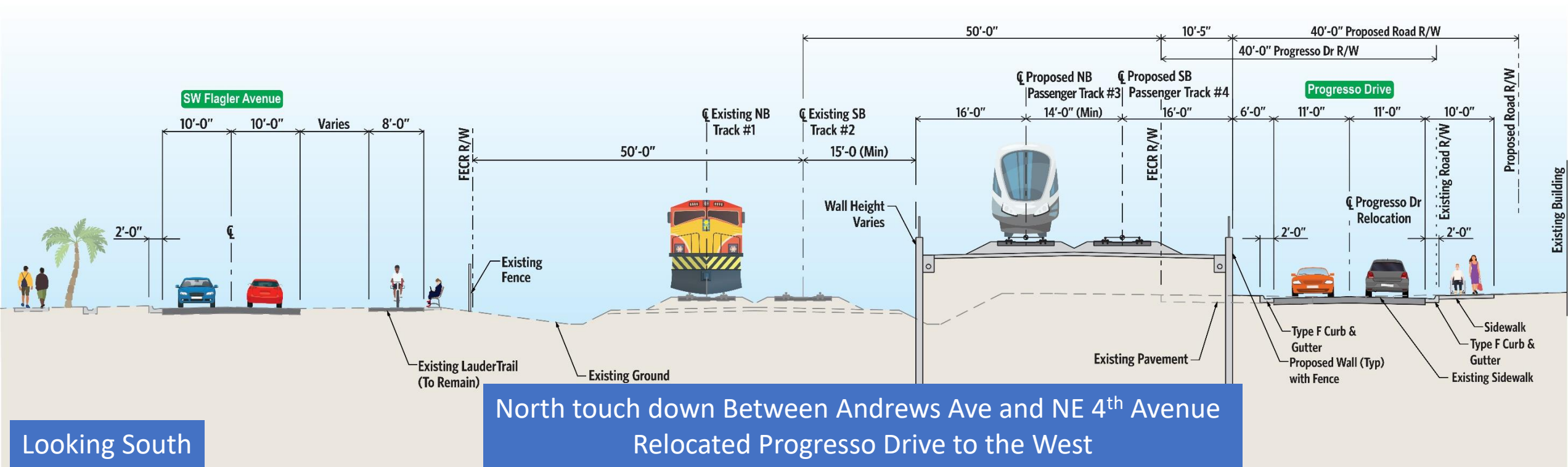




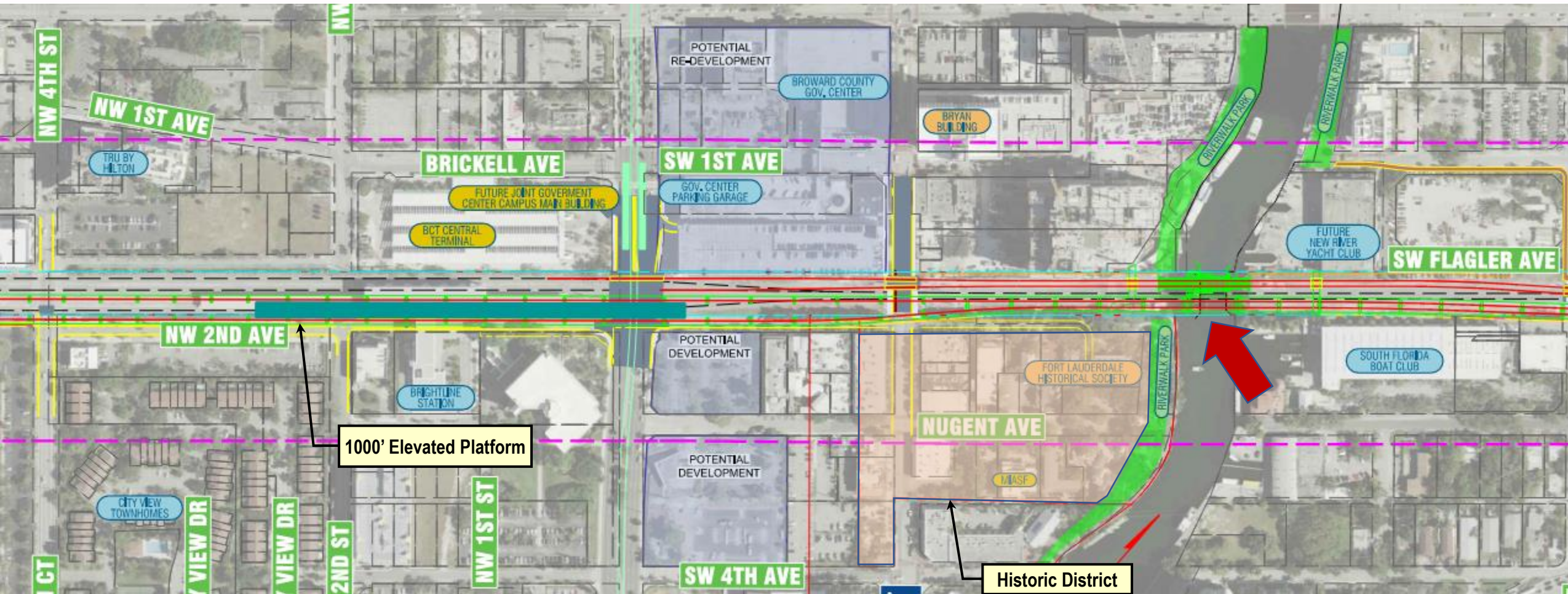
- Bridge starts just north of Andrews Avenue
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- Progresso Drive shifts west
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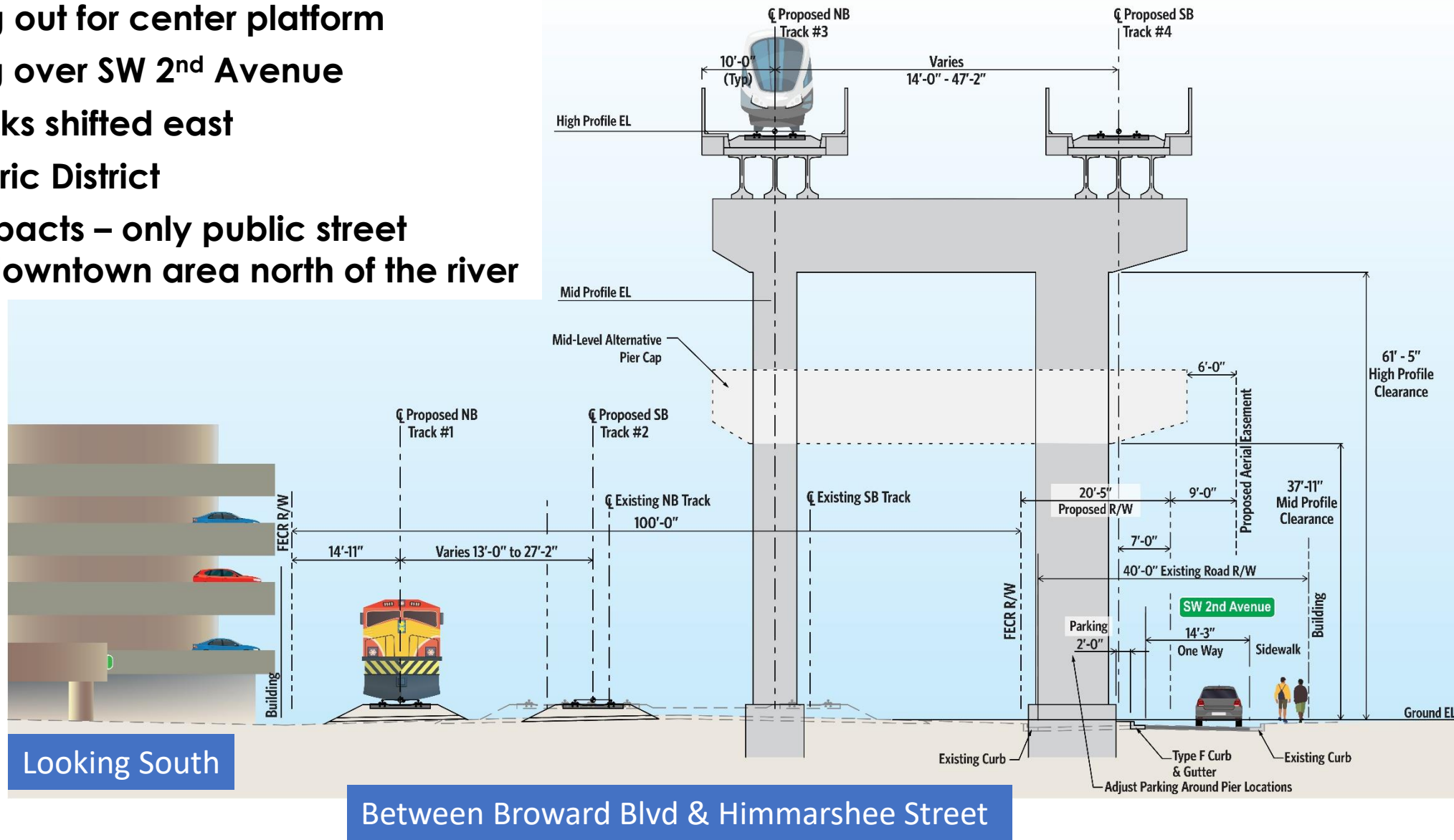
High-Level Alternative: Plan View Downtown



- ❑ The existing freight bridge and tracks shifted east
- ❑ Two commuter tracks on the elevated structure above all the cross streets and NW 2nd Ave
- ❑ Avoid physical impacts to the historic district
- ❑ Maintain Brightline operations during construction
- ❑ 1,000-foot station platform above and with connections to the existing Brightline Station
- ❑ Right of Way Impacts – two aerial easements just south of the river

High-Level Alternative: Typical Section

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- ❑ Aerial overhang over SW 2nd Avenue
- ❑ New freight tracks shifted east
- ❑ Avoids the Historic District
- ❑ Right of Way impacts – only public street impacts in the downtown area north of the river



EXISTING SISTRUNK BOULEVARD LOOKING EAST



DESIGN PRESERVES OPENNESS, ACCESSIBILITY AND NEIGHBORHOOD CHARACTER OF FAT VILLAGE:

- Artistic columns and decorative railing
- Column design allows for narrower columns to maintain visibility
- Pavers and landscaping soften the edges of the street
- Utilities will be relocated to accommodate the bridge structure



ARTISTIC RENDERING SISTRUNK BOULEVARD LOOKING EAST

EXISTING HIMMARSHEE/SW 2ND AVENUE LOOKING SOUTH



ARTISTIC RENDERING OF INTERSECTION OF HIMMARSHEE AND SW 2ND AVENUE LOOKING SOUTH



INFRASTRUCTURE INTRODUCED AS DESIGN FEATURE WITH ADDITIONAL STREETScape TO PRESERVE OPENNESS AND ACCESS:

- Artistic column design and sound barrier adjacent to tracks
- Closed-bottom box design encloses the overhead track
- Bollards separate sidewalk from railway
- Pavers add color, texture and visual separation
- Crosswalks delineate safe area for pedestrians to cross



EXISTING SW 9TH STREET LOOKING WEST

DESIGN ENHANCES CONNECTIVITY AND IS CONSISTENT WITH NEIGHBORHOOD SCALE:

- Steel bridge span with sample artistic columns over SW 9th Street. Artistic concrete columns support the concrete bridge spans.
- Access to LauderTrail is easy to see, safe and attractive
- Landscaping and crosswalks help to define spaces for trail users



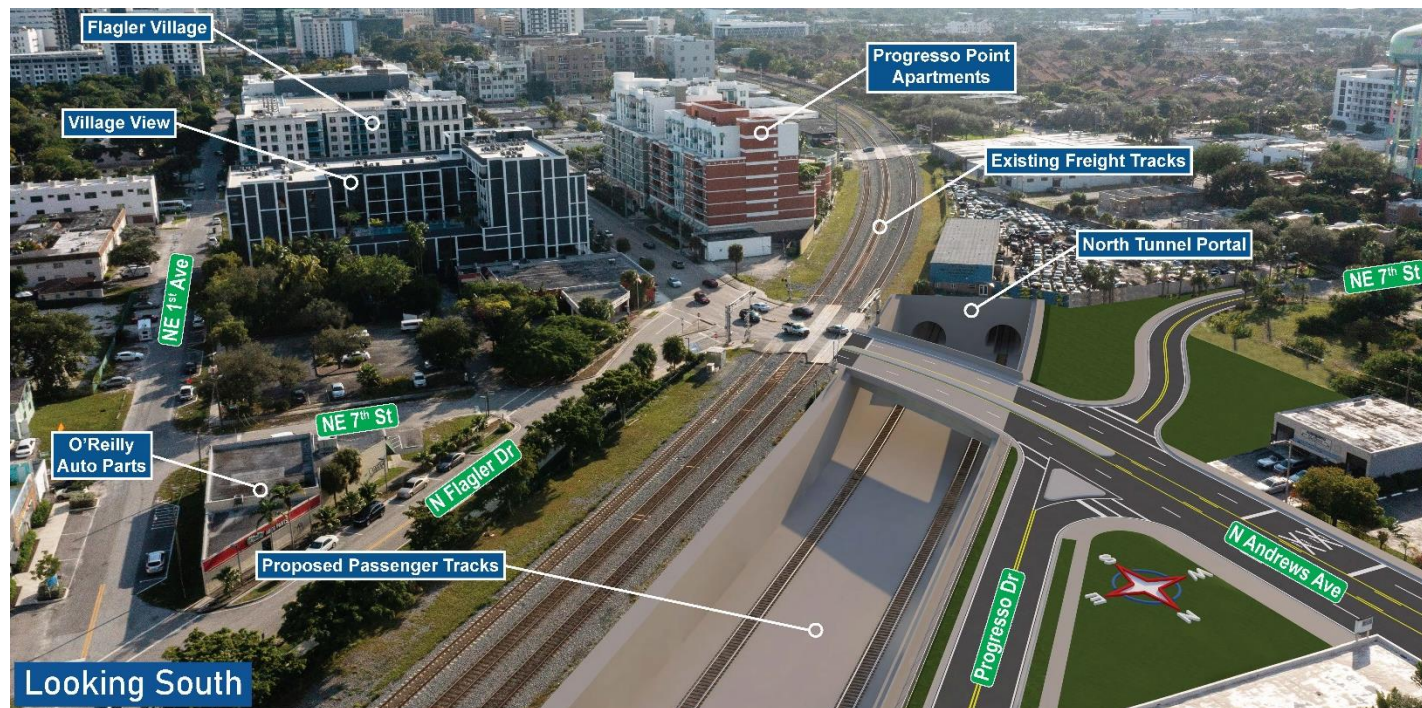
ARTISTIC RENDERING AT SW 9TH STREET SOUTH OF RIVER LOOKING WEST

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

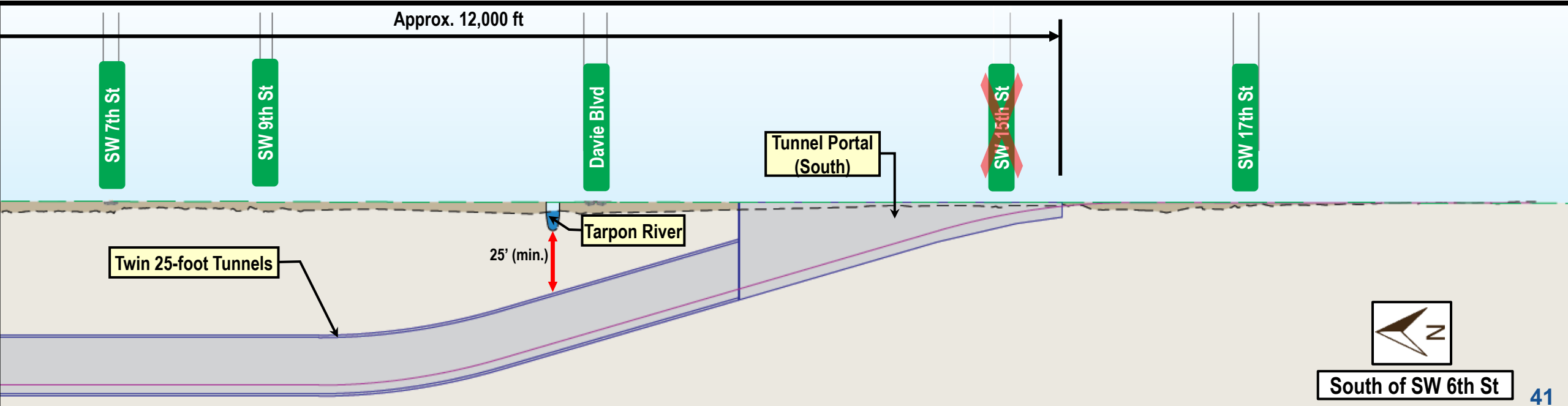
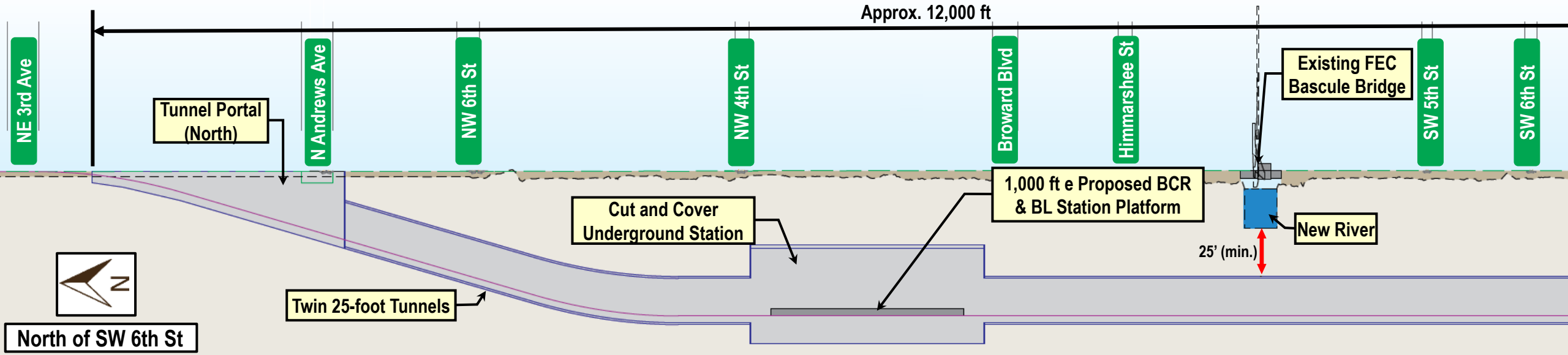
- Highest construction cost of all the New River Crossing Alternatives
- Highest number of right of way impacts
- Tunnel has additional operations and maintenance costs: jet fans, air conditioners, pumps, lights, tunnel wall sealing, ventilation, sensors, cameras, underground station, tunnel cleaning, 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

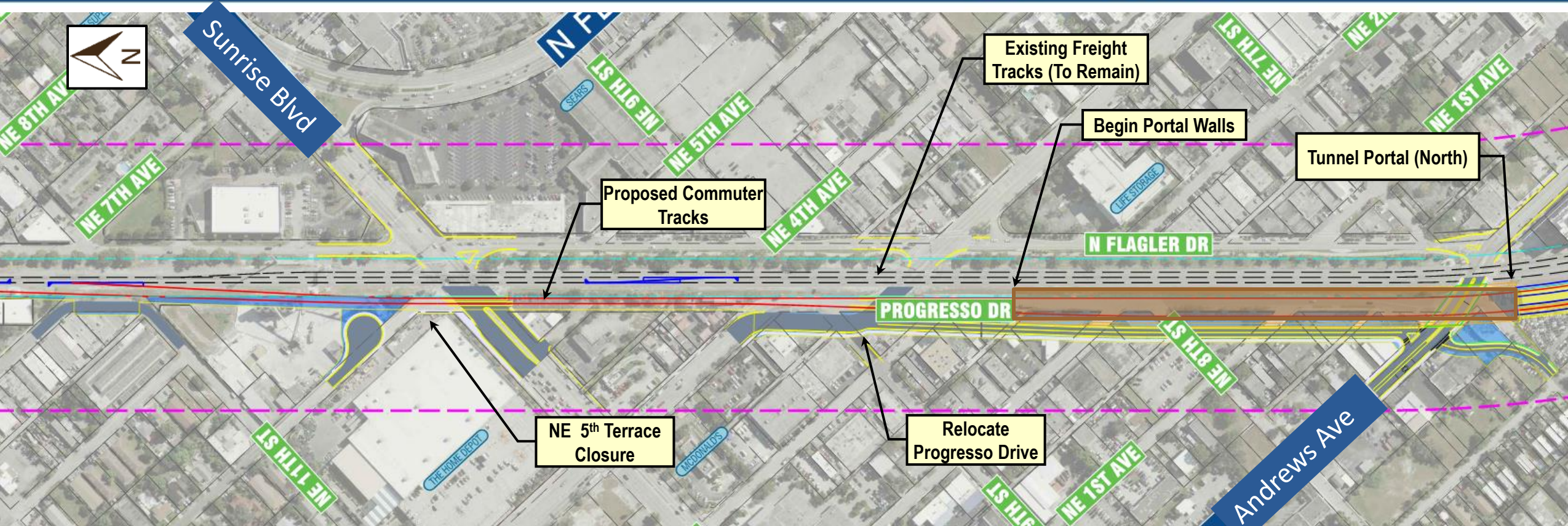


Artistic Rendering – Tunnel Alternative (South Portal)



Tunnel Alternative: Elevation View

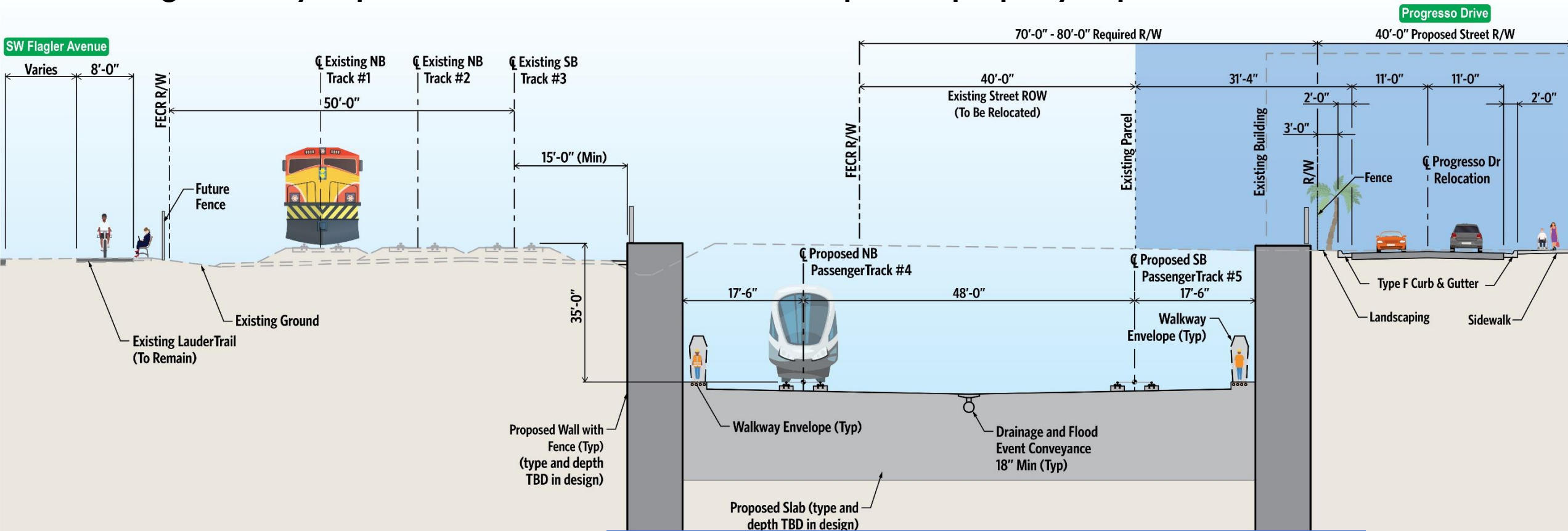




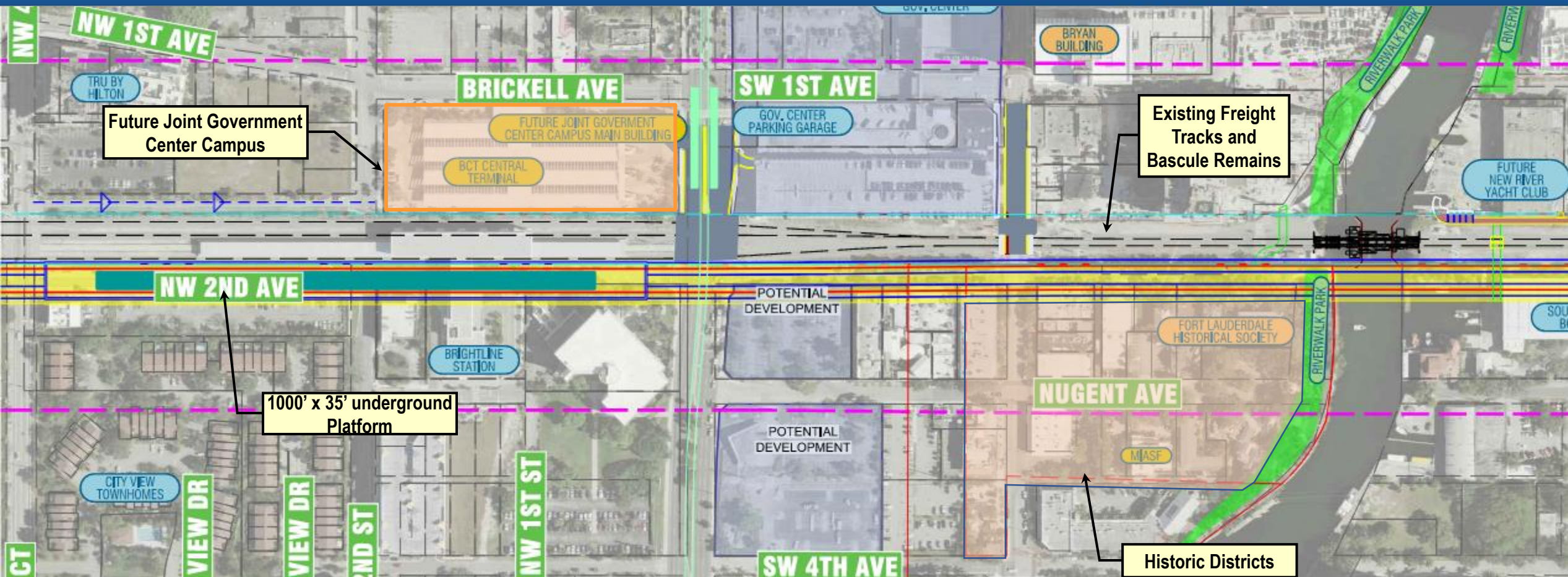
- ❑ Existing freight tracks remain
- ❑ Two commuter tracks proposed location set by offset to portal walls
- ❑ Portal Retaining walls with barrier and fence
- ❑ NE 5th Terrace connection at Sunrise Blvd closed

- ❑ Progresso Drive and NW 7th Street shift west
- ❑ ROW impacts – between 50' and 80' wide private property need

- ❑ Portal retaining walls
- ❑ No impacts to Flagler Avenue
- ❑ Progresso Drive shifts west
- ❑ Right of Way impacts – between 50' and 70' wide private property impact

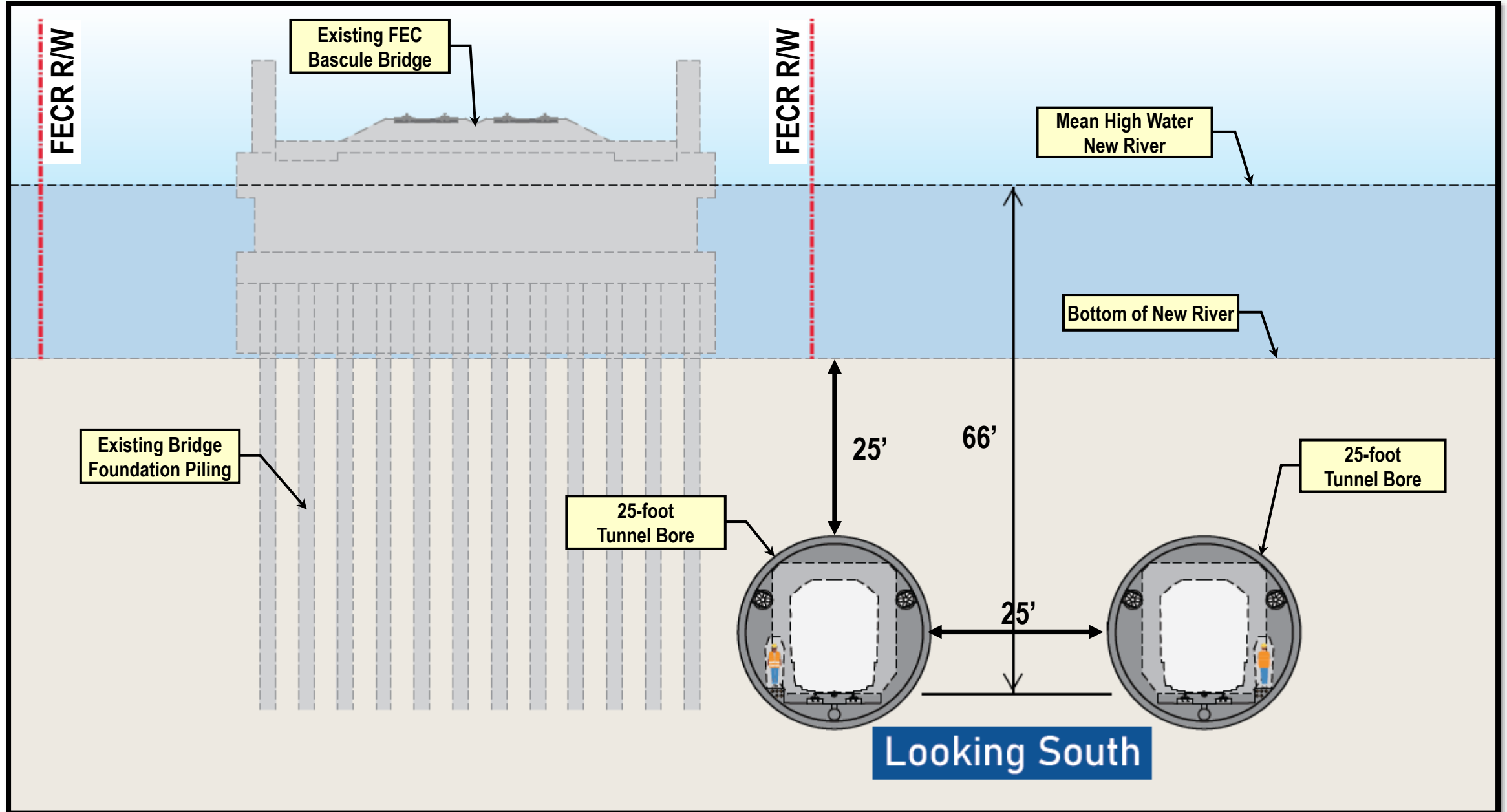


Tunnel Portal between Andrews Ave and NE 4th Avenue
Relocate Progresso Drive to the West

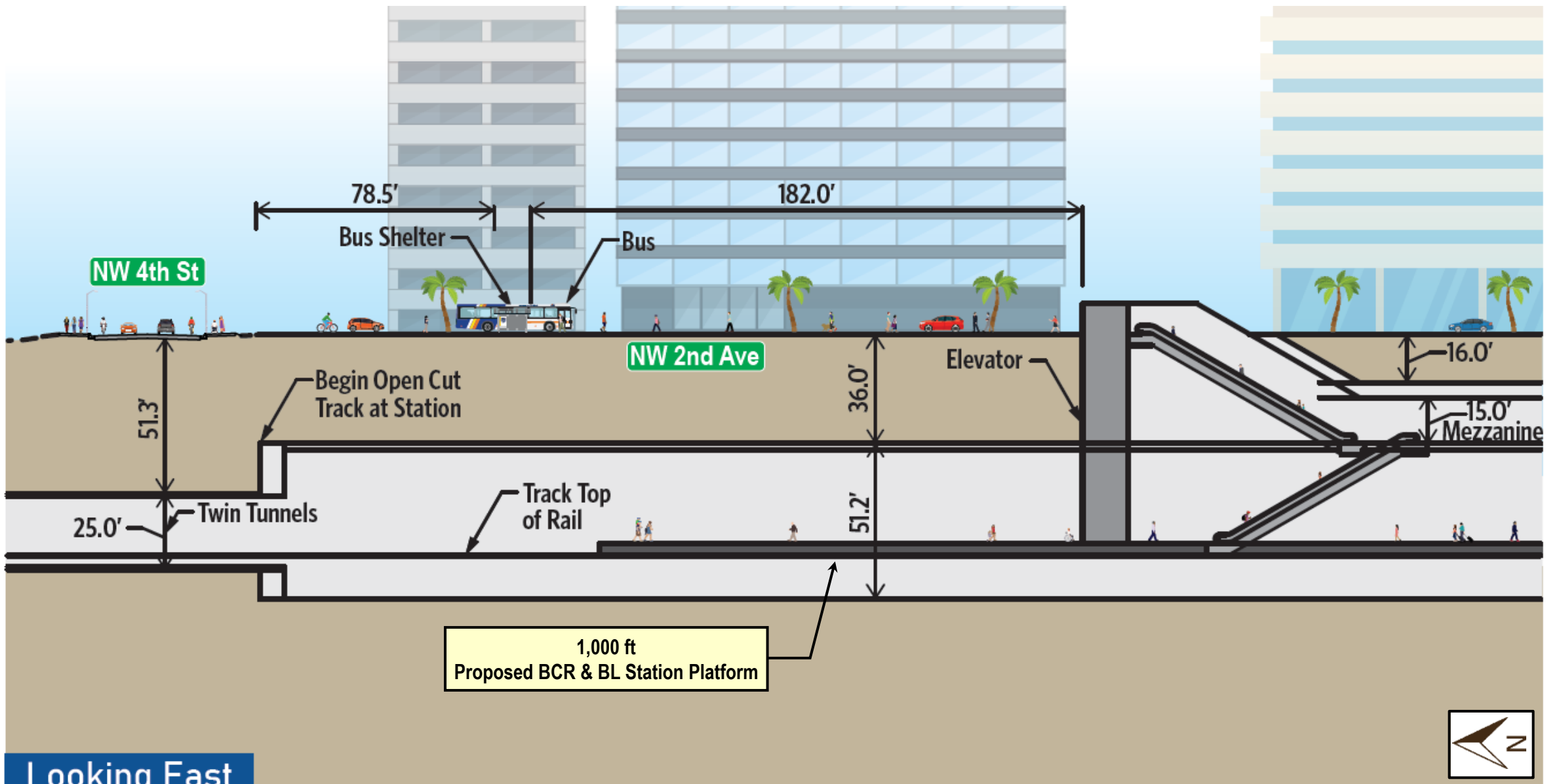


- ❑ Existing freight tracks and bridge remain
- ❑ Two commuter tracks proposed location set by offset to portal walls
- ❑ Underground Station requires open cut with deep support walls
- ❑ Reconstruction of the existing Brightline station
- ❑ ROW impacts – between the Portals, underground easements are anticipated (yellow)

Tunnel Alternative: Section View Under New River



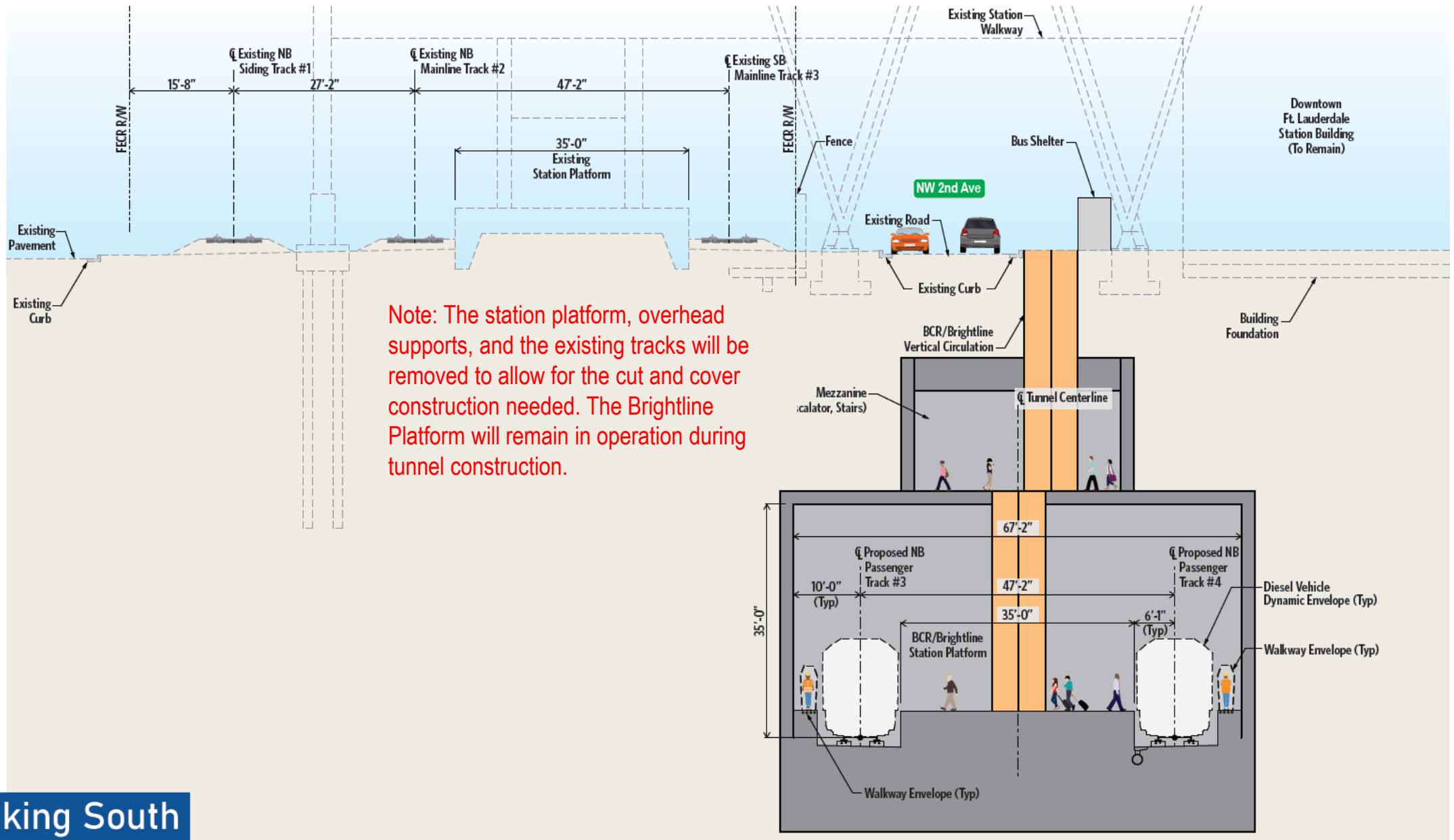
Tunnel Alternative: Underground Station Elevation View



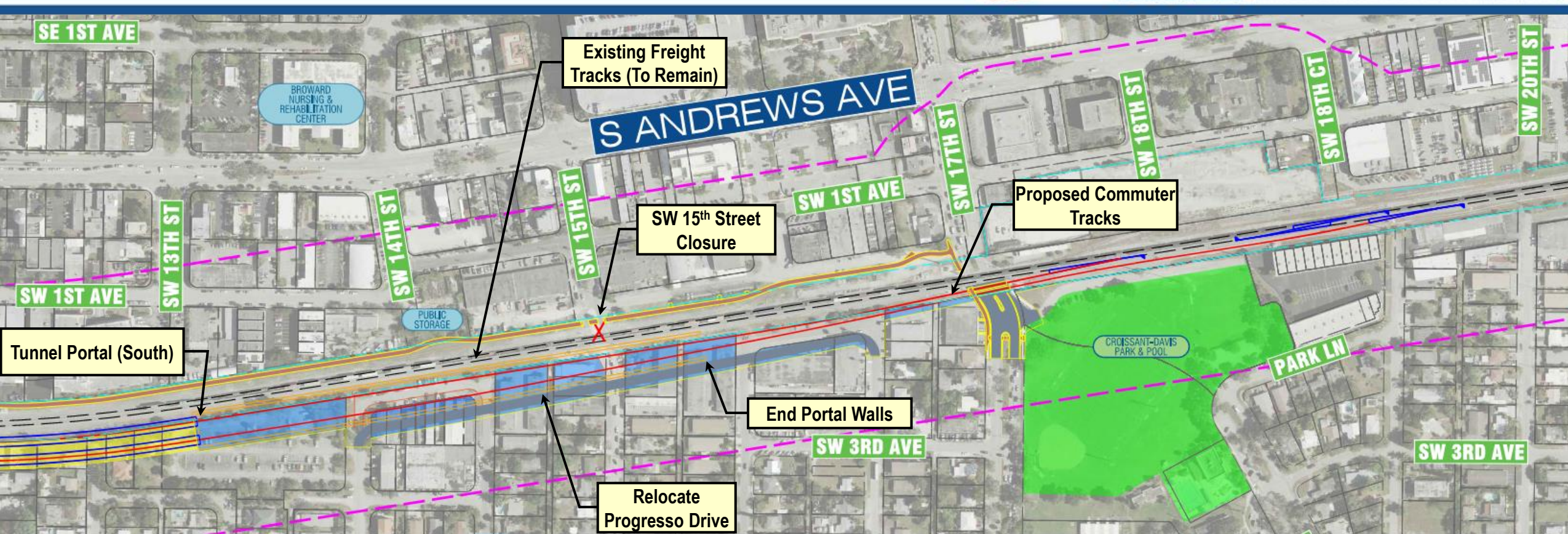
Looking East



Tunnel Alternative: Underground Station Section View

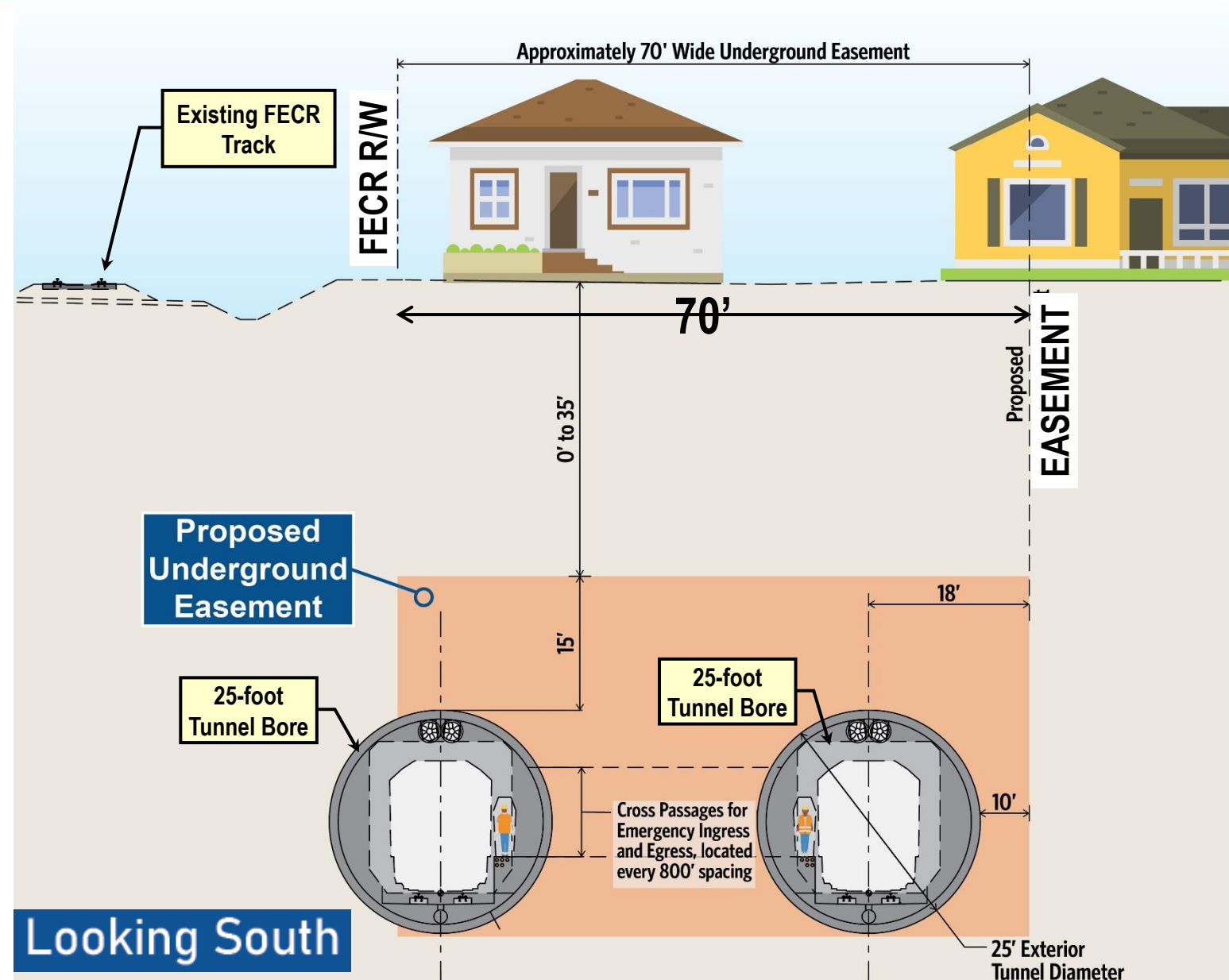


Looking South



- Existing freight tracks remain
- Two commuter tracks proposed location set by offset to portal walls
- Portal Retaining walls with barrier and fence
- NE 5th Terrace connection at Sunrise Blvd closed
- SW 2nd Ave shifted west
- ROW impacts – between 50' and 80' wide private property need

- ❑ Private residential and industrial properties above tunnel
- ❑ The tunnel underground easement is anticipated to be 70' wide and extend 15' above the top of the tunnel
- ❑ The top of the underground easement varies between 0' and 35 feet under the property



Bridge Alternatives

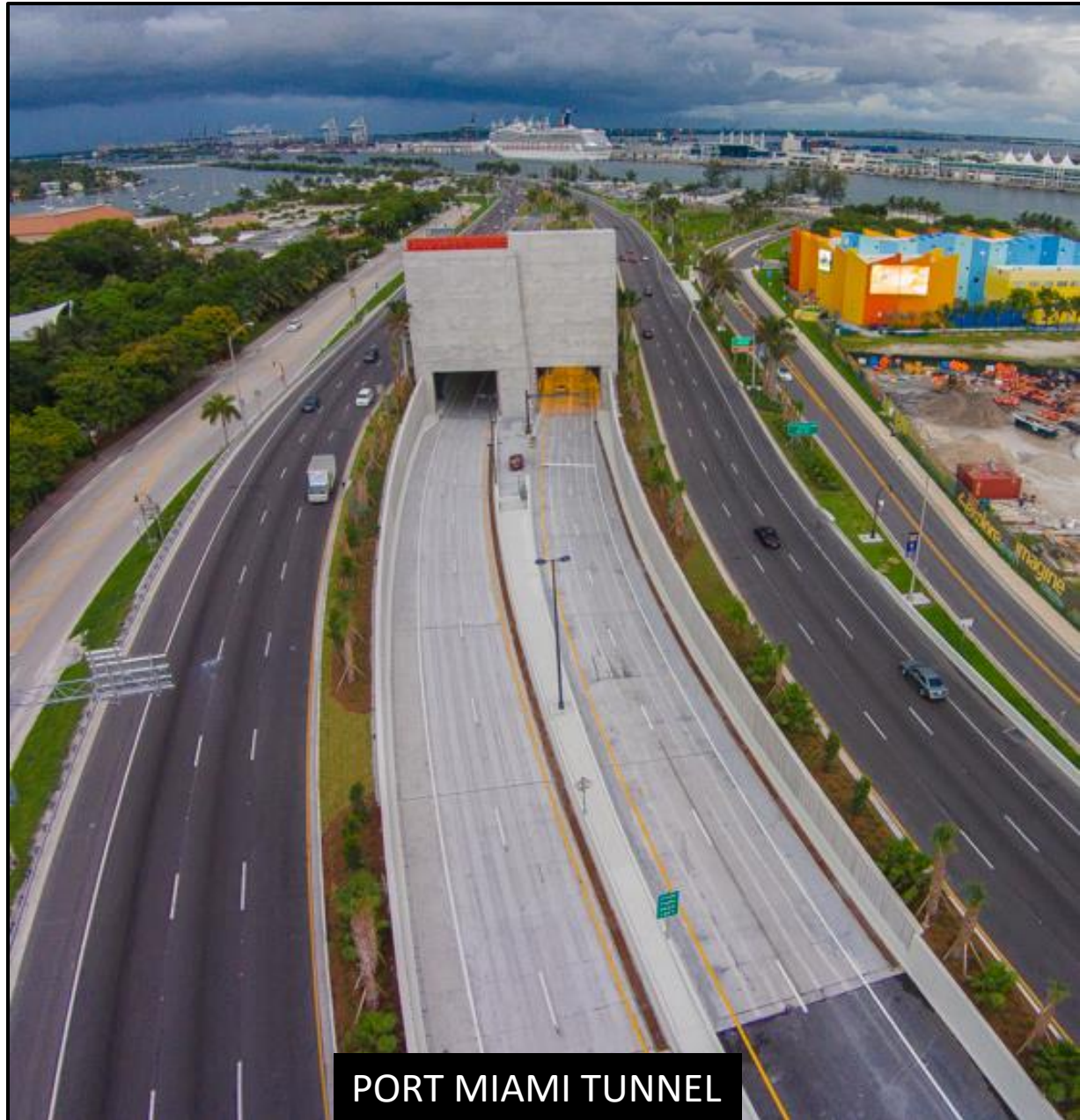
- ❑ Shift the Existing Freight bridge to the east
- ❑ Traditional Bridge Construction from the ground up
 - Foundation
 - Concrete pier pours and Girder placement with cranes during off peak traffic windows.
 - Typically performed with progressive crews or multiple crews / shifts
- ❑ Track work deliveries by rail then built from one end of the bridge to the other
- ❑ Downtown aerial station modifications tie into mid- and high-level bridges at platform level above existing station.
- ❑ Bridge construction impacts are fewer and less disruptive.
- ❑ A bridge can be built faster than a tunnel.

Tunnel Alternative

- ❑ Extensive Laydown areas and dewatering
- ❑ Extensive conveyor systems for removal and treatment of excavated materials during tunneling with over 65,000 trucks hauling on City streets
- ❑ Build the portal walls and then Tunnel Boring Machine (TBM) bores the tunnel tubes
- ❑ Requires special geotechnical work due to Karst Limestone soils



Tunnel Soil Management at Portals



- ❑ Tunnels are more challenging than bridges when addressing resiliency
 - Sea level rise
 - Hurricanes, storm surges
- ❑ Hurricane Sandy flooded NYC's subway system, taking weeks to restore and \$ billions in repairs + longer term infrastructure hardening measures
- ❑ Review of the NOAA high sea level curves
 - 54" by year 2070
 - 136" by year 2120
- ❑ Mitigation possible, but expensive
- ❑ Bridges can be shut down during severe storms, but normally do not suffer major damages as a result of flooding/storm surge, (unless foundations are unprotected and exposed to strong currents/erosion)

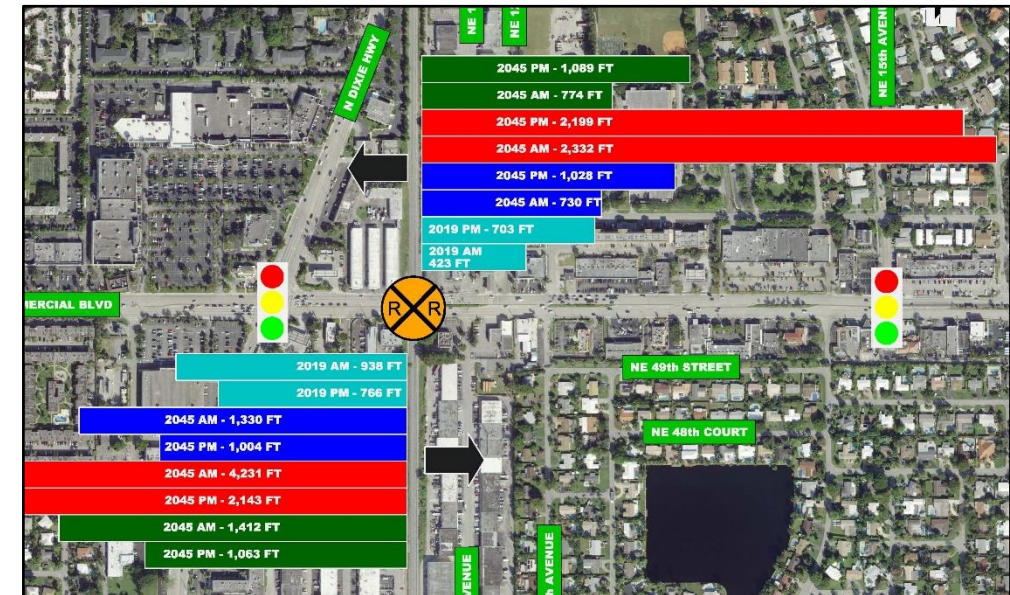
- ❑ Roadway Traffic Analysis at:
 - Representative worst case railroad crossings on east-west roads
 - Proposed station locations

- ❑ Evaluation of Existing, No-Build, and Build Alternatives

- ❑ Step-By-Step Process
 - Identify traffic analysis locations and collect data
 - Estimate future traffic demand
 - Perform traffic operational analysis
 - Intersection's level of service
 - Queuing length analyses



- ❑ Total roadway closure time at each railroad crossing will be less than 90 seconds (advanced warning time + crossing time + clearance time)
- ❑ On average, 3 to 5 BCR Trains will traverse each crossing during the AM and PM peak hours on a typical weekday
- ❑ BCR Train travel times, delays, and queuing impacts along the railroad crossings are similar to the current Brightline service.
- ❑ At-grade railroad crossings will experience no significant change in intersections LOS, speeds, or queuing when compared to the No-Build Alternative
- ❑ Grade separated railroad crossings (Mid/High Level Bridge or Tunnel) will experience improved operating conditions when compared to the No-Build Alternative

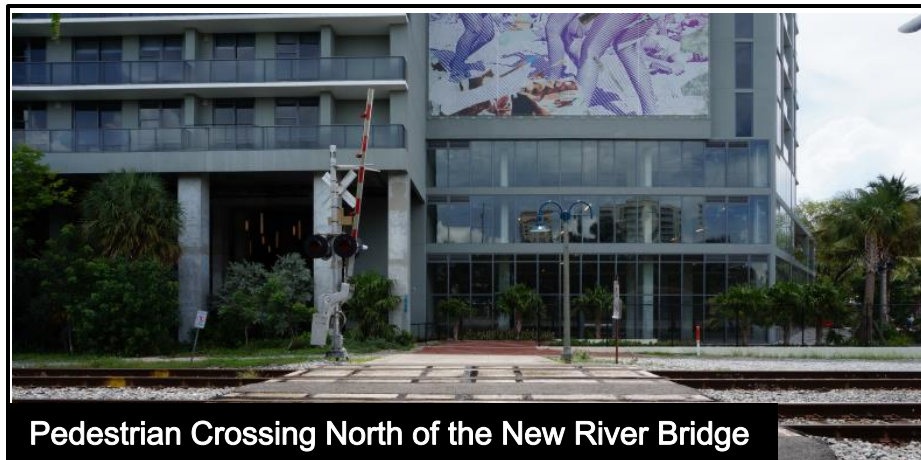


□ Social Environment

- **Social Resources** – *Socio-Cultural Effects Evaluation* being conducted
- **Economic** – *Enhanced*
- **Land Use Changes** – *Minimal impacts*
- **Mobility** – *Enhanced*
- **Aesthetic Effects** – *Minimal impacts; Opportunities for enhancement*
- **Relocation** – *Few anticipated*
- **Recreational Section 4(f) (Parks and Preserves)** – *23 identified near project; potential impacts to Sistrunk Park (Mid and High-Level Bridge Alternatives)*

□ Cultural Environment

- **Historic/Archaeological Resources** – *Clustered at New River, Surveys ongoing*
- **Coordination** – *State Historic Preservation Officer (SHPO) and Tribal Governments*
- **Documentation** – *Cultural Resources Assessment Survey (CRAS) Report*



□ Natural Environment

- **Wetlands** – *Limited impacts anticipated*
- **Protected Species** – *Coordination with FWC and USFWS*
- **Essential Fish Habitat** – *Not present in study area*
- **Water Resources** – *7 Water crossings and the Biscayne Sole Source Aquifer*
- **Floodplains** – *Minimal impacts anticipated*
- **Documentation** – *Natural Resources Evaluation Report*

□ Physical Environment

- **Farmlands** – *No impacts anticipated*
- **Noise** – *Noise Study to measure noise-level increase*
- **Air Quality** – *Area in attainment for criteria pollutants*
- **Contamination** – *Addressed in Contamination Screening Evaluation*



Looking South at New River Bridge



Tarpon River

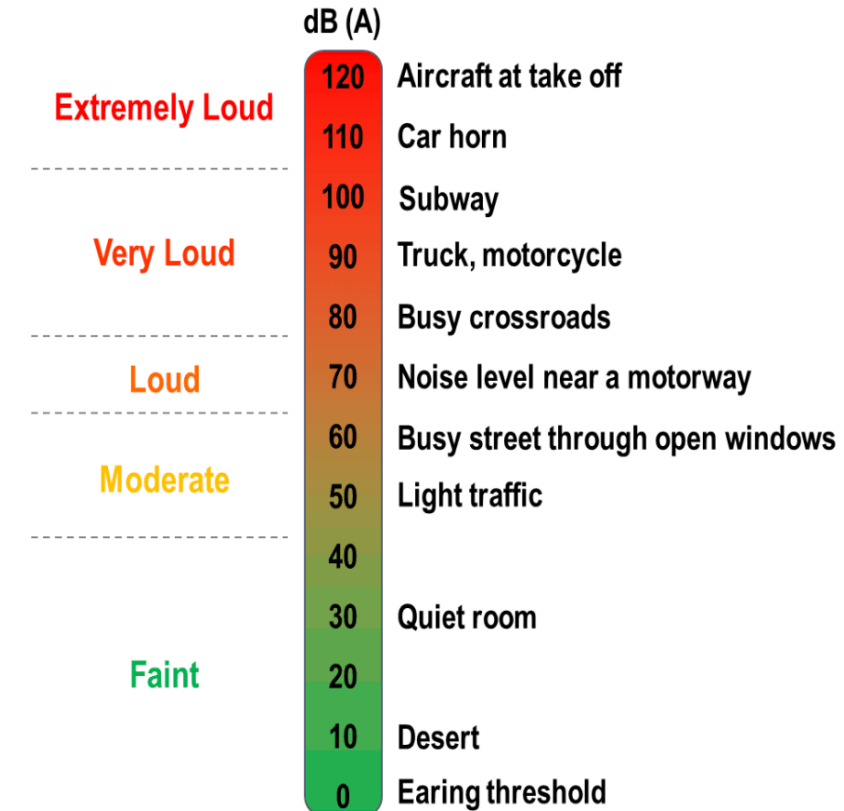
- ❑ Determine potential noise and vibration impacts for:
 - New commuter rail service along FEC Corridor
 - Proposed stations
 - Maintenance facility at Hialeah Rail Yard

- ❑ Evaluate sensitive sites such as residences, schools, libraries, parks, and places of worship

- ❑ Determine existing noise levels and sources
 - Perform short-term (1 hour) and long-term (24 hour) monitoring

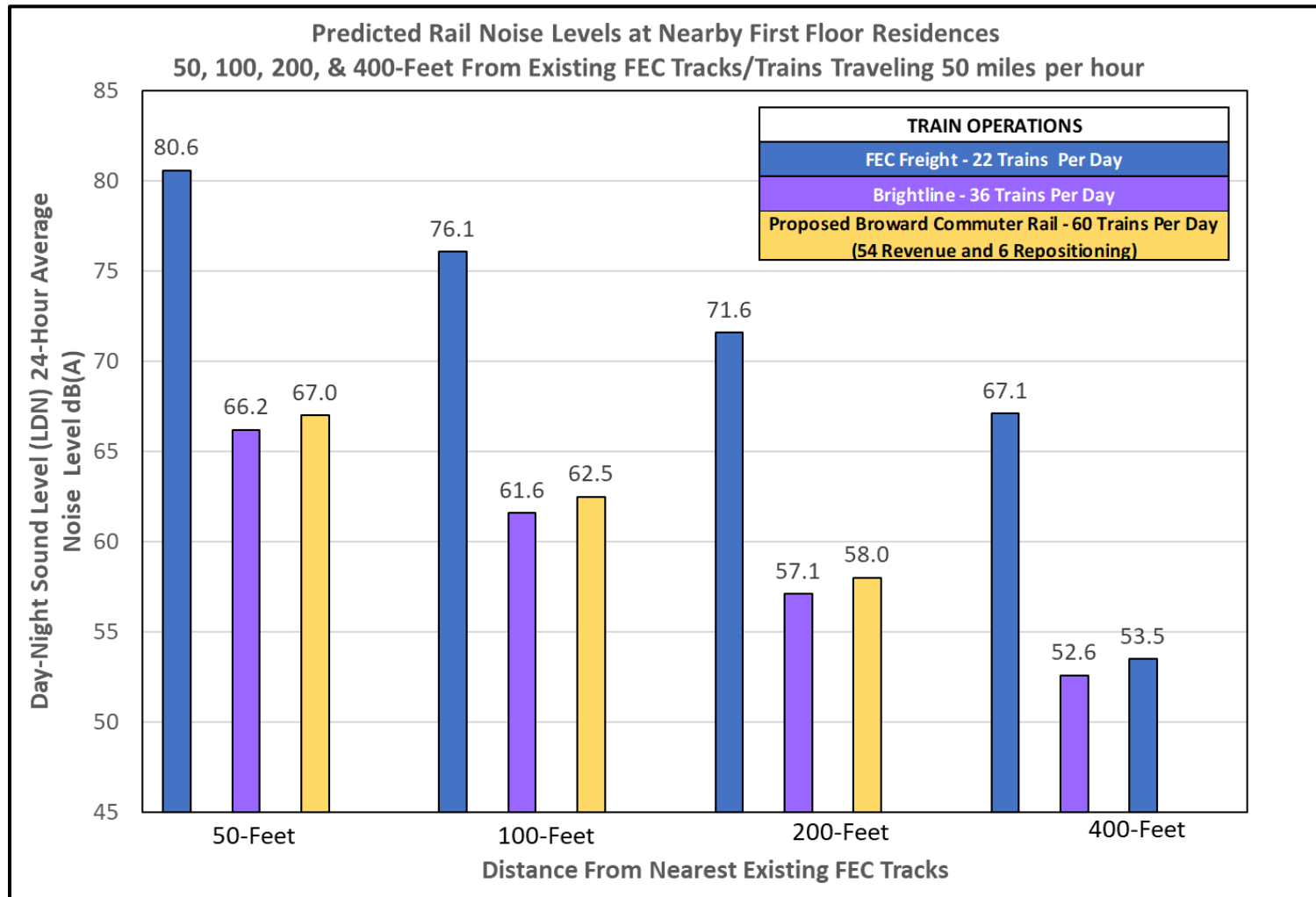
- ❑ Predict future project noise and vibration levels and assess impacts

- ❑ Evaluate abatement options at potentially impacted sites
 - Review of existing Quiet Zones
 - Noise barriers
 - Specialized track support systems
 - Vehicle and wheel treatments

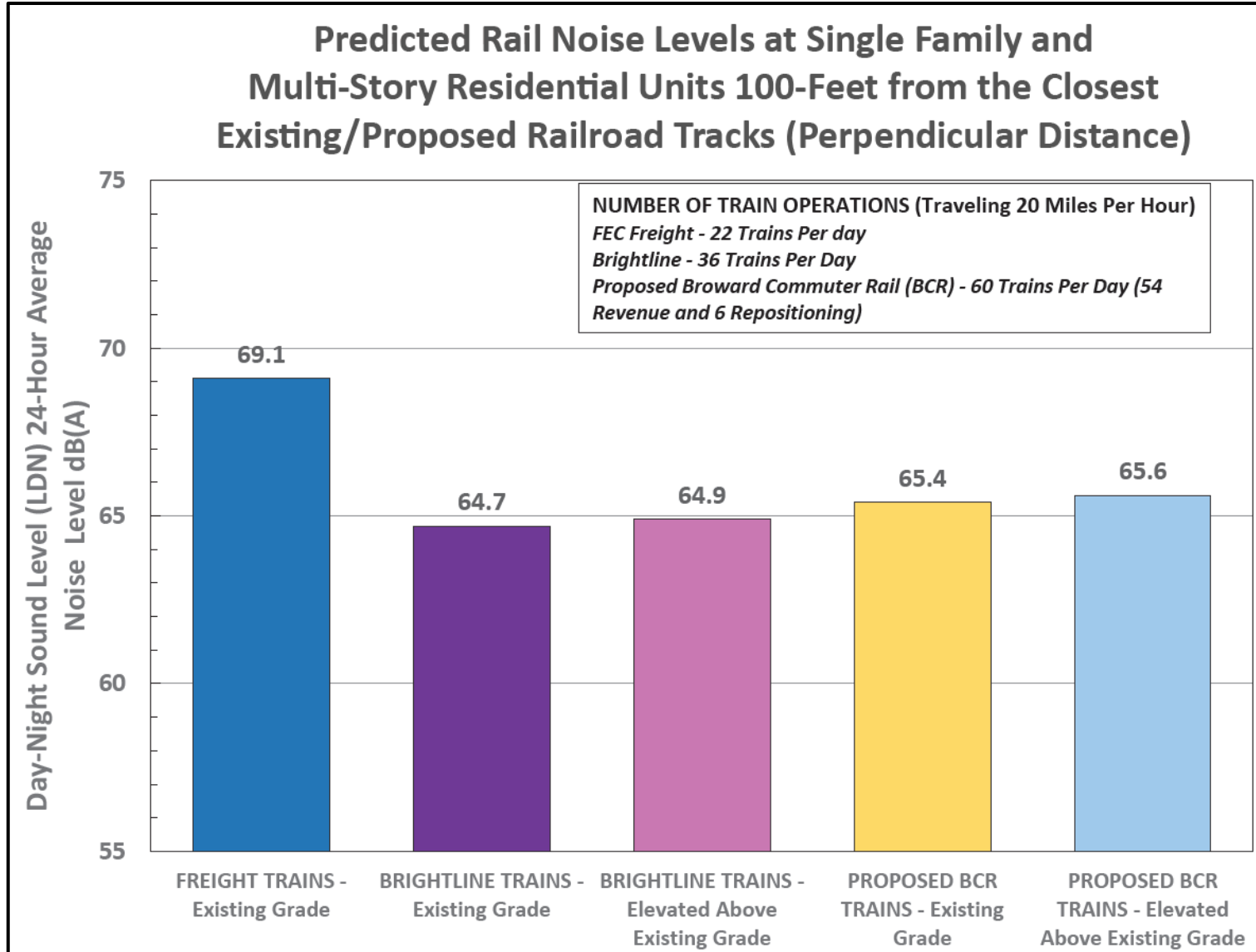


Note: Noise and Vibration Analyses are being performed in accordance with Federal Transit Administration and FDOT Guidelines.

Relative Comparison of Existing and Future Train Noise Levels Along Existing FEC Corridor

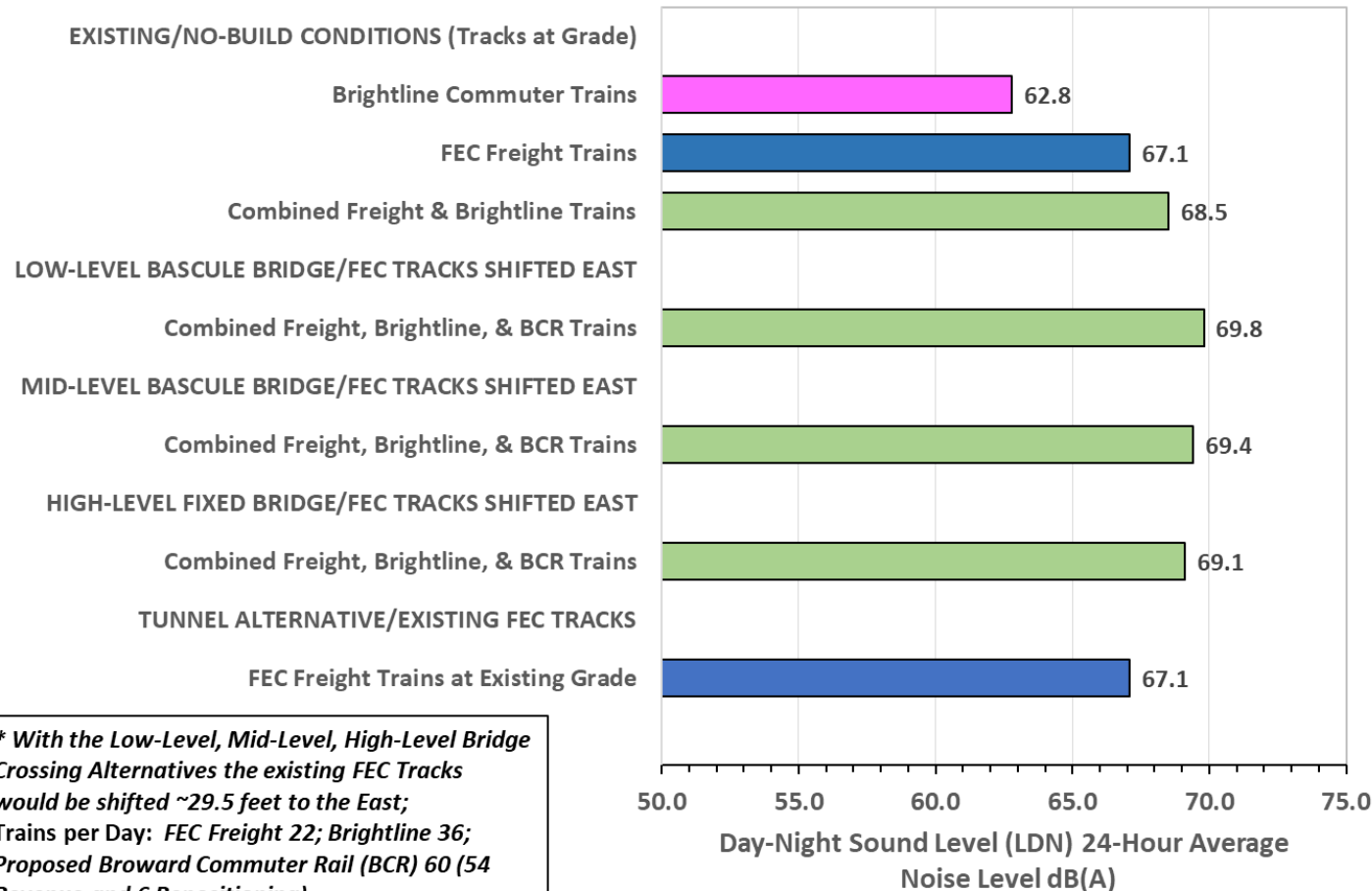


Relative Comparison of Train Noise Levels Adjacent to the FEC Railroad Corridor



New River Crossing Alternatives Relative Comparison of Train Noise Levels at New River Inn

Predicted Rail Noise Levels at the New River Inn Located 135 Feet West of FEC Existing Railroad Tracks (Trains Traveling 20 Miles Per Hour*)



** With the Low-Level, Mid-Level, High-Level Bridge Crossing Alternatives the existing FEC Tracks would be shifted ~29.5 feet to the East; Trains per Day: FEC Freight 22; Brightline 36; Proposed Broward Commuter Rail (BCR) 60 (54 Revenue and 6 Repositioning)*



Old Fort Lauderdale Village Historic District

- ❑ **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



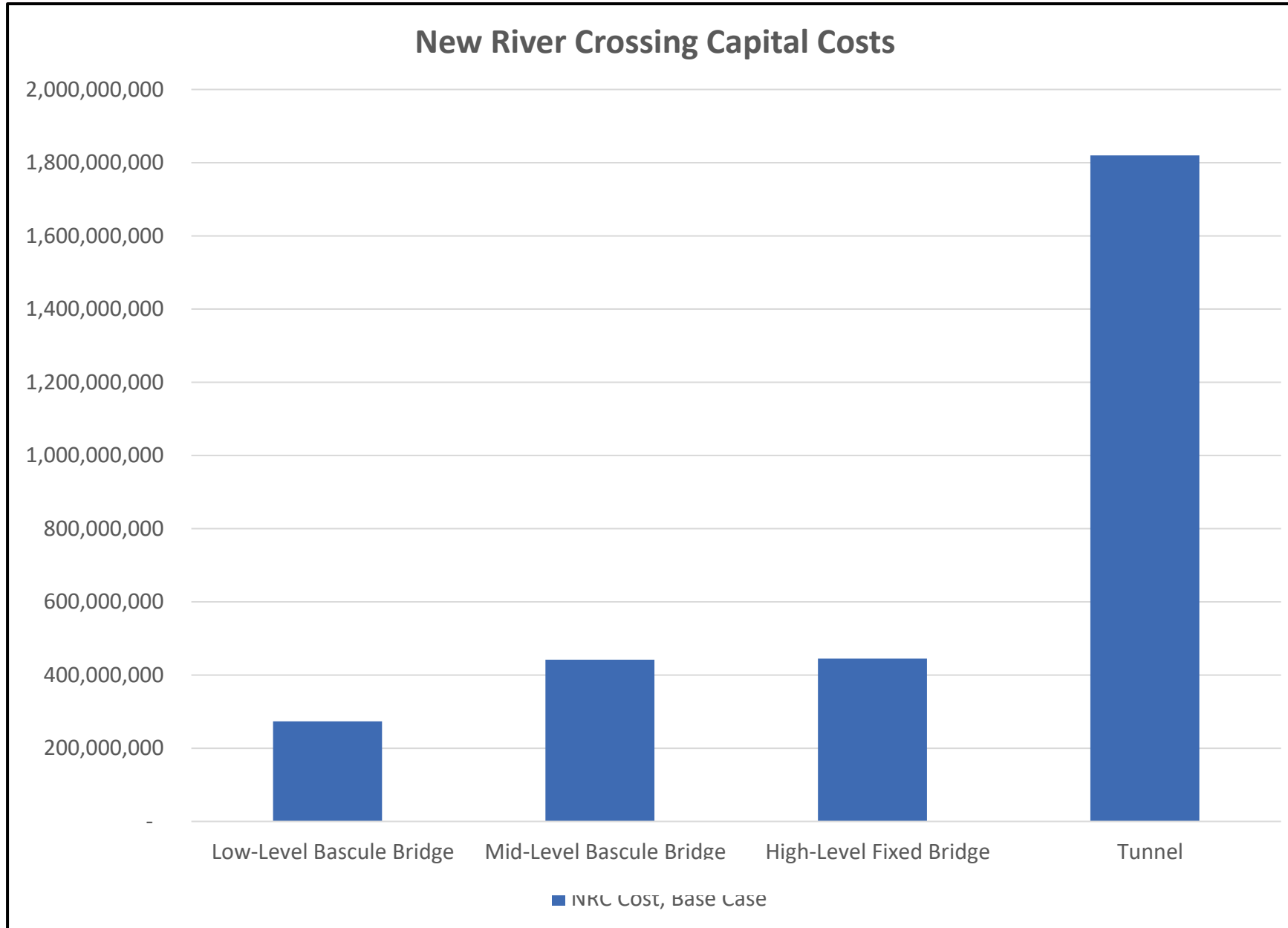
□ The table below itemizes the different elements of the total project cost.

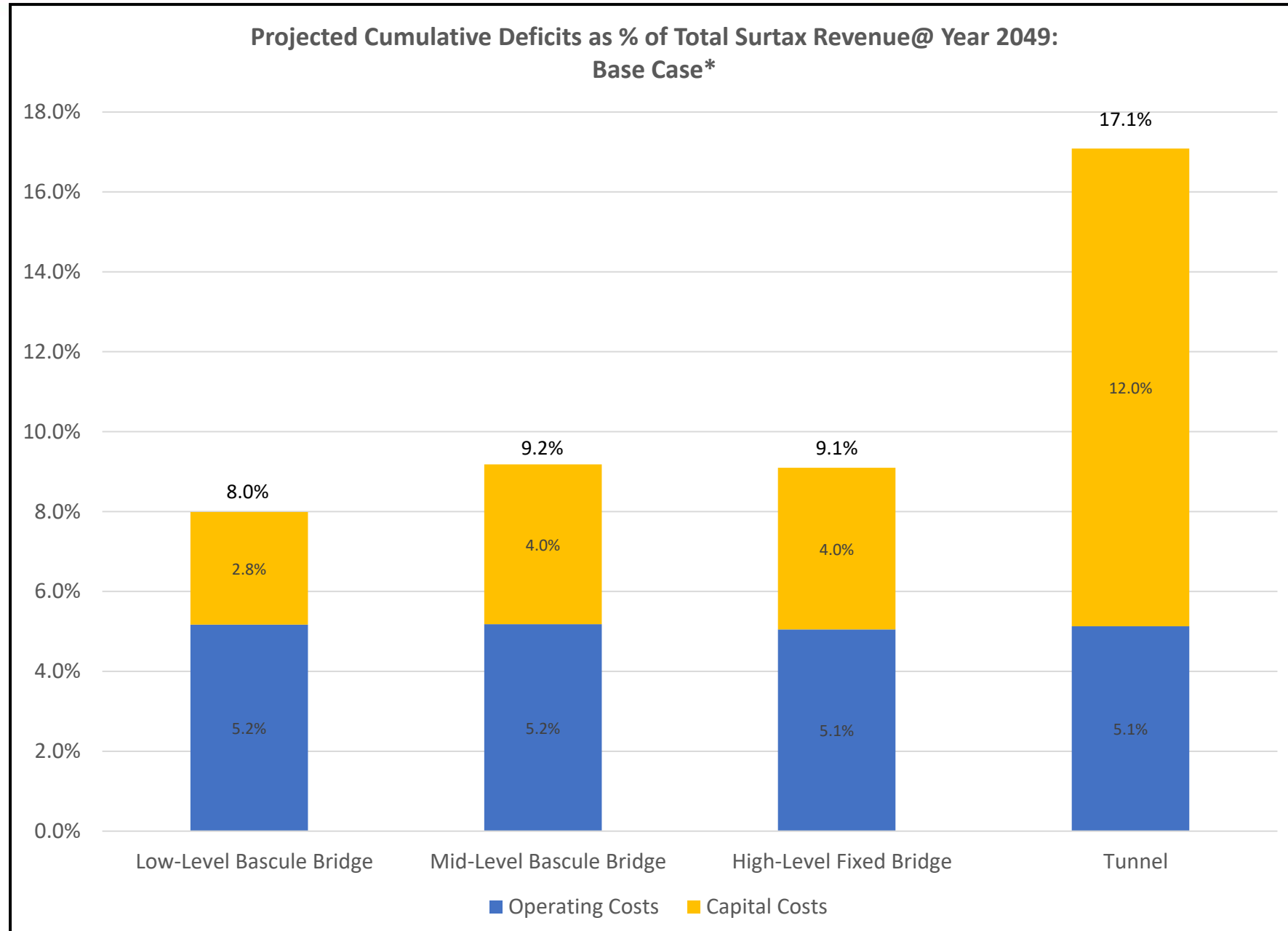
NRC Alternative Cost Table				
Alternative	Low-Level Bascule	Mid-Level Bascule	High-Level Fixed	Tunnel
New River Crossing	\$240 M	\$444 M	\$452 M	\$1.82 B
Right-of-Way (Private)	\$0	\$98 M	\$98 M	\$148 M
Operations & Maintenance ¹	- Bridge Tender - Mechanical Systems	- Bridge Tender - Mechanical Systems	- Regular Maintenance	- Underground Station - Ventilation Systems
Corridor Cost Table				
Corridor Capital Cost ²	\$495 M			
Right-of-Way (Stations)	Under Analysis will be the same for each alternative			
Total Capital Cost	\$735 M	\$1.04 B	\$1.05 B	\$2.46 B
Other Project Cost Table				
Operations & Maintenance	\$18 - \$28 M	\$18 - \$28 M	\$17 - \$27 M	\$18 - \$28 M
Access Fee ³	TBD			

¹ 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.

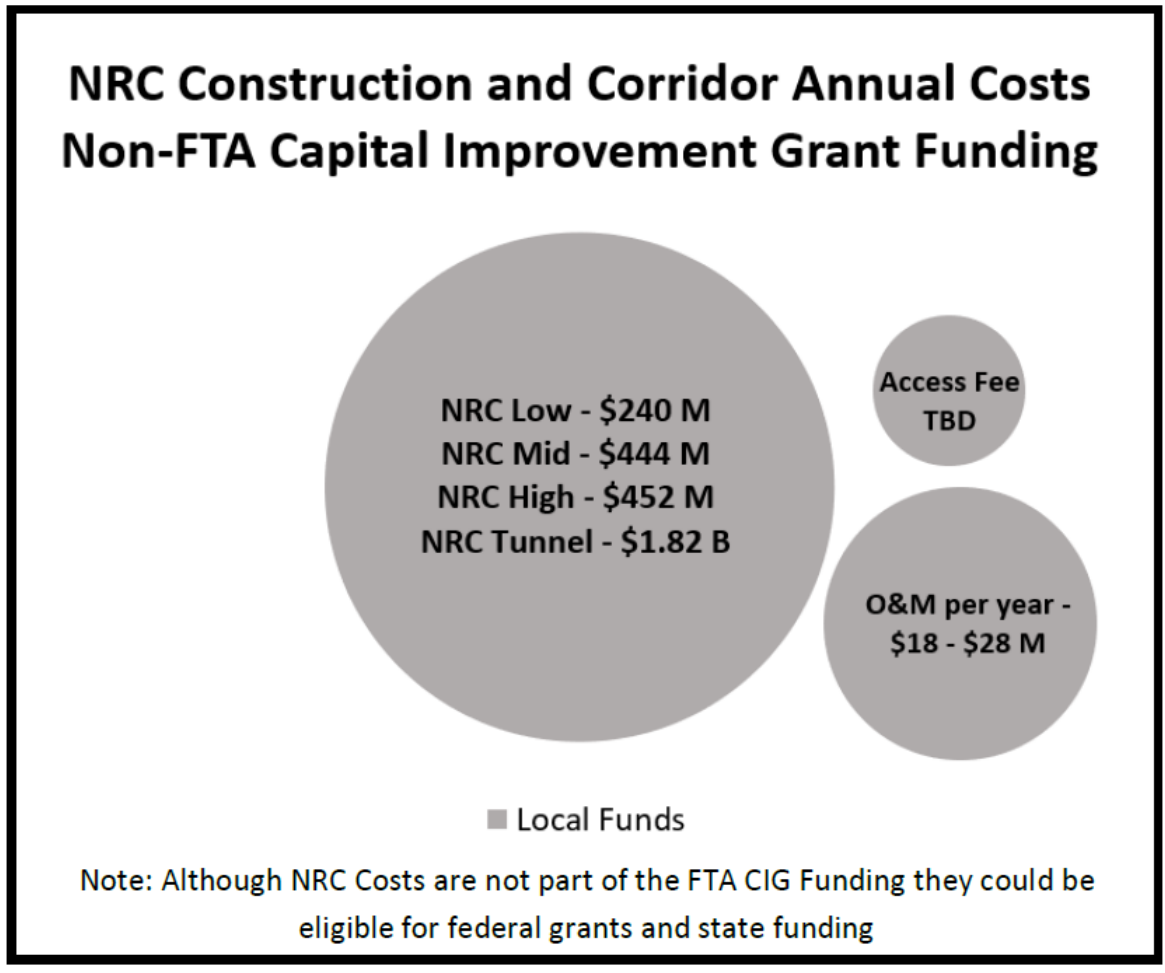
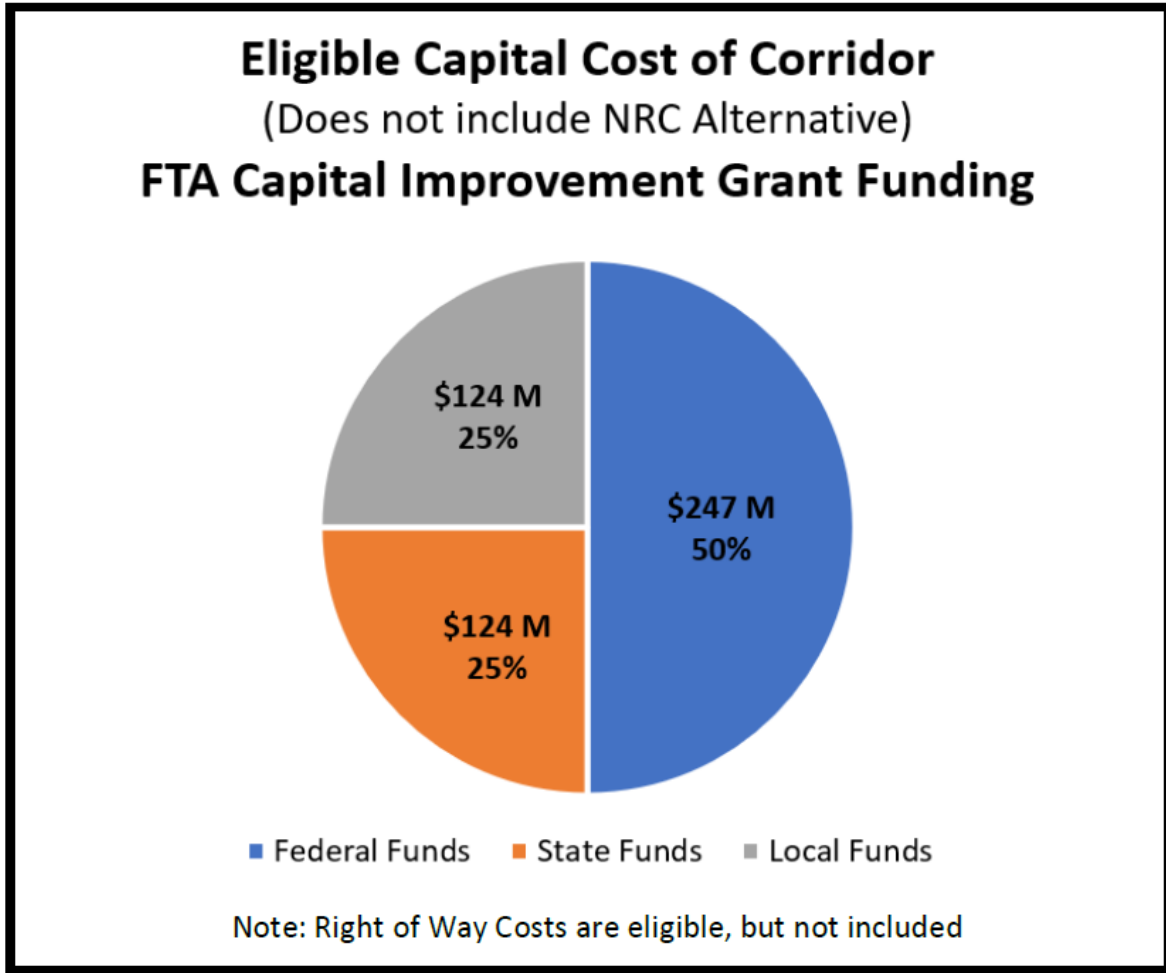
² Capital Cost Includes Construction, Stations, Vehicles, Yards, Parking, etc.

³ Access Fee - A negotiated fee to allow commuter trains on the Brightline passenger easement on the FEC corridor.





- ❑ 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.



- ❑ Owned by FDOT
 - Occupied by CSX, Amtrak, and Tri-Rail
- ❑ Proposed For BCR Use
 - Storing and maintaining trains
 - 2 areas could accommodate BCR
 - Coordinating improvements needed for NE Corridor and BCR
- ❑ Potential Environmental Concerns
 - Title VI and Environmental Justice
 - Noise
 - Contamination/Stormwater treatment



- ❑ One or more of these alternatives will be 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	Worst	Better	Best	Best
Vehicular Traffic Operations	Worst	Better	Better	Best
Socio-Cultural Resources (Historic)	Better	Better	Better	Best
Contamination Risk	Best	Better	Better	Worst
Resiliency	Better	Best	Best	Worst
Right-of-Way Impacts	Best	Better	Better	Worst
Noise	Better	Better	Better	Best
Neighborhood Connectivity - Bicycle/Pedestrian/ Vehicle Local Connections	Better	Best	Best	Worst
Operations and Maintenance Costs (O&M)	Better	Better	Best	Worst
Capital Costs	See Cost Table on Slide 68			

Worst Better Best

PD&E Study Milestone Schedule

PROJECT MILESTONES	2021												2022												2023						
	Q1			Q2			Q3			Q4			Q1			Q2			Q3			Q4			Q1						
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR				
Begin Study	◆																														
Data Collection	■																														
Public Kick-off Meeting							◆																								
Engineering and Environmental Analyses				■																											
Draft Financial Plan										■																					
Alternatives Public Workshop														◆																	
Select Locally Preferred Alternative (LPA)															■																
Request Class of Action from FTA																															
Entry into FTA Project Development																															
Complete Engineering and Environmental Reports																		■													
Initial Capital Investment Grant																															
Public Hearing																															
MPO Adopts the LPA																															
Final NEPA Action																															
Public Involvement	■																														

WE ARE HERE ←

■ General Project Tasks
 ◆ Public Meetings
 ◆ General Project Milestones
 ◆ Critical Project Milestones

FDOT has been and will continue to hold meetings with the public, agencies, and stakeholders throughout the entire study

Public Meetings

- Public Kick-off Meeting – August 31, 2021
- Alternatives Public Workshop – **Tonight's Meeting**
- Broward County Commission LPA Vote – February 22, 2022
- Public Hearing – Anticipated Summer 2022

Other Meetings

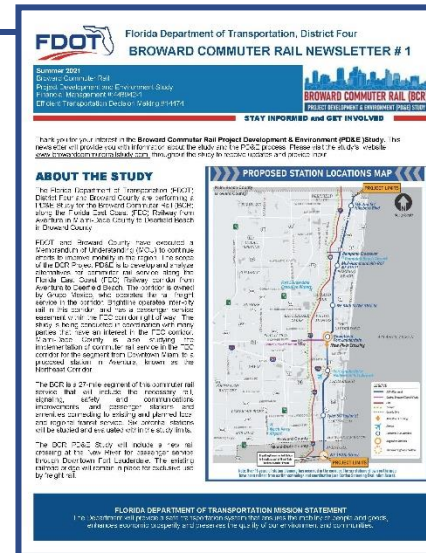
Newsletters

Project Website

www.browardcommuterrailstudy.com

Social Media

 @ MyFDOT_SEFL  MyFDOTSEFL

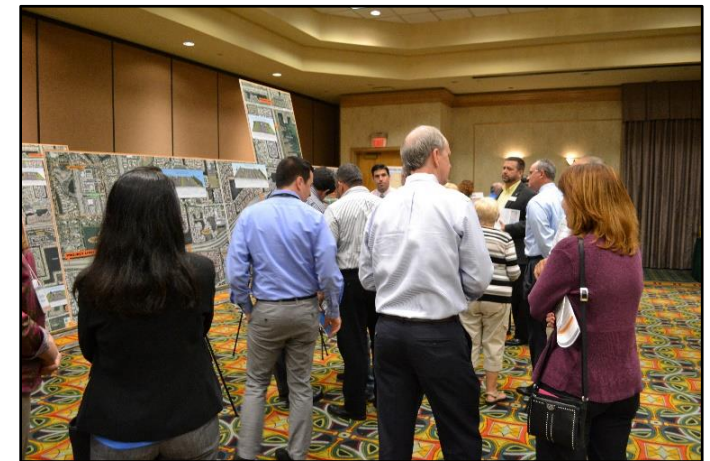


- Small Group Meetings
- One-on-One Stakeholder Meetings
- NRC Workshop – November 18, 2021
- County and City Commission Meetings
- Metropolitan Planning Organization (MPO) Board and Committee Meetings

1. Comment during the public meeting using the GoToWebinar Questions tool or by clicking the raise hand button to speak
2. Email your comments to: Phil.Schwab@dot.state.fl.us
3. Mail your comments to : **Florida Department of Transportation, District Four
3400 West Commercial Boulevard
Fort Lauderdale, FL 33309**
4. Submit comments on project website: www.browardcommuterrailstudy.com



1. Review exhibits on the project website:
www.browardcommuterrailstudy.com
2. Attend upcoming public meetings
3. Contact the FDOT Project Manager: **Phil Schwab, P.E.**



Project Website

www.browardcommuterrailstudy.com

The screenshot shows the homepage of the Broward Commuter Rail website. At the top is a navigation menu with links for OFFICES, MAPS & DATA, CONTACT, ABOUT, and PROJECTS. The main heading is "Broward Commuter Rail". Below this is a message: "Alternatives Public Workshop exhibits will be posted on the website soon." A prominent red heading reads "Alternatives Public Workshop Registration". Underneath are three blue buttons with white text, each providing registration details for a specific workshop session. On the right side, there is a sidebar titled "Broward Commuter Rail" containing contact information for Gerry O'Reilly, District Four Secretary, including his address, phone, fax, and email. Below the contact info are sections for "Project Resources" with links to "About the Project", "Documents & Publications", "Email Updates", "Photos", "Public Notices", and "Schedule".

The screenshot shows the "Documents and Publications" page. It features a table with two columns: "Documents" and "Date". The table lists various documents and their corresponding dates, including workshop presentations, newsletters, and public notices.

Documents	Date
Kickoff Meeting Exhibits	December 2021
Probable Tunnel Constriction Cost Estimate	December 2021
2021-11-18 New River Crossing Workshop Presentation Aesthetics	November 2021
2021-11-18 New River Crossing Workshop Presentation Introduction	November 2021
2021-11-18 New River Crossing Workshop Presentation Multimodal Connectivity	November 2021
2021-11-18 New River Crossing Workshop Presentation Navigational Concerns	November 2021
2021-11-18 New River Crossing Workshop Presentation Summary and Next Steps	November 2021
2021-11-18 New River Crossing Workshop General Q&A interactive	November 2021
2021-11-18 New River Crossing Workshop Pedestrian & Bicycle Facilities-Map	November 2021
November 2021 Newsletter #2	November 2021
Broward Commuter Rail PD&E Public Kickoff Meeting - Virtual Session #2	September 2021
Broward Commuter Rail PD&E Public Kickoff Meeting - Virtual Session #1	September 2021
Public Kick-off Meeting Exhibit Room	August 2021
Preliminary Station Area Summary	August 2021
Newsletter #1	August 2021
Broward County Board of County Commissioners Presentation	January 2021

Phil Schwab, P.E.

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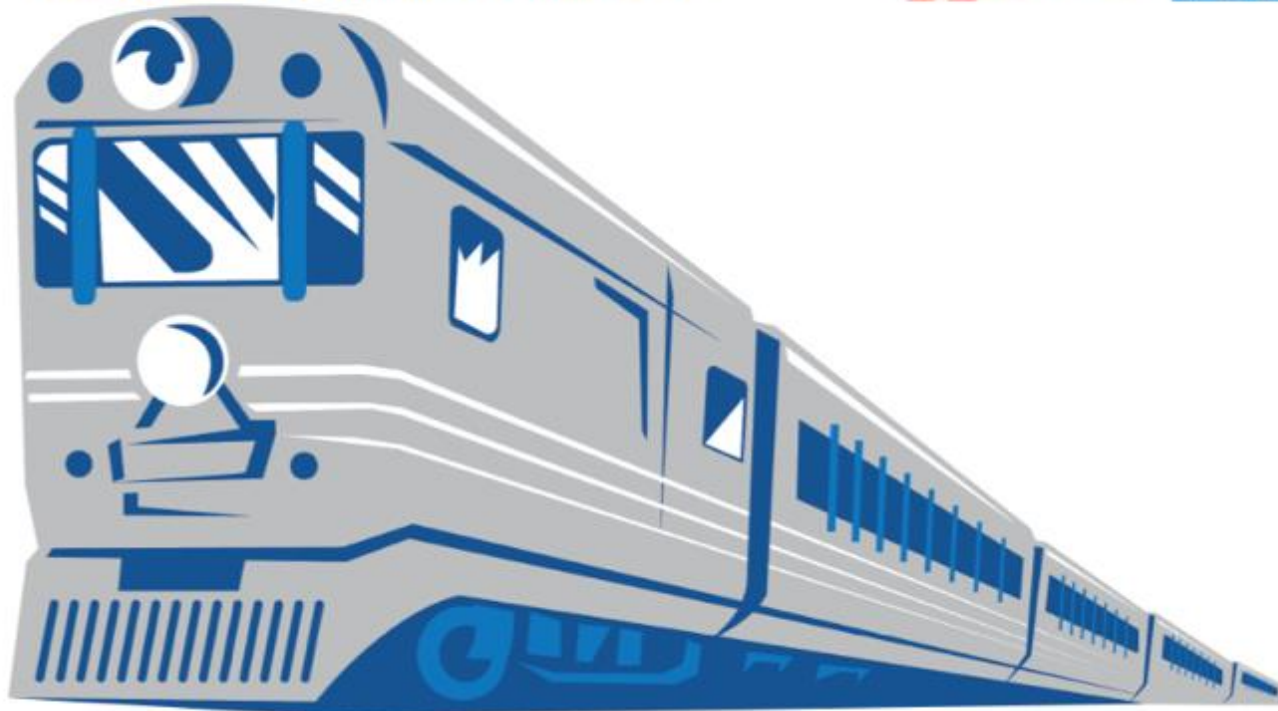




BROWARD COMMUTER RAIL (BCR)

PROJECT DEVELOPMENT & ENVIRONMENT (PD&E) STUDY

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



Thank You