Light Rail

Appendix B Capital Plan Project Sheets
Description
NJ TRANSIT’s River LINE provides a vital connection from Trenton to Camden for 8,690 weekly riders. However, the final 1.5 miles of the service experiences frequent disruptions from localized flooding. The flooding occurs in Camden’s downtown business and entertainment district during rain events exasperated by high tides from the Delaware River. Flooding that rises above the curb level halts River LINE service, forcing NJ TRANSIT to supplement the service with bus operations. The River LINE Right-of-way (ROW) Flooding Mitigation Study would evaluate the drainage system alongside the tracks between the Cooper Street/Rutgers station to Entertainment Center and determine upgrades that could alleviate the flooding and allow continuous service.

If funded, the study would include recommendations for repairs to the track structure and drainage system at each station location. The study would also identify steps to ensure compliance with New Jersey’s stormwater regulations, identify where the water discharges after it enters an inlet, and if the existing stormwater pipes are operational. Coordination with the City of Camden would be needed if additional flood mitigation measures are identified outside the NJ TRANSIT River LINE ROW.

*ESTIMATED PROJECT COSTS (2020 Dollars):

$1 Million

*Project cost is for study phase only

Value to Customers
- Decreases delays caused localized flooding

Value to State
- Increases service reliability
- Reduces operational costs of redundant bus service, providing more efficient use of public funds
**PROJECT SHEET**  
**RIVER LINE ROW FLOODING MITIGATION STUDY**

**ESTIMATED TOTAL PROJECT COSTS**

$1M

**Network Impact**  
Mitigating flooding events would improve overall River LINE service and decrease train cancellations.

**Resiliency**  
Improved drainage to mitigate flooding events would make the River LINE ROW more resilient.

**STRATEGIC GOALS MET**

**Service Reliability/On-Time Performance**  
Decreasing incidents of flooding would ensure more reliable service along the River LINE.

**O&M Costs/Business Performance**  
Mitigating flooding along the River LINE ROW would decrease operational delays and reduce maintenance costs.

The study would result in recommendations to **mitigate River LINE ROW flooding** and determine infrastructure upgrades to allow continuous service.

Promote a more sustainable future for our planet.
Description
The NJ TRANSIT River LINE Light Rail provides service between the Walter Rand Transportation Center in Camden, NJ, and the Trenton Transit Center in Trenton. This line currently services an average of 8,700 riders per average weekday, which is well above the originally estimated 5,500 per day. Given the growth in ridership, it is important that all rail line cars operate properly to ensure a safe and reliable commute for passengers. However, the existing River LINE Light Rail fleet has surpassed the midpoint of its service life and requires a mid-life overhaul to ensure adequate operation and that it meets continued demands of the system.

If funded, this project would provide mid-life overhauls to the existing light rail vehicles. This would include both mechanical and customer facing repairs, replacements, and upgrades. Furthermore, this project would follow the Engine Repower effort, which is an ongoing NJ TRANSIT project that is replacing the engines in many of the vehicles. These engines would meet current EPA standards for emissions, provide better fuel efficiency, and include upgrades to its control and diagnostic capabilities. These overhauls would ultimately extend the vehicle service life by a minimum of 10 years and would provide a safer and more reliable experience for passengers.

*ESTIMATED PROJECT COSTS (2020 Dollars):

$85 Million
* Assumes overhauling 8 cars per year; includes engine repower work

Value to Customers
- Helps provide more reliable service by reducing risk of loss of equipment due to maintenance issues
- Increases customer comfort and experience

Value to State
- Lowers operating cost by utilizing a more fuel-efficient engine
- Minimizes environmental impacts by using EPA compliant engines
- Minimizes loss in revenue from service disruptions
A mid-life overhaul of the River LINE fleet is required to **ensure operations would meet the demands** of a growing system.
Description

In 2002, the Newark City Subway system was converted from the original PCC streetcar vehicles, to the current Newark Light Rail system (NLR). The original light rail vehicles (LRVs) introduced along the NLR consisted of three-section, single-articulating units. In 2015, 35 of these LRVs were scheduled for modification from three-section, single-articulating units to five-section, double-articulating units. The anticipated ridership growth of the NLR has necessitated a further expansion of capacity.

If funded, 11 additional vehicles could be modified from three-section units to five-section units, bringing increased capacity to the NLR to meet anticipated demand. To allow for use of these longer units within the NLR system, interlockings and switch modifications near Fulton Street and Broad Street, specified and budgeted as part of NLR programmatic work, would first need to be completed. The scope of the NLR Capacity Enhancement Program could then be executed, including modification and extension of the 11 light rail vehicles, an additional new power substation, and modifications to the existing VBF yard to allow for storage of the longer LRVs.

Value to Customers

- Increases capacity and comfort on the NLR system
- Reduces delays due to overcrowding
- Enhances safety and service reliability

Value to State

- Increases capacity to meet growing ridership demand
- Increases return on investment (ROI) from increased ridership

ESTIMATED PROJECT COSTS (2020 Dollars):

$33 Million
Increasing capacity on the NLR would meet anticipated demand while improving customer comfort and service reliability.
Description
The Newark Light Rail (NLR) has twelve stations along the Grove Street Line of the original Newark City Subway System that need improvements to meet regulatory requirements, enhance customer experience, and/or improve business performance. Many of these stations have not been renewed since system conversion from PCC streetcar vehicles to light rail cars in 2002.

Four NLR stations have accessibility improvement opportunities. They are Park Avenue, Norfolk Avenue, Warren Street/NJIT and Military Park. If funded, proposed improvements would include construction of elevators, platform reconstruction, improved station signage, and communications.

Passenger safety enhancements at stations across the NLR would include the introduction of Platform Edge Doors (PED) to prevent passengers on the platforms from entering track areas and/or from getting too close to moving trains. These enhancements would also accommodate future technology upgrades.

Fare collection on the NLR has been an issue under the current proof of payment system. Introduction of a systemwide point of entry fare collection via touch and go or optical barcode ticket collection would allow for consistent and increased light rail revenue collections. Improvements to ticketing and fare validation would be introduced.

*ESTIMATED PROJECT COSTS (2020 Dollars):

$130 Million

*Estimates are based upon concept for design

Value to Customers
- Increases access to NLR system for passengers
- Provides access to cleaner, safer, and well-lit stations
- Enhances signage and communications to relay station information and rail service status

Value to State
- Reduces risk of accidents by inhibiting passenger entry to tracks
- Increases revenues through consistent and efficient fare collection
### Newark Light Rail (NLR) – Station Modernization & Access Program

#### Passenger Data

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<th>#</th>
<th>Station</th>
<th>Average Weekday Boardings</th>
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<th>Point of Entry Fare Collection</th>
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**General Improvements include cleaning, sealing, painting (steel and concrete), signage, lighting, local tunnel repairs**

**Newark Penn Station services both NLR Grove Street and Broad Street Lines**

### LEGEND:

- Opportunities to Improve Accessibility
**STRATEGIC GOALS MET**

**Deliver a high-quality experience for all our customers, with their entire journey in mind**

**State of Good Repair**
Station service life would be extended and aesthetic improvements would positively impact the station experience.

**Safety**
Reconstructed platforms, Platform Edge Doors, and new signage would provide a safer platform experience.

**Comfort**
Enhanced lighting and improved wayfinding at stations would improve customer comfort.

**Accessibility and Inclusion**
Station design would follow universal design guidelines, and elevators would be added.

**Four Newark Light Rail stations would be accessible for all and Platform Edge Doors would improve safety and fare enforcement.**

**ESTIMATED TOTAL PROJECT COSTS**

$130M
Description
The Hudson Bergen Light Rail (HBLR) Hoboken Wye is a level junction of the HBLR northern and southern alignments, located on elevated viaduct to the west of Hoboken Terminal. The current configuration includes two tracks from both the northern and southern HBLR alignments meeting in a “T-intersection” at the Wye, with the ability for light rail vehicles (LRVs) to move from any one approach to either of the other two. Currently, the HBLR is operating at capacity through the existing Wye Junction. The HBLR system will be subject to additional demand for train service as a result of projected overall growth in ridership, as well as the Northern and Route 440 expansions. Increasing frequencies is the only practical method of increasing HBLR service to meet anticipated growth and expansion.

If funded, the proposed Hoboken Wye Bypass project would add a third track at the junction on a northern alignment, extending from the nearby Grove Street undergrade bridge to Hoboken Terminal, providing increased capacity to facilitate more frequent service. An integral part of the project would include a new light rail platform at Hoboken Terminal to the East. In addition, construction of a new Grove Street Station would be completed in the adjacent developing neighborhood to the West. This effort would require the reconstruction of a railroad traction substation and an easement from developer owned property. Coordination with the proposed adjacent Long Slip project and the Hoboken Terminal Restoration and Resiliency Project has been ongoing and will be essential as the Wye Bypass Track would not have utility if the alignment geometry is compromised and meaningful operating speed (minimum 15 mph) is not attained.

ESTIMATED PROJECT COSTS (2020 Dollars):
$89 Million

Value to Customers
- Improves reliability and eliminate potential delays waiting for crossing trains at the current junction
- Provides new point of entry to HBLR

Value to States
- Provides additional capacity to meet growing demand for service
**STRATEGIC GOALS MET**

- **Deliver a high-quality experience for all our customers, with their entire journey in mind**
- **Ensure the reliability and continued safety of our transit system**
- **Intermodal Integration**
  The project would increase opportunities for passengers to use more than one mode on their journey through Hoboken
- **Ridership/Capacity**
  The proposed bypass would increase ridership capacity to meet future growth

**ESTIMATED TOTAL PROJECT COSTS**

$89M

**Service Reliability/On-Time Performance**

The proposed bypass would increase service while reducing delays

**State of Good Repair**

New track infrastructure would increase efficiency and capacity of operations contributing positively to overall state of good repair

**Addition of third track would provide increased capacity to facilitate more frequent service.**
The Northern Branch Corridor Project is a proposed northern extension of the Hudson-Bergen Light Rail (HBLR). Expansion of the HBLR from its current northern terminus at Tonnelle Ave in Hudson County would bring light rail service to eastern Bergen County. The proposed extension would stretch nine miles to the north, creating seven new stations along its route, terminating at the Englewood Hospital and Medical Center. Light Rail operation along the new northern branch corridor would share right-of-way that is owned by CSX, with the freight operator limiting their service to overnight hours to facilitate light rail service between 5 AM and 1 AM daily.

The project has received valuable input from the public hearing process, including comments from both the City of Englewood and the Englewood Hospital and Medical Center on the proposed expansion and new northern terminus. The project is currently proceeding through the National Environmental Policy Act (NEPA) process.

Expansion of the HBLR would significantly improve mobility within both Hudson and Bergen Counties, particularly within the project corridor, which currently features a substantial roadway-based transportation system. Improvement to the corridor’s transportation network is vital to support continued economic growth to the region.

**ESTIMATED PROJECT COSTS (2020 Dollars):**

$1.18 Billion

**Value to Customers**

- Provides additional travel option for travelers trying to avoid highway congestion in the region
- Improves convenience and travel time to customers in Bergen county seeking access to Hudson Harbor and connection to New York City and NJ TRANSIT regional rail via Hoboken Terminal

**Value to State**

- Attracts riders to transit by providing direct access to HBLR system for passengers within Bergen County
- Provides transportation capacity to support population and employment growth in the region
- Supports growth and development in Bergen and Hudson Counties including the Hudson River Waterfront
<table>
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<th>#</th>
<th>PROPOSED STATION</th>
<th>LOCATION</th>
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<tr>
<td>1</td>
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<td>North Bergen Township</td>
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<td>Ridgefield Station</td>
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<td>3</td>
<td>Palisades Park Station</td>
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<td>Leonia Station</td>
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<td>5</td>
<td>Englewood Route 4 Station</td>
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<td>6</td>
<td>Englewood Town Center Station</td>
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</tr>
<tr>
<td>7</td>
<td>Englewood Hospital &amp; Medical Center</td>
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</tr>
</tbody>
</table>
Service Reliability/On-Time Performance
Additional light rail service options would reduce travel time for regional travelers as fewer connections would be needed to reach their destinations.

Network Impact
Expansion would increase regional network connectivity while reducing transit gaps in the corridor.

Deliver a high-quality experience for all our customers, with their entire journey in mind.

Ensure the reliability and continued safety of our transit system.

Expansion of the HBLR would significantly improve mobility within both Hudson and Bergen Counties.
Description
The Hudson Bergen Light Rail (HBLR) operates two routes to the south of Hoboken Terminal – the 8th Street line which terminates in Bayonne, and the West Side Avenue line which terminates in Jersey City.

The proposed HBLR Route 440 Extension Project would expand the West Side Avenue line, bringing light rail service to the west of State Route 440 and the developing western waterfront area of Jersey City. Early action construction has recently commenced on the project.

Enhancement of transit service and mobility in this location is vital to support planned residential and commercial development of the Jersey City western waterfront area, known as Bayfront, including the development of the New Jersey City University West Campus.

The proposed HBLR 440 Extension would include a 0.7-mile, two track extension on viaduct and an elevated center island platform terminal station at the northern end of the Bayfront development. The project would also include upgrades to the existing West Side Avenue Station, including access ramp enhancements, replacement of existing pedestrian bridge, stairway and elevator, and reconfiguration of the existing station parking lot. The project began its early phases of construction in March 2020.

Value to Customers
- Provides additional travel option for travelers trying to avoid highway congestion in the region

Value to State
- Attracts riders to transit by providing direct access to HBLR system for passengers within Bayfront development area
- Provides additional transportation capacity to support population and employment growth in the region
- Supports growth and development for the western waterfront area
- Provides potential diversions from automobile traffic

ESTIMATED PROJECT COSTS (2020 Dollars):

$248 Million
**PROJECT SHEET**

**HUDSON BERGEN LIGHT RAIL (HBLR) ROUTE 440 EXTENSION**

**ESTIMATED TOTAL PROJECT COSTS**

$248M

**STRATEGIC GOALS MET**

- **Deliver a high-quality experience for all our customers, with their entire journey in mind**
- **Ensure the reliability and continued safety of our transit system**
- **State of Good Repair**
  - Expansion would result in upgrades to the access ramp, pedestrian bridge, stairway and elevator at the existing West Side Avenue Station
- **Network Impact**
  - Expansion would increase regional network connectivity while reducing transit gaps along the western waterfront of Jersey City

**Expansion of HBLR as a transit service and mobility option would compliment planned residential and commercial development.**

**Ridership/Capacity**
- Expanding access to the light rail system would increase ridership

**O&M Costs/Business Performance**
- Expanding light rail would increase potential revenue streams

**State of Good Repair**
- Expansion would result in upgrades to the access ramp, pedestrian bridge, stairway and elevator at the existing West Side Avenue Station

**Network Impact**
- Expansion would increase regional network connectivity while reducing transit gaps along the western waterfront of Jersey City

**Deliver a high-quality experience for all our customers, with their entire journey in mind**

**Ensure the reliability and continued safety of our transit system**

**Network Impact**
- Expansion would increase regional network connectivity while reducing transit gaps along the western waterfront of Jersey City

**Ridership/Capacity**
- Expanding access to the light rail system would increase ridership

**O&M Costs/Business Performance**
- Expanding light rail would increase potential revenue streams

**Expansion of HBLR as a transit service and mobility option would compliment planned residential and commercial development.**
Description
The intersection of Paterson Avenue and the Hudson Bergen Light Rail (HBLR) is a rail grade crossing at the border of the Cities of Hoboken and Jersey City. The red phase of the traffic signal is triggered when loop detectors along the tracks detect trains nearing the intersection. Previous traffic studies indicate that the crossing experiences extended red signal times for motorists when no HBLR vehicle is present. Therefore, there is an issue with the way the traffic signal system interfaces with the HBLR signals.

If funded, this project would remove the at-grade crossing and elevate the track bed above Paterson Avenue to eliminate conflicting traffic and the need for a traffic signal. Removing the at-grade crossing and elevating the track would include replacement of the 2nd Street Station with a new elevated structure and modern station layout.

ESTIMATED PROJECT COSTS (2020 Dollars):
$136 Million

Value to Customers
- Improves efficiency and reliability of HBLR operations
- Improves travel time for customers in Hudson and Bergen Counties
- Eliminates excessive vehicle idling at the intersection

Value to State
- Enhances safety for pedestrians in Hudson County
- Improves traffic circulation for residents of Hudson County
Remove the at-grade crossing and elevating the track bed above Paterson Avenue would eliminate traffic conflicts, improving service and enhancing safety.