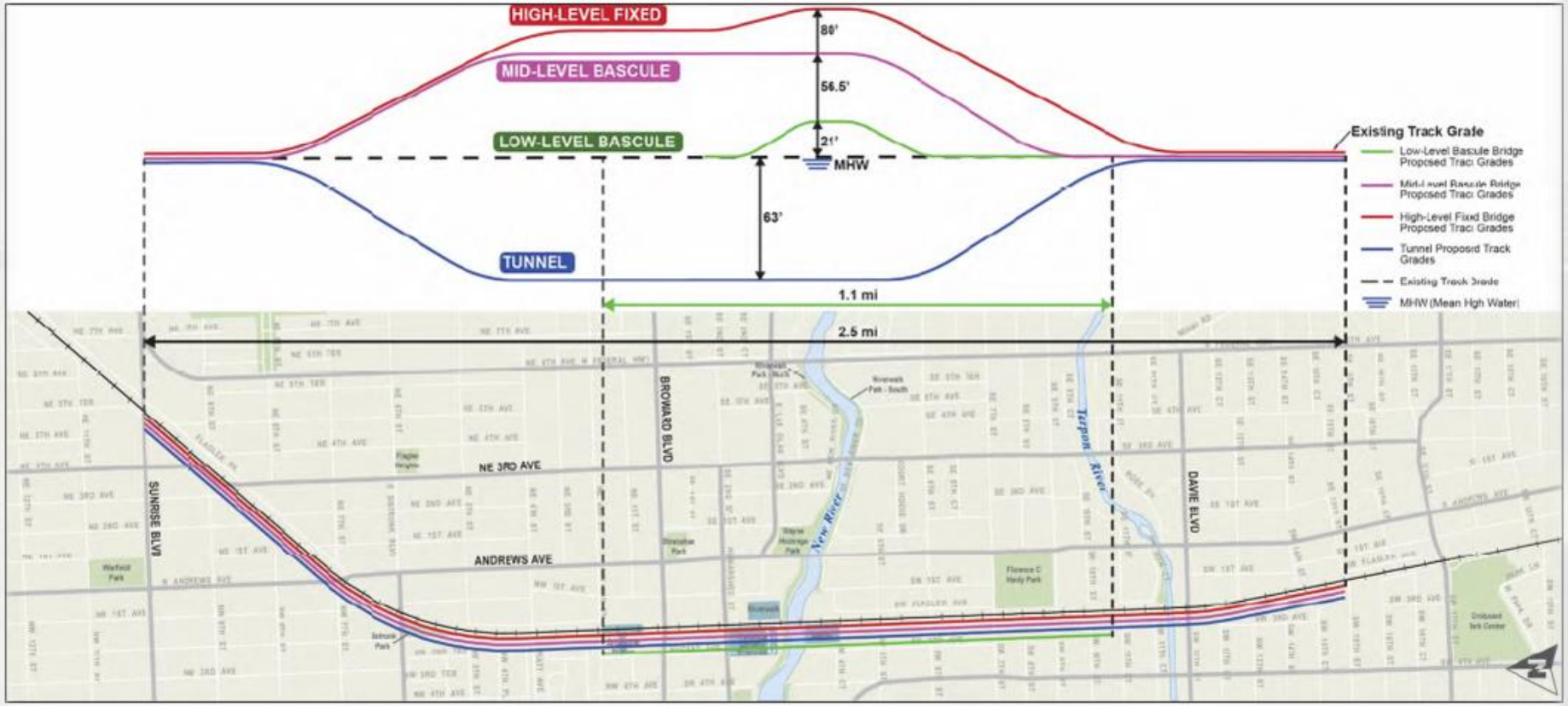
# Florida Department of Transportation

## Commission Conference Meeting

November 21, 2023

# Corradino Report
## January 2020

# Four Alternatives



# Low Bascule Bridge

Table 11: Alternative 1 Low-Level Bascule Bridge - Summary of Advantages and Disadvantages

| Advantages | Disadvantages |
|---|---|
| No impacts on Broward Boulevard | Closes Himmarshee and SW 5th Street |
| No impact on existing Virgin Trains/Brightline station | Significant constructability impacts involving extensive temporary track to maintain freight and passenger operations |
| Maximizes use of existing track | New interim signal system needed during construction |
| Consistent vertical clearance with other river crossings, i.e. South Andrews Avenue Bridge | Significant permanent impact to SW 2nd Ave and access to businesses fronting SW 2nd Ave, Riverfront Marina, Riverwalk, and Historic Fort Lauderdale. |
| Minimal visual, noise, and environmental impacts relative to other alternatives | Maritime operational improvements are less than the other alternatives. |

# Mid Bascule Bridge

Table 12: Alternative 2 Mid-Level Bascule Bridge - Summary of Advantages and Disadvantages

| Advantages | Disadvantages |
|---|---|
| Improved maritime navigation with the bridge in a closed position compared to Alternative 1 | SW 7th Street permanently closed |
| At-grade passenger rail crossings eliminated from North Andrews Avenue through SW 6th Street improving safety and traffic operations | New elevated station platform at 3rd level |
| | Significant permanent impact to SW 2nd Ave and access to businesses fronting SW 2nd Ave, Riverfront Marina, Riverwalk, and Historic Fort Lauderdale. |
| | Visual aesthetics, noise, and historic/recreational impacts |

# High Bascule Bridge

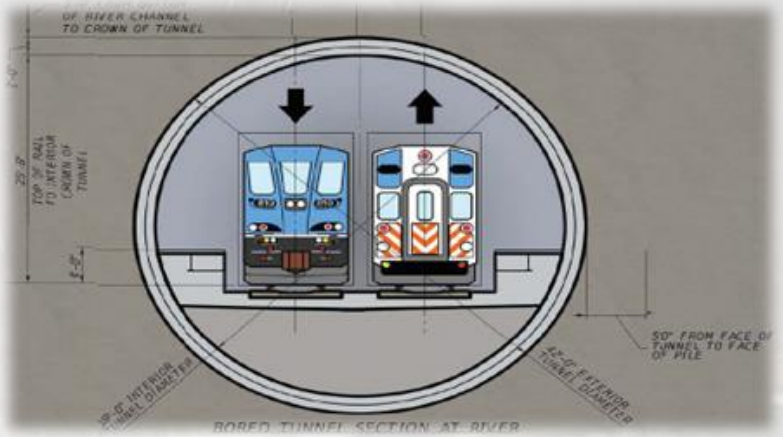
Table 13: Alternative 3 High-Level Fixed Bridge - Summary of Advantages and Disadvantages

| Advantages | Disadvantages |
|---|---|
| At-grade passenger rail crossings eliminated from North Andrews Avenue through SW 7th Street improving traffic operations | SW 9th Street permanently closed |
| 80-foot fixed vertical clearance over New River – No bridge openings/closings. No delays or operations & maintenance cost when compared to bascule bridges. | New elevated station platform would be at a 3rd level (higher than Mid-Level Bascule Bridge alternative) |
| Consistent with vertical clearance control point located at the fixed FPL transmission lines over the river | Significant permanent impact to SW 2nd Ave and access to businesses fronting SW 2nd Ave, Riverfront Marina, Riverwalk, and Historic Fort Lauderdale. |
| | Visual, noise, and historic/recreational impacts |

# Single Bore Tunnel

Table 14: Alternative 4 Tunnel - Summary of Advantages and Disadvantages

| Advantages | Disadvantages |
|---|---|
| Minimal surface impacts once construction is completed | Cut and cover at station, approximately 70 feet wide platform |
| Passenger rail crossings eliminated from North Andrews Avenue through SW 7th Street improving safety and traffic operations | SW 9th Street would be closed; SE 3rd Ave would need re-grading |
| No impact to marine navigation | Constructability challenges with cut and cover at the station. Temporary impacts from South of Broward Boulevard to North of 5th Street for extensive period of time |
| Tunnel alternative results in minimal environmental considerations: visual aesthetics, noise, historic resources | Construction duration is extensive |
| | Severe disruption to downtown traffic circulation and business operations during construction |
| | Highest constructions and annual operation & maintenance (O&M) cost |
| | Fire and life safety measures |
| | Freight trains cannot use tunnel (hazmat) |




# Cost Estimates

Table 3: Preliminary Cost Estimate

| Construction Costs | Alternative 1 Low Level Bascule Bridge (21 feet) | Alternative 2 Mid-Level Bascule Bridge (55 feet) | Alternative 3 High-Level Fixed Bridge (80 Feet) | Alternative 4 Tunnel |
|---|---|---|---|---|
| Structures | $50,170,640 | $214,940,440 | $245,477,908 | $1,714,960 |
| Track | $12,074,010 | $15,402,114 | $15,402,114 | $15,409,030 |
| Tunnel (including track, ventilation, emergency evacuation, fire suppression) | N/A | N/A | N/A | $2,315,256,047 |
| *Stations* | N/A | $23,378,228 | $23,378,228 | $49,632,656 |
| *Roadway* | $399,100 | $2,772,900 | $2,772,900 | $1,078,350 |
| Sitework and Special Conditions | $3,182,362 | $10,207,549 | $9,962,674 | $8,909,927 |
| Utility Relocation Allowance | $1,000,000 | $2,800,000 | $3,100,000 | $8,000,000 |
| Rail Signals/ Communications | $16,587,901 | $17,430,183 | $16,191,787 | $17,357,371 |
| Construction Cost | $83,414,013 | $286,931,414 | $316,285,611 | $2,417,358,341 |
| Right of Way Costs | $21,100,000 | $54,200,000 | $48,600,000 | $53,400,000 |
| Professional Services | $29,820,510 | $102,577,980 | $113,072,106 | $864,205,607 |
| Total Project Costs | $134,334,523 | $443,709,394 | $477,957,717 | $3,334,963,948 |
| Operations and Maintenance Cost ($/Year) | $1,900,000 | $3,300,000 | 2,400,000 | $8,200,000 |

# HDR Report
## December 2021

# Twin Bore Tunnel

Table 3-1: Base Year Cost by Major SCC Category (Millions)

| SCC Category | | Base Cost | Allocated Contingency | Unallocated Contingency | Base Year Cost |
|---|---|---|---|---|---|
| 10 | Guideway & Track Elements | $782.08 | $156.42 | $39.10 | $977.60 |
| 20 | Stations, Stops, Terminals, Intermodal | $81.49 | $16.30 | $4.07 | $101.87 |
| 40 | Sitework & Special Conditions | $80.49 | $16.10 | $4.02 | $100.61 |
| 50 | Systems | $177.25 | $35.45 | $8.86 | $221.56 |
| 80 | Professional Services | $336.39 | $67.28 | $16.82 | $420.49 |
| **Total Cost** | | **$1,457.71** | **$291.54** | **$72.89** | **$1,822.13** |

Source: HDR, 2021

## Table 4-1: Summary of Opinion of Probable Base Year Cost

| Summary of Opinion of Probable Construction Cost Base Year 2021 (Millions) | | |
|---|---|---|
| Low Range | | High Range |
| -10% | Tunnel Alternative | 35% |
| $1,640 M | $1,822 M | $2,460 M |