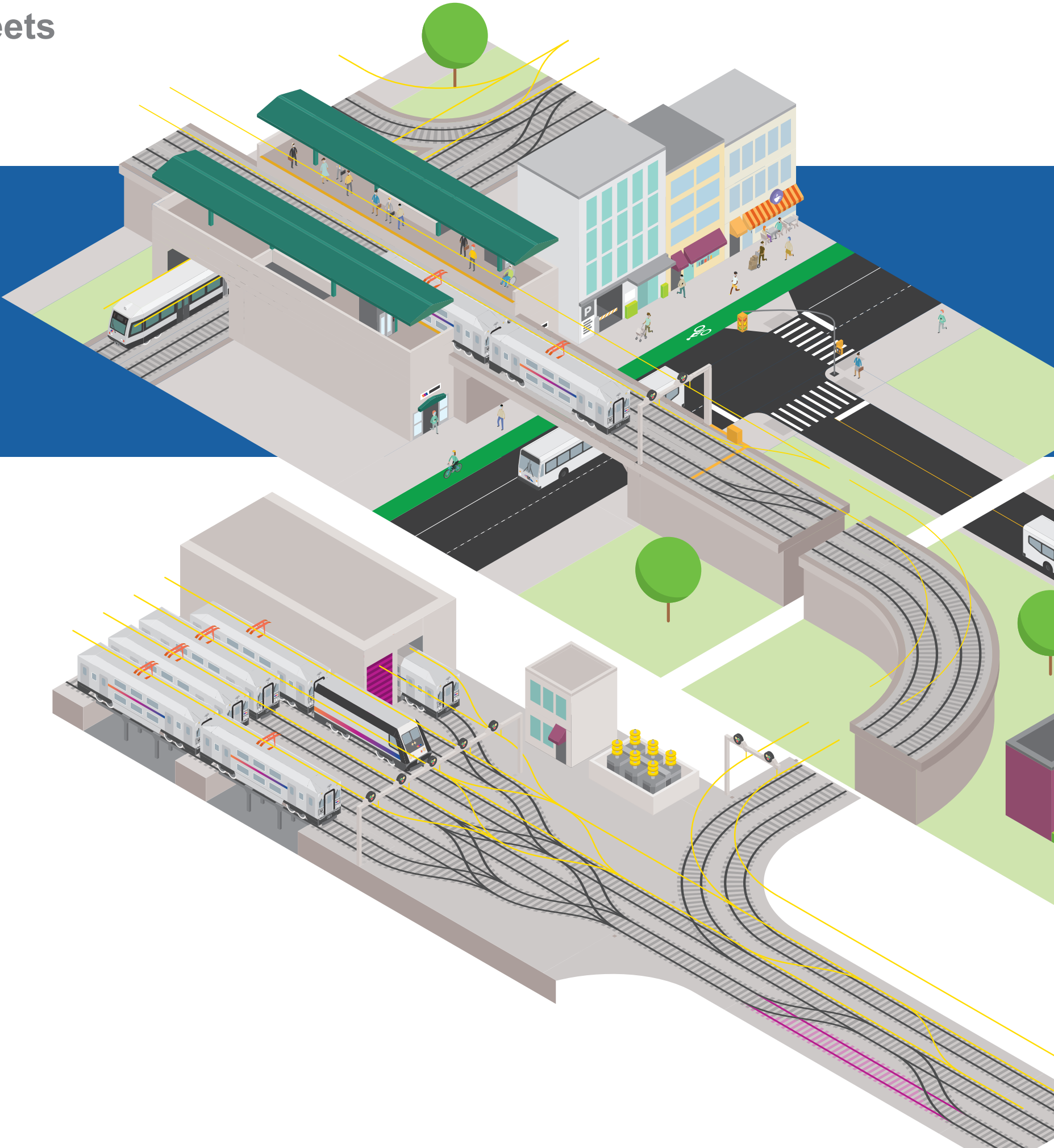


# Rail Infrastructure



# PROJECT SHEET | RARITAN RIVER BRIDGE REPLACEMENT

## Description

The Raritan River Bridge spans 2,920 feet over the Raritan River carrying the NJ TRANSIT North Jersey Coast Line between Perth Amboy and South Amboy. The existing bridge was originally constructed in 1908 (112-years old) and features a movable swing span. The existing bridge has a low vertical profile, and, as a result, is at high risk of damage from extreme weather events. During Superstorm Sandy the existing bridge became submerged and was severely damaged, resulting in an 18-day outage for both rail service and marine traffic as the bridge was realigned and repaired. While several repair and rehabilitation contracts to keep the bridge in service have been executed, the movable span exhibits frequent operational issues as excessive maintenance costs continue to escalate with the bridge approaching the end of its useful life. In addition to the extreme event risks and recurring maintenance issues, the bridge is subject to frequent marine vessel collisions due to the poor channel geometry at its swing span.

If funded, the project would include a new off-line replacement of the existing obsolete bridge with a new, two track vertical lift bridge on an improved vertical alignment. The new movable structure would provide a more resilient structure with additional vertical clearance above the 100-year flood elevation. The introduction of new mechanical and electrical systems would provide for more reliable movable span operations, resulting in reduced maintenance costs from current thresholds. In addition, improved navigation channel geometry at the lift span would significantly reduce risk of vessel collision with the bridge's pier protection systems and associated costly repairs.

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

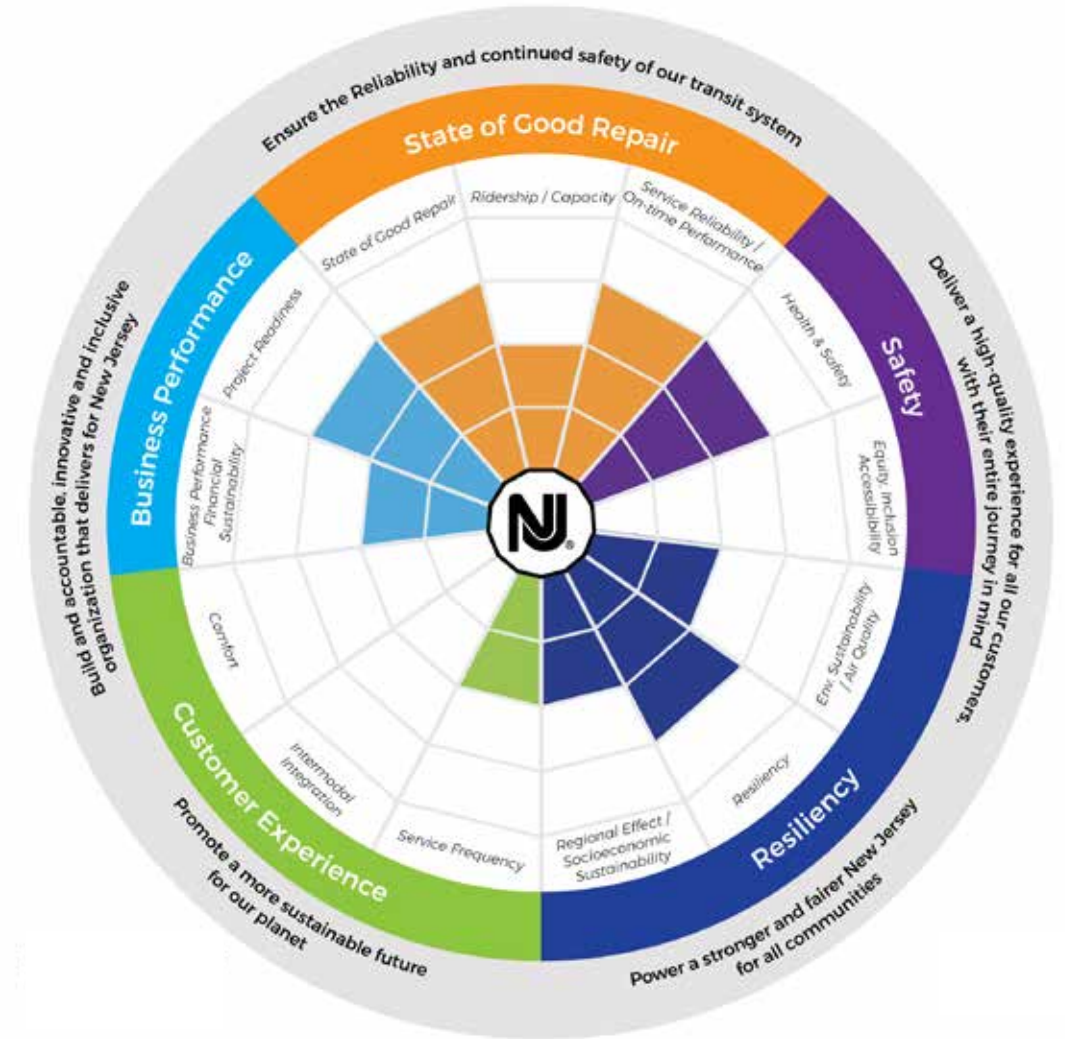
**\*\$595 Million**

*\*Total estimated 2020 project cost indicates total cost over span of the project and includes funds already spent*

**EXISTING:  
Swing Bridge**



**PROPOSED:  
New Vertical Lift Bridge**



## Value to Customers

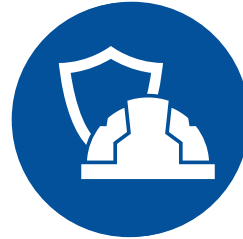
- › Less disruption to service associated with operational issues and/or excessive maintenance work
- › Safer navigation for marine users

## Value to State

- › Reduces repair, rehabilitation, and maintenance expenses to enable more efficient use of public funds
- › Substantially reduces risk of major disruption or outage due to extreme weather events

# PROJECT SHEET RARITAN RIVER BRIDGE REPLACEMENT

**ESTIMATED TOTAL PROJECT COSTS**  
**\*\$595M**  
\*TOTAL ESTIMATED 2020 PROJECT COST INDICATES TOTAL COST OVER SPAN OF THE PROJECT AND INCLUDES FUNDS ALREADY SPENT



### **Health & Safety**

North Jersey Coast Line trains that travel over the bridge would experience fewer risks from bridge closings



### **Service Reliability**

Once replaced, the bridge would be more reliable for rail operations during both normal weather and extreme events

## **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*



### **Resiliency**

The new bridge would clear the 100-year flood elevation and is a more resilient structure



### **State of Good Repair**

Replacing the 112-year old bridge with a new and resilient bridge would improve state of good repair

*Bridge replacement would add **more reliable movable span** operations resulting in **reduced maintenance costs.***

# PROJECT SHEET | OVERHEAD BRIDGE REPLACEMENT PROGRAM

## Description

NJ TRANSIT maintains over 100 overhead bridges, which support roadways and walkways over various NJ TRANSIT rail lines throughout the state. Numerous structures on the NJ TRANSIT rail system have well exceeded their anticipated service life. As the age of these structures continues to advance, maintenance costs have escalated.

If funded, the Overhead Bridge Replacement Program would establish a delivery process that would identify and prioritize the replacement of bridges in most dire need of attention. Four bridges would be selected each year for advancement into the NJ TRANSIT capital delivery process. The program would establish a plan to eventually replace all overhead bridges on the NJ TRANSIT system to restore them to a state of good repair and reduce the age of each bridge to within its estimated service life of 75 to 100 years.

**EXISTING:**  
Overhead Bridge



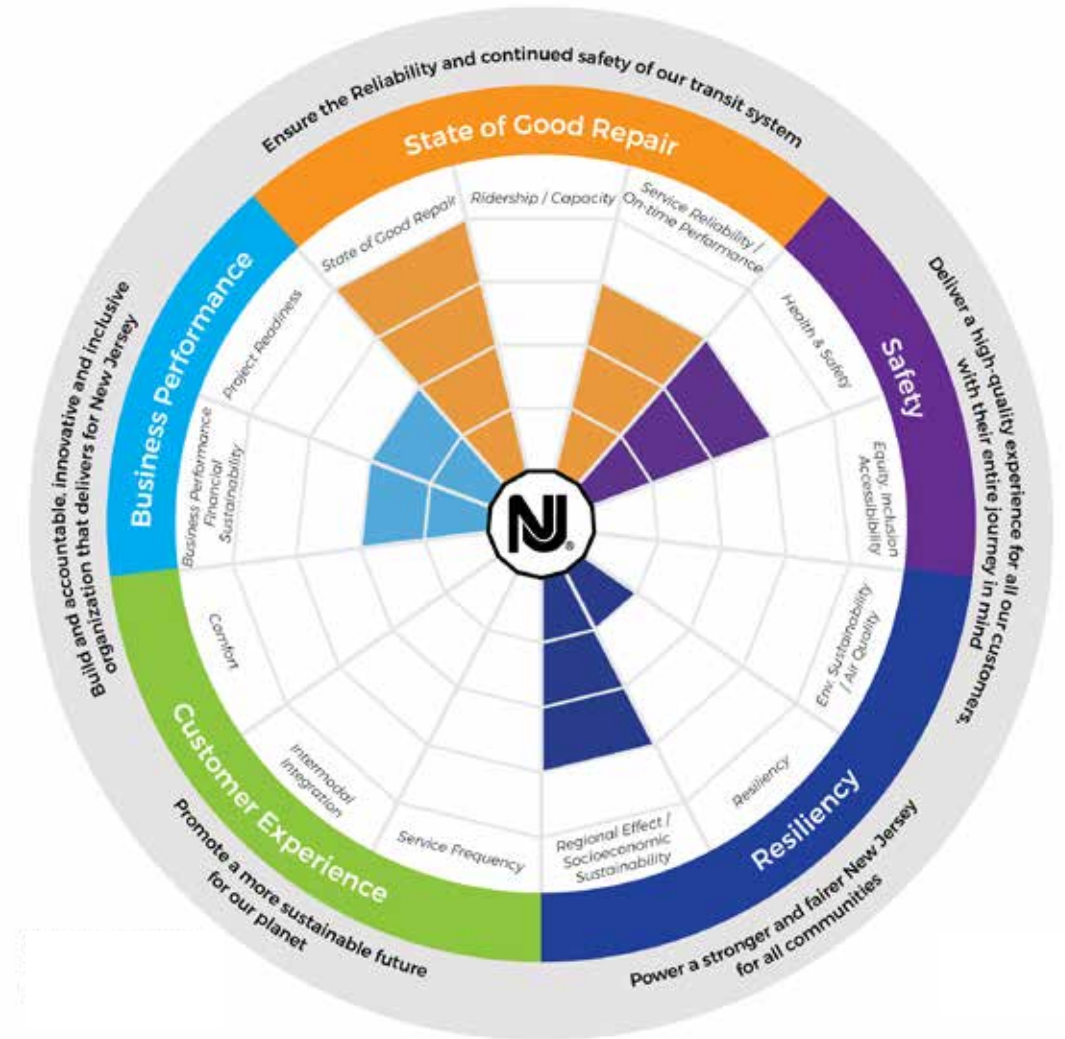
**PROPOSED:**  
New Overhead Bridge



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

**\*\$40 Million**

*\*Design/Construction cycles to repeat per year*



## Value to Customers

- › Increased on-time performance, safety, and service reliability

## Value to State

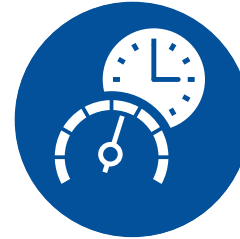
- › Lowers operating expenses hence more efficient use of public funds
- › Reduces potential injuries associated with increased on-site maintenance work

# PROJECT SHEET OVERHEAD BRIDGE REPLACEMENT PROGRAM

**ESTIMATED TOTAL  
PROJECT COSTS**

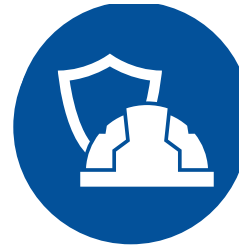
**\*\$46M**

**\*5 YEAR PROJECT COSTS**



## **Service Reliability**

New bridges would require less repairs and would increase service reliability



## **Health/Safety**

New bridges would bring the average age of the structures back to a safe margin within the desired service life

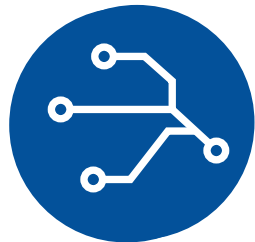
## **STRATEGIC GOALS MET**



*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*



## **Regional Impact/Socioeconomic Sustainability**

The decrease in the age of the bridges would support the network by reducing delays due to operational or structural issues



## **State of Good Repair**

Replacing all overhead bridges would reduce the overall age of bridges

*This program would **establish a plan to replace all overhead bridges on the NJ TRANSIT system to restore them to a state of good repair.***

# PROJECT SHEET | NEWARK DRAW BRIDGE REPLACEMENT & CAPACITY ENHANCEMENT

## Description

The Newark Draw Bridge carries NJ TRANSIT's Morris & Essex, Gladstone, and Montclair-Boonton lines over the Passaic River in Newark. The existing swing bridge was constructed in 1903 and is 117 years old. Given its age, the bridge has exceeded its anticipated service life of 75 years and maintenance expenses have begun to escalate due to advanced deterioration and increased component failure. The bridge is also an operational bottleneck, since it only carries two tracks, while rail right-of-way to the east and west both carry three tracks. In addition to the bottleneck condition, delays are also caused by signal issues and track outages required for maintenance and repairs. Overtime pay is often necessary for maintenance work since track outages are not possible during congested peak hours.

If funded, replacing the bridge with a more reliable, three track bridge would provide capacity enhancement and increase operating efficiency on the Morris and Essex, Gladstone, and Montclair-Boonton Lines to catch up to and meet future ridership growth. Further research into the latest minimum vertical clearance requirements for maritime vessels per the United States Coast Guard would be necessary to determine whether the existing vertical lift bridge could be replaced with a more economical and reliable fixed bridge.

**EXISTING:  
Newark Draw**

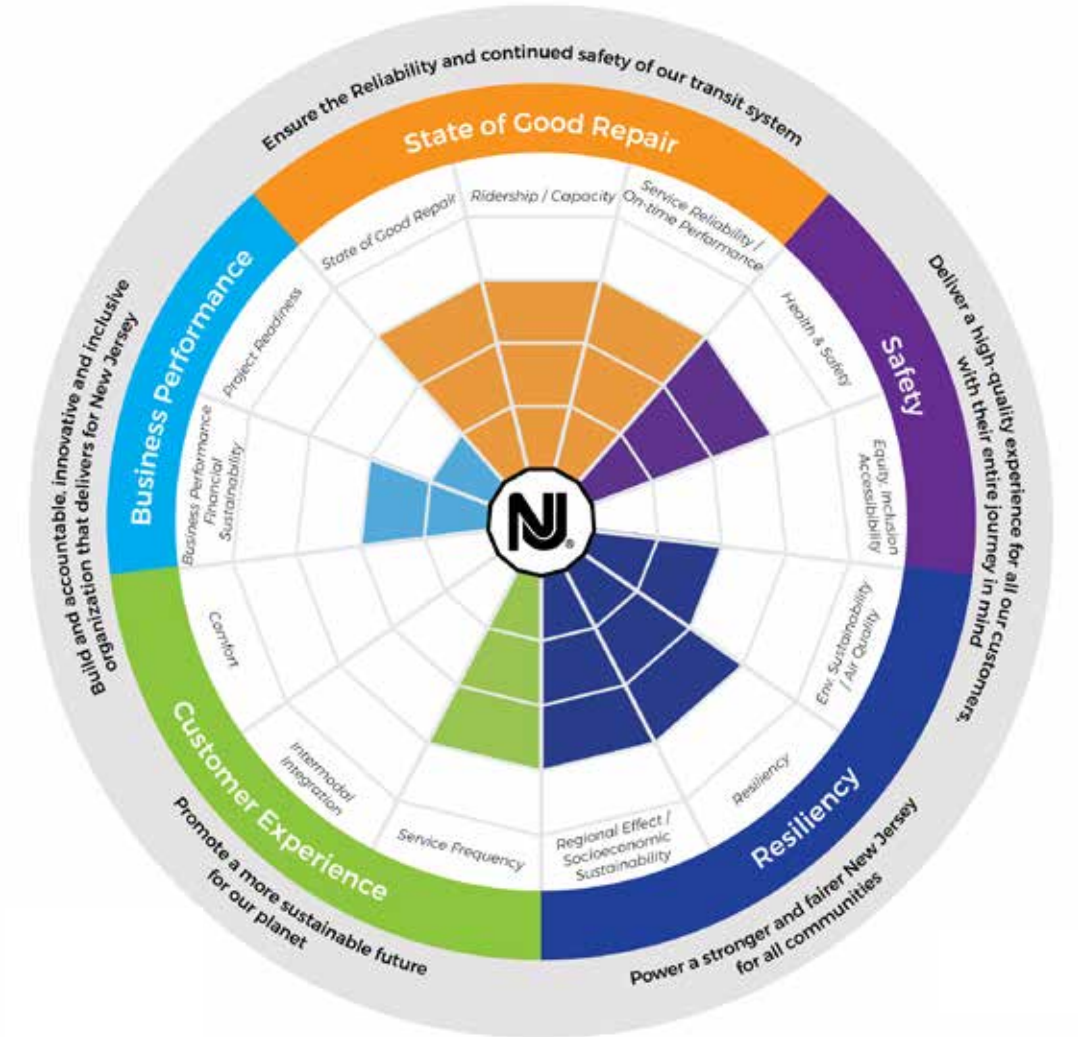


**PROPOSED:  
New Bridge**



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

**\$676 Million**



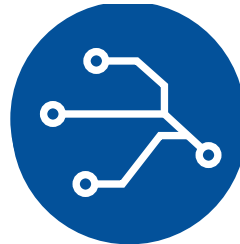
# PROJECT SHEET NEWARK DRAW BRIDGE REPLACEMENT & CAPACITY ENHANCEMENT

**ESTIMATED TOTAL PROJECT COSTS**  
**\$676M**



## ***Ridership/Capacity***

The three track bridge would increase capacity and accommodate future ridership growth



## ***Regional Impact/Socioeconomic Sustainability***

The new bridge would improve operating efficiency across three of NJ TRANSIT's rail lines

## **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*



## ***Resiliency***

Redundancy with the third track would allow for quicker system recovery



## ***State of Good Repair***

Replacing the obsolete bridge with a three-track bridge would reduce maintenance cost and frequency

Replacing the bridge would **enhance capacity** and allow service to **keep up with ridership growth**.

# PROJECT SHEET | UNDERGRADE BRIDGE REPLACEMENT PROGRAM

## Description

NJ TRANSIT maintains 612 undergrade bridges, including 537 structures which support operating rail lines over various roadways, streams and other features throughout the state. Numerous structures on the NJ TRANSIT rail system date back to the late 19th century and have well exceeded their anticipated service life. As the age of these structures continues to advance, maintenance costs have escalated.

If funded, the Undergrade Bridge Replacement Program would establish a delivery process that would identify and prioritize the replacement of bridges in most dire need of attention. Four to eight bridges would be selected each year for advancement into the NJ TRANSIT capital delivery process. The program would establish a plan to eventually replace all undergrade bridges on the NJ TRANSIT system to restore them to a state of good repair and reduce the age of each bridge to within its estimated service life of 75 to 100 years.

**EXISTING:**  
Undergrade Bridge



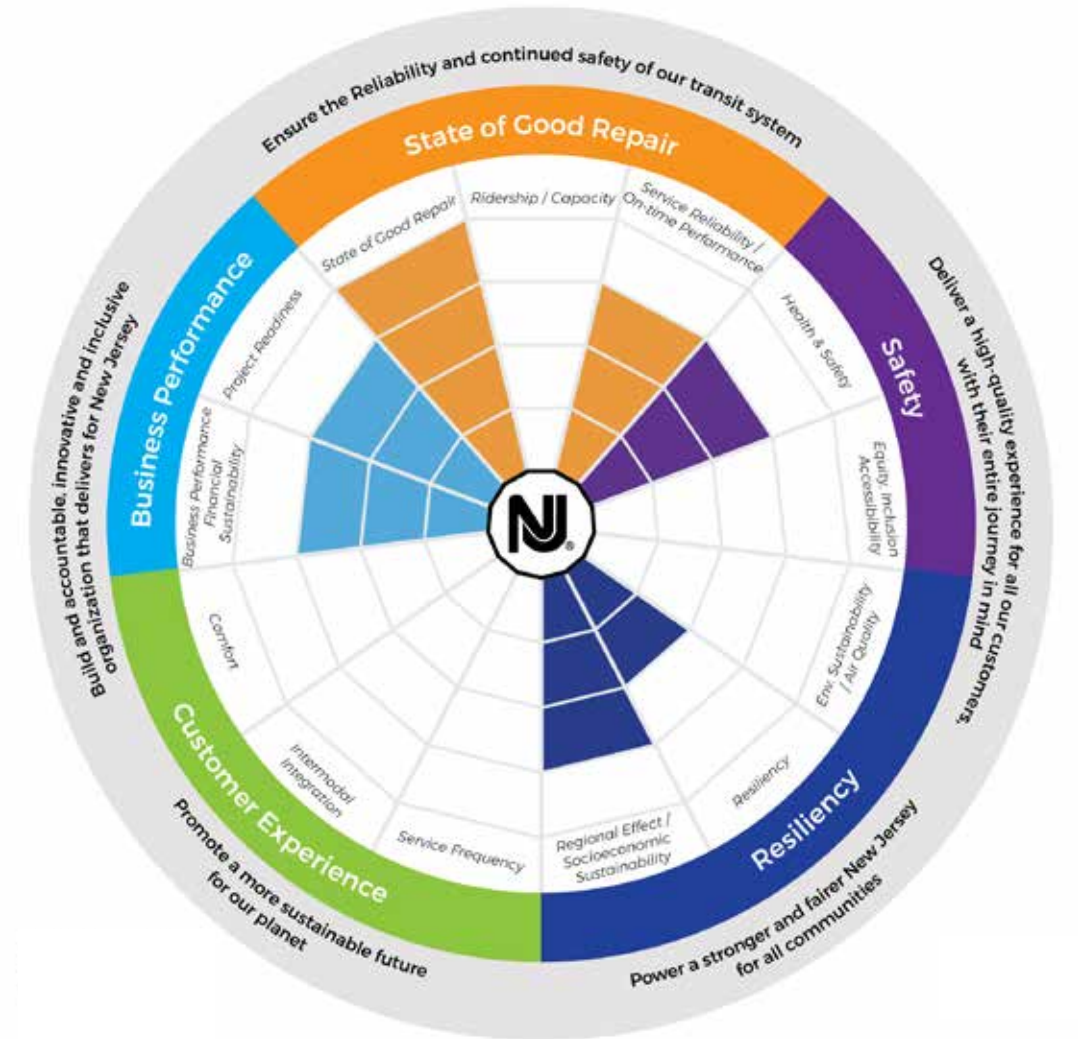
**PROPOSED:**  
New Undergrade Bridge



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

**\$90 Million**

*\*Design/Construction cycles to repeat per year*



## Value to Customers

- › Increased on-time performance, safety, and service reliability

## Value to State

- › Lowers operating expenses hence more efficient use of public funds
- › Reduces potential injuries associated with increased on-site maintenance work



# PROJECT SHEET UNDERGRADE BRIDGE REPLACEMENT PROGRAM

**ESTIMATED TOTAL PROJECT COSTS**  
**\*\$103M**  
*\*5 YEAR PROJECT COSTS*



## ***Business Performance/Financial Sustainability***

New undergrade bridges would reduce maintenance costs and reduce associated track outages



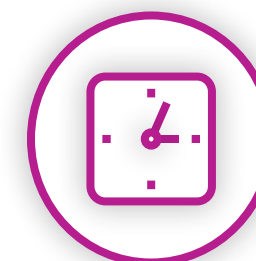
## ***Health/Safety***

New undergrade bridges requiring less maintenance would improve worker safety as fewer workers be needed on site

## **STRATEGIC GOALS MET**



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

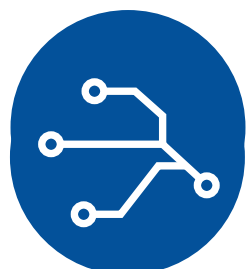


*Ensure the reliability and continued safety of our transit system*



## ***State of Good Repair***

Replacing all undergrade bridges beyond their useful service life would improve state of good repair



## ***Regional Impact/Socioeconomic Sustainability***

Replacing undergrade bridges would reduce delays and eliminate speed restrictions on deficient bridges

Replacing undergrade bridges would **positively impact rail service and state of good repair.**

# PROJECT SHEET | SOUTH LAUREL AVENUE BRIDGE REPLACEMENT & CLEARANCE IMPROVEMENT

## Description

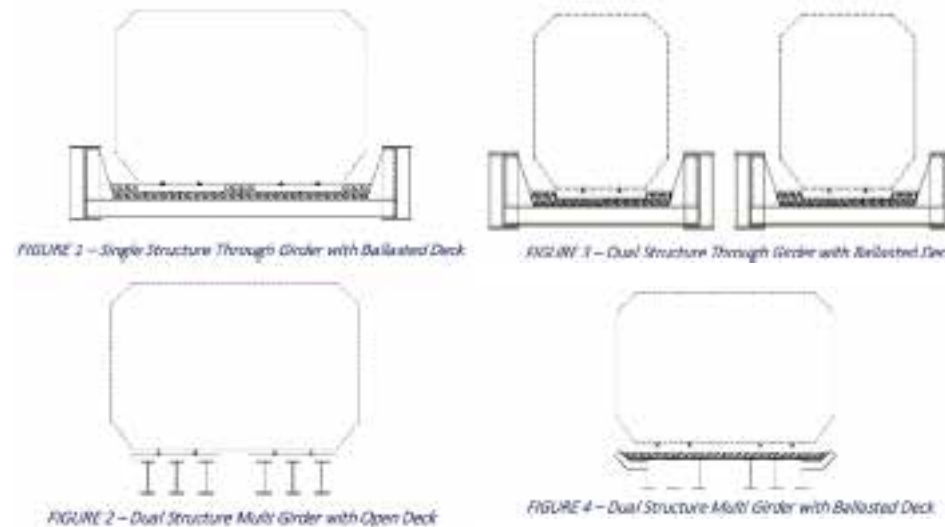
The South Laurel Avenue (CR52) Bridge in Middletown carries two electrified tracks on the North Jersey Coast Line over a two-lane county road. The bridge provides a 29-foot curb-to-curb horizontal clearance for traffic traveling on the roadway below, with no room for sidewalks, shoulders, or a bikeway. This creates a horizontal pinch point for traffic that reduces the roadway capacity and increases traffic issues through the corridor. Similarly, the bridge only provides a 12'-5" vertical clearance between the roadway and the bottom of the bridge steel girders. This substandard clearance results in the bridge being frequently hit by truck traffic, causing damage and train delays until emergency repairs are completed.

If funded, this project would replace the existing bridge with a longer span bridge to improve the horizontal clearance of the roadway below. The new bridge would also be designed to help increase the vertical clearance to eliminate truck impacts on the superstructure. This project would be coordinated with Monmouth County and its roadway improvement project. Ultimately, these improvements would not only benefit the county road by increasing its capacity and reducing traffic buildup, but they would mitigate NJ TRANSIT service disruptions caused by truck collisions with the bridge and reduce the need for emergency repairs.

## EXISTING: Bridge Conditions



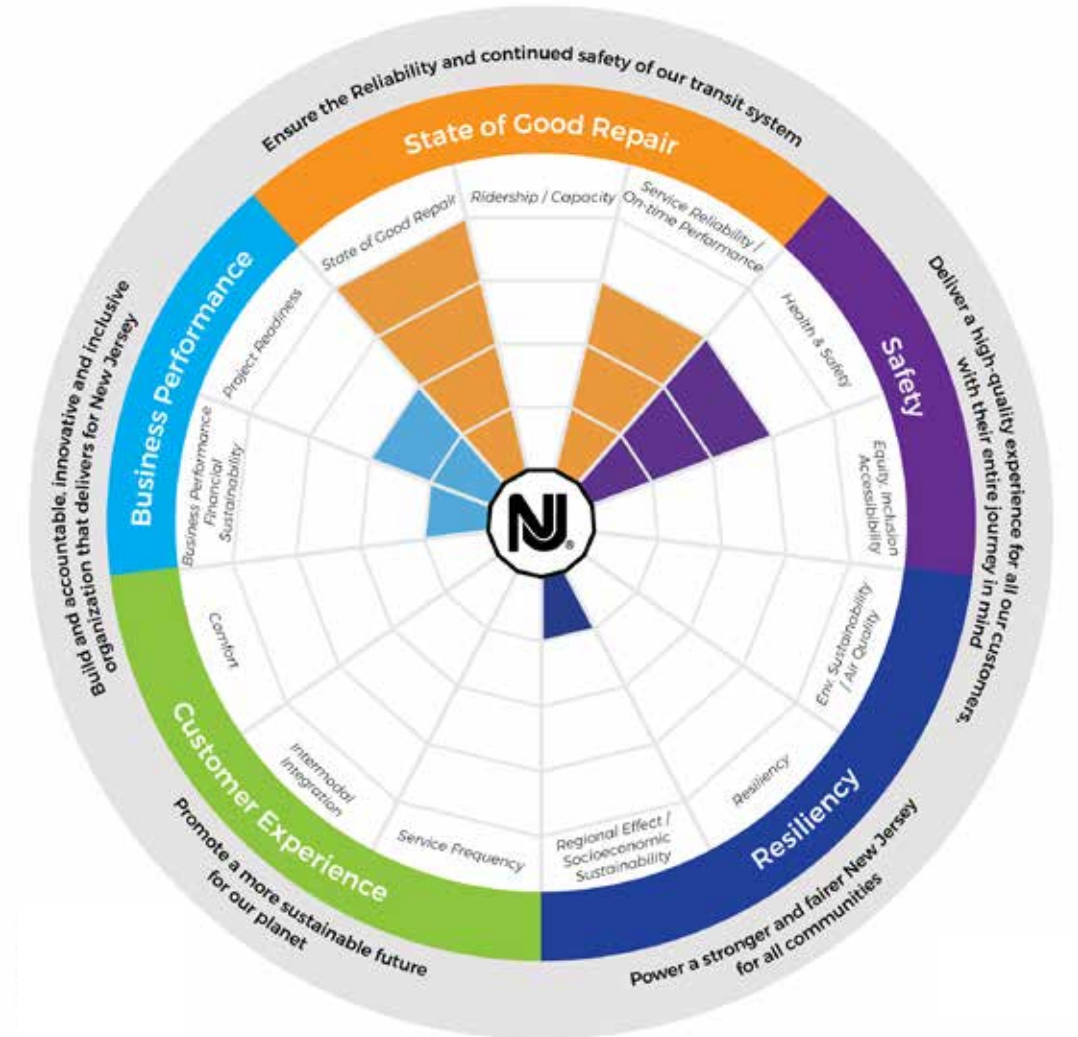
## PROPOSED: Superstructure Alternatives



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

**\*\$47 Million**

*\*Cost estimate assumes new raised bridge on same alignment*



## Value to Customers

- › Reduces train delays from vehicular collisions and emergency bridge repairs

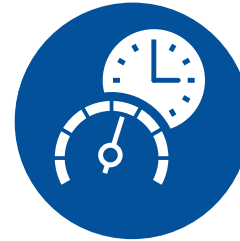
## Value to State

- › Decreases maintenance and repair costs

# PROJECT SHEET SOUTH LAUREL AVENUE BRIDGE REPLACEMENT & CLEARANCE IMPROVEMENT

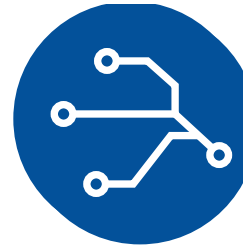
ESTIMATED TOTAL PROJECT COSTS

**\$47M**



### **Service Reliability**

Improving clearance would reduce delays caused by vehicle collisions with the bridge



### **Regional Impact/Socioeconomic Sustainability**

Eliminating service disruptions and emergency repairs due to collisions would improve North Jersey Coast Line 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*



### **State of Good Repair**

Bridge replacement and clearance improvement would reduce maintenance frequency and costs



### **Health/Safety**

Improvements would prevent vehicle collisions and provide safer travel for motorists, pedestrians, and bicyclists

*Improving the roadway and increasing clearance would significantly improve safety and service reliability.*

# PROJECT SHEET | BRIELLE DRAW REPLACEMENT AND CAPACITY ENHANCEMENT

## Description

Brielle Draw is a 1,200-foot long bridge with a rolling lift movable span that carries the NJ TRANSIT North Jersey Coast Line over the Manasquan River between the Boroughs of Brielle and Point Pleasant. The existing bridge was originally constructed in 1911 and is 109 years old. The structure carries a single track over the river creating an operational bottleneck, as the right-of-way to both the north and south carries two tracks. This bridge has greatly exceeded its anticipated service life of 75 years, and maintenance expenses have escalated due to the increased frequency of component failure. The bridge piers also exhibit significant scour and undermining which has resulted in the structure's ongoing settlement. Given the poor condition of the structure, train speeds are currently restricted to 20 mph. Maintenance work requires premium pay as track outages are not possible during service hours without complete service suspension. Also, the low profile of the existing structure to the river creates an extremely high flood risk.

If funded, this project would replace the existing bridge with a more reliable, double track movable bridge, on a higher vertical profile. The increased rail capacity on the bridge would provide corridor enhancement and improved operational efficiency on the North Jersey Coast Line while reducing operating costs. The raised profile would reduce the number of required marine openings, thereby reducing service disruptions, while also mitigating the risk of flood damage and potential for extended service outages during extreme events.

**EXISTING:**  
Brielle Draw



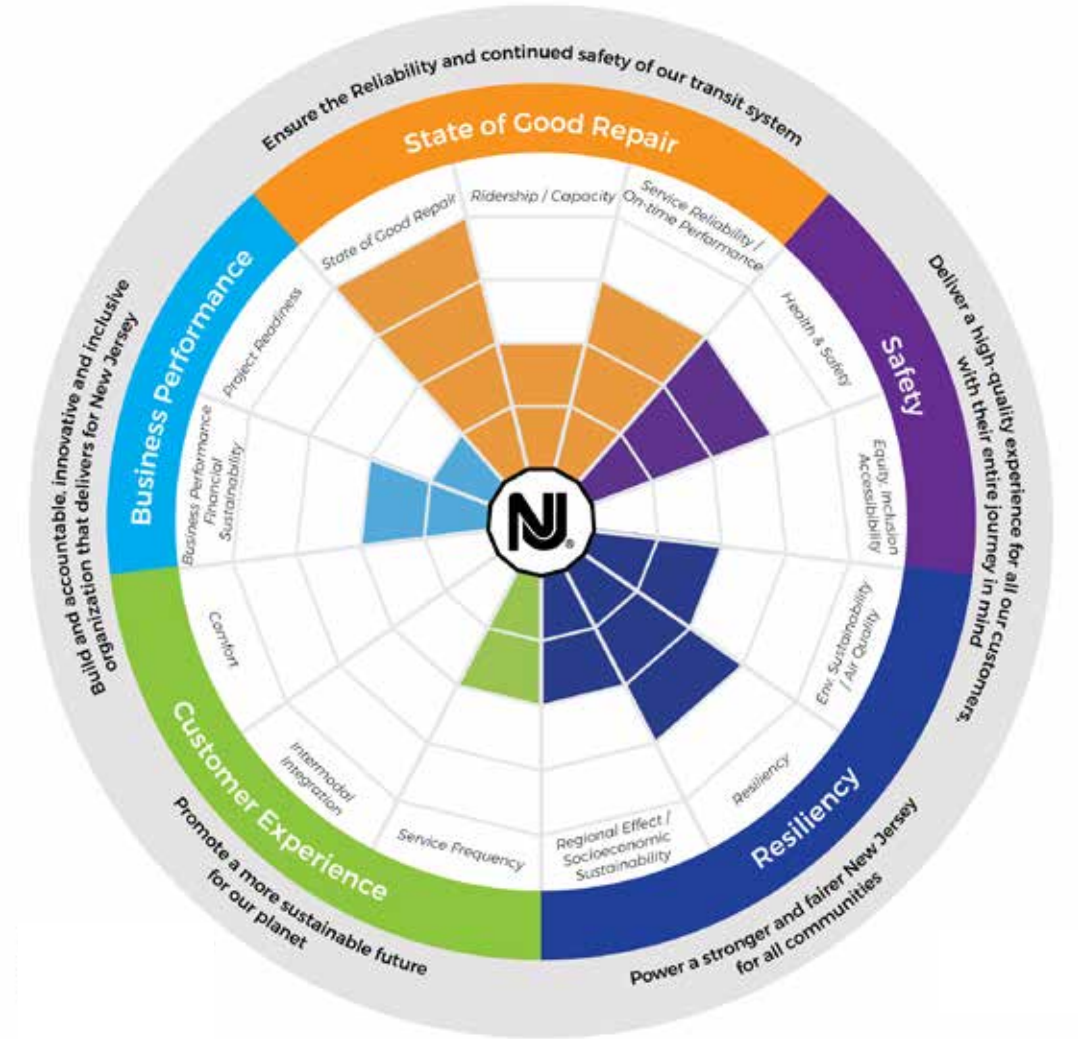
**PROPOSED:**  
New Bascule Bridge



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

**\*\$204 Million**

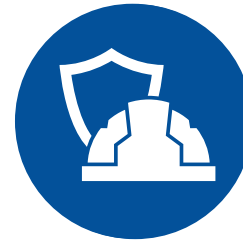
*\*Estimates are based upon concept for design*



# PROJECT SHEET BRIELLE DRAW REPLACEMENT AND CAPACITY ENHANCEMENT

ESTIMATED TOTAL  
PROJECT COSTS

**\$204M**



## **Health & Safety**

Mitigates risk of flood damage to the bridge while increasing safe speeds for trains



## **Service Reliability**

Increased vertical height would reduce bridge openings and allow higher speeds so trains can better meet their schedules

## 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*



## **Resiliency**

A raised bridge would reduce flood risk and flood scour resistant track would allow for quicker system recovery



## **State of Good Repair**

Replacing the bridge with modern, more reliable and efficient technology would improve state of good repair

A new bridge would be **reliable**, **increase rail capacity**, and **resilient to weather events and train breakdowns**.

# PROJECT SHEET | HX DRAW BRIDGE REPLACEMENT

## Description

HX Draw is a ±1,100-foot long bridge that carries the NJ TRANSIT Bergen County and Pascack Valley Lines over the Hackensack River between Secaucus and East Rutherford. The existing double track, overhead counterweight Strauss bascule bridge was originally constructed in 1911 and is 109 years old. Given its age, the bridge has exceeded its anticipated service life of 75 years and maintenance expenses have begun to escalate due to advanced deterioration and component failure. In addition, the structure provides minimal vertical clearance for maritime traffic, resulting in frequent bridge openings that are disruptive to rail operations.

If funded, this project would replace the existing river crossing with a more reliable movable bridge that would reduce operating and maintenance costs while extending overall service life. The vertical profile for the new bridge would be raised as much as is practicable to increase vertical clearance for navigable vessels and reduce required marine openings. Rail speed restrictions on the new bridge would also be removed, allowing for faster service across the structure. The new bridge would ultimately improve operational efficiency on the Bergen County and Pascack Valley Lines.

**EXISTING:**  
HX Draw



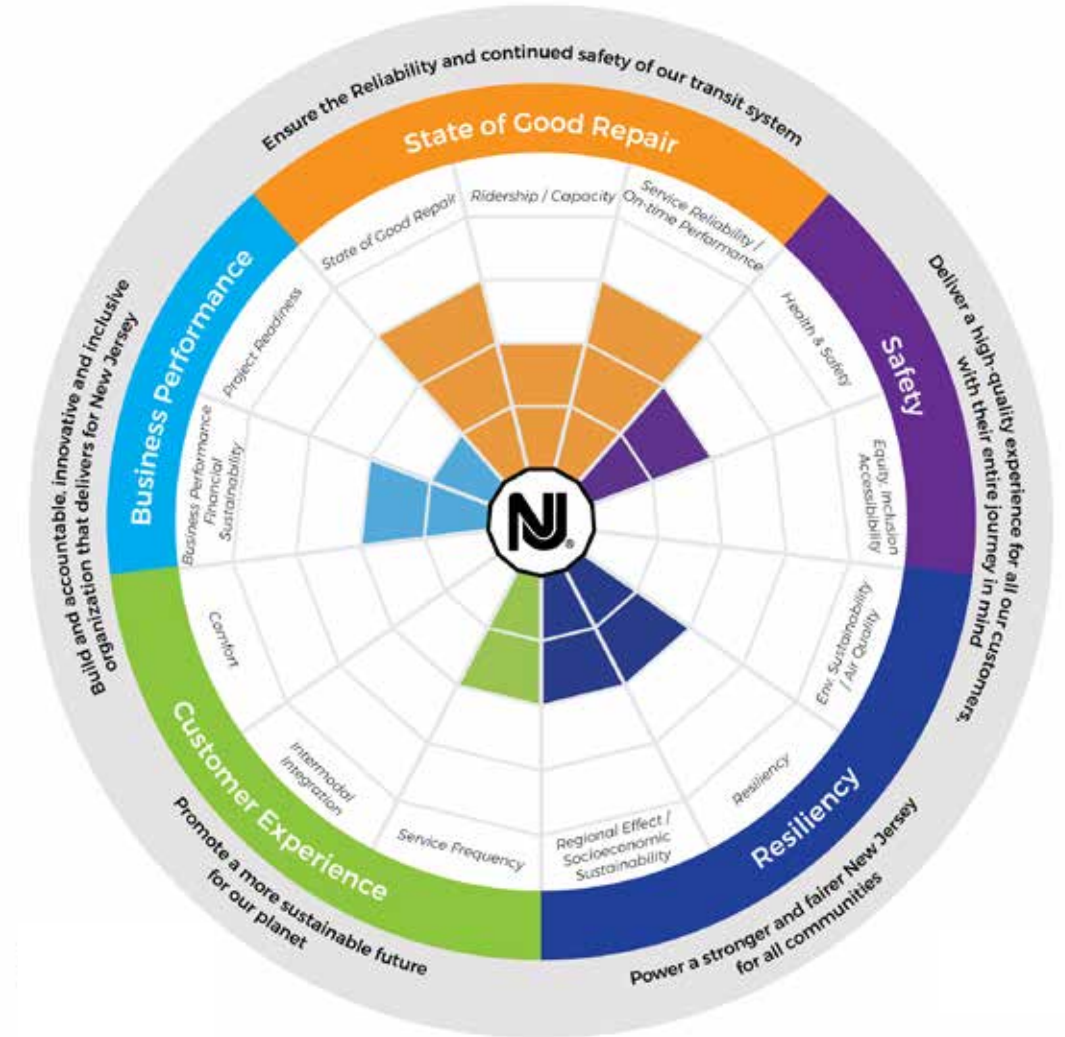
**PROPOSED:**  
New Movable Bridge



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

**\*\$269 Million**

*\*Estimates are based upon concept for design*



## Value to Customers

- › Increased on-time performance, safety, and service reliability

## Value to State

- › Reduces operating expenses to enable more efficient use of public funds
- › Reduces potential injuries by decreasing increased on-site maintenance work
- › Increases return on investment from increased ridership

# PROJECT SHEET HX DRAW BRIDGE REPLACEMENT

**ESTIMATED TOTAL PROJECT COSTS**  
**\$269M**



### **Resiliency**

More robust infrastructure would support the bridge, lowering the chance of train breakdowns and addressing flood and scour issues



### **Service Reliability**

A new movable bridge would help eliminate conflicts with maritime traffic and allow for smoother service delivery

## **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*



### **Service Quality/Frequency**

The new bridge would be able to handle trains traveling above 30 mph, allowing for more frequent service



### **State of Good Repair**

Replacing a 109-year old bridge with a movable and modern bridge would bring the bridge crossing to state of good repair

*HX Draw would be a **modern movable bridge, improve operations, and deliver more frequent service.***

# PROJECT SHEET | UPPER HACK LIFT BRIDGE CAPACITY ENHANCEMENT

## Description

The Upper Hack Lift Bridge carries the NJ TRANSIT Main Line over the Hackensack River between Secaucus and Lyndhurst. The existing single-track, vertical lift bridge was originally constructed in 1959 and is 61 years old. The single-track cross section creates an operational bottleneck as the right-of-way to both the north and south carries two or more tracks. This restricts the efficient flow of rail traffic, directly impacting service and expansion efforts to the adjacent meadowlands retail and entertainment complex.

If funded, this project would construct a new, double track lift bridge adjacent to the existing bridge, which would increase capacity on the Main Line to meet demands of anticipated growth and potential future expansion. The addition of a new independent structure would also add critical operational redundancy to the Main Line, as it is currently impossible to service the track on the bridge without a complete closure of the line. The vertical profile for the new bridge would be raised as much as is practicable to increase vertical clearance for navigation, thereby reducing the required bridge openings for navigable vessels. The existing bridge would also be rehabilitated to extend its service life, while continuing to operate alongside the new bridge. Overall, this project would improve operational efficiency and resiliency along the corridor, while lowering operating costs along the Main Line.



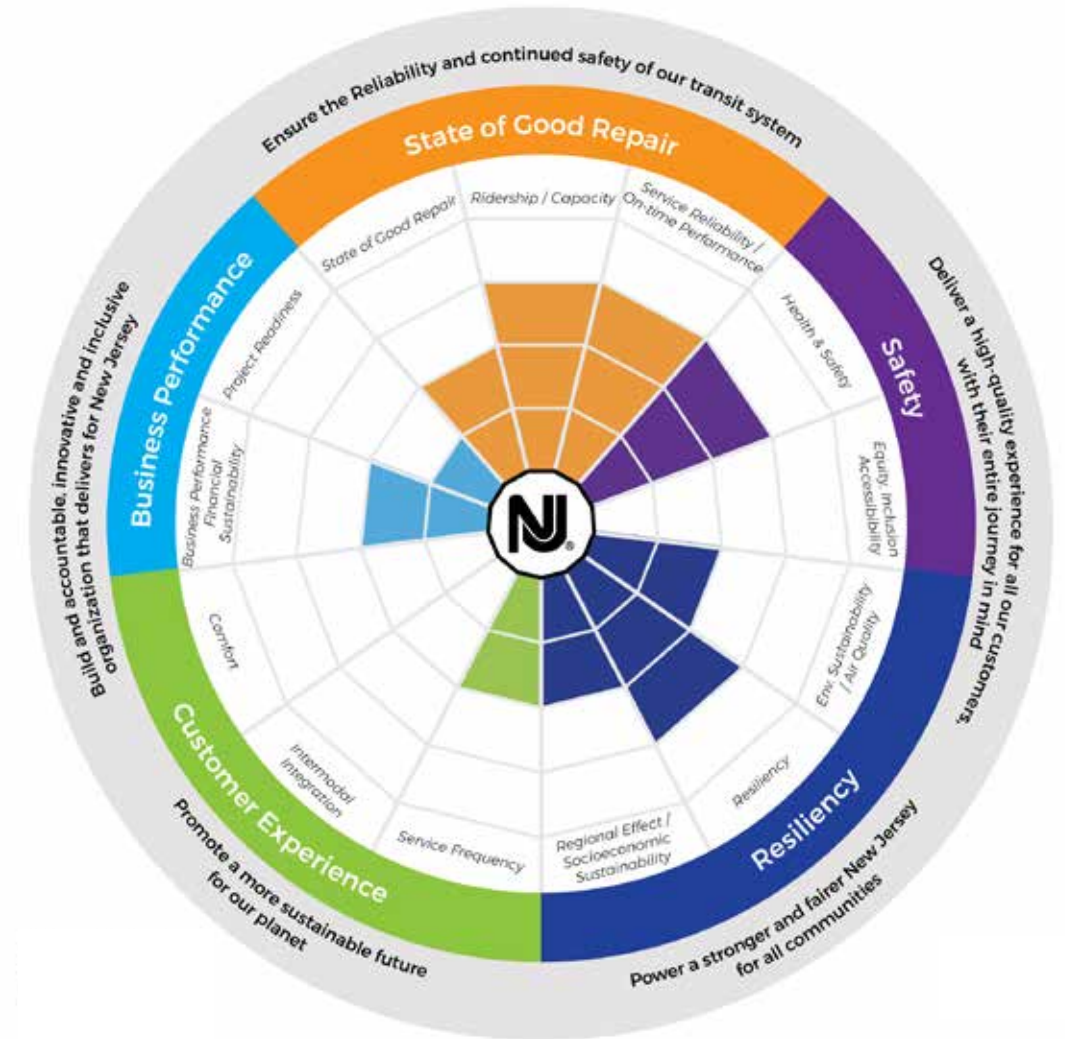
**EXISTING:**  
Upper Hack Lift

**PROPOSED:**  
New Vertical Lift Bridge

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

**\*\$267 Million**

*\*Estimates are based upon concept for design*



## Value to Customers

- › Increases on-time performance, safety, and service reliability
- › Increases capacity for sustained on-time performance and long term ridership growth

## Value to State

- › Reduces operating expenses to enable more efficient use of public funds
- › Reduces potential injuries by decreasing increased on-site maintenance work
- › Increases return on investment from increased ridership



# PROJECT SHEET UPPER HACK LIFT BRIDGE CAPACITY ENHANCEMENT

ESTIMATED TOTAL  
PROJECT COSTS

**\$267M**



### ***Ridership/Capacity***

Improved traffic flow would increase capacity and potential ridership



### ***Service Reliability***

Both the new and rehabbed bridge would reduce service conflicts and facilitate improve through traffic

## 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*



### ***Resiliency***

Track redundancy would allow for quicker system recovery and agility to respond to train breakdowns



### ***Health/Safety***

The 61 year old bridge would be rehabilitated to increase safety

*This project would **improve operational efficiency, relieve congestion, expand capacity, and make the system more resilient** along the corridor.*

# PROJECT SHEET | SHARK RIVER DRAW BRIDGE REPLACEMENT

## Description

The Shark River Draw Bridge carries the NJ TRANSIT North Jersey Coast Line over Shark River between the Boroughs of Belmar and Avon-By-The-Sea, NJ. The existing movable rolling lift bridge was originally constructed in 1937 and is 83-years old. This bridge has exceeded its anticipated service life and maintenance expenses have escalated due to the increased frequency of mechanical component failure. Due to the poor condition of the bridge, train speeds are restricted. Overtime pay is necessary for maintenance work since track outages are not possible during service hours.

The approach spans of the original bridge were replaced in 2008 with new concrete ballasted deck spans supported by steel pipe pile foundations. If funded, this project would replace the existing movable and flanking spans of the existing bridge with a more reliable, modern bascule span. The new bridge would improve operational efficiency on the North Jersey Coast Line and will reduce operating and maintenance costs.

**EXISTING:**  
Shark River Draw

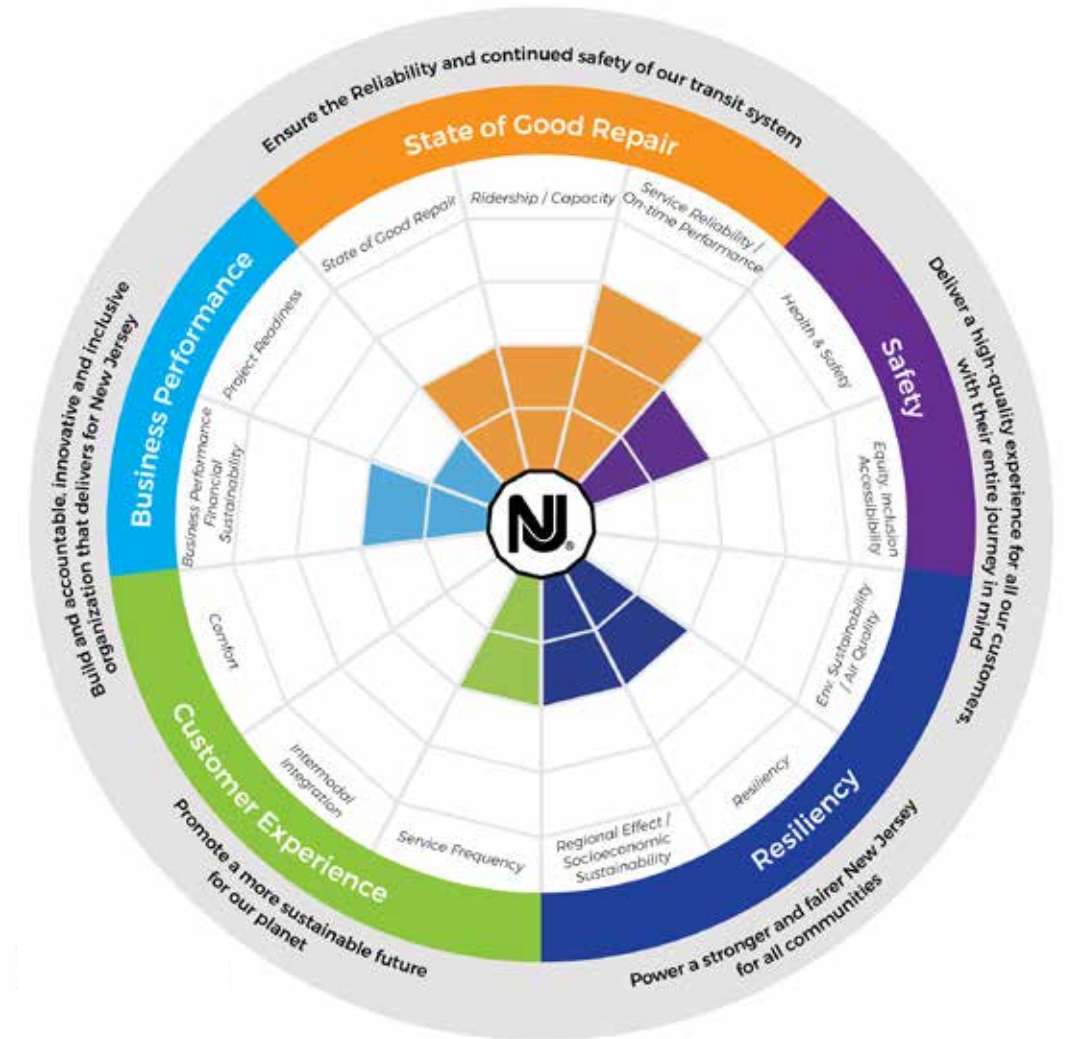


**PROPOSED:**  
New Bascule Bridge



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

**\$170 Million**



## Value to Customers

- › Increases on-time-performance, safety, and service reliability

## Value to State

- › Lowers operating expenses and uses public funds efficiently
- › Reduces potential injuries by decreasing on-site maintenance work
- › Increases return on investment from increased ridership

# PROJECT SHEET SHARK RIVER DRAW BRIDGE REPLACEMENT

ESTIMATED TOTAL  
PROJECT COSTS

**\$170M**



## **Resiliency**

Newly designed infrastructure would be resilient against floods and seismic hazards



## **Service Reliability**

Upgrading the bridge would allow trains to run with less restricted speeds reducing delays

## 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*



## **Business Performance/Financial Sustainability**

Replacing bridge would reduce operating and maintenance costs



## **State of Good Repair**

Bridge replacement would improve operational efficiency on the North Jersey Coast line

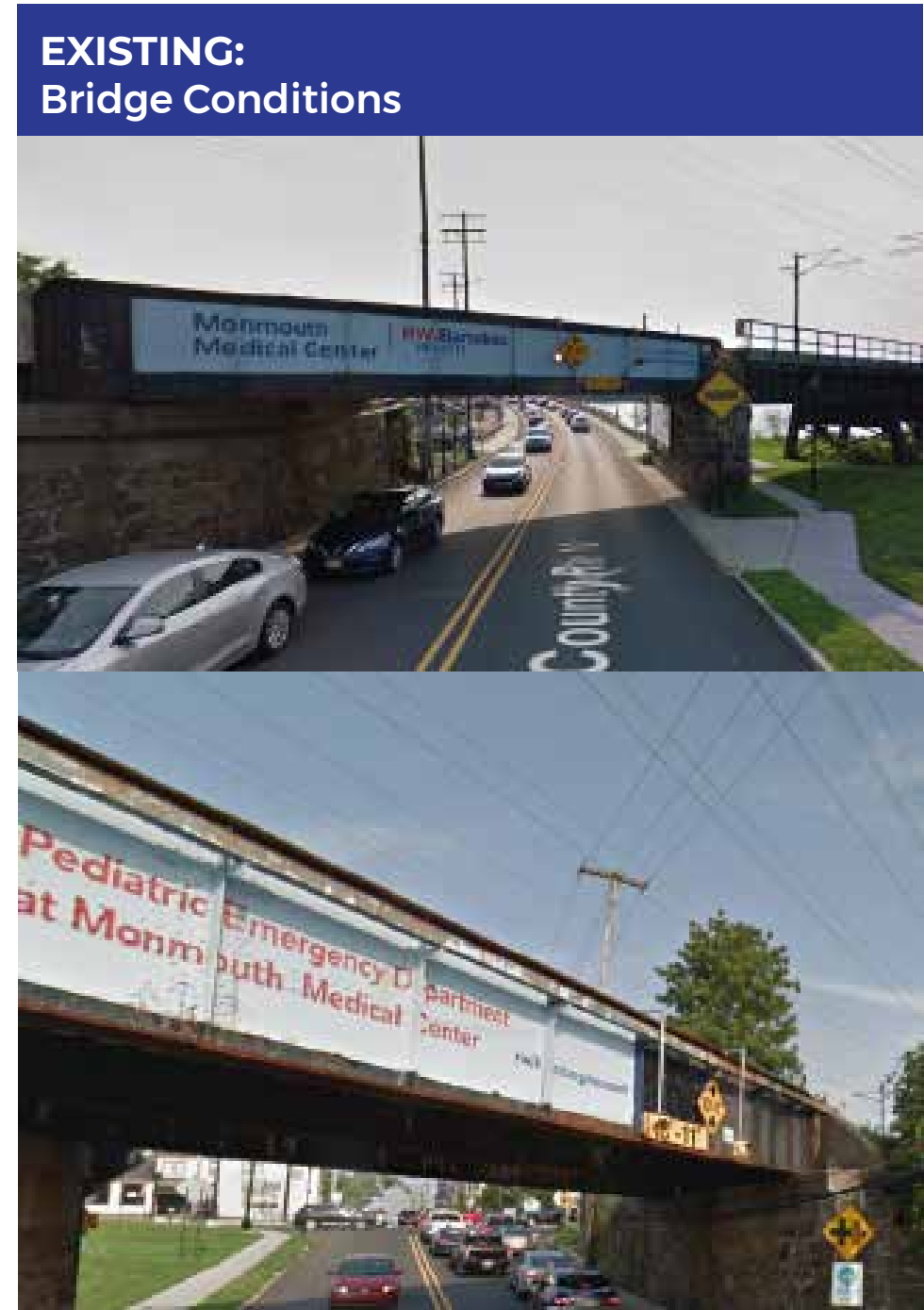
Replacing existing bridge spans would **improve service operations and reliability, resilience, and state of good repair.**

# PROJECT SHEET | WEST FRONT STREET BRIDGE REPLACEMENT STUDY

## Description

The West Front Street Bridge in Red Bank carries two electrified tracks on the North Jersey Coast Line over a two-lane road. The bridge only provides a 10'-11" vertical clearance between the roadway and the bottom of the bridge steel girders. This substandard clearance results in the bridge being frequently hit by truck traffic, causing damage which requires immediate repair.

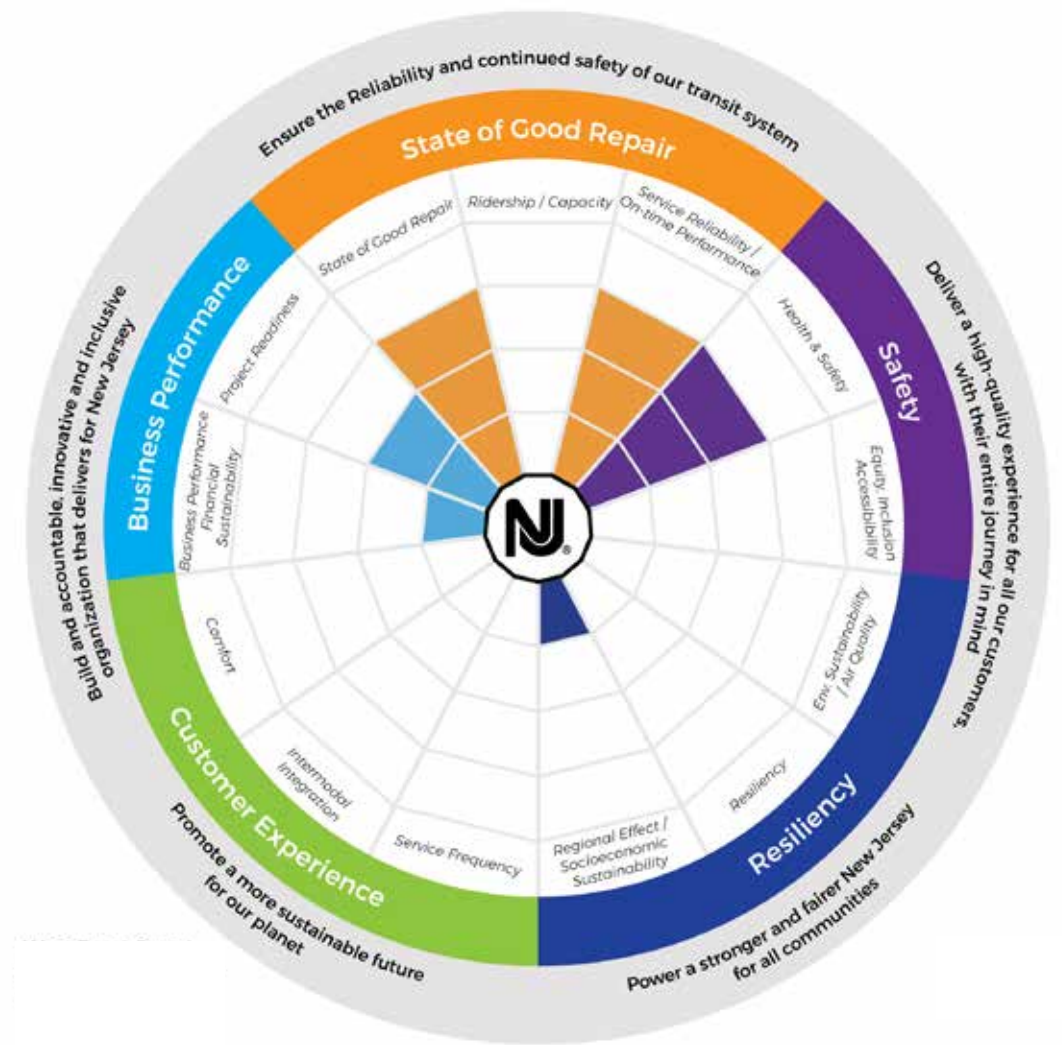
If funded, this project would study various alternatives to improve vertical clearance and eliminate truck impacts on the superstructure. The study would determine the appropriate action to best address the challenges, eliminate disruptions caused by truck collisions with the bridge, and alleviate the need for emergency repairs. Additionally, any bridge work would be coordinated with Monmouth County and their roadway improvement project.



**EXISTING:  
Bridge Conditions**

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

**\$2 Million**



### Value to Customers

- › Reduces train delays from vehicular collisions and emergency bridge repairs

### Value to State

- › Decreases in maintenance and repair costs

# PROJECT SHEET WEST FRONT STREET BRIDGE REPLACEMENT STUDY

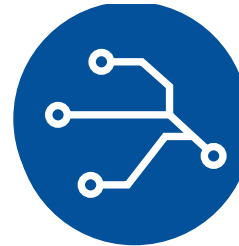
**ESTIMATED TOTAL  
PROJECT COSTS**

**\$2M**



### ***Service Reliability***

Improving clearance would reduce delays caused by vehicle collisions with the bridge



### ***Regional Impact/Socioeconomic Sustainability***

Eliminating service disruptions and emergency repairs due to collisions would improve North Jersey Coast Line service

## **STRATEGIC GOALS MET**



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

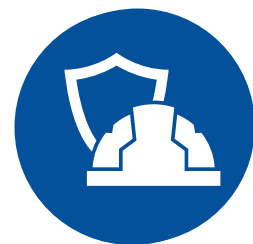


*Ensure the reliability and continued safety of our transit system*



### ***State of Good Repair***

Bridge replacement and clearance improvement would reduce maintenance frequency and costs



### ***Health/Safety***

Improving clearance would prevent vehicle collisions and provide safer travel for motorists, pedestrians, and bicyclists

Replacing the bridge to **alleviate clearance issues** would **significantly improve safety and service reliability.**

# PROJECT SHEET | MORGAN DRAW BRIDGE REPLACEMENT

## Description

The Morgan Draw Bridge carries the NJ TRANSIT North Jersey Coast Line over the Cheesequake Creek between Sayreville and Old Bridge. The existing movable rolling lift bridge was originally constructed in 1912 and is 108-years old. This bridge has exceeded its anticipated service life and maintenance expenses have begun to escalate due to the increased frequency of mechanical component failure. During Hurricane Sandy, the Morgan Draw Bridge experienced significant damage. Although the bridge was repaired, operation of the bridge has become challenging due to permanent misalignments. Due to the poor condition of the bridge, train speeds are restricted to 30 mph. Overtime pay is necessary for maintenance work since track outages are not possible during service hours.

If funded, this project would replace the existing ±360-foot long bridge with a more reliable, modern, and movable bridge. The new bridge would improve operational efficiency on the North Jersey Coast Line and reduce operating and maintenance costs.

**EXISTING:  
Morgan Draw**



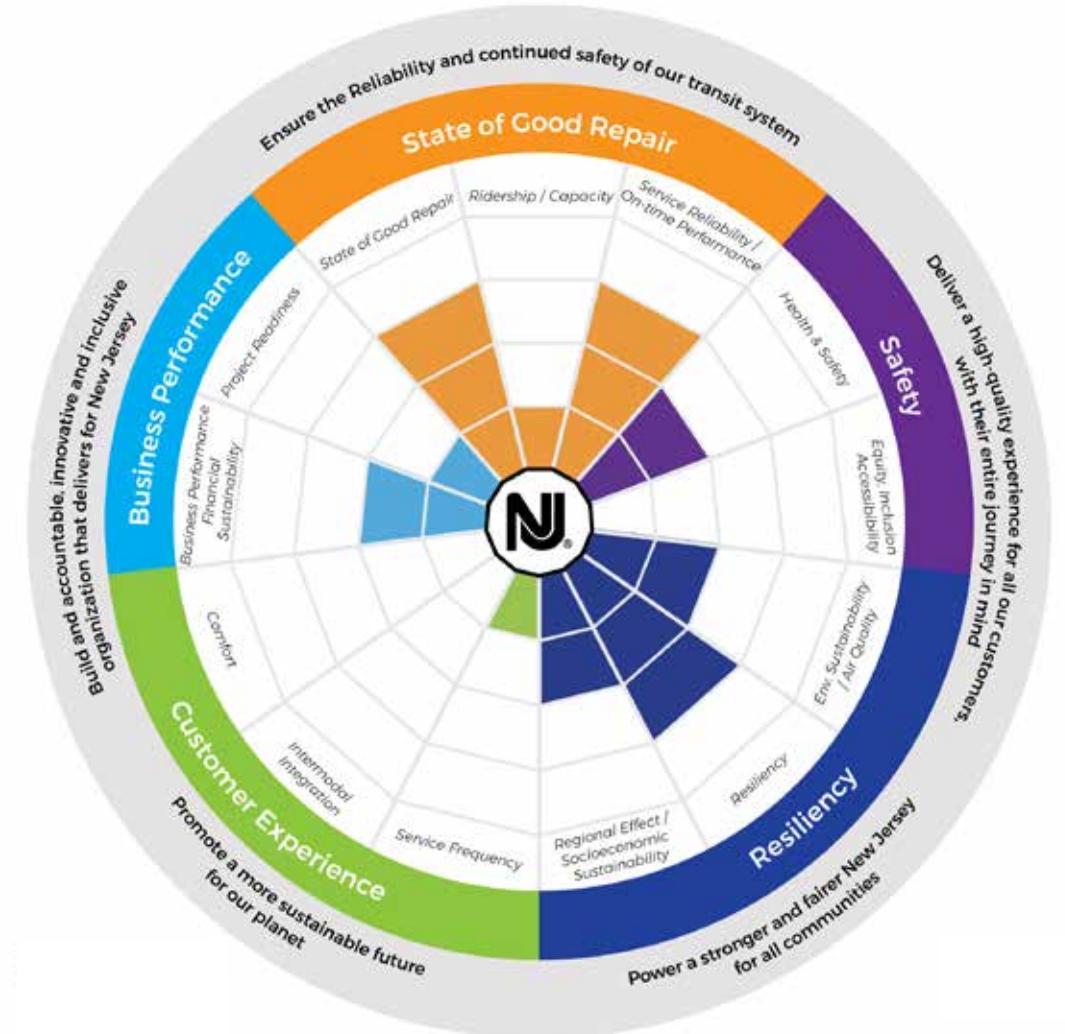
**PROPOSED:  
New Movable Bridge**



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

**\*\$236 Million**

*\*Estimates are based upon concept for design*



## Value to Customers

- › Increases on-time-performance, safety, and service reliability

## Value to State

- › Lowers operating expenses hence efficient use of public funds
- › Reduces potential injuries by decreasing on-site maintenance work
- › Increase return on investment from increased ridership

# PROJECT SHEET MORGAN DRAW BRIDGE REPLACEMENT

**ESTIMATED TOTAL PROJECT COSTS**  
**\$236M**



**Business Performance/Financial Sustainability**  
New bridge would improve operational efficiency and reduce operations and maintenance costs



**Service Reliability**  
New bridge with no misalignments would ensure more reliable train 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*



**Resiliency**  
New bridge design would be resilient to flooding and seismic hazards



**State of Good Repair**  
Replacing the bridge with a more reliable modern bascule bridge would enhance state of good repair

*The new bridge would **improve operational efficiency** on the North Jersey Coast Line and **reduce costs**.*

# PROJECT SHEET | WC INTERLOCKING RECONFIGURATION

## Description

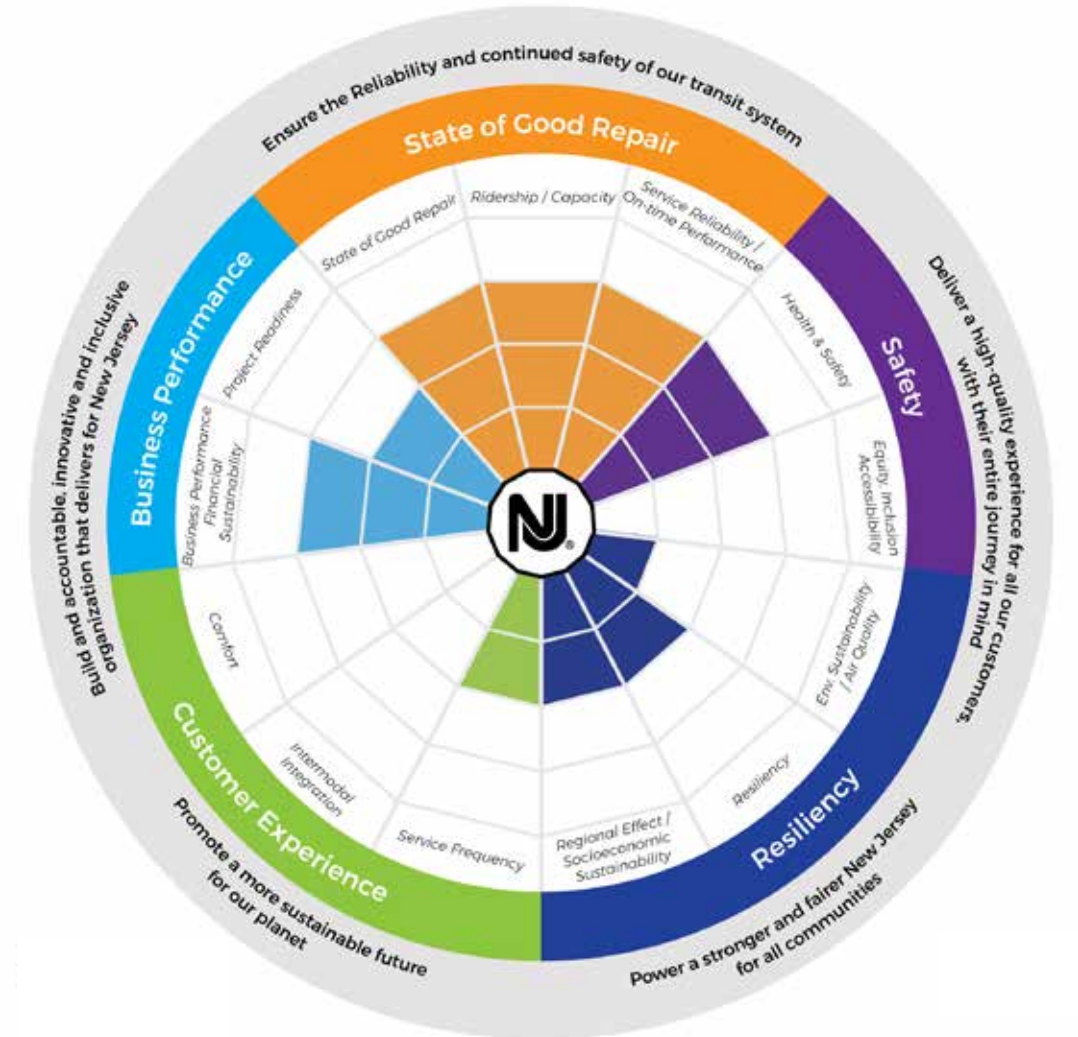
The WC Interlocking is in Waldwick on NJ TRANSIT's Main Line. The tracks within the interlocking are used to turn trains shifting to the eastbound track which do not continue west to Suffern and to provide train access to the Waldwick Storage Yard. The current interlocking configuration requires trains to sit on the through tracks, obstructing through traffic and leading to frequent delays and service disruptions along the Main Line. Crew members are also required to deboard the trains to hand-operate switches adjacent to live train traffic in lieu of more modern, automated technology.

If funded, the WC Interlocking Reconfiguration would reduce delays on the Main Line and provide a safer and more reliable commute for customers by reconfiguring and upgrading the interlocking. Trains would now be allowed to continue through to Suffern while other trains maneuver into the yard, which would provide more operational flexibility. These upgrades would also provide significant safety enhancement by eliminating the need for crew members to deboard in order to turn trains back. Additionally, this project would significantly decrease maintenance costs by allowing routine maintenance to be performed with minimal disruption to scheduled rail service.

## EXISTING: Morgan Draw



Manual switch throwing is still required at the Waldwick Yard to allow trains to turn back towards New York. This 100+ year old system is slow to operate and places conductors in harm's way.



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

**\$13 Million**

## Value to Customers

- › Reduces train delays from interlocking conflicts and increases on-time performance

## Value to State

- › Increases on-time performance, safety, and service reliability
- › Lowers operating cost, including unscheduled maintenance and overtime
- › Reduces maintenance costs 33% by allowing daytime maintenance work and eliminating need for costly night shift work



# PROJECT SHEET | WC INTERLOCKING RECONFIGURATION



Yard Track would Diverge from Track 1 and Feed into Yard

Track 3 Would Continue Through Interlocking and Feed Track 1 & 2 for More Through Service

**LEGEND**

- Track 3
- Yard Access Track

Outbound  
Inbound  
To Yard

Track 2  
Track 1  
Track 3

Rail Yard Looking West



Interlocking Looking East



# PROJECT SHEET WC INTERLOCKING RECONFIGURATION

**ESTIMATED TOTAL  
PROJECT COSTS**  
**\$13M**



### ***Business Performance/Financial Sustainability***

The project would lower operating costs and reduce maintenance costs on the Main Line by 33% by allowing for daytime maintenance



### ***Service Reliability***

The reconfiguration would reduce train delays from interlocking conflicts

## **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*



### ***Ridership/Capacity***

The reconfiguration would eliminate a single track bottleneck, allowing for more trains to continue to Suffern



### ***State of Good Repair***

The service life of the interlocking would increase and manual switches would be converted to automatic

*The project would **decrease delays and service disruptions** along the Main Line.*

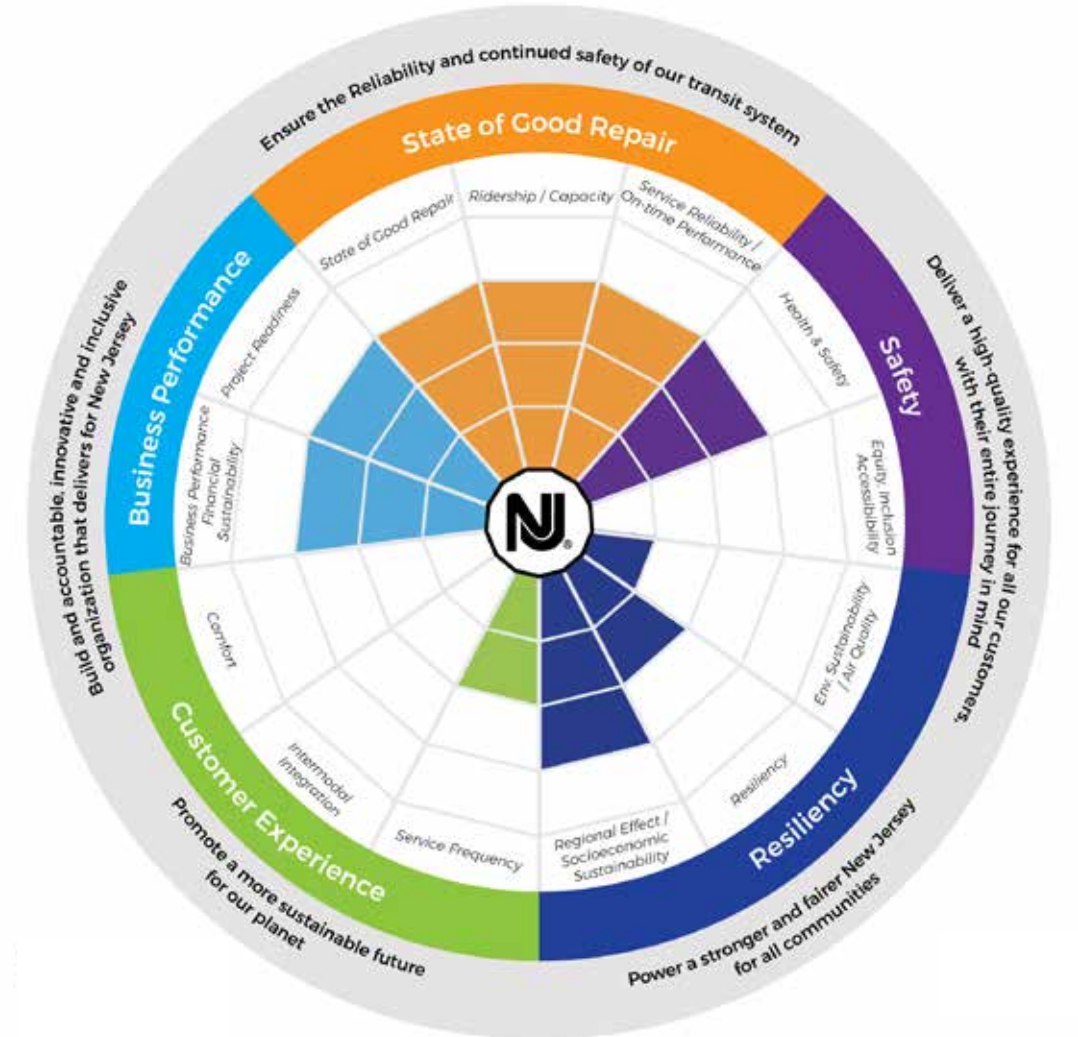
# PROJECT SHEET | WEST SUMMIT INTERLOCKING, WALL REPAIR & DRAINAGE

## Description

The West Summit Interlocking is located just west of Summit Station and lies within a cut section of track between two concrete retaining walls. The interlocking serves two lines: two northern tracks as part of the Morristown Line, and a southern “Wall” track as part of the Gladstone Line. The existing interlocking is outdated and requires a speed limit reduction through the area. In addition, the current interlocking location prevents the extension of the existing undersized platforms to serve full-length trains. The configuration of the southern “Wall” track relative to the current interlocking also makes needed repairs of the south wall challenging while maintaining rail traffic. Finally, drainage and flooding issues regularly interfere with track signals, and results in contaminated ballast, false signal indications, and frequent delays.

If funded, this project would be broken up into two phases to address the existing challenges. Phase I would relocate the West Summit interlocking further west of the existing station and interlocking, installing a new turn track on the Gladstone Line, and installing two layover tracks near the existing NJ TRANSIT storage facility west of the station. The new track configurations and installations would allow for more through trains, which would increase line capacity and facilitate future extension of the existing station platforms. Phase II would include repairing the existing wall and improving the drainage at track level. This would ultimately improve track drainage to prevent flooding and delays.

## EXISTING: Contaminated Ballast & Outdated Switches



## ESTIMATED PROJECT COSTS (2020 DOLLARS):

**\*\$97 Million**

*\*Design for Phase I is already complete and not included in cost*

## Value to Customers

- › Increases on-time performance
- › Decreases delays caused by interlocking conflicts and false signal indications

## Value to State

- › Increases on-time performance safety, and service reliability, optimizing use of equipment and labor
- › Lowers operating cost, which allows for efficient use of public funds

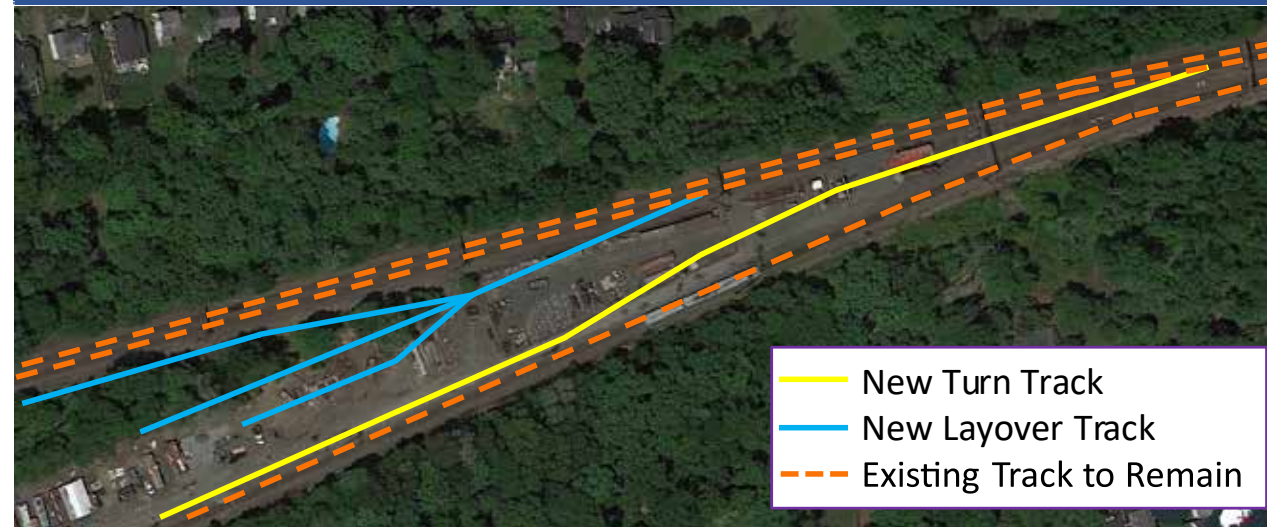
# PROJECT SHEET | WEST SUMMIT INTERLOCKING, WALL REPAIR & DRAINAGE



New Turn and Layover Tracks

Example Layover Tracks

Severe Wall Deterioration



PHASE I – Interlocking Relocation and Relocation of Existing Utilities along the Wall  
 PHASE II – Wall Repairs and Drainage Improvements

# PROJECT SHEET WEST SUMMIT INTERLOCKING, WALL REPAIR & DRAINAGE

ESTIMATED TOTAL  
PROJECT COSTS

**\$97M**



### ***Ridership/Capacity***

Increased flow of trains would increase capacity and ridership potential



### ***Service Reliability***

The new interlocking would eliminate a bottleneck in the system, allowing for increased flow of more trains, and would accommodate longer trains, easing congestion

## 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*



### ***Regional Impact/Socioeconomic Sustainability***

Improvements would increase line capacity on the Gladstone and Morristown Lines



### ***State of Good Repair***

Flooding, structural, and operational issues would be fixed to enhance state of good repair

*The new track configurations and installations would **allow increased flow of trains, which would relieve congestion.***

# PROJECT SHEET | MILLBURN INTERLOCKING RECONFIGURATION

## Description

The Millburn Interlocking is located just east of Millburn Station in Millburn and accommodates three tracks on NJ TRANSIT's Morristown Line: Tracks one and two continue west through the adjacent Millburn Station, and Track three terminates at the interlocking and converges with Track one. The absence of a third track at the station creates an operational bottleneck, preventing incoming trains from entering or passing through the station until platformed trains have moved. Additionally, the existing platforms are low level and undersized, preventing full berthing of longer trains.

If funded, this project would reconfigure the interlocking and extend Track three west through Millburn Station to allow for express train passage without hindering local train schedules, thereby relieving the existing bottleneck by increasing line capacity through the station. This project would also construct a new station building and construct new high-level platforms in order to accommodate larger trainsets and improve accessibility. These improvements would primarily enhance business performance and passenger experience at the station.

### EXISTING: Track Configuration



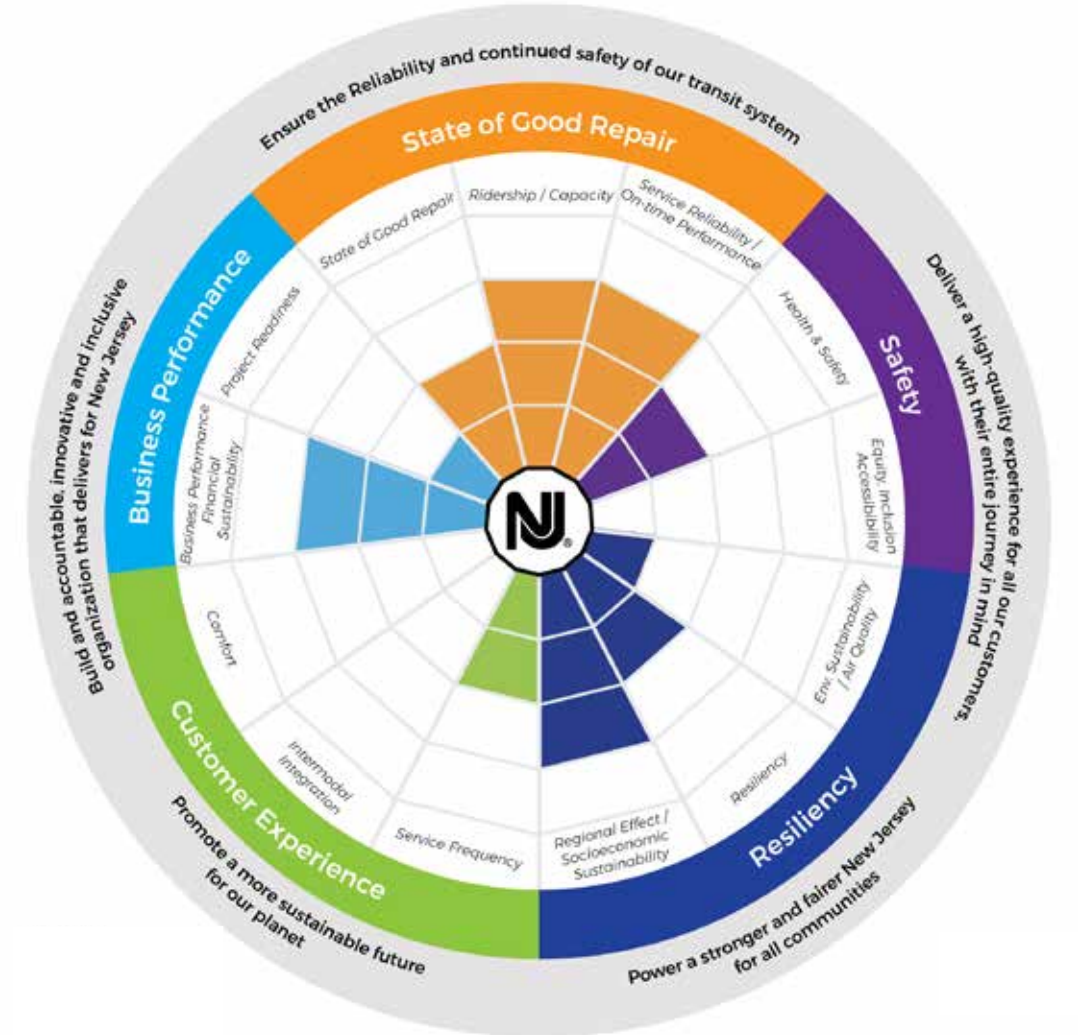
### PROPOSED: New Third Track



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

**\*\$111 Million**

*\*Estimates are based upon concept for design*



### Value to Customers

- › Increases on-time performance
- › Decreases delays caused by express and local train conflicts

### Value to State

- › Increases on-time performance and service reliability
- › Lowers operating cost, which allows for more efficient use of public funds

# PROJECT SHEET MILLBURN INTERLOCKING RECONFIGURATION

**ESTIMATED TOTAL PROJECT COSTS**  
**\$111M**



### ***Business Performance/Financial Sustainability***

A third track would increase train capacity on the line and a new station with universally accessible features would be more attractive for all customers



### ***Service Reliability***

A third track would allow express trains to run without delays

## **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*



### ***Ridership/Capacity***

Longer track platforms and more efficient express-train operations would increase capacity for passengers and trains



### ***Regional Effect/Socioeconomic Sustainability***

Construction of a third express-track would positively impact all trains on the Morris & Essex line

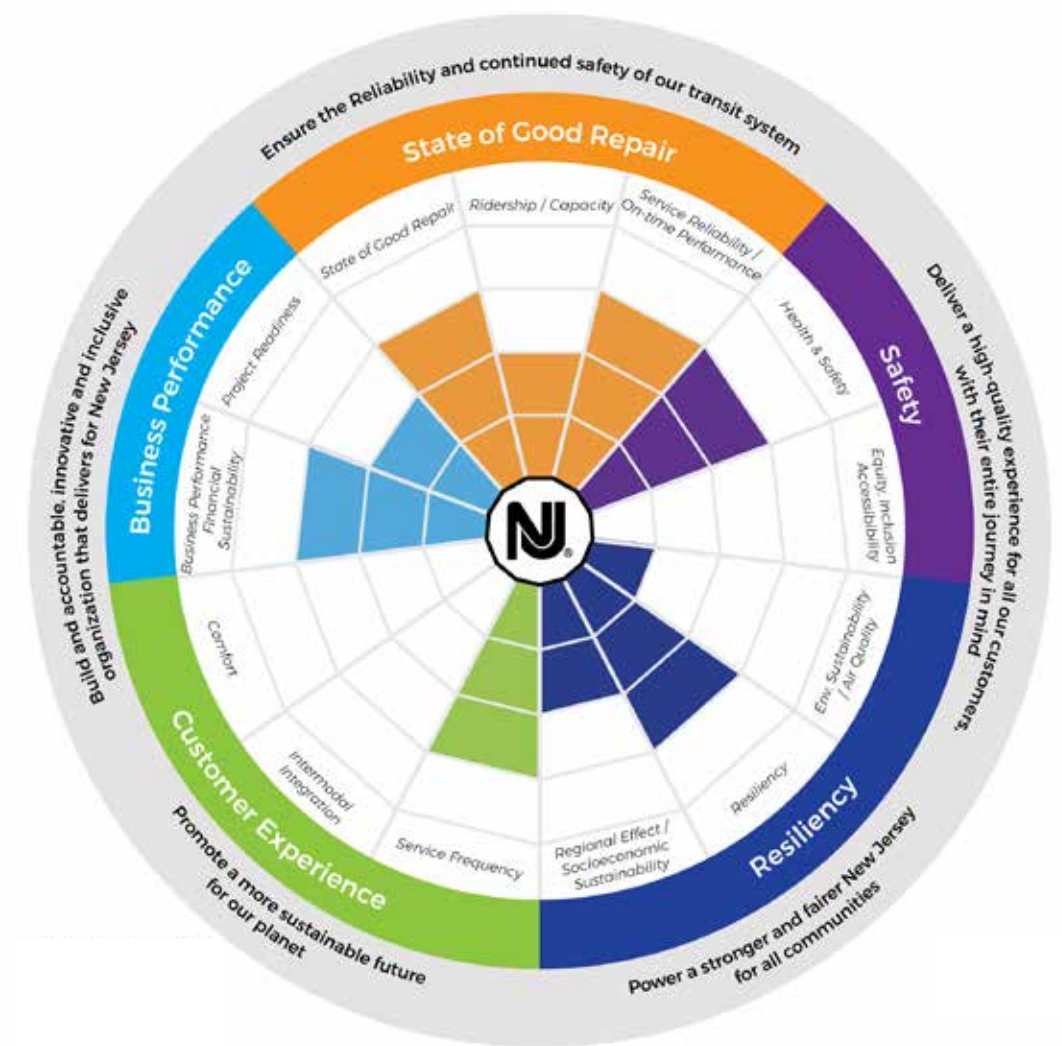
Reconfiguration of the Millburn Interlocking would **enhance passenger experience** and **improve service reliability.**

# PROJECT SHEET | DOVER INTERLOCKING RECONFIGURATION STUDY

## Description

Dover Station services NJ TRANSIT's Morris & Essex and Montclair-Boonton Line. The station is located within the Dover Interlocking, which is used to facilitate turning trains that do not continue west towards Hackettstown back east, and to provide access into the Dover Yard. The challenge with the current configuration is that trains larger than eight cars cannot fit between the interlocking signals and the grade crossing at S. Morris Street, which means the train blocks the grade crossing when stopped at the station. Furthermore, westbound trains on Track two that terminate at the station must use the interlocking to switch to Track one and enter Dover Yard. This complex move occupies the main tracks and prevents other trains from passing through, which results in frequent delays and reduced on-time performances along the Morris & Essex Line.

If funded, this project would look to study various alternatives to address the existing challenges at Dover Interlocking. Ultimately, the study would determine the appropriate action to best address the challenges, reduce the delays associated with the interlocking and grade crossing configuration, and improve train on-time performance along the Morris & Essex Line.



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

**\$1 Million**

## Value to Customers

- › Reduces train delays from interlocking conflicts

## Value to State

- › Increases on-time performance and service reliability, which will bolster public perception of NJ TRANSIT
- › Lowers operating cost from unscheduled maintenance and overtime, which allows for efficient use of public funds



# PROJECT SHEET DOVER INTERLOCKING RECONFIGURATION STUDY

**ESTIMATED TOTAL PROJECT COSTS**  
**\$1M**



### **Service Quality/Frequency**

More efficient train movements would improve service frequency on the Morris & Essex and Montclair-Boonton lines



### **Service Reliability**

Reduced delays on the Morris & Essex and Montclair-Boonton lines would increase on-time performance

## **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*



### **Health/Safety**

An upgraded interlocking would prevent bottlenecks and make train movements safer



### **State of Good Repair**

Moving the interlocking outside of the station limits would improve train operations and extend service life

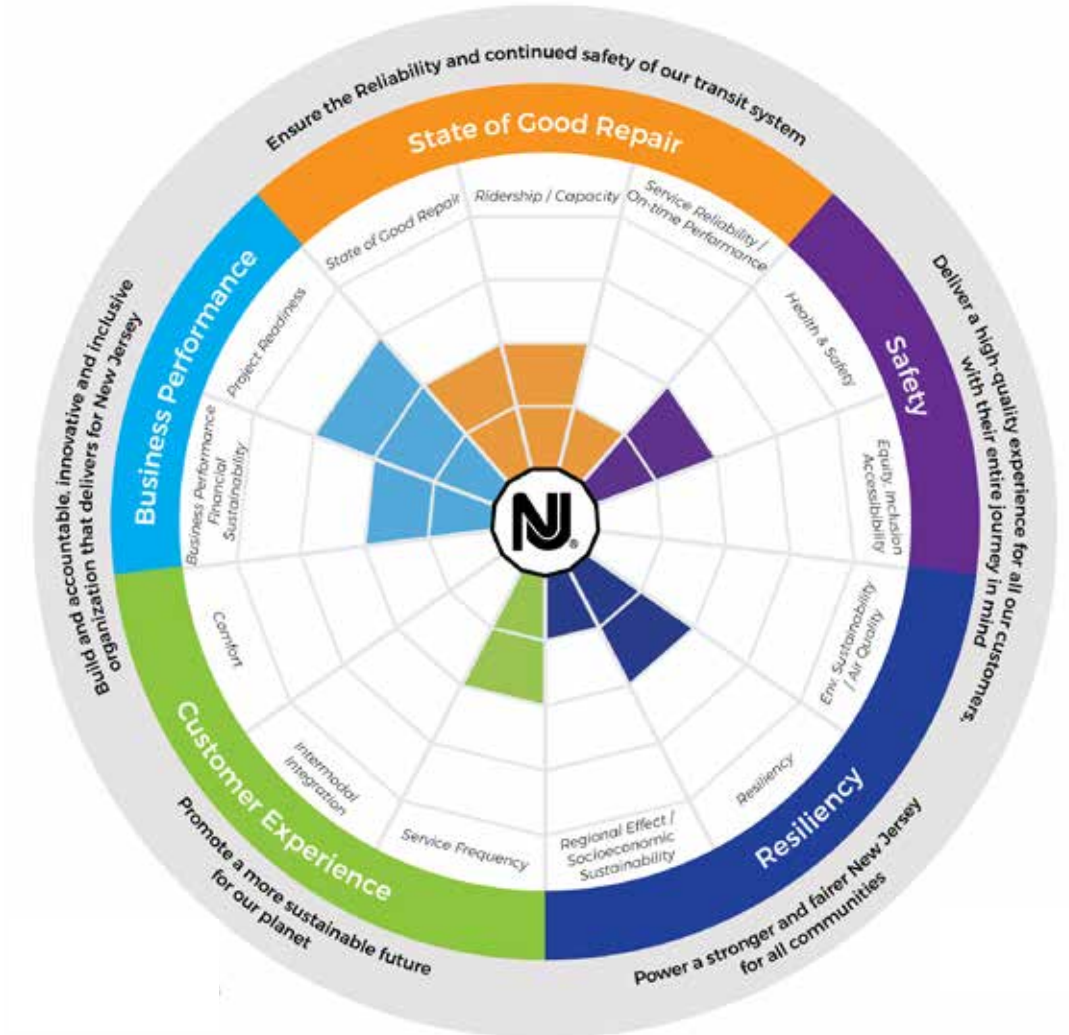
*The project would **reduce delays and provide safer and more reliable commutes** for customers.*

# PROJECT SHEET | NEW INTERLOCKING BETWEEN GLEN AND CEDAR INTERLOCKINGS

## Description

The Montclair-Boonton Line services NJ TRANSIT passengers between Denville and either Hoboken Terminal or New York Penn Station. Between Montclair State University Station and points east, trains operate on two tracks, whereas west of the station, the two tracks merge into a single track until reaching Denville Station where the line meets up with the Morristown Line. For this two-track territory on the Montclair-Boonton line, two primary interlockings allow trains to switch between the tracks when necessary, which is common when there are individual track outages for maintenance work. However, the distance between the two primary interlockings (Cedar Interlocking just east of Montclair State University and the Glen Interlocking west of Glen Ridge Station) is nearly five-miles. The great length between these primary interlockings creates challenges because it requires trains to operate over a long distance before they can switch tracks. This can result in significant delays in service during track outages.

If funded, this project would construct a new interlocking between the existing Glen and Cedar interlockings to minimize the distance trains must travel before they can switch tracks. This would increase operational flexibility during track outages, which would significantly reduce delays and allow for increased service during these outages.



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

**\$14 Million**

## Value to Customers

- › Reduces train delays during track outages

## Value to State

- › Increases operational flexibility and decreases delays during track outages

# PROJECT SHEET NEW INTERLOCKING BETWEEN GLEN AND CEDAR INTERLOCKINGS

ESTIMATED TOTAL  
PROJECT COSTS

**\$14M**



## ***Business Performance/Financial Sustainability***

Constructing a new interlocking would decrease delays and increase operational flexibility



## ***Service Quality/Frequency***

A new interlocking would significantly reduce delays while increasing service during planned track outages

## 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*



## ***Health/Safety***

New interlocking would increase safety and reduce maintenance needs



## ***State of Good Repair***

The new interlocking would make track maintenance easier while upgrading service on the line

*The new interlocking would increase operational flexibility during track outages and reduce delays.*

# PROJECT SHEET | NEWARK PENN STATION MODERNIZATION

## Description

Newark Penn Station serves as a critical link for NJ TRANSIT for commuter rail, bus and light rail service. The station is the busiest on NJ TRANSIT's system that is owned by the agency and is an essential node for customers traveling between New York and points west, as well as for customers traveling within the state. The station, however, needs a holistic overhaul. Current infrastructure is not always accessible for all, and platforms throughout the station need replacement. The station also needs lighting and display board upgrades and new paint throughout.

Following earlier phase work to improve Platform D conditions, additional platform work would be conducted at Platforms A, B and C if funding is approved. The roof replacement, which was initiated on a portion of the facility in 2014, would be completed. The station would receive an overall paint upgrade, HVAC improvements, and new LED lighting installations throughout. New Departure Vision boards that show passengers their waiting times would be incorporated, and a new PA system would allow riders to better hear announcements. Remaining escalators and elevators, as well as stairwells throughout the entire station would be overhauled to better comply with universal design standards. Restrooms would be upgraded along with replacement of Terrazzo flooring throughout the station. Updates would also be made to the bus and light rail waiting areas. An open concourse renovation concept could also be implemented to further modernize the facility. These improvements would provide an enhanced experience for customers and allow the system to be brought up to a state of good repair so it can better serve riders for years to come.

The station would receive a paint upgrade, and new LED lighting would be installed throughout. New Departure Vision boards that show passengers their waiting times would be hung, and a new PA system would allow riders to better hear announcements. Escalators and elevators throughout the entire station would be overhauled, and restrooms would be upgraded. (This is especially important for Track A, which currently does not have an escalator, and whose elevator is a freight elevator.) Terrazzo flooring throughout the station would be replaced, and stairwells throughout the stations would be improved (with sliding doors) to better comply with universal design concepts.

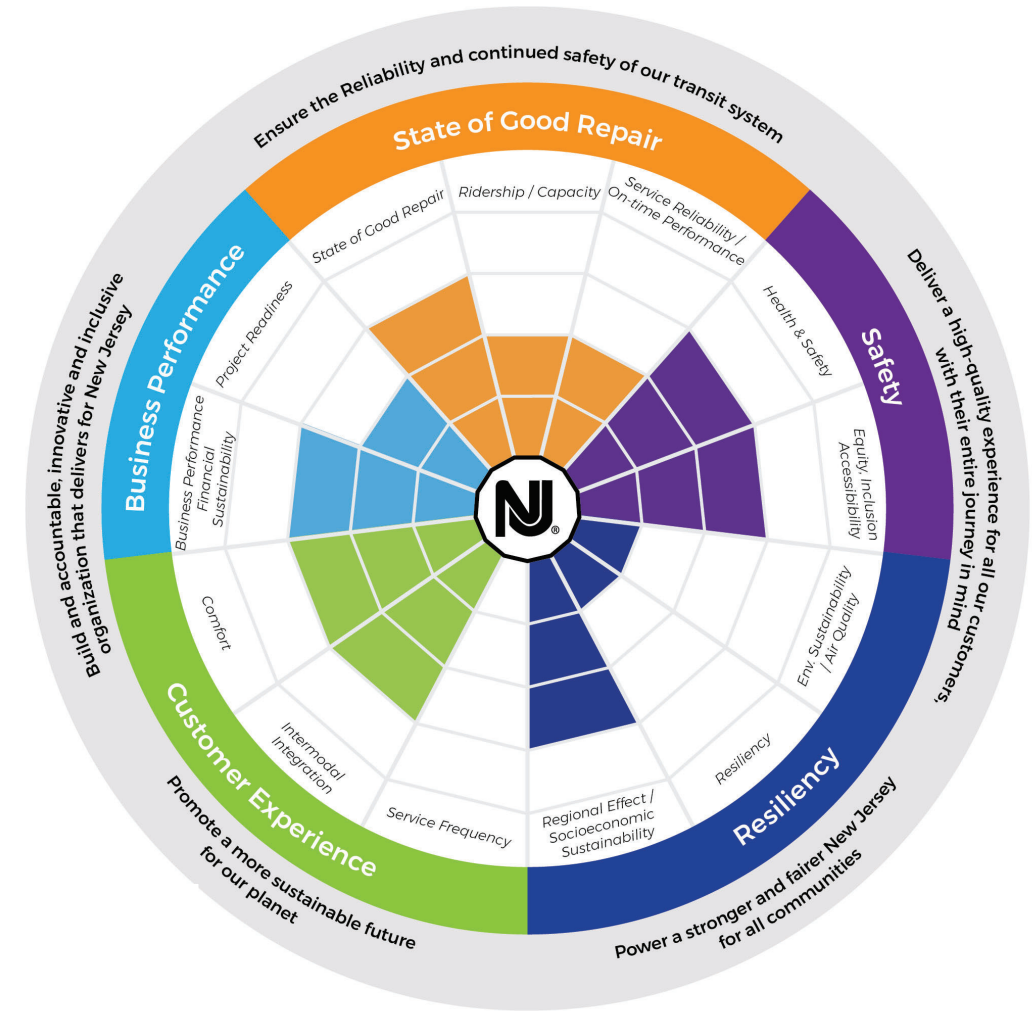
## EXISTING: Newark Penn Station



The bus lane areas at the station would also be upgraded on both the Raymond Boulevard and Market Street sides (to the north and south of the station, respectively). Existing enclosures would be replaced, and streetscape improvements would be moved forward to allow for a safer pedestrian experience at the station. The light rail area at Newark Penn would be modified to allow for platform edge doors and point of entry fare collection. New signage would be hung, and platforms would be rehabilitated. The police command center at Newark Penn Station would also be upgraded in order to bring it up to a state of good repair.

Other improvements include:

- › Roof replacement in PATH level, main waiting rooms, offices, and over Track D
- › HVAC improvements in main concourse and waiting room
- › Repair benches in all waiting rooms
- › Add new stairs and add/refurbish elevators from Platforms D, C, B, and H down to concourse level
- › BUS: Repave bus lanes, repaint underside of viaduct, upgrade lighting, upgrade bus waiting rooms, add digital displays
- › LIGHT RAIL: The main operations control center for the Newark Light Rail is located at the Vehicle Base Facility in Bloomfield, NJ. In cases of emergency, a smaller redundant operations control center is located in Newark Penn Station to ensure continuity of service. This redundant control center is severely undersized to serve as a true backup operations center for any sustained period of time. This project would expand the current NLR Backup Operations Control Center, add climate control and standard office space amenities, and update light rail communication utilities to Newark Penn Station.



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

**\$454 Million**

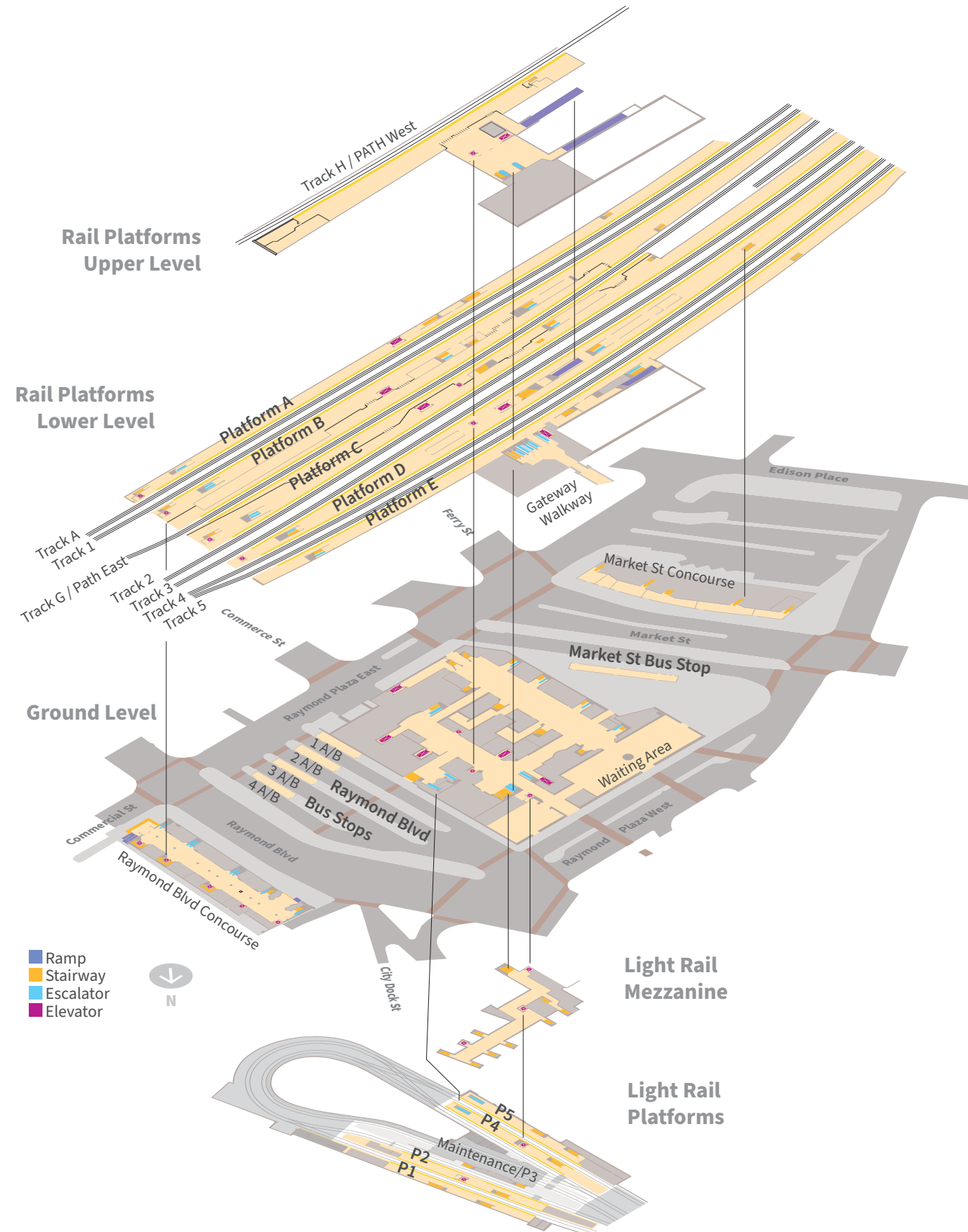
### Value to Customers

- › Rehabilitates passenger facilities to enhance travel experience
- › Improves signage and communications to relay station information and rail service status

### Value to State

- › Extends service life of historical transit hub
- › Provides more effective use of Capital funds in lieu of repetitive interim repairs
- › Increased return on investment from increased ridership

# PROJECT SHEET | NEWARK PENN STATION MODERNIZATION



# PROJECT SHEET NEWARK PENN STATION MODERNIZATION

**ESTIMATED TOTAL  
PROJECT COSTS**

**\$454M**



## **Equity, Inclusion & Accessibility**

Platforms throughout the station would be replaced to be accessible for all and elevators would be upgraded for customers who need to utilize them



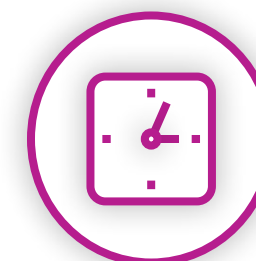
## **Comfort**

A new PA system and Departure Vision boards would make it easier for customers to monitor their train's status

## **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**

Upgraded PA system, signage, Departure Vision boards, rail platforms, streetscape improvements, and bus lane areas would make it easier for customers to transfer between modes



## **Health/Safety**

Improved LED lighting, station platforms, escalators, and elevators would improve station safety

*Improvements would provide an **enhanced experience for customers and would allow the system to be brought up to a state of good repair.***

# PROJECT SHEET | NEWARK PENN STATION - PLATFORM D IMPROVEMENTS

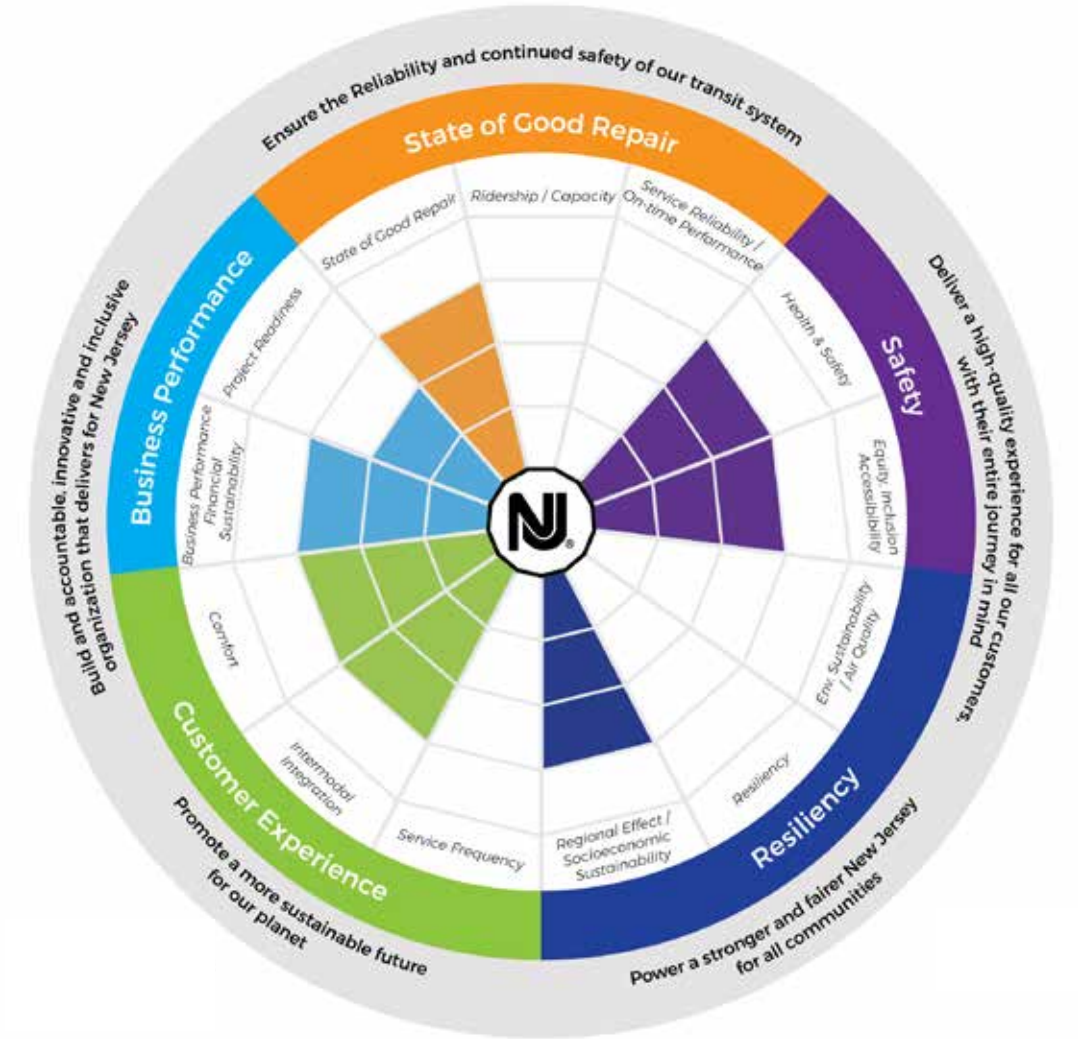
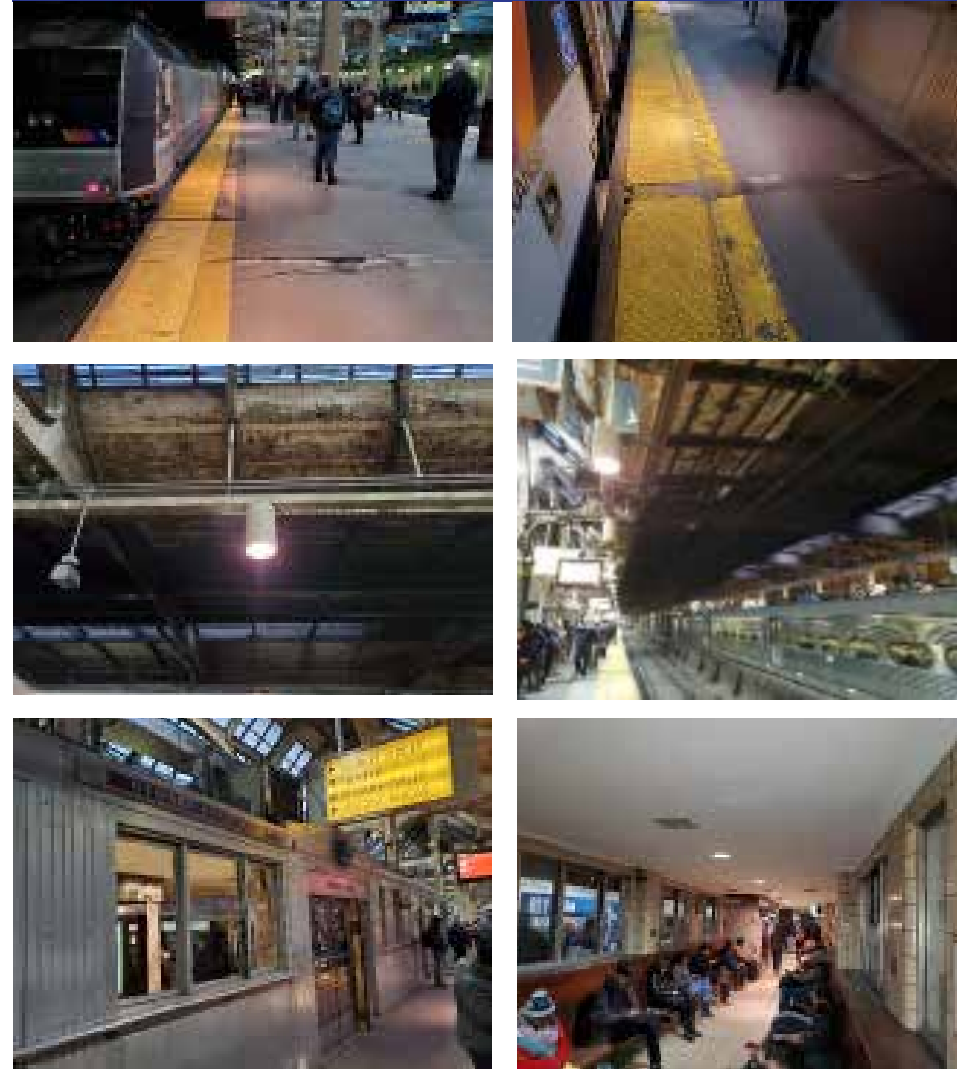
## Description

Newark Penn Station is a major rail hub for both Amtrak and NJ TRANSIT, and serves the Northeast Corridor, North Jersey Coast Line and Raritan Valley Line rail service. Platform D, which serves as one of the primary outbound platforms for both Tracks 3 and 4, needs rehabilitation in order to provide the requisite level of service for one of NJ TRANSIT's busiest stations.

If funded, improvements would be completed in two phases. Phase I features rehabilitation of the concrete platform. This includes reconstruction of the platform edge, addition of new tactile strips and rub rails; reconstruction of platform deck joints; repairs to shallow and deep concrete spalls; partial and full deck replacement (where required); and sealing of the rehabilitated deck with a suitable high traction membrane coating. Phase I rehabilitation would also include improvements to the existing overhead canopy, including structural repair/replacement of deteriorated steel members; full painting of the steel canopy structure; and installation of a new roof drainage system. Canopy enhancements would include new LED lighting, new variable message sign boards, and a new public announcement system with enhanced speakers to improve communications and overall customer experience.

Phase II would include renewal of platform passenger waiting areas, including door and exterior façade replacement. In addition, rehabilitation of the existing platform freight elevator would be completed to accommodate combined passenger and freight movements. These improvements would enhance station operations and better accommodate passenger access to the station.

## EXISTING: Station Conditions



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

**\$26 Million**

## Value to Customers

- › Rehabilitates passenger facilities to enhance travel experience
- › Improves signage and communications to relay station information and rail service status

## Value to State

- › Extends service life of historical transit hub
- › Provides more effective use of capital funds in lieu of repetitive interim repairs

# PROJECT SHEET NEWARK PENN STATION - PLATFORM D IMPROVEMENTS

**ESTIMATED TOTAL  
PROJECT COSTS**

**\$26M**



## ***Equity, Inclusion & Accessibility***

Platform improvements would provide better accessibility for all customers



## ***Comfort***

Enhanced communications systems and improved lighting on the platform would significantly improve customer comfort

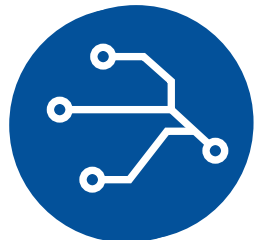
## **STRATEGIC GOALS MET**



*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*



## ***Regional Effect/Socioeconomic Sustainability***

An improved platform would positively impact the NEC, North Jersey Coast, and Raritan Valley Lines



## ***State of Good Repair***

Improvements would reduce maintenance and more effective roof drainage would mitigate future deterioration

*Platform improvements would enhance travel experience, positively impact service, and extend service life.*



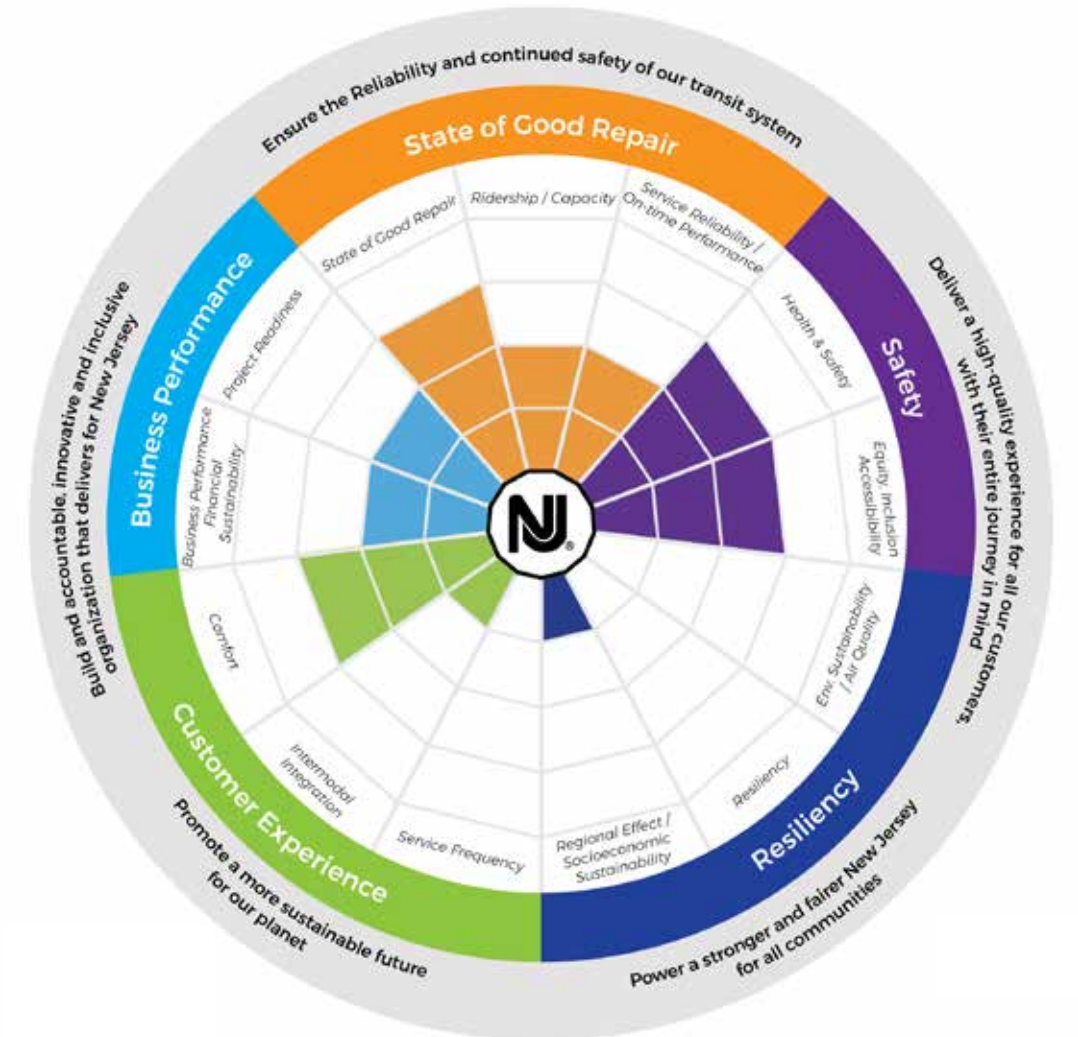
# PROJECT SHEET | TRENTON STATION IMPROVEMENTS

## Description

Trenton Station is a high-level platform station located on NJ TRANSIT and Amtrak's Northeast Corridor (NEC). This heavily used station supports an average of 3,673 passenger boardings per weekday and serves a key link to the state Capital region, Philadelphia, Newark, and New York City. The current station needs rehabilitation in order to return to a state of good repair.

If funded, the station's concrete platform would be rehabilitated. This includes reconstruction of the platform edge; addition of new tactile strips and rub rails; reconstruction of platform deck joints; and repairs to shallow and deep concrete spalls. The rehabilitated platform would be sealed with a suitable high traction membrane coating. Improvements to the existing overhead canopy would also be made, including structural repair/replacement of deteriorated steel members; full painting of the steel canopy structure; and installation of a new roof drainage system. Canopy enhancements would include new LED lighting, new variable message sign boards, and a new public announcement system with enhanced speakers to improve communications and overall customer experience. The police command center at Trenton Station would also be upgraded in order to bring it up to a state of good repair.

## EXISTING: Station Conditions



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

**\*\$49 Million**

*\*Estimates are based upon concept for design*

## Value to Customers

- › Enhances travel experience with rehabilitated passenger facilities
- › Improves signage and communications to relay station information and rail service status

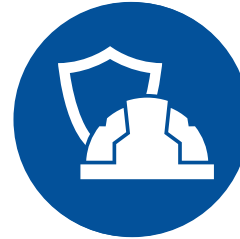
## Value to State

- › Extends service life of transit hub
- › Reduces maintenance costs

# PROJECT SHEET TRENTON STATION IMPROVEMENTS

ESTIMATED TOTAL  
PROJECT COSTS

**\$49M**



### **Health/Safety**

Enhance communications and lighting would improve passenger safety



### **Equity, Inclusion & Accessibility**

Addition of new tactile strips and rub rails would improve accessibility

## 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**

Rehabilitating platform and canopy improvements would reduce maintenance frequency



### **Comfort**

Enhanced communication systems and lighting would improve customer experience and streamline movements

Rehabilitating Trenton Station would **improve state of good repair, comfort, and safety at a key network link.**

# PROJECT SHEET | REGIONAL RAIL STATION MODERNIZATION & ACCESS PROGRAM

## Description

In an ongoing effort to improve passenger safety and accessibility across its rail system, and to further respond to the requirements of the Americans with Disabilities Act (ADA), NJ TRANSIT has identified a list of stations it intends to make accessible as part of this plan.

If funded, this project would construct high-level platforms, elevators, ramps, pedestrian overpasses, widened sidewalks and access paths where appropriate. In some instances, accessibility improvements are paired with physical condition upgrades to improve overall station state of good repair. Stations are prioritized according to physical conditions, current and projected ridership, local demographics, and potential environmental impacts. These improvements collectively would enhance both the safety and experience of the customer, further advance access to communities, and yield improved on-time performance, and more efficient operations as high-level platforms reduce train dwell time at stations which reduce travel times. In addition, all 30 stations would receive basic state of good repair upgrades as part of this work.

**EXISTING:**  
Low Level Platform



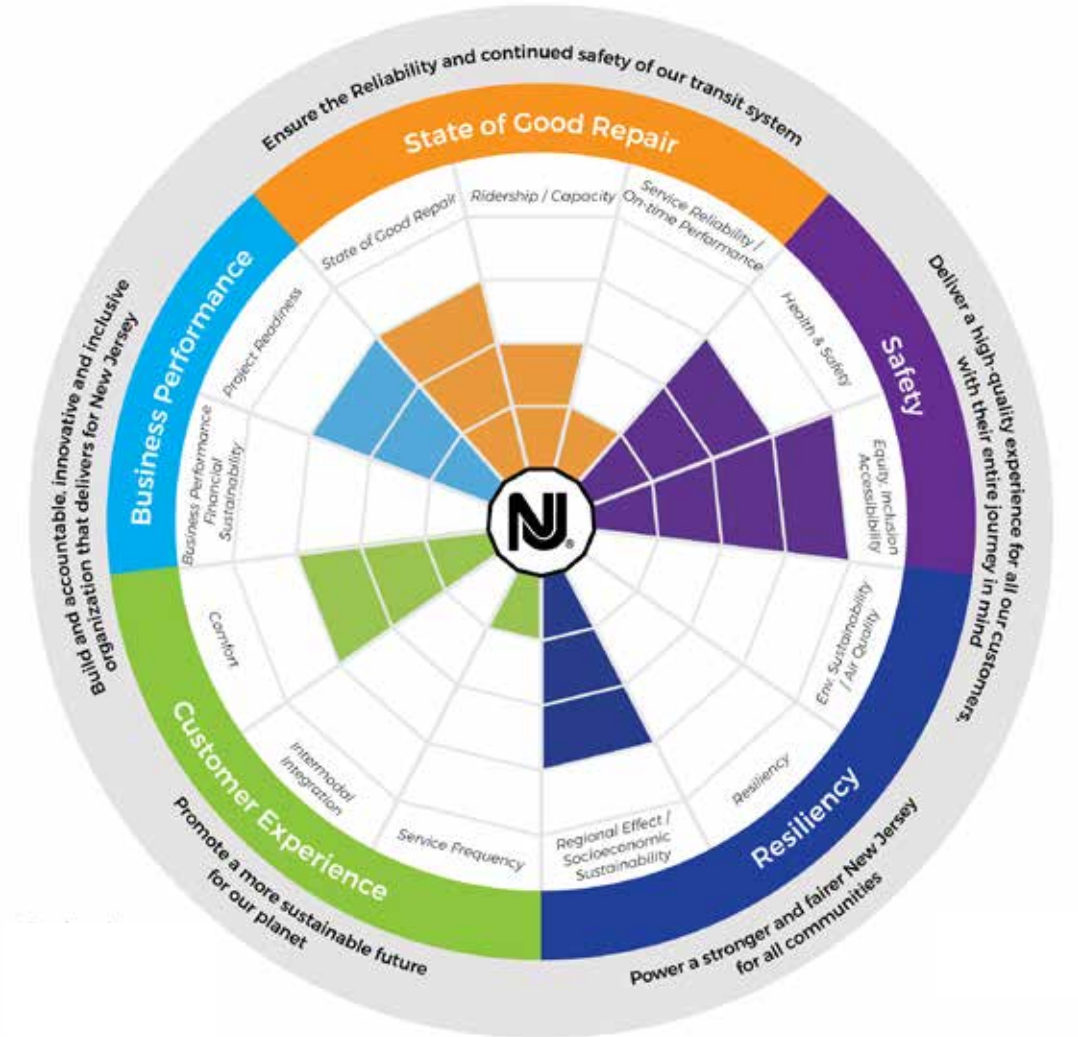
**PROPOSED:**  
High Level Platform with Elevators



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

**\*\$790 Million**

*\*Estimates are based upon concept for design*



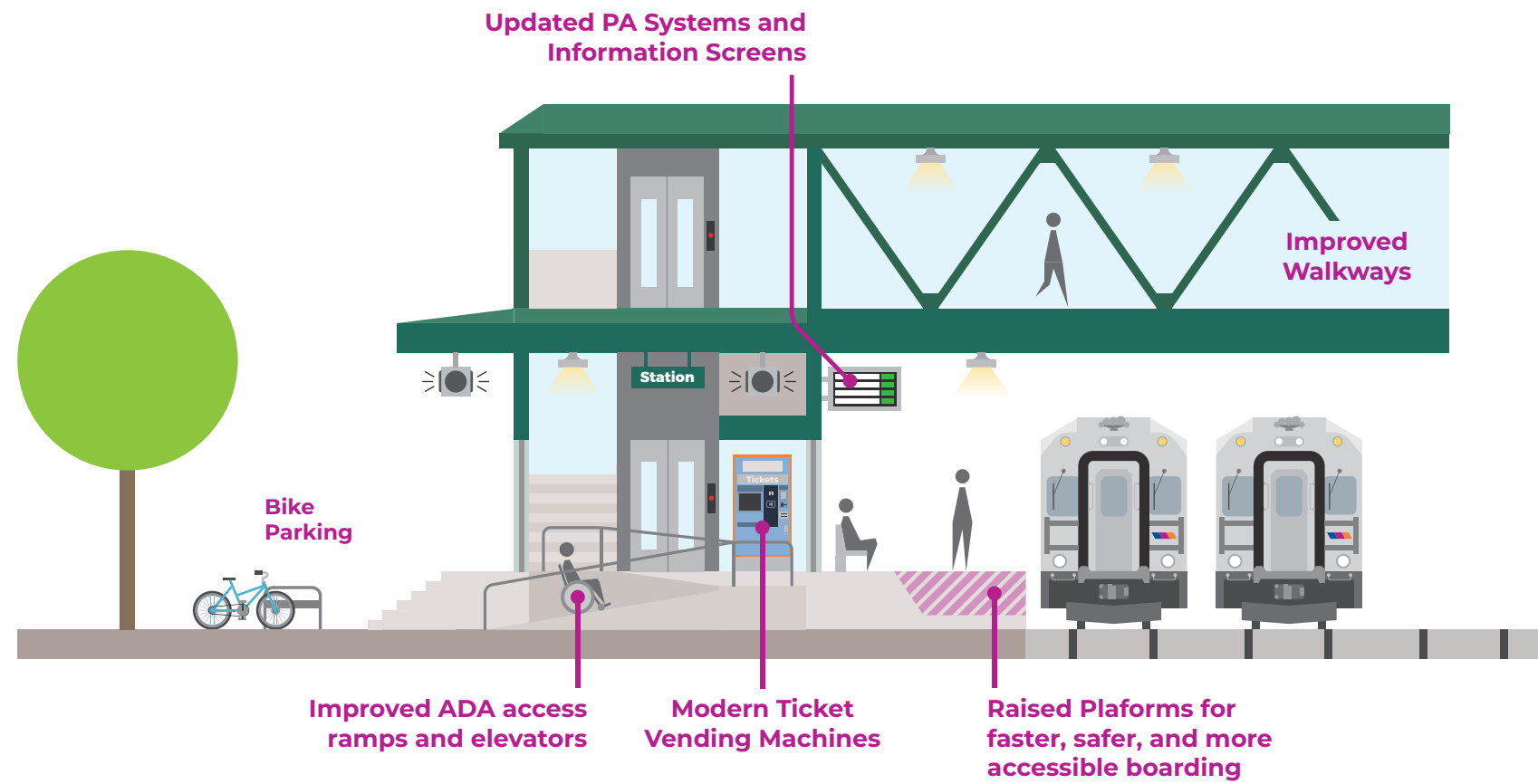
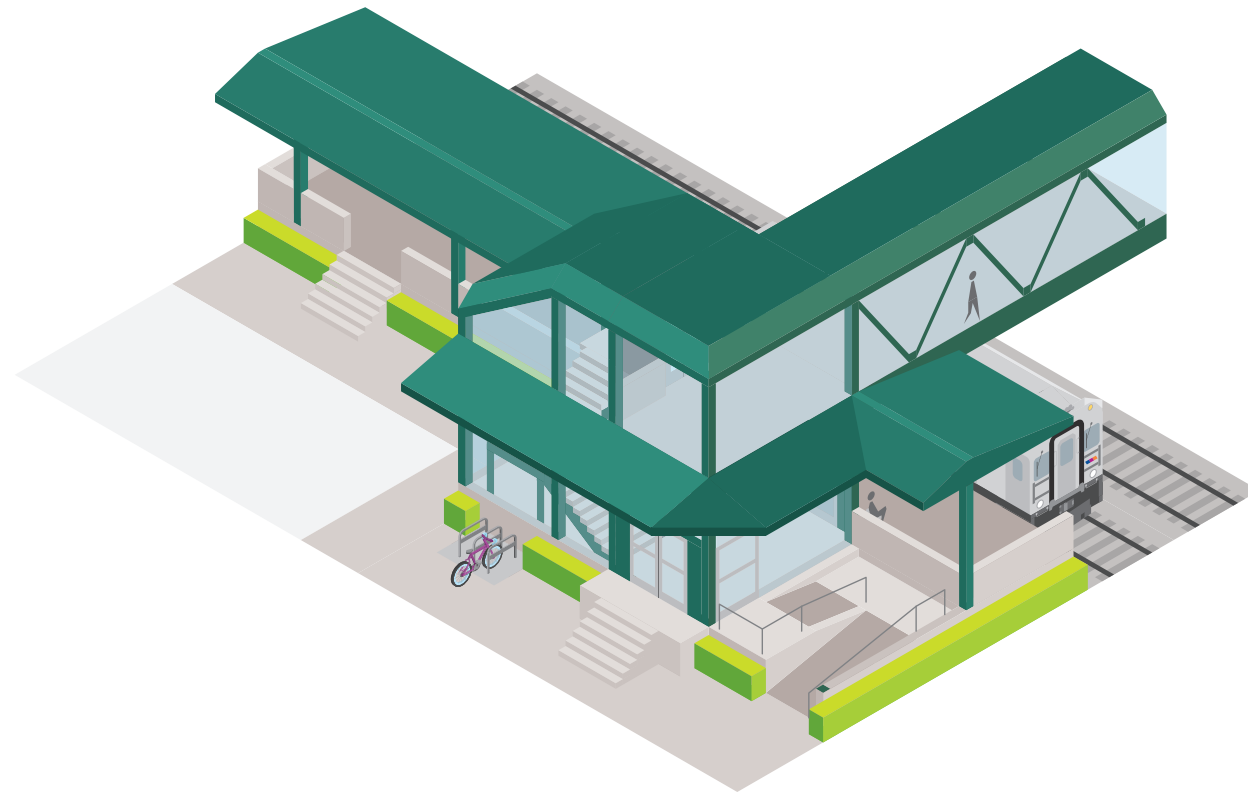
## Value to Customers

- › Increases access for passengers
- › Enhances comfort for customers at improved facilities
- › Improves signage and communications to relay station information and rail service status

## Value to State

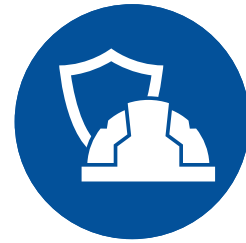
- › Improves station accessibility
- › Extends service life of facilities while improving state of good repair systemwide

# PROJECT SHEET | REGIONAL RAIL STATION MODERNIZATION & ACCESS PROGRAM



# PROJECT SHEET REGIONAL RAIL STATION MODERNIZATION & ACCESS PROGRAM

**ESTIMATED TOTAL PROJECT COSTS**  
**\$790M**



### **Health/Safety**

Infrastructure upgrades would provide safer access to stations for customers



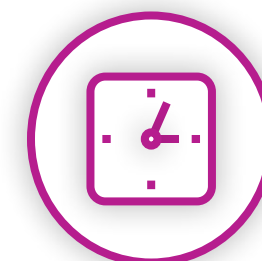
### **State of Good Repair**

Expanding accessibility would be paired with upgrades to improve overall station state of good repair

## **STRATEGIC GOALS MET**



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

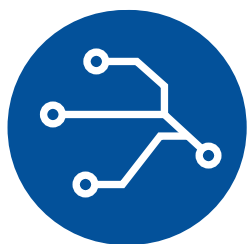


*Ensure the reliability and continued safety of our transit system*



### **Equity, Inclusion & Accessibility**

Upgraded rail stations would improve accessibility for all customers



### **Regional Effect/Socioeconomic Sustainability**

Infrastructure at 30 stations across the NJ TRANSIT rail network would be upgraded to improve accessibility to the rail network

Modernization and access improvements would **enhance safety, access, customer experience, and operations.**

# PROJECT SHEET | PERTH AMBOY STATION

## Description

Perth Amboy Station is located in Middlesex County near Route 35 in the city of Perth Amboy and services the North Jersey Coast Line. The station, which accommodates nearly 900 passenger boardings on an average weekday, is not currently accessible and in need of major renovations. Platforms at the station are arranged in a two side low level configuration and located below street level in a cut. A pedestrian overpass provides access to the station building, but there are no elevators or ramps. In addition to the station's accessibility needs, the existing platform canopies need repairs and the communications system should be up graded.

In an ongoing effort to improve passenger safety and accessibility across its rail system, and to meet the requirements of the Americans with Disabilities Act (ADA), NJ TRANSIT will improve accessibility at Perth Amboy station. The project will construct high-level platforms for handicap accessibility, elevators, ramps, additional pedestrian overpasses, widened sidewalks, and access paths where appropriate at the Perth Amboy Station. In some instances, accessibility improvements will be paired with physical condition upgrades to improve the station's overall state of good repair.

### EXISTING: Low Level Platform



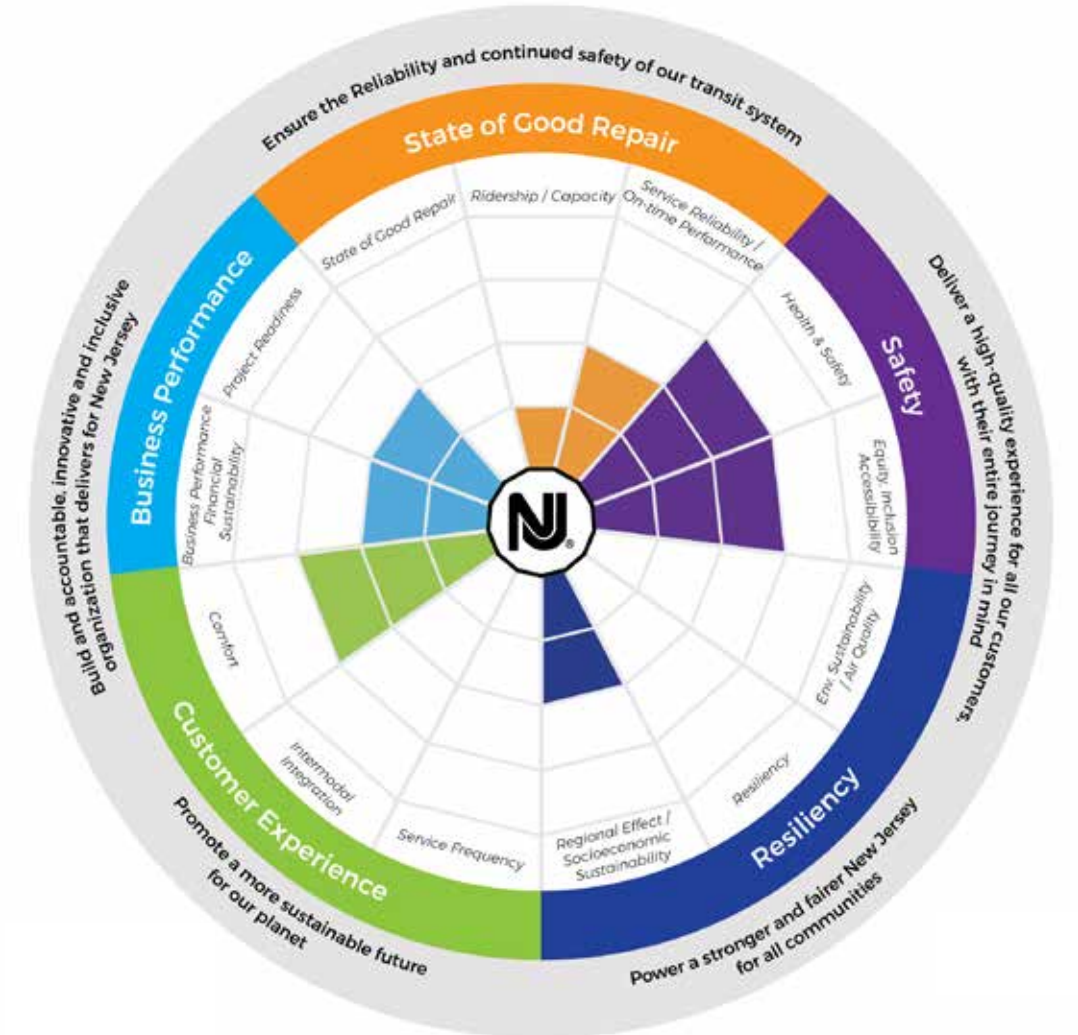
### PROPOSED: High Level Platform with Elevators



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

**\*\$47 Million**

*\*Estimates are based upon concept for design*



## Value to Customers

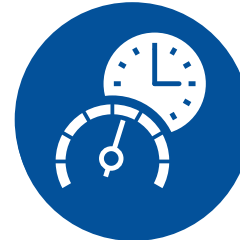
- › Increases access for passengers
- › Enhances comfort for customers at improved facilities

## Value to State

- › Improves station accessibility
- › Extends service life of facilities while improving state of good repair systemwide

ESTIMATED TOTAL PROJECT COSTS

**\$47M**



**Service Reliability**

Improvements to the platform would reduce dwell times and improve on-time performance



**Comfort**

A renovated station with improved accessibility would improve customer comfort

**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*



**Equity, Inclusion & Accessibility**

The upgraded station would be accessible for all customers with high-level platforms, elevators, ramps, and improved access paths



**Health/Safety**

Improving accessibility at the station will provide safer access for all customers

*The project would **improve accessibility** at Perth Amboy Station to provide a better experience for all customers.*

# PROJECT SHEET | LYNDHURST STATION

## Description

Lyndhurst Station is one of two stations in Lyndhurst that services the Main Line. This station, which accommodates approximately 1,000 passengers per weekday, is severely outdated and in need of full replacement. The existing station is a major opportunity to improve accessibility for persons with disabilities. Additionally, parking near the station is inadequate and hard to access making passengers walk to a location a quarter mile east of the station. In addition to being inconvenient, the logistics of the public lot requires passengers to walk through busy streets to reach the station and presents a challenge for those who may be mobility impaired.

If funded, this project would construct a new Lyndhurst Station east of the existing station to provide adequate accessibility to and from the existing parking lot. The new station would have accessible high-level platforms and station enclosures on the eastbound and westbound tracks, elevators, sheltered walkways, and heated waiting areas. Ultimately, the new station would provide customers with a safer, more accessible, and overall enhanced experience.

### EXISTING: Station Condition



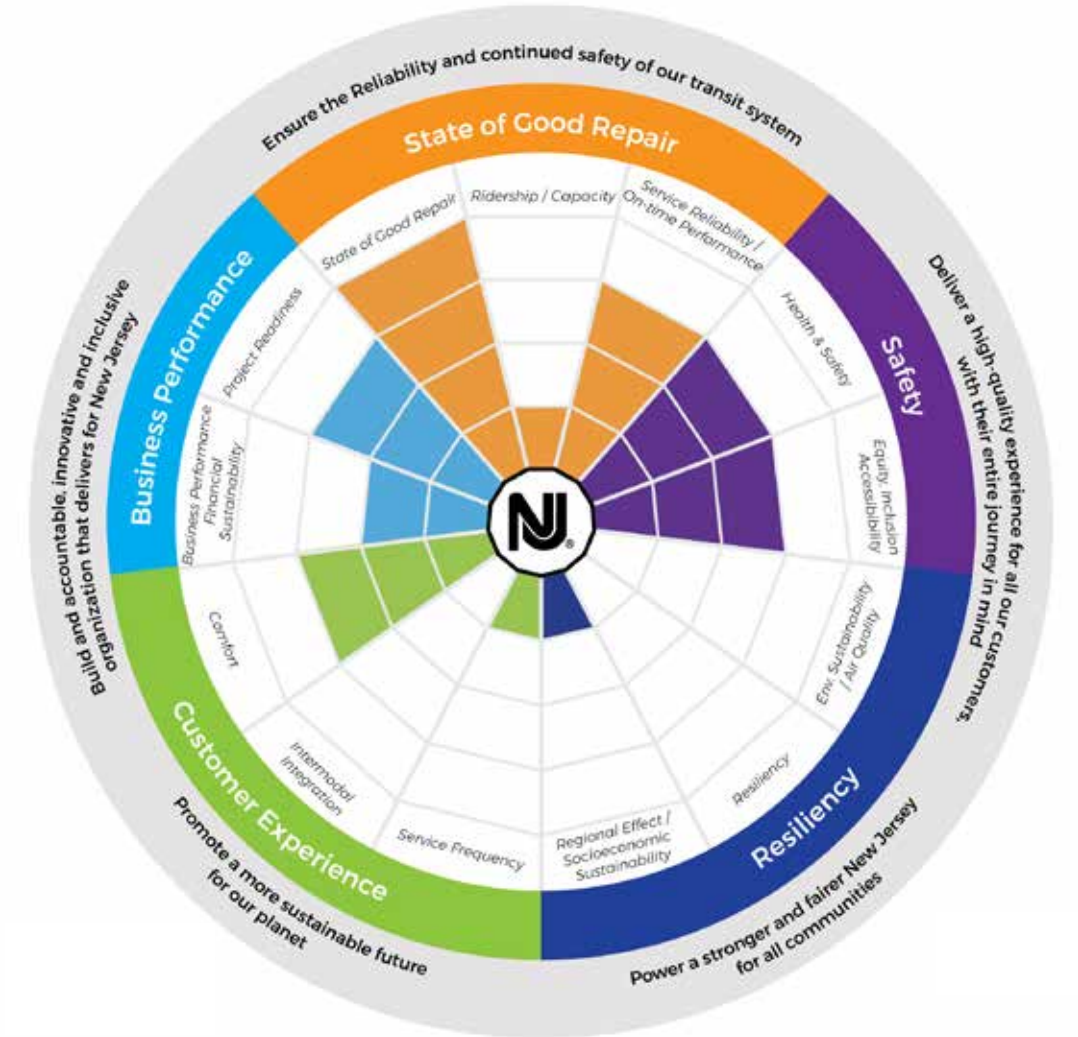
### PROPOSED: New Station



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

**\*\$32 Million**

*\* Year 1 includes funds already spent on design phase activities; Total project cost indicates total cost over span of the project, not the funded or unfunded amount*



## Value to Customers

- › Increases accessibility for passengers
- › Enhances comfort for customers waiting at station
- › Improves access to and from parking lot

## Value to State

- › Greater opportunity to drive transit-oriented development (TOD) opportunities
- › A more interconnected and accessible network



# PROJECT SHEET LYNDHURST STATION

**ESTIMATED TOTAL  
PROJECT COSTS**

**\$32M**



### **Comfort**

New station enclosures, sheltered walkways, and heated waiting areas would enhance customer comfort



### **Health/Safety**

Improved access to platforms and to and from station parking lot would make the station safer for all customers

## **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**

Upgrading station infrastructure would reduce frequency and cost of maintenance



### **Equity, Inclusion & Accessibility**

New high-level platforms, walkways, and elevators would improve accessibility for all customers

*The new Lyndhurst Station would enhance state of good repair, accessibility, comfort, and safety.*

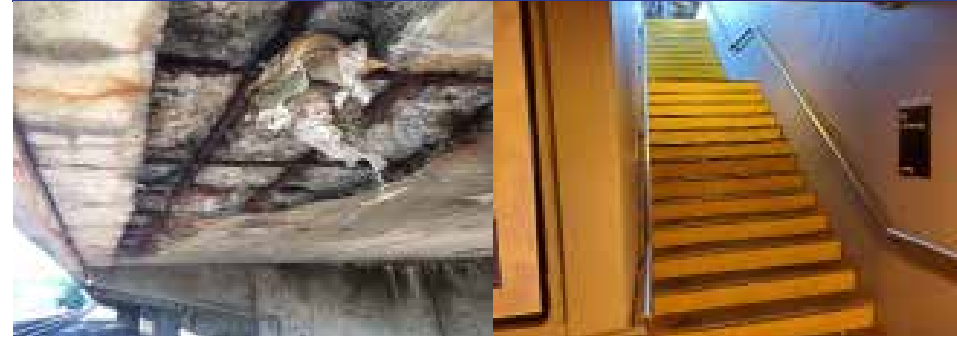
# PROJECT SHEET | ROSELLE PARK STATION IMPROVEMENTS

## Description

The Roselle Park Station is an elevated platform station located in Roselle Park that serves NJ TRANSIT's Raritan Valley Line. The station, built circa 1967, is obsolete, structurally deficient, and in need of both structural and "customer facing" work. Necessary work includes full platform replacement, repairs to access stairs, as well as cleaning and painting work. Although the station features an elevated platform, the station is a major opportunity to improve the system's accessibility as stairs must be used to access the platform from the station building and parking lot.

If funded, this project would address the noted structural and cosmetic deficiencies to rehabilitate the station and bring it to a state of good repair, extending its overall service life. In addition, an elevator would be installed to improve overall accessibility to the platform. Enhanced signage and communications would be incorporated to provide customers with station information and rail service status.

### EXISTING: Station Condition



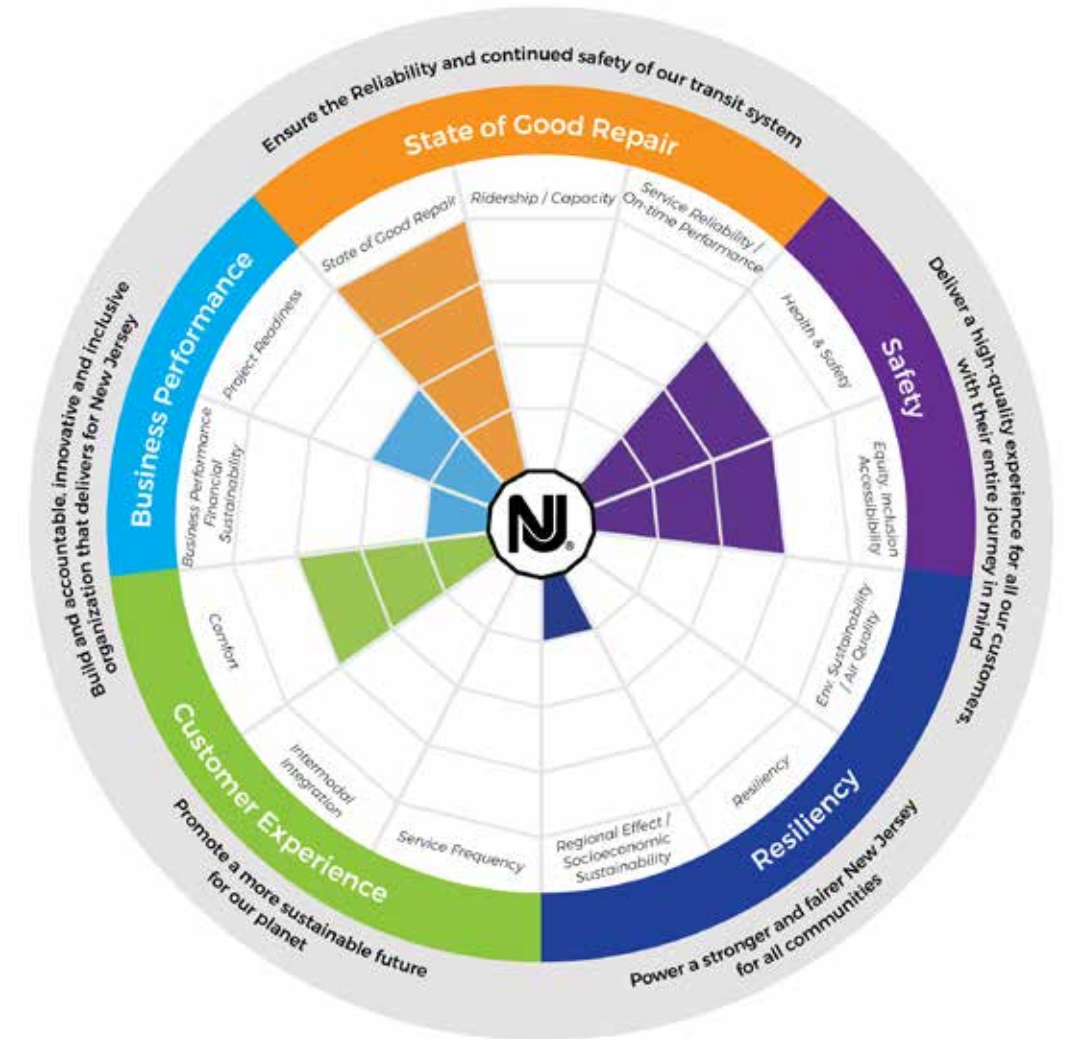
### PROPOSED: Platform Elevator



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

**\*\$24 Million**

*\*Estimates are based upon concept for design*



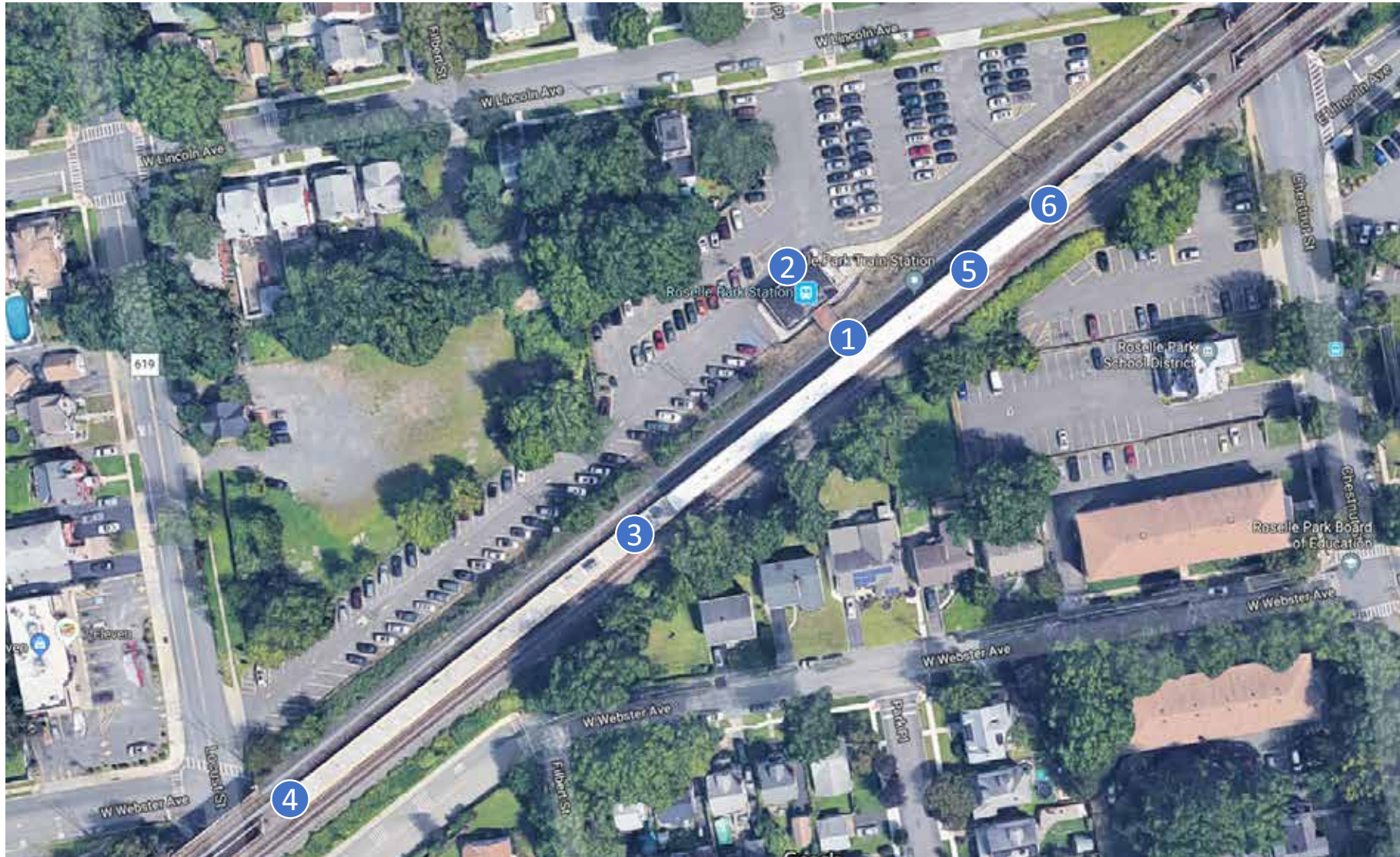
## Value to Customers

- › Increases accessibility for passengers

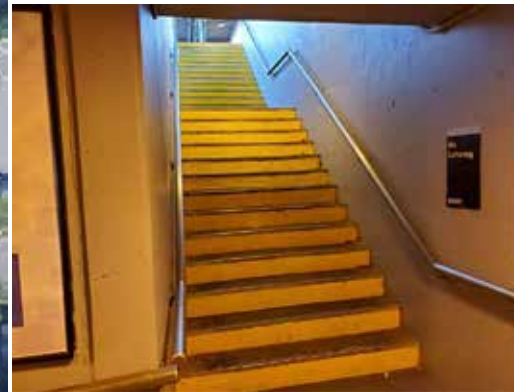
## Value to State

- › Complies with regulations

# PROJECT SHEET | ROSELLE PARK STATION IMPROVEMENTS



① Deteriorated Stairs/ADA Issue      ② Obsolete Station Building



③ Temporary Platform Repairs (Typical)

④ Deteriorated Maintenance Stairs



⑤ Deteriorated Platform Concrete (Typical)

⑥ Deteriorated Platform Substructure (Typical)



## Existing Issues

- ① Existing stairs to access platform are deteriorated. They are also the only means of accessing the platform and are not ADA accessible.
- ② Station building is outdated and in need of both functional and cosmetic repairs.
- ③ Temporary platform repairs from previous work should be replaced with new platforms

- ④ Deteriorated maintenance stairs are severely deteriorated and need to be replaced.
- ⑤ Concrete underside of station platform is severely spalled with exposed rebar, which warrants full replacement.
- ⑥ Concrete platform substructure is severely spalled with exposed rebar, which warrants repair or replacement.

# PROJECT SHEET ROSELLE PARK STATION IMPROVEMENTS

ESTIMATED TOTAL PROJECT COSTS

**\$24M**



### **Comfort**

A renovated station building and enhanced signage and communications systems would improve customer comfort



### **Health/Safety**

Platform reconstruction, repairs, elevator installation, and improved lighting would enhance customer safety

## 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**

Platform reconstruction, repairs, and customer facing upgrades would extend the station's service life



### **Equity, Inclusion & Accessibility**

Elevator installation, platform reconstruction, and repairs would improve accessibility for all customers

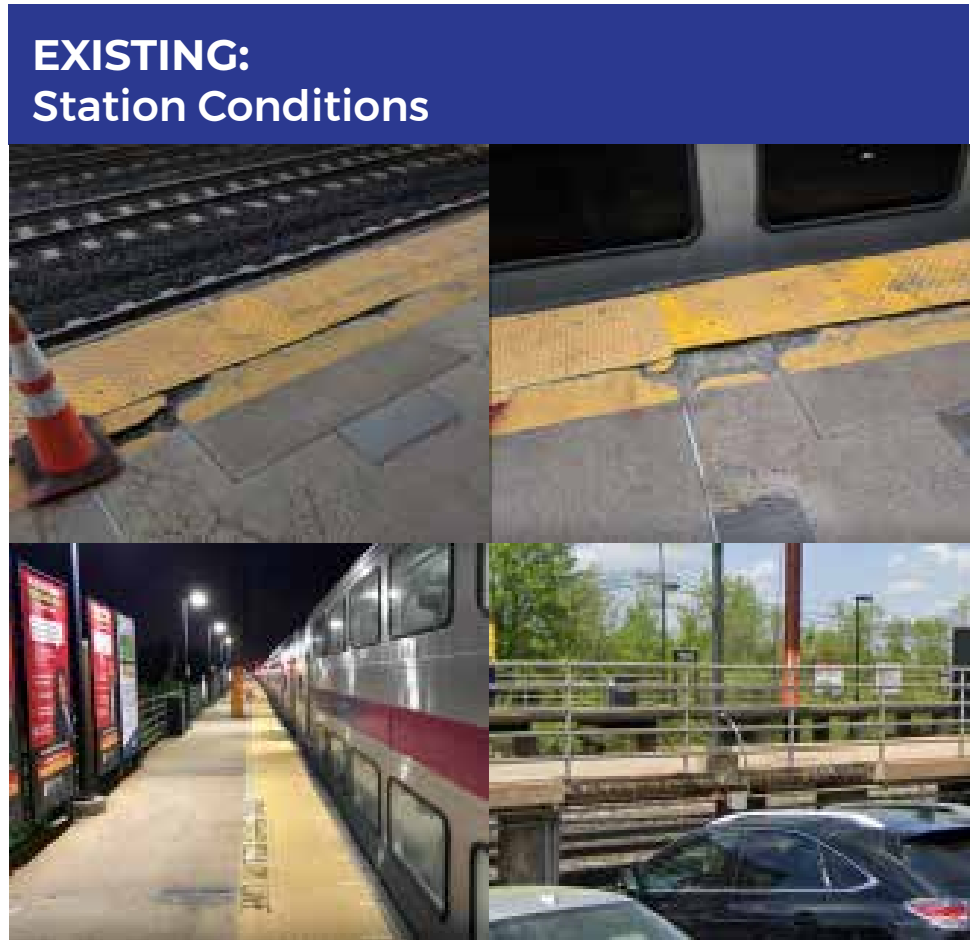
The project would **bring Roselle Park Station to a state of good repair and improve access, comfort, and safety.**

# PROJECT SHEET | EDISON STATION IMPROVEMENTS

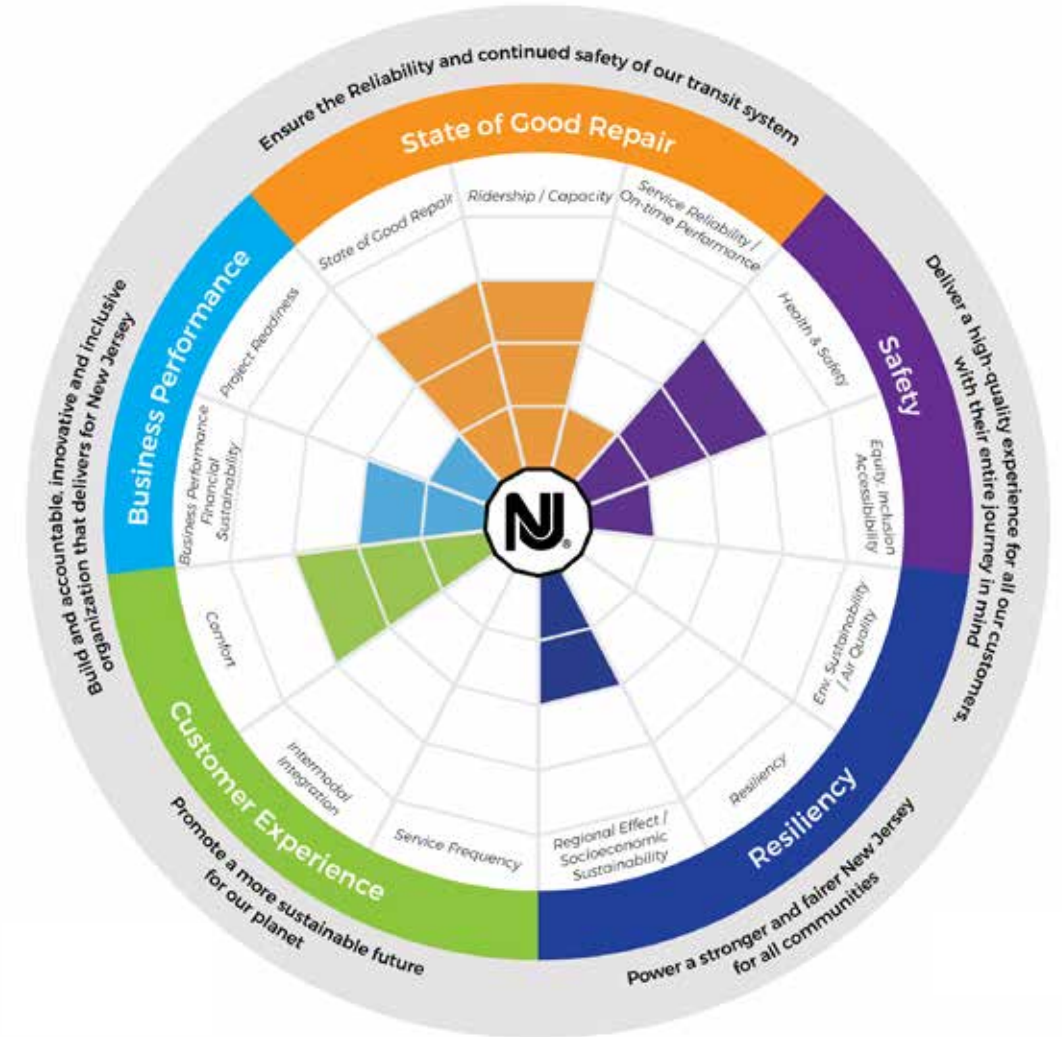
## Description

Edison Station is elevated platform station that serves NJ TRANSIT and Amtrak's Northeast Corridor (NEC). This heavily used station, which supports approximately 2,773 passenger boardings per weekday, must support a 12-car trainset. However, the current platforms are too short to accommodate this long train length. As a result, not all cars of a train can fit on the station platform, making it more challenging and time consuming for passengers to board and deboard trains. However, extension of the existing platform is currently prevented by an existing freight turnout switch to the west, and an undergrade bridge to the east.

If funded, this project would relocate the existing freight turnout switch to the east of the station to facilitate platform extension to the west by approximately 425 feet. The extension would allow an entire 12-car trainset to fit at the station, decreasing dwell times, and facilitating necessary passenger boardings. This would ultimately increase rail operation efficiency and service speed. Additionally, the existing platform would be replaced to extend its useful service life, mitigate future maintenance, and improve safety.



**EXISTING:  
Station Conditions**



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

**\*\$36 Million**

*\*Estimates are based upon concept for design*

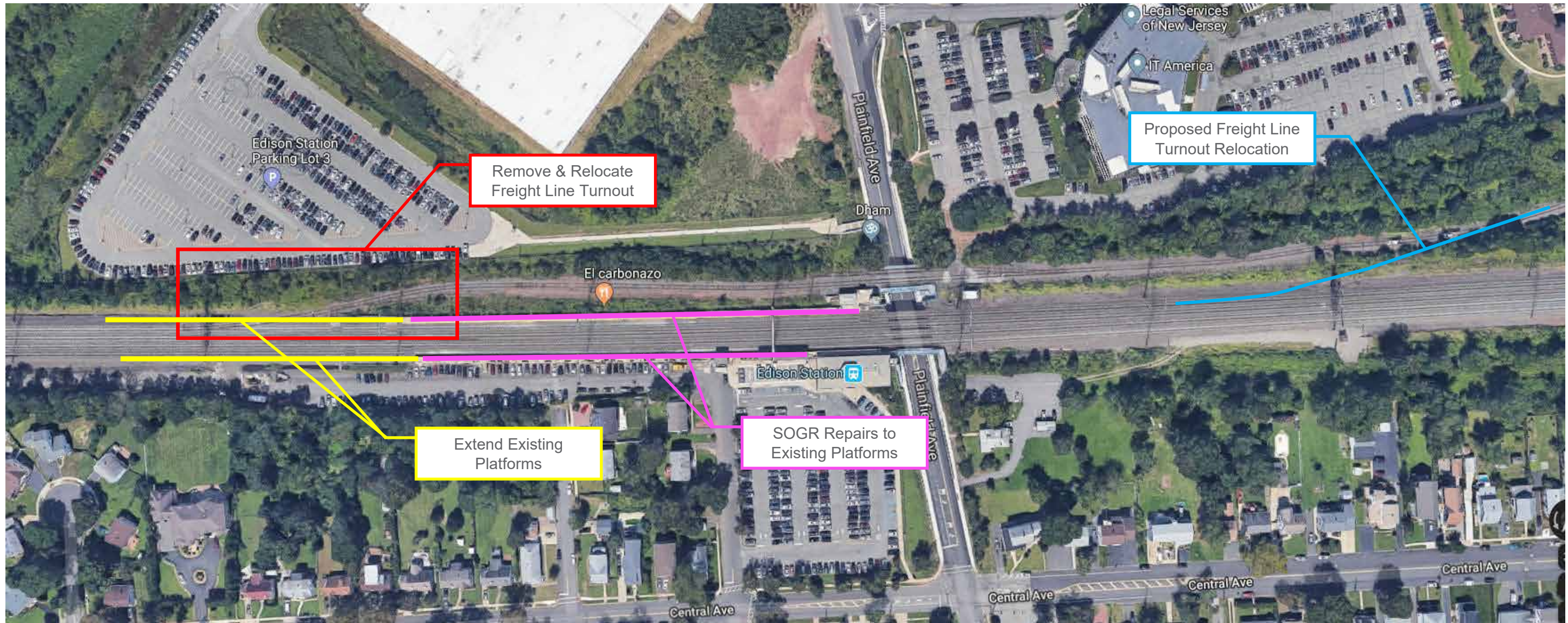
## Value to Customers

- › Facilitates passenger boarding and deboarding
- › Increases on-time performance

## Value to State

- › Decreases dwell times and increase on time performance

# PROJECT SHEET | EDISON STATION IMPROVEMENTS



# PROJECT SHEET EDISON STATION IMPROVEMENTS

**ESTIMATED TOTAL  
PROJECT COSTS**

**\$36M**



### **Comfort**

An extended platform would ease boarding and deboarding and reduce dwell times to improve comfort



### **Health/Safety**

Extending the platform to ease boarding and deboarding of trains would improve customer safety at the station

## **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**

Platform reconstruction, repairs, and painting would extend service life



### **Ridership/Capacity**

Constructing extended platform would reduce dwell times and improve on-time performance

The **reconstructed platforms, additional repairs, and painting** would **bring the station to a state of good repair.**

# PROJECT SHEET | ELIZABETH STATION IMPROVEMENTS

## Description

Elizabeth Station is an elevated platform station which services NJ TRANSIT and Amtrak's Northeast Corridor (NEC). This heavily used station, which supports approximately 3,500 passenger boardings per weekday, must support a 12-car trainset. However, the current platforms are too short to accommodate such a long train length. As a result, not all cars can fit on the station platform, which makes it more challenging and time consuming for passengers to board and deboard the train. In addition, there is an opportunity to improve accessibility at the station. Several additional upgrades are required to bring the station into a state of good repair.

If funded, the project would reconstruct two longer length, high-level concrete passenger platforms to better accommodate full-length NJ TRANSIT trains. These platforms would be fully accessible, reduce dwell times, facilitate timely passenger boardings, and increase service speed. New station buildings with new elevators, stairs, ticketing offices, operational office spaces, and retail spaces would also be constructed. The station rehabilitation project would also accommodate a proposed future fifth track along the NEC planned to be built by Amtrak.

## EXISTING: Station Conditions

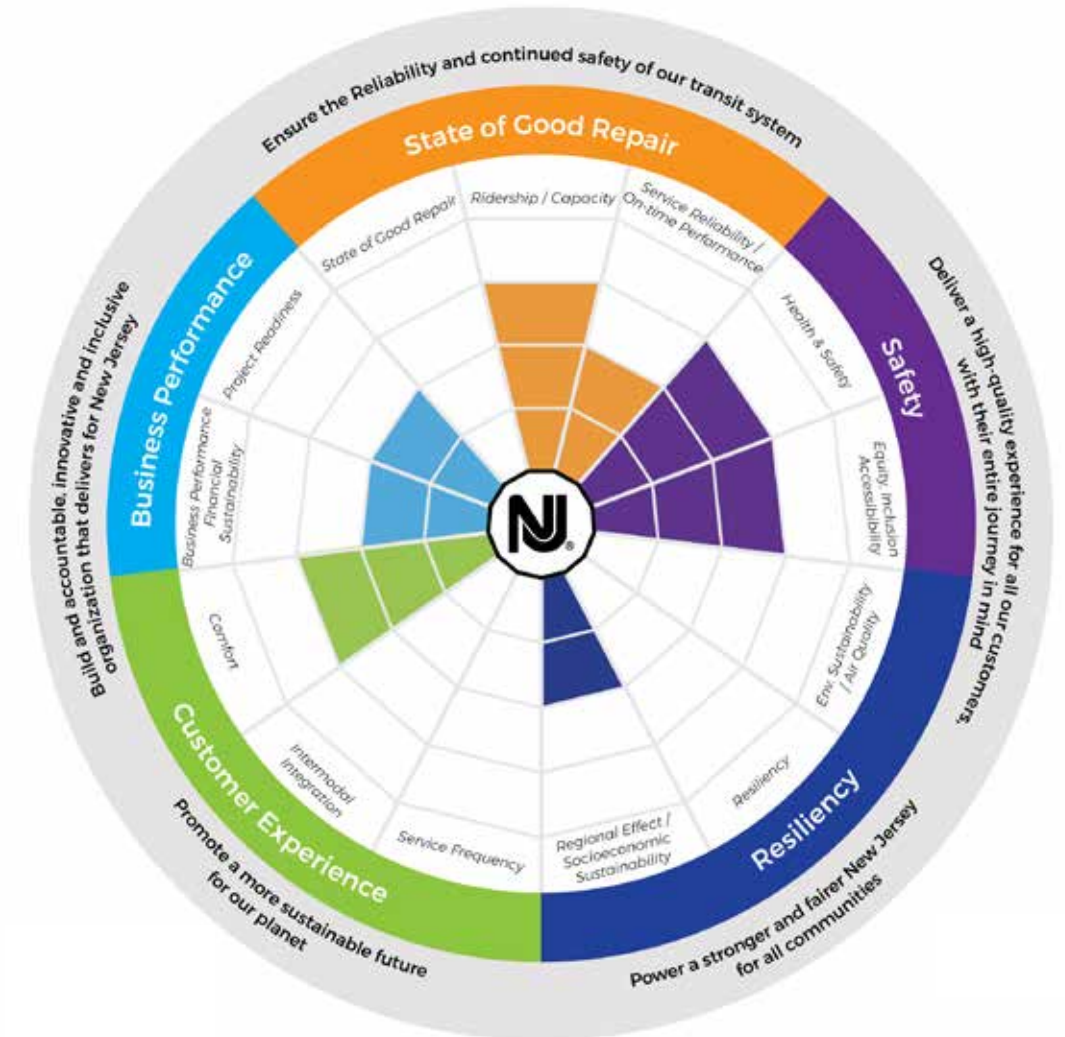


## PROPOSED: New Station



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

**\$71 Million**



## Value to Customers

- › Facilitate passenger boarding and deboarding
- › Increases on-time performance
- › Enhances experience for transit riders

## Value to State

- › A more accessible transportation network
- › Decreases dwell times and increase on-time performance



# PROJECT SHEET ELIZABETH STATION IMPROVEMENTS

ESTIMATED TOTAL  
PROJECT COSTS

**\$71M**



### **Comfort**

Improved platforms, new station buildings, and reduced dwell times would enhance customer comfort



### **Service Reliability**

Longer platforms would reduce dwell times and improve on-time performance

## 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*



### **Health/Safety**

Extending the platform to ease boarding and deboarding of trains would improve customer safety at the station



### **Equity, Inclusion & Accessibility**

Addition of new extended high-level platforms, elevators, and stairs would improve accessibility for all customers

Station rehabilitation would **enhance state of good repair, accessibility, comfort, and on-time performance.**

# PROJECT SHEET | JERSEY AVENUE STATION

## Description

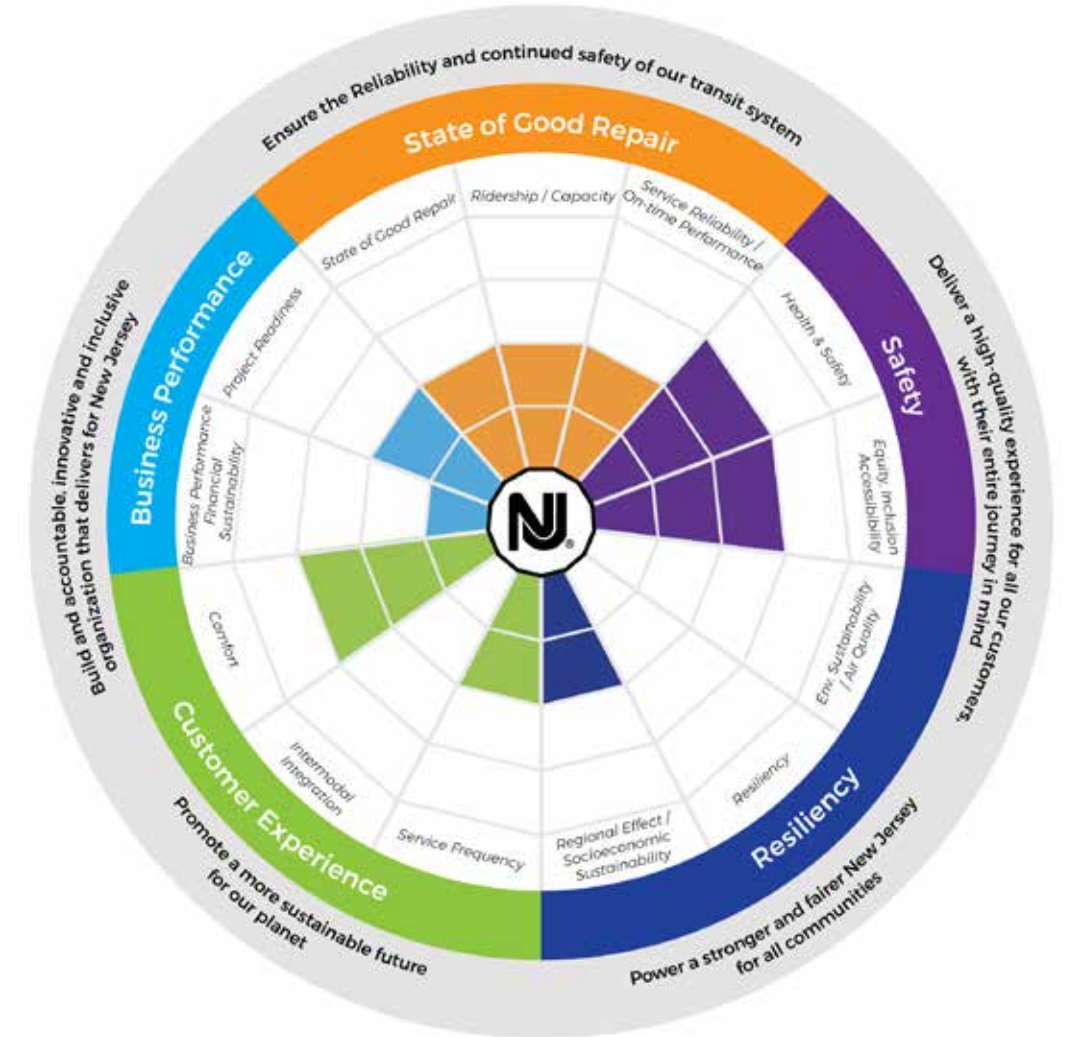
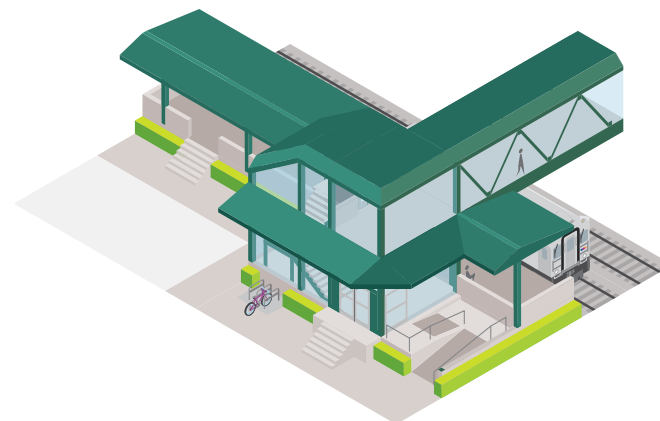
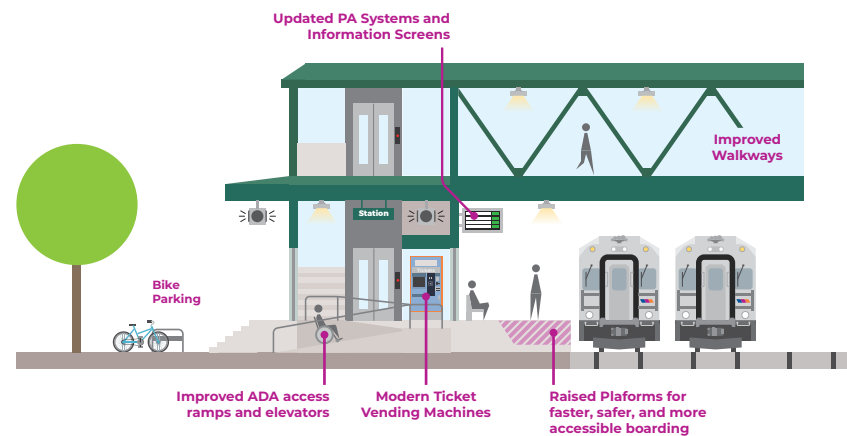
TRANSIT and services the Northeast Corridor (NEC). Unlike the rest of the stations on the NEC, the existing Jersey Avenue station requires access enhancements. In addition, the inbound platform is located on a spur behind the outbound tracks, preventing trains from Trenton and Princeton from servicing the station. Inbound trains must originate on the spur and cross all NEC tracks to get on to Inbound Track 1. Given the amount of trains on the NEC, there are limited schedule openings to facilitate this cross over movement. Furthermore, any delays of these trains results in stack up delays on the NEC as well as the North Jersey Coast Line entering at Elizabeth.

If funded, this project would include the construction of a new Jersey Avenue station relocated on the main NEC tracks. The new station would have accessible high-level platforms and enclosures for both eastbound and westbound tracks. An accessible pedestrian overpass would also be built to allow customers to reach both platforms. Ultimately, the new station would provide customers with a safer and more accessible, commuting experience with reduced delays.

## EXISTING: Station Configuration



## PROPOSED: New Station



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

**\*\$238 Million**

*\*Estimates are based upon concept for design*

# PROJECT SHEET JERSEY AVENUE STATION

**ESTIMATED TOTAL PROJECT COSTS**  
**\$238M**



### **Comfort**

New station amenities would improve customer comfort



### **Equity, Inclusion & Accessibility**

Accessible high-level platforms, enclosures, and a pedestrian overpass would improve accessibility for all customers

## **STRATEGIC GOALS MET**



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

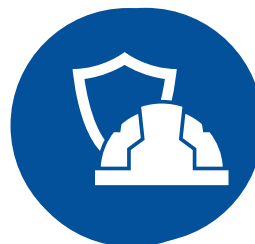


*Ensure the reliability and continued safety of our transit system*



### **State of Good Repair**

Constructing a new station would reduce maintenance frequency



### **Health/Safety**

Pedestrian overpass would be safer and easier access to facility

A new Jersey Avenue station would **add capacity to meet ridership growth and improve service reliability, comfort, and accessibility.**

# PROJECT SHEET | METUCHEN STATION IMPROVEMENTS

## Description

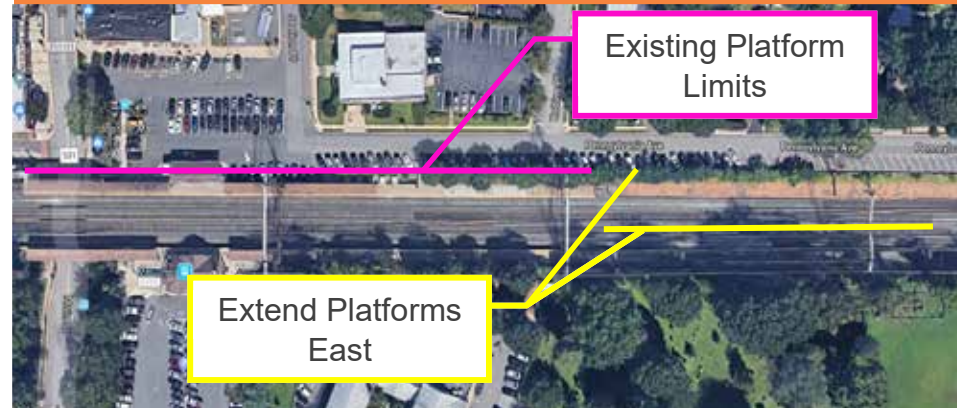
Metuchen Station serves NJ TRANSIT and Amtrak's Northeast Corridor (NEC). This heavily used station, supporting approximately 3,528 passenger boardings per weekday, must support a 12-car trainset. However, the current platforms are too short to accommodate this long train length. As a result, not all cars of a train can fit on the station platform, making it more challenging and time consuming for passengers to board and disembark the train.

If funded, this project would extend the existing platforms approximately 360 feet east. The extension would allow an entire train set (12-cars) to fit at the station, decreasing dwell times, and facilitating necessary passenger boardings. This would ultimately increase rail operation efficiency and service speed. Additionally, existing platform replacement would extend its useful service life, enhance safety, and mitigate future maintenance concerns.

## EXISTING: Station Conditions



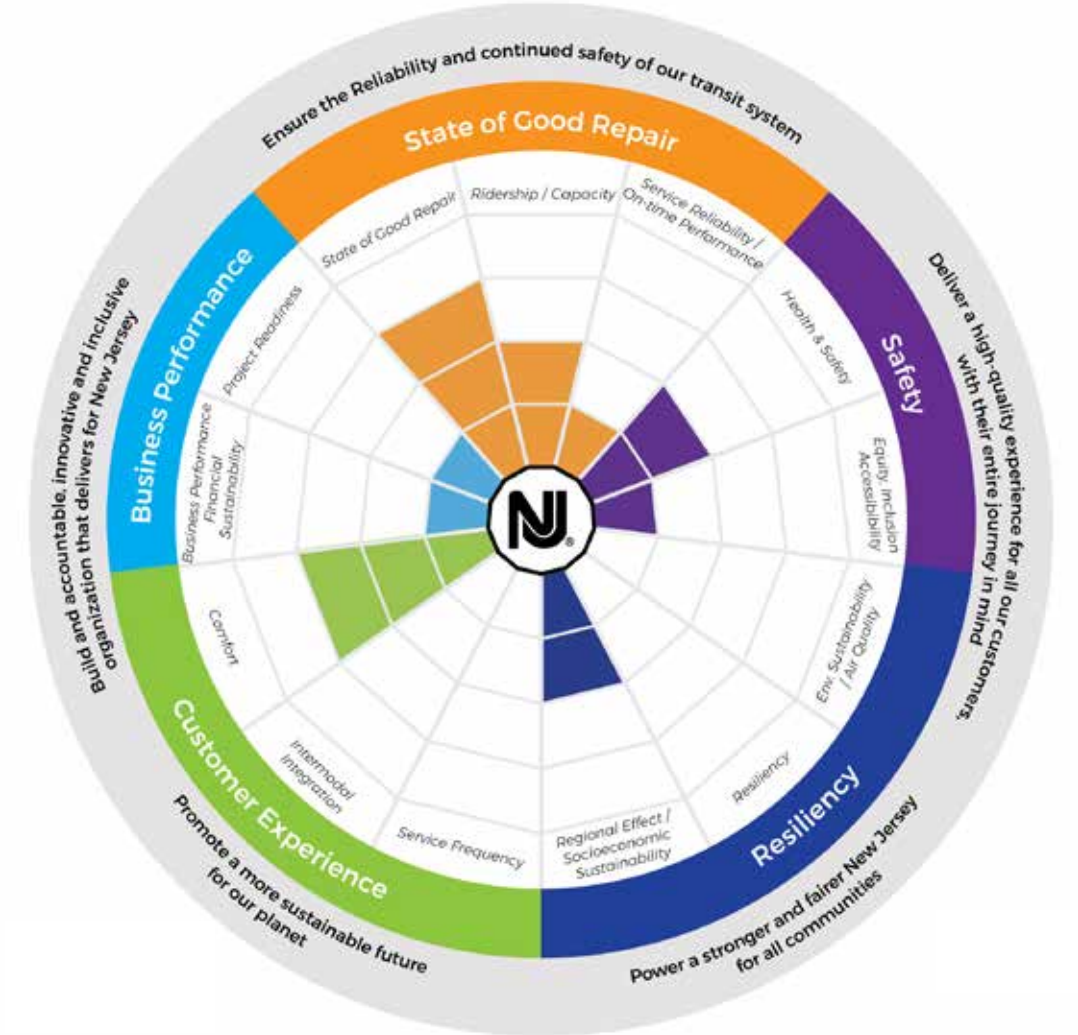
## PROPOSED: Platform Extension



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

**\*\$31 Million**

*\*Estimates are based upon concept for design*



## Value to Customers

- › Facilitates passenger boarding and disembarking
- › Increases on-time performance

## Value to State

- › Decreases dwell times and increase on-time performance

# PROJECT SHEET METUCHEN STATION IMPROVEMENTS

ESTIMATED TOTAL  
PROJECT COSTS

**\$31M**



### **Comfort**

Extended platforms would ease boarding and deboarding and reduce dwell times to improve customer comfort



### **Health/Safety**

Extending platforms to ease boarding and deboarding of trains would improve customer safety at the station

## 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**

Platform reconstruction and repairs would extend service life of station



### **Ridership/Capacity**

Extending platforms would decrease dwell times and improve on-time performance

*The new longer platforms would **improve on-time performance, safety, comfort and bring the station into a state of good repair.***

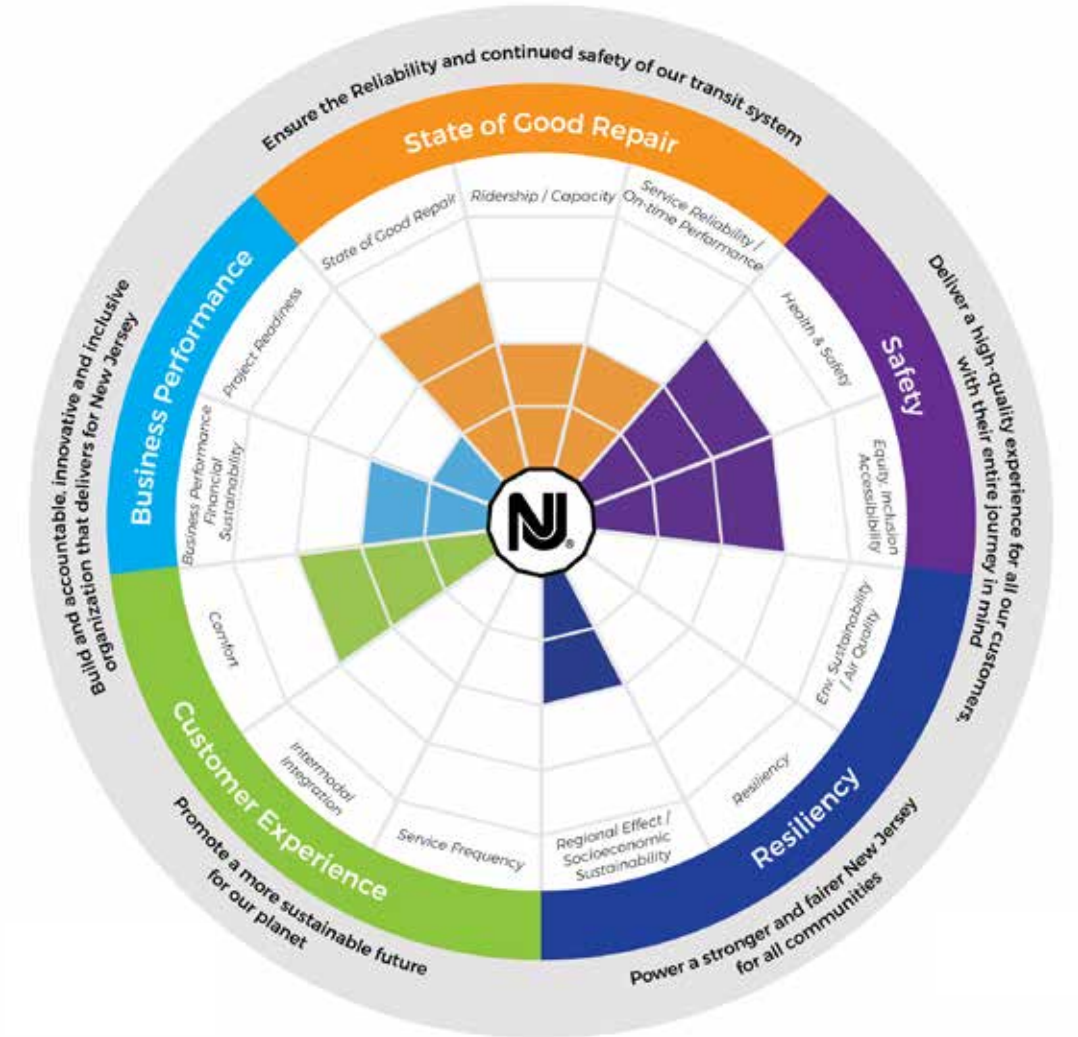
# PROJECT SHEET | NEW BRUNSWICK STATION IMPROVEMENTS

## Description

The New Brunswick Station is a station located in New Brunswick, and serves both NJ TRANSIT and Amtrak's Northeast Corridor (NEC). This heavily used station, which supports approximately 4,457 passenger boardings per weekday, must support a 12-car trainset. However, the current platforms are too short to accommodate such a long train length. As a result, not all cars can fit on the station platform, and this makes it more challenging and time consuming for passengers to board and deboard the train. The station is in need of rehabilitation.

If funded, this project would extend the existing platforms to allow the entire 12-car trainset to fit at the station, which would ultimately decrease dwell times, facilitate passenger boardings, and increase service speed. Additionally, the existing platforms would be replaced and upgrades would be made to the existing station, including rehabilitating or replacing the elevators and escalators, installing new lighting and windows at the station, upgrading the HVAC system, and renovating the waiting room. The upgrades would provide a better experience for NJ TRANSIT customers and help mitigate future maintenance needs.

## EXISTING: Station Conditions



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

**\$23 Million**

## Value to Customers

- › Facilitates passenger boarding and deboarding
- › Increases on-time performance
- › Provides enhanced amenities

## Value to State

- › Decreases dwell times
- › Increases on-time performance

# PROJECT SHEET NEW BRUNSWICK STATION IMPROVEMENTS

ESTIMATED TOTAL  
PROJECT COSTS

**\$23M**



## **Equity, Inclusion & Accessibility**

Repairs and upgrades to platforms, elevators, and escalators would improve accessibility for all customers



## **Comfort**

Upgrading station amenities and easing boardings and deboardings would improve customer comfort

## 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**

Station rehabilitation would extend service life and decrease maintenance



## **Service Reliability**

Extending platforms would decrease dwell times and improve on-time performance

Station improvements would **enhance state of good repair, on-time performance, accessibility, and comfort.**

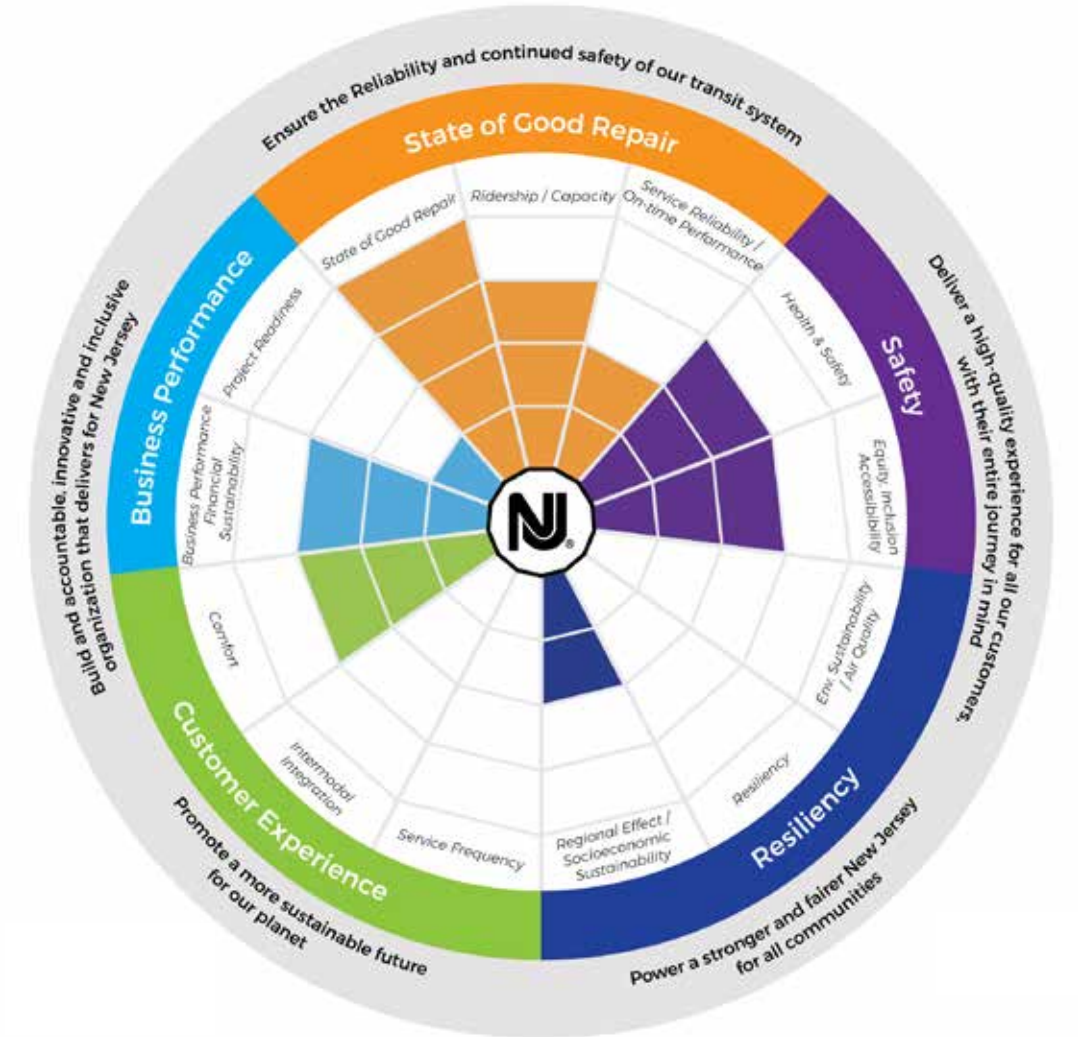
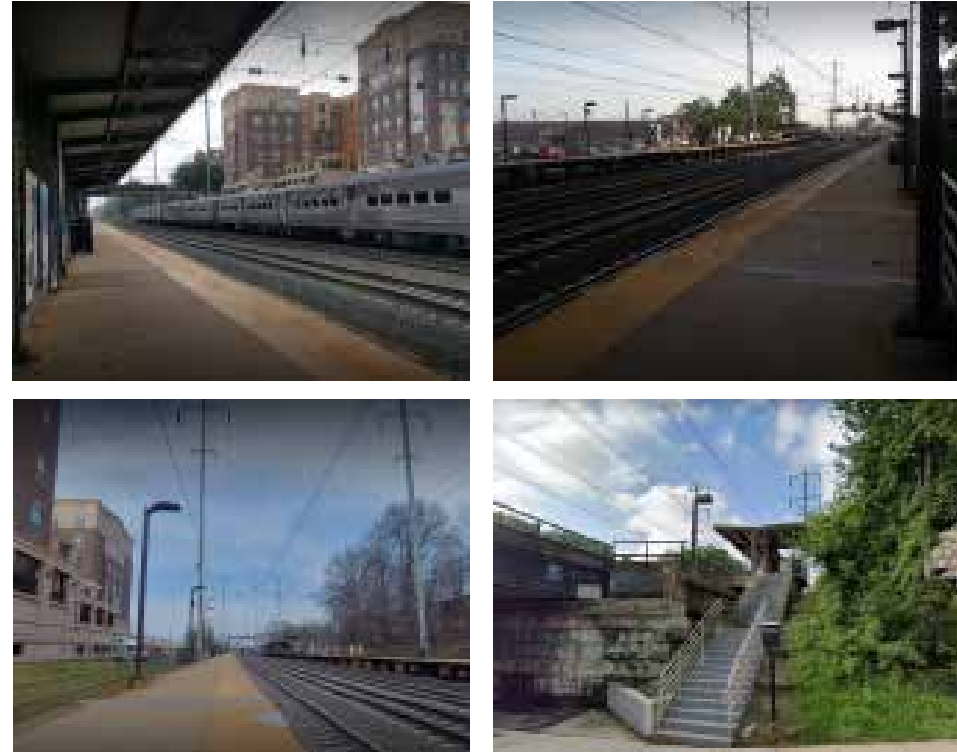
# PROJECT SHEET | NORTH ELIZABETH STATION IMPROVEMENTS

## Description

The North Elizabeth Station is located in Elizabeth and services NJ TRANSIT and Amtrak's Northeast Corridor (NEC). The facility is currently obsolete, structurally deficient, and needs both structural and customer facing renewal.

If funded, this project would address the structural and cosmetic deficiencies and repair the station as needed to bring it to a state of good repair. Necessary work includes fully replacing the platform and canopies; rehabilitating the existing railing; and improving lighting and security at the station. This would ultimately extend the station's useful service life and mitigate future maintenance expenses. Additionally, the project would simultaneously provide an enhanced experience for customers using the station.

## EXISTING: Station Conditions



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

**\$32 Million**

## Value to Customers

- › Provides enhanced experience for customers

## Value to State

- › Replaces aging assets that may require higher maintenance costs



# PROJECT SHEET NORTH ELIZABETH STATION IMPROVEMENTS

**ESTIMATED TOTAL PROJECT COSTS**  
**\$32M**



### **Comfort**

Station improvements and necessary repairs would enhance customer comfort



### **Health/Safety**

Completing necessary repairs would improve customer safety

## **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**

Platform reconstruction and repairs would extend service life and reduce maintenance



### **Equity, Inclusion & Accessibility**

Replacing the platform, rehabilitating railings, and improving lighting would improve accessibility for all customers

Station improvements would enhance **state of good repair, accessibility, comfort, and safety.**

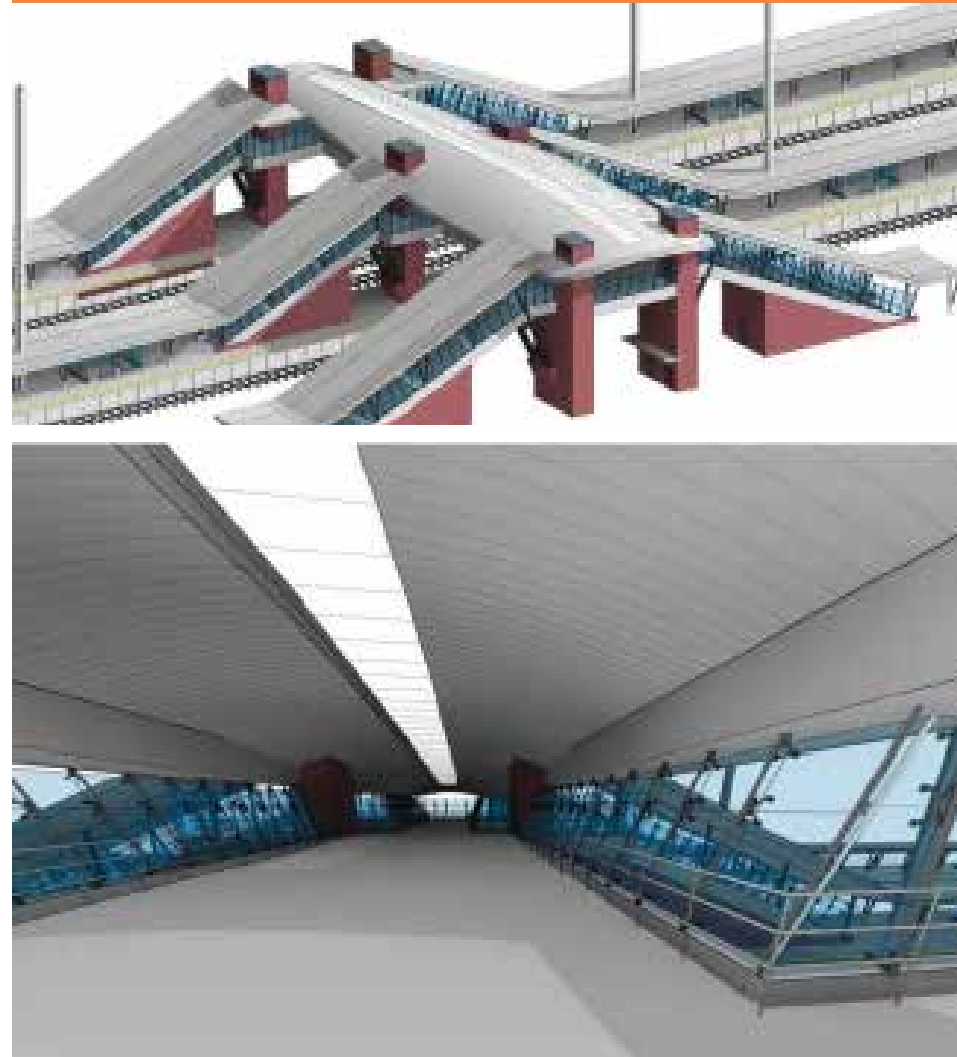
# PROJECT SHEET | NORTH BRUNSWICK STATION

## Description

The North Brunswick Station is a proposed new station on the Northeast Corridor (NEC). The station would be part of the overall enhancement planned for the NEC that includes Delco Lead, Midline loop, and the Jersey Avenue Station replacement.

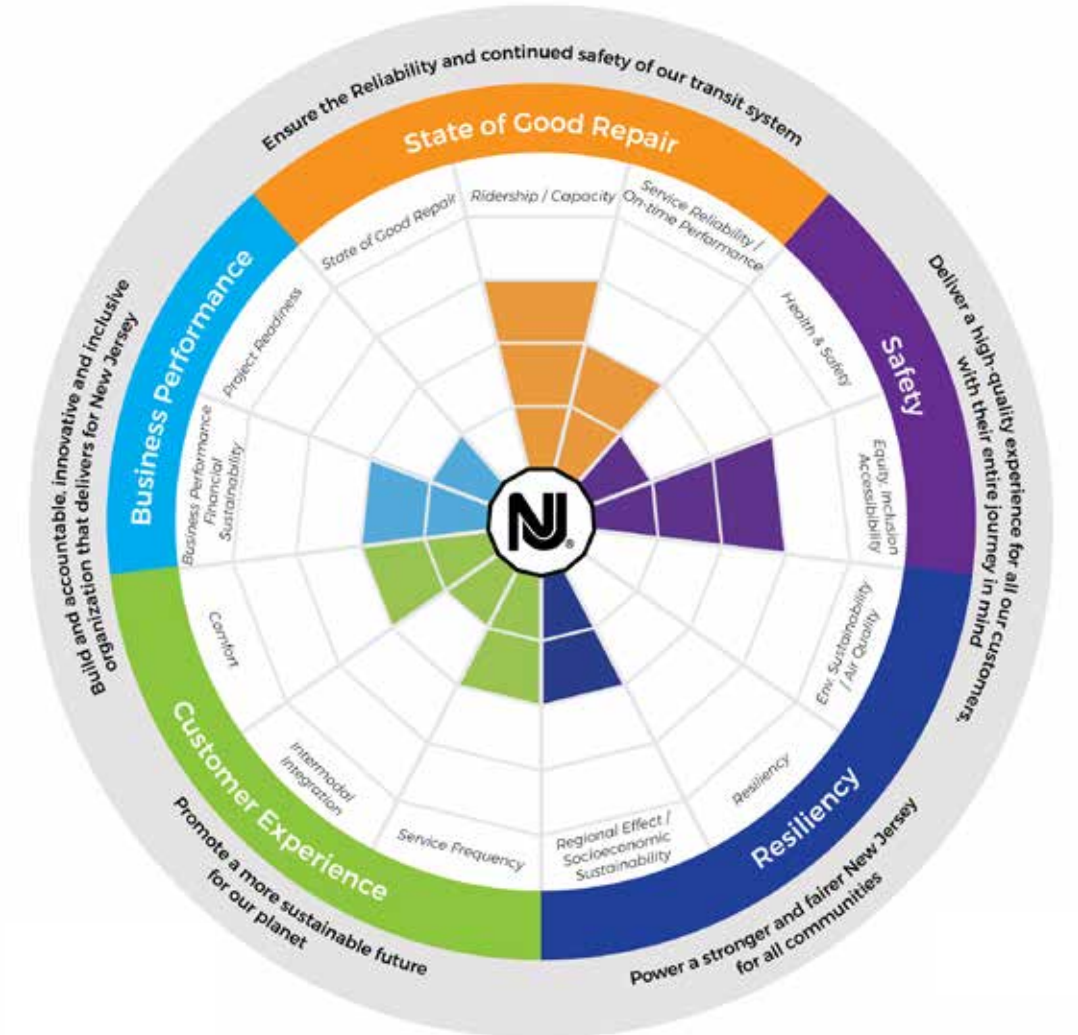
If funded, the new station would be in the proposed Main Street North Brunswick development area between the Midline Loop project and the Jersey Avenue station rehabilitation. The project would include construction of new high-level inbound side platform, a new high-level island outbound platform, elevators, a pedestrian bridge, station house, and parking. The new station would feature new accessibility features and would provide customers with a key additional point of entry into the NEC as well as more convenient access to the North Brunswick area. Collectively, the capital projects in this area would substantially improve service along the NEC, while increasing system capacity and access to keep pace with projected ridership growth. .

## PROPOSED: New Station



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

**\$160 Million**



## Value to Customers

- › Increases access for passengers
- › Increases options for entry into NEC and access to surrounding area
- › Enhances comfort for customers utilizing new, modern station

## Value to State

- › Creates additional point of entry for increased revenue streams and potentially reduces overcrowding at adjacent stations

# PROJECT SHEET NORTH BRUNSWICK STATION

**ESTIMATED TOTAL PROJECT COSTS**  
**\$160M**



### ***Equity, Inclusion & Accessibility***

The new station would be accessible for all customers



### ***Comfort***

Station amenities would enhance customer comfort and the addition of the station would decrease overcrowding at adjacent stations

## **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*



### ***Ridership/Capacity***

Constructing a new station would accommodate growing ridership along the NEC and in North Brunswick



### ***Business Performance/Financial Sustainability***

New station would create additional point of entry to the NEC

*The new North Brunswick Station would **improve and expand service along the Northeast Corridor.***

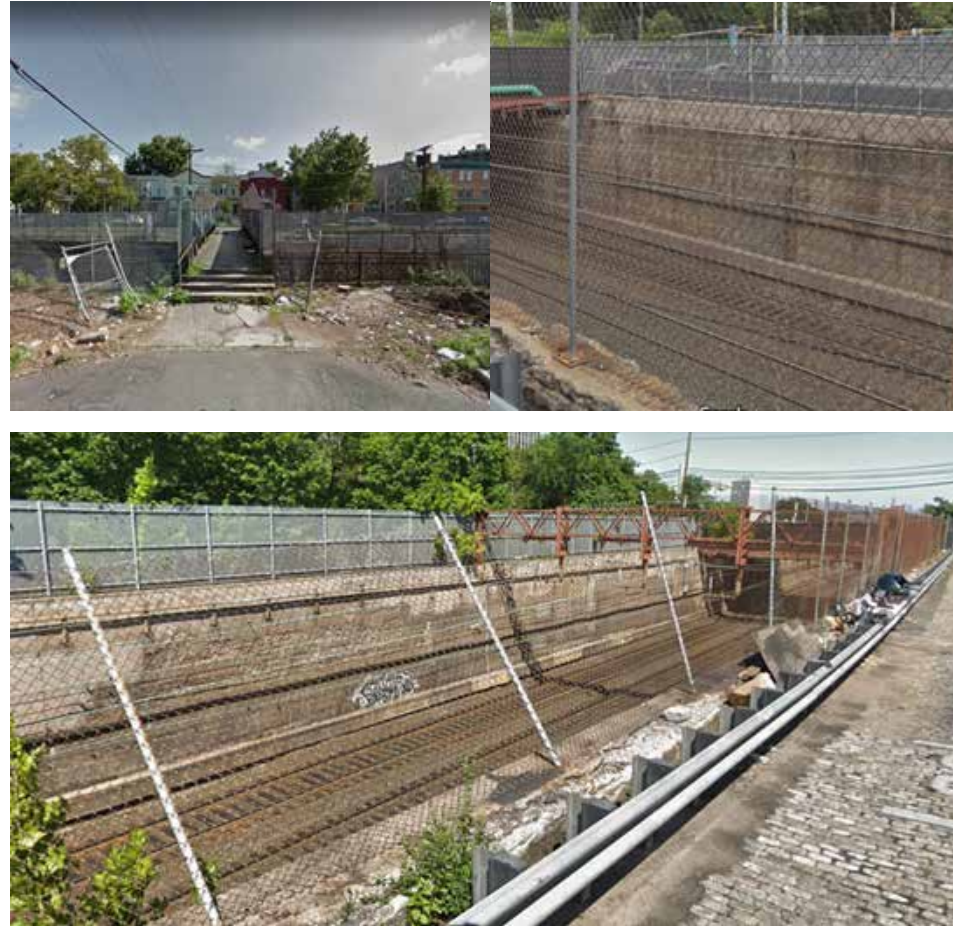
# PROJECT SHEET | ROSEVILLE CUT IMPROVEMENTS

## Description

The Roseville Cut is a section of track that lies below the adjacent roadways and between two retaining walls just west of the Newark Broad Street Station. These tracks service NJ TRANSIT's entire ridership west of Newark Broad Street Station. There are various issues associated with this section of track: 1) the interlockings lack adequate lighting, which require safety enhancements; 2) there is missing and/or broken safety fencing along the perimeter at the street level, which also allows debris from the sidewalk to foul the catenary system and tracks below; 3) poor drainage and frequent flooding within the cut interferes with track signals and causes delays; 4) congested site conditions are challenging for personnel to work within and typically require premium pay to perform maintenance or emergency work; 5) undersized rail sections in this area are subject to frequent rail breakage resulting from corrosive effects of extreme weather and flooding; and 6) the wall is deteriorating and creates a safety hazard.

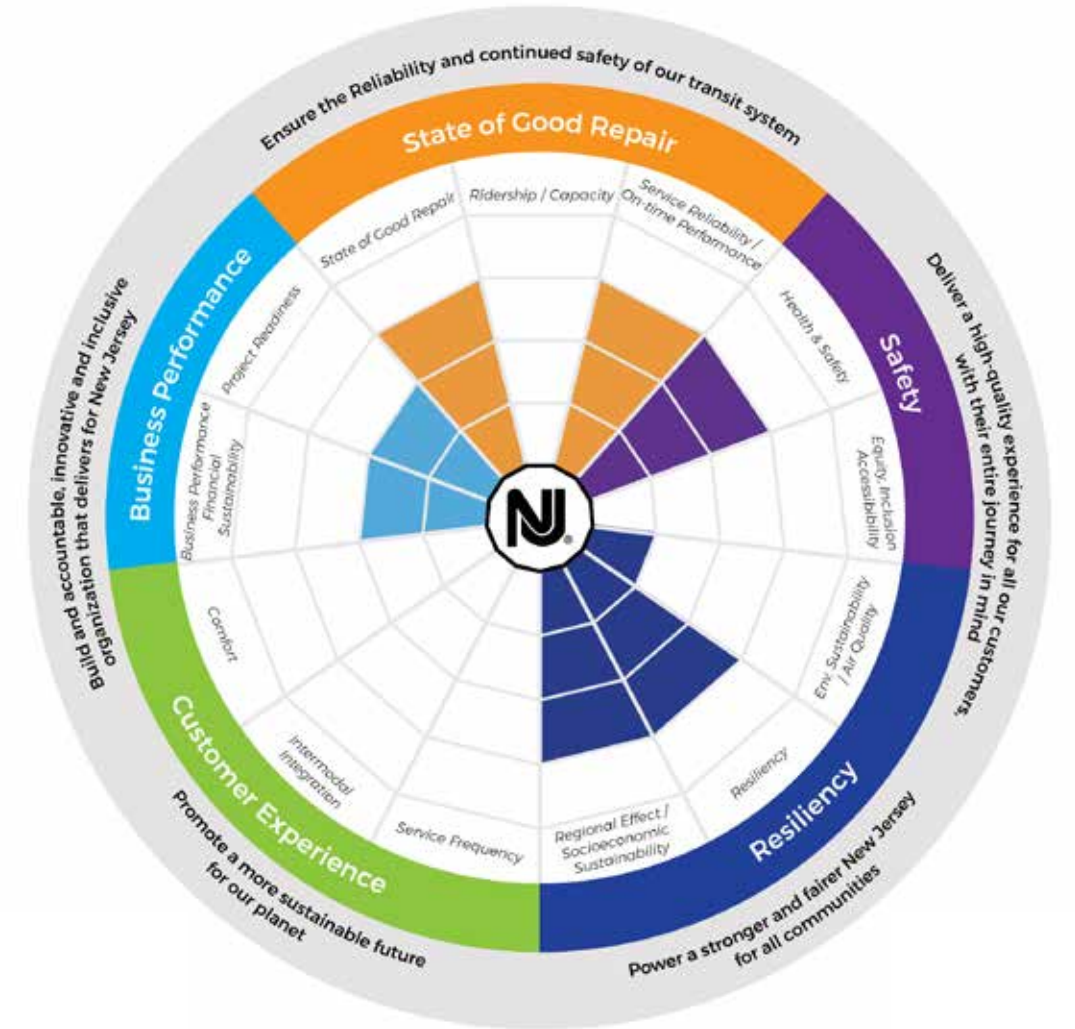
If funded, this project would address the noted issues with the installation of new lighting at the interlocking; replacement of existing metal fencing and installation of new non-climbable protective fencing along adjacent sidewalks; installation of an adequate drainage system; replacement of the substandard rail sections within the project limits; and repair of the existing wall. Ultimately, addressing these issues would better protect NJ TRANSIT employees and the public, and will significantly mitigate service delays and reduce overall maintenance costs.

## EXISTING: Cut, Fencing, and Rail Conditions



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

**\$111 Million**



## Value to Customers

- › Improves reliability by upgrading the section of rail

## Value to State

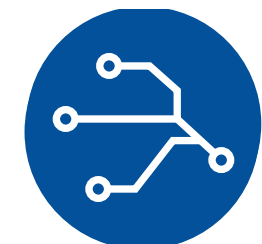
- › Increases safety and service reliability
- › Reduces maintenance frequency, providing more efficient use of public funds

# PROJECT SHEET ROSEVILLE CUT IMPROVEMENTS

**ESTIMATED TOTAL PROJECT COSTS**  
**\$111M**



**Service Reliability**  
With reduced interlock conflicts, there would be reduced operational delays and reduced maintenance costs



**Regional Effect/Socioeconomic Sustainability**  
Improvements to drainage infrastructure would reduce falsely triggered signals and the subsequent delays

## 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*



**Health/Safety**  
Improved lighting at interlocking and protective street level fencing for pedestrians would improve safety



**State of Good Repair**  
Drainage improvements would mitigate frequent flooding from regular rain events

*The project would **better protect customers and employees, bring the rail to a state of good repair, and reduce delays and service outages.***

# PROJECT SHEET | MORRISTOWN YARD AND POCKET TRACK

## Description

The Morris & Essex (M&E) Line services nearly 60,000 NJ Transit passengers a day between Hackettstown, Hoboken, and Penn Station NY. West of Morristown Station on the M&E Line is an existing unused rail yard, formally referred to as the Morristown Yard. This yard is located below the main tracks and is accessed by a 3,000-foot yard lead track that diverts trains from the main eastbound track just west of the station. However, it can only be accessed by trains traveling westbound and there is currently no interlocking to allow westbound trains to switch onto the eastbound track without significantly impacting railroad traffic. Furthermore, the yard and part of the lead track are in a floodplain, making them a poor option for long term train storage.

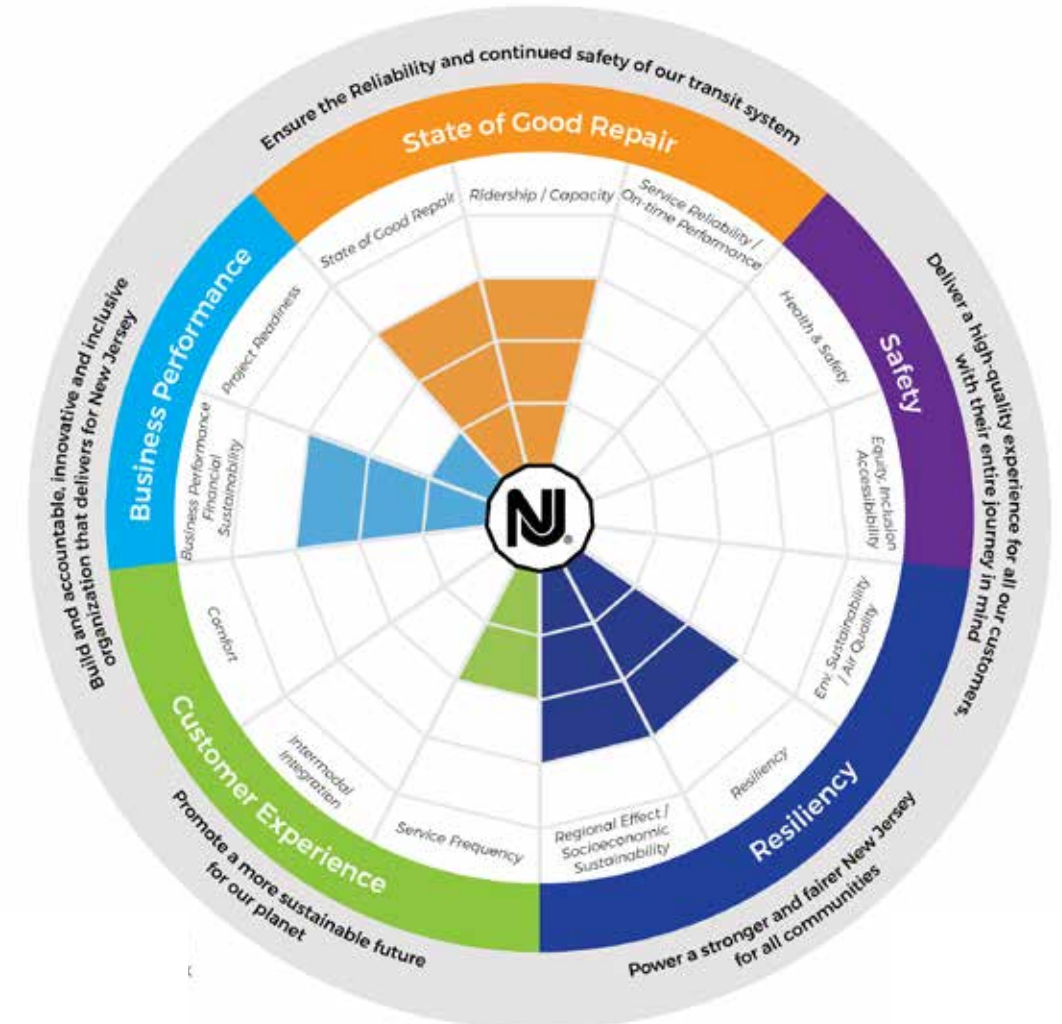
If funded, this project would install an interlocking east of Morristown Station to allow westbound trains to more effectively access the yard lead and enter Morristown Yard. This would also eliminate the need for trains terminating at Morristown Station to travel an additional 8 miles west to Dover Yard in order to turn back east. Additionally, the existing yard tracks and yard lead would be raised above the flood plain to allow for resilient short term and long-term train storage. Providing storage and turning capabilities at Morristown Yard would allow increase train frequency and capacity on the M&E Line while also providing additional storing options for NJ TRANSIT trains.



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

**\*\$148 Million**

*\*Estimate based upon concept design*



# PROJECT SHEET MORRISTOWN YARD AND POCKET TRACK

**ESTIMATED TOTAL  
PROJECT COSTS**

**\$148M**



### ***Business Performance/Financial Sustainability***

Increasing capacity on the Morris & Essex line, while minimizing unnecessary travel time for trains going out of service, would improve business performance



### ***Ridership/Capacity***

Additional storage and turning capabilities at the yard would increase train frequency and on-time performance of trains on the Morris & Essex line

## **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*



### ***Resiliency***

Raising the yard lead, tracks, and storage above the flood plain would reduce flooding risk



### ***State of Good Repair***

Replacing the obsolete yard lead track and upgrading the rail yard would improve state of good repair

*The project would provide **better yard access** resulting in **increased capacity and frequency** and **improved on-time performance** along the Morris & Essex line.*

# PROJECT SHEET | DELCO LEAD AND COUNTY YARD EXPANSION

## Description

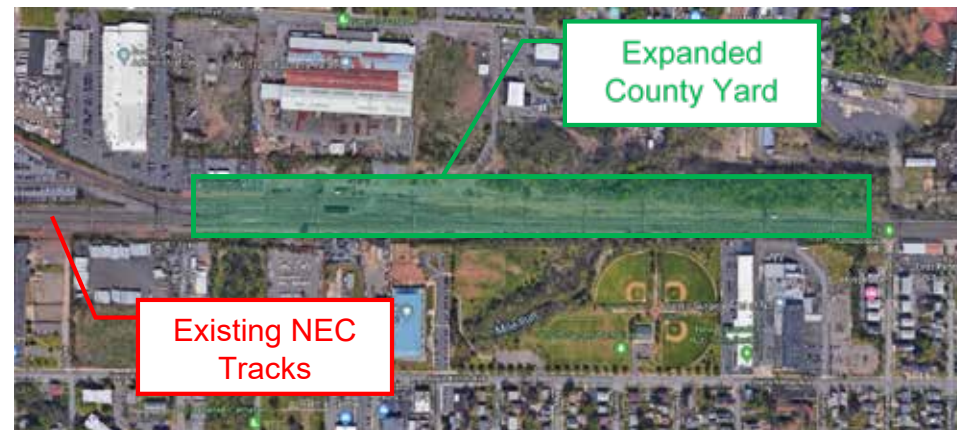
County Yard and Delco Lead located in New Brunswick, is an obsolete and undersized rail yard facility used to store trains along the Northeast Corridor (NEC). The existing yard consists of three electrified tracks with storage capacity for 40 rail cars (four 10-car trainsets) and an undersized Service and Inspection (S&I) facility. Overflow NEC trains are currently stored at either the Morrisville Yard or the Meadowlands Maintenance Complex (MMC). However, storing trains at either alternative facility is impractical because the MMC floods frequently, and Morrisville logistics make it costly and inefficient requiring trains to travel to the western end of the NEC for storage. Additionally, severe flooding can cut off access between Morrisville Yard and Trenton.

The Delco Lead and County Yard Expansion is a multifaceted project that would address the operations, storage, and resiliency needs along the NEC. The first two phases would include the construction of a new S&I facility, which would contain crew quarters and equipment storage space; and the expansion of County Yard, which would contain five tracks with the capacity to store 120 rail cars in an area resilient against flooding. The final phase is the construction of a new Delco Lead track that would extend 3.5 miles south and have the capacity to store an additional 288 rail cars. This new track would meet up with the proposed Midline Loop Project in North Brunswick. Ultimately, the creation of a robust, more centrally located storage and inspection facility as part of the Delco Lead and County Yard Expansion would significantly improve NJ TRANSIT's operational efficiency while reducing costs. It would also substantially enhance the agency's ability to provide timely and reliable service to its customers, especially following extreme weather events.

### EXISTING: County Yard



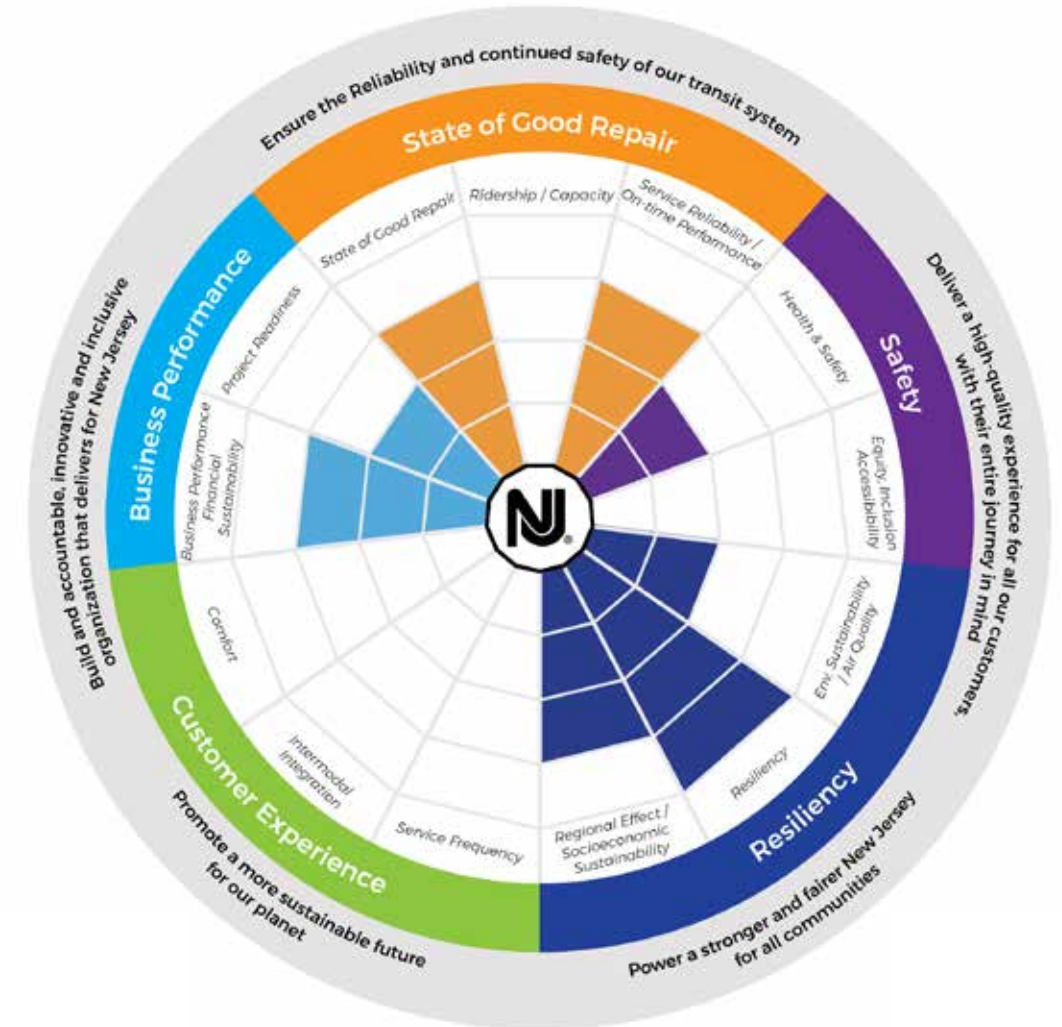
### PROPOSED: Expanded County Yard



## ESTIMATED PROJECT COSTS (2020 DOLLARS):

**\*\$381 Million**

*\* Total estimated 2020 project cost indicates total cost over span of the project and includes funds already spent.*



### Value to Customers

- › Reduces train delays following extreme weather events

### Value to State

- › Lowers operating cost, which allows for more efficient use of public funds
- › Provides resilient infrastructure to prevent damage to existing revenue fleet during extreme events



# PROJECT SHEET DELCO LEAD AND COUNTY YARD EXPANSION

## ESTIMATED TOTAL PROJECT COSTS

**\*\$381M**

*\*TOTAL ESTIMATED 2020 PROJECT COST INDICATES TOTAL COST OVER SPAN OF THE PROJECT AND INCLUDES FUNDS ALREADY SPENT*



### ***Business Performance/Financial Sustainability***

The project would reduce train down-time and ensure NJ TRANSIT can respond quickly to unforeseen challenges



### ***Resiliency***

The new track would significantly enhance the reliability and service delivery of the NJ TRANSIT rail network while providing additional storage in an area not prone to flooding

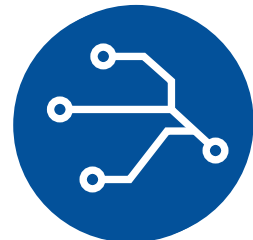
## STRATEGIC GOALS MET



*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*



### ***Regional Effect/Socioeconomic Sustainability***

Congestion would decrease by reducing movements of trains stored at remote locations



### ***State of Good Repair***

Replacing the obsolete Delco Lead track and building a new Service & Inspection Facility would improve state of good repair

*A new Delco Lead would extend 3.5 miles south, **store 288 additional cars, and include a new Service & Inspection Facility.***

# PROJECT SHEET | SMALL YARDS REHABILITATION PROGRAM

## Description

NJ TRANSIT operates 15 rail yards throughout the state and along various lines. These yards play a vital role in NJ TRANSIT's ability to provide safe, efficient, and reliable service to its customers. At the same time, these facilities are essential in the Agency's compliance with federal regulations. Each facility is used daily to store, inspect, and maintain the agency's rail fleet. These yards also play a key role as turning tracks to allow trains to change direction on a rail line, which is essential to facilitate efficient rail operations. Much of the existing infrastructure at the yards, including inspection pits, fuel facilities, lighting, and personnel facilities, has exceeded its recommended service life and need to be rehabilitated or completely replaced. Furthermore, many of these yards are too small to handle the service and inspection needs of the expanding fleet, resulting in decreased efficiency and higher operational costs.

If funded, the Small Yards Rehabilitation Program would prioritize equipment replacement and facility rehabilitation at 11 of the 15 yards, which are considered NJ TRANSIT's "small" yards. These upgrades would restore the maintenance facilities to a state of good repair while providing both expanded capacity and capability for servicing the growing NJ TRANSIT rail fleet. It is also vital that the infrastructure issues at the yards are addressed, as rail maintenance functions are mandated by the FRA, and efficient routine preventative maintenance is essential to reducing delays due to equipment problems. Furthermore, logistical improvements would be implemented at each location to streamline the movement of trains within the yards, which will ultimately increase overall efficiency and mitigate potential delays.

## EXISTING: Bay Head and Port Morris Rail Yards



Bay Head Rail Yard

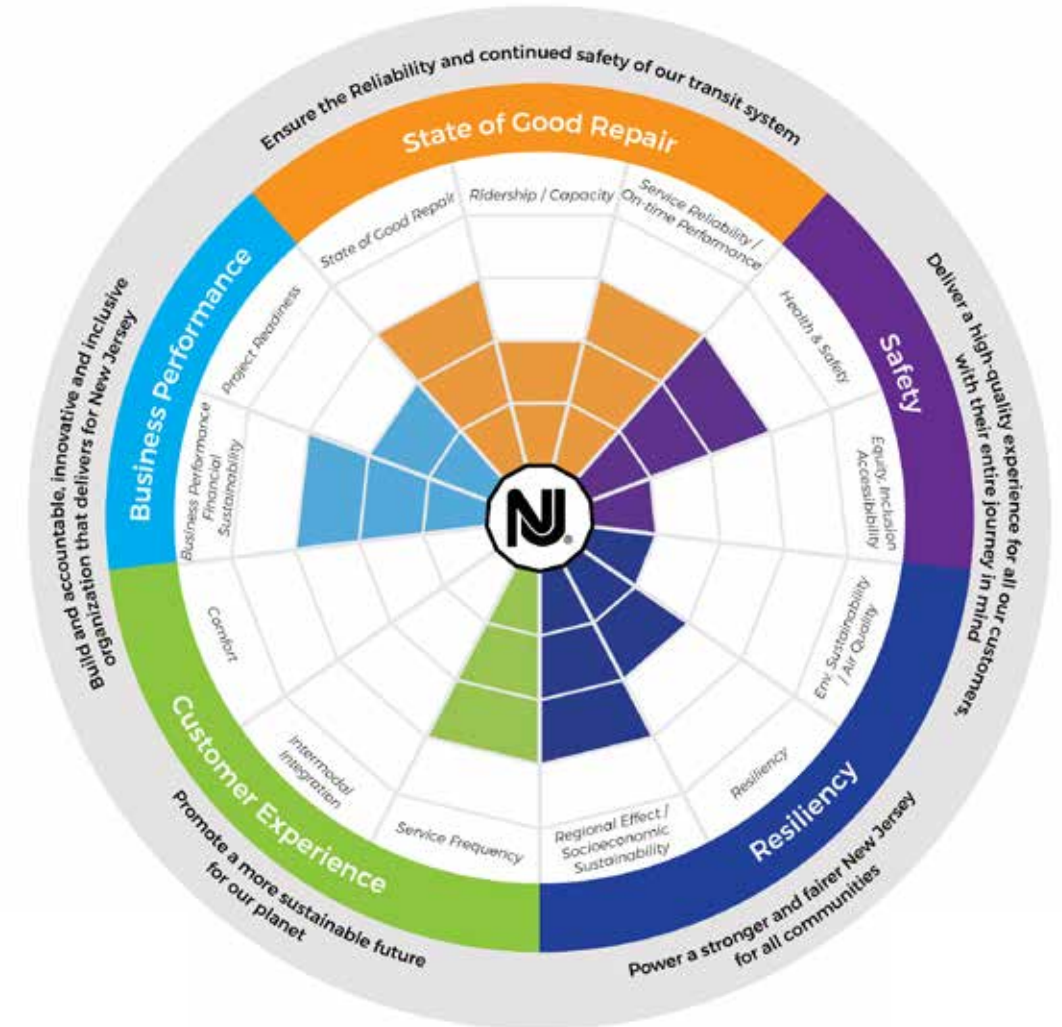


Port Morris Rail Yard

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

**\*\$435 Million**

*\*Estimate based upon concept design*



## Value to Customers

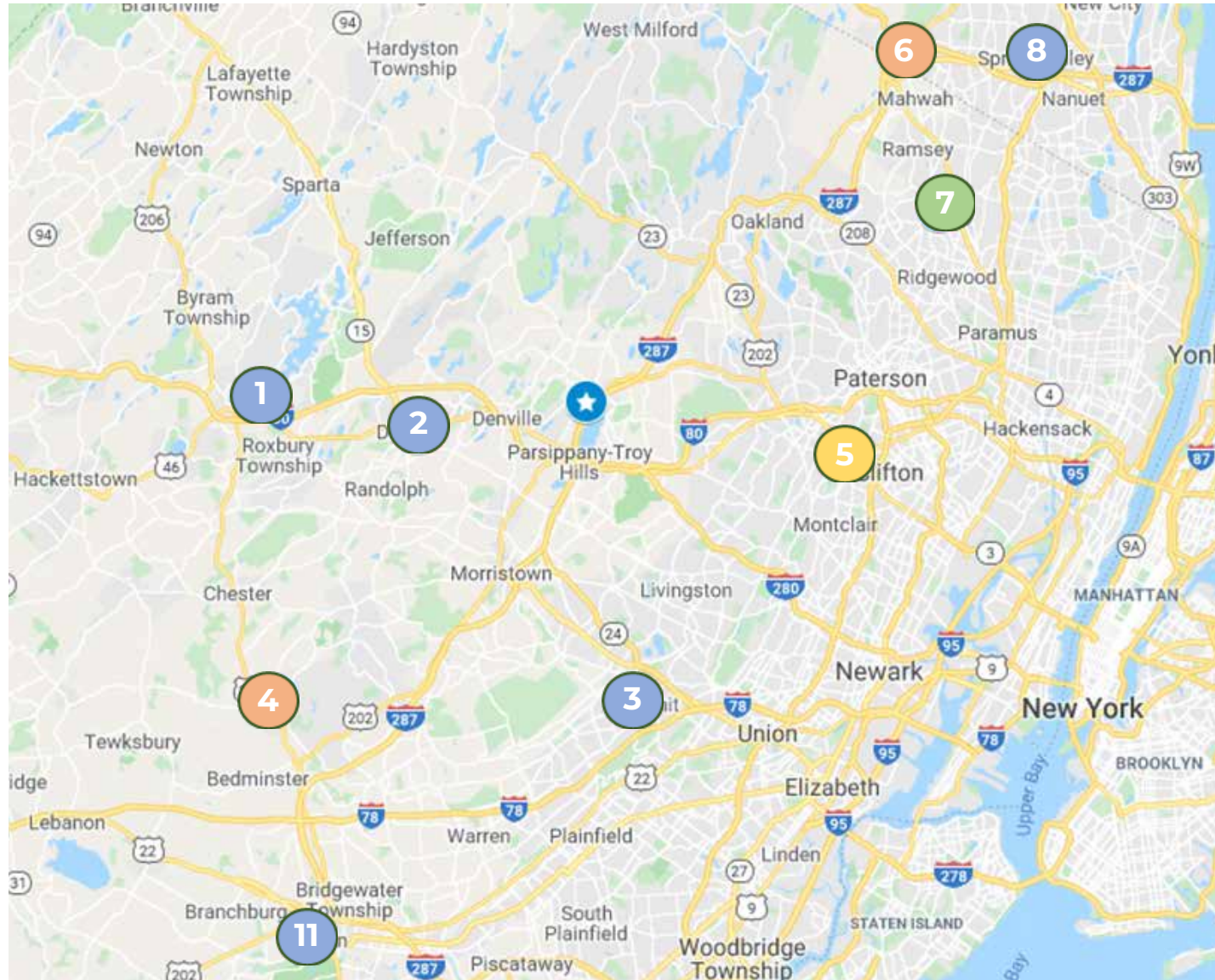
- › Increases equipment reliability
- › Reduces equipment failure delays

## Value to State

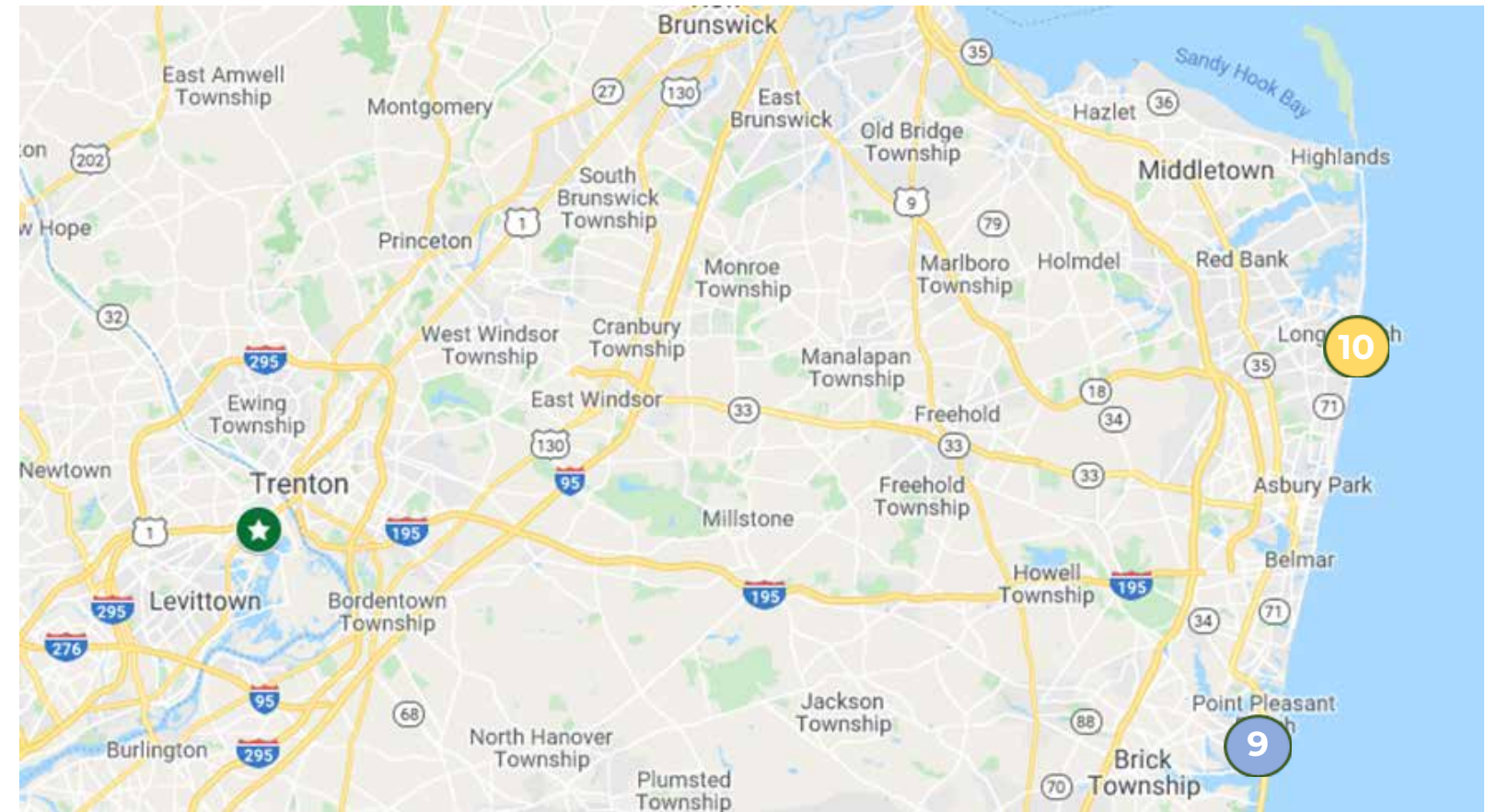
- › Lowers operating costs
- › Reduces potential injuries associated with on-site maintenance work
- › Improves equipment maintenance resulting in reduced life cycle and recovery costs
- › Facilitates compliance with FRA regulations

# PROJECT SHEET | SMALL YARDS REHABILITATION PROGRAM

## Northern Yards



## Southern Yards



### Legend

Phase	Start Year	Yards
1	2021	Waldwick
2	2024	Suffern; Gladstone
3	2027	Long Branch; Great Notch
4**	TBD	Port Morris; Dover; Summit; Woodbine; Bayhead; Raritan

\*\* Work for remaining yards to be completed in subsequent phases and years that are still to be determined (TBD)

Yard	Durations (yrs)		Major Scope Items <sup>(1)</sup>		
	Design	Constr.	Pedestal Pit	S&I /Mech. Facility	Personnel Facility
1	2	3		✓	
2	2	3		✓	
3	1	1			
4	1	1			✓
5	1	2	✓		
6	1	2	✓		✓
7	1	2	✓		
8	1	1			✓
9	1	2		✓	
10	1	2	✓		
11	1	1			✓

(1) Only major scope items are tabulated. Minor scope items include but are not limited to: new fuel pads; improved lighting; new equipment; new nice vision cameras; wayside power upgrades; MEP upgrades; new sand towers

# PROJECT SHEET SMALL YARDS REHABILITATION PROGRAM

ESTIMATED TOTAL  
PROJECT COSTS

**\$435M**



## **Business Performance/Financial Sustainability**

Upgrades would reduce maintenance costs and increase operational capacity and efficiency



## **Service Reliability**

Better serviced trains would result in better on-time performance and more reliable operations

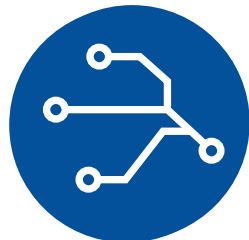
## STRATEGIC GOALS MET



*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*



## **Regional Effect/Socioeconomic Sustainability**

Upgrades to maintenance equipment would ensure smoother rail operations with fewer equipment failures



## **State of Good Repair**

Upgrading and replacing maintenance equipment would improve state of good repair for both the yards and train coaches

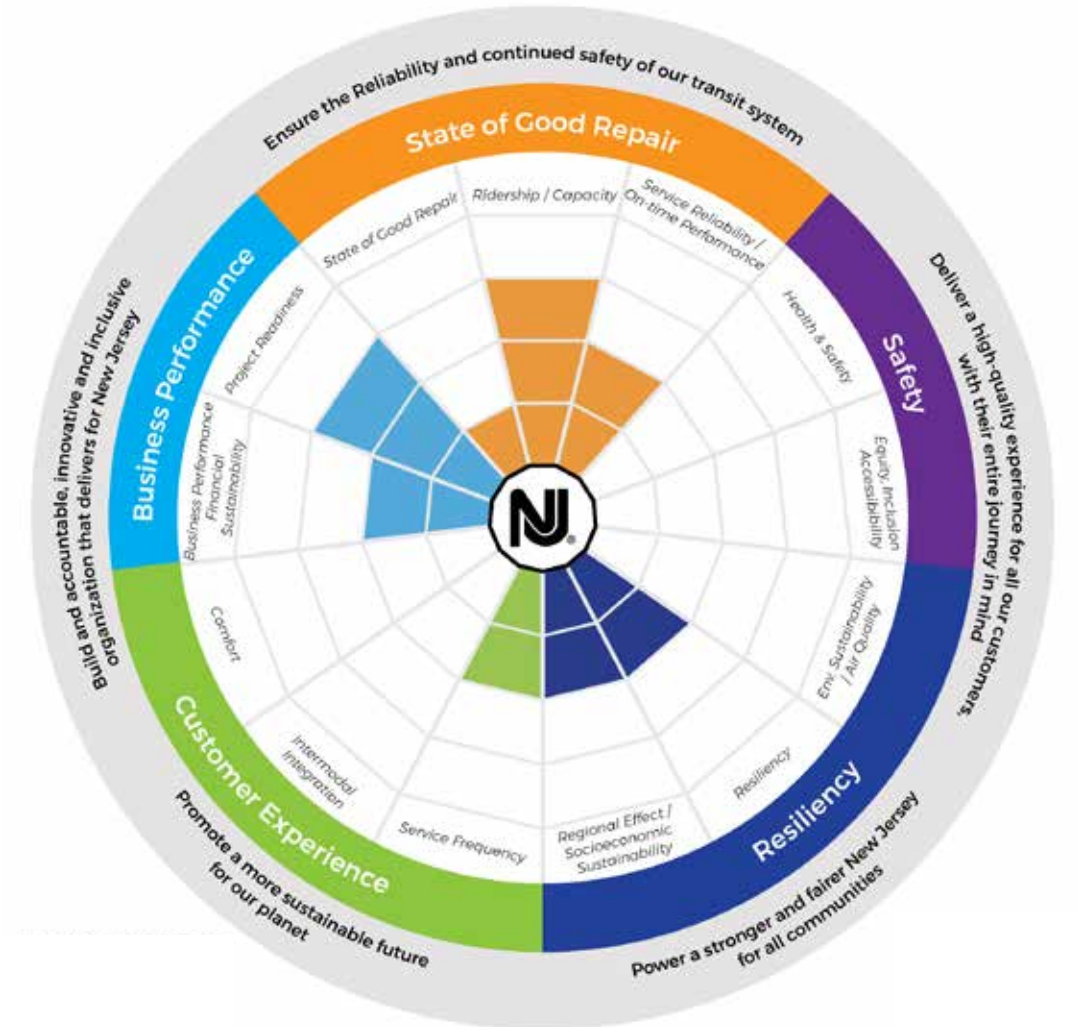
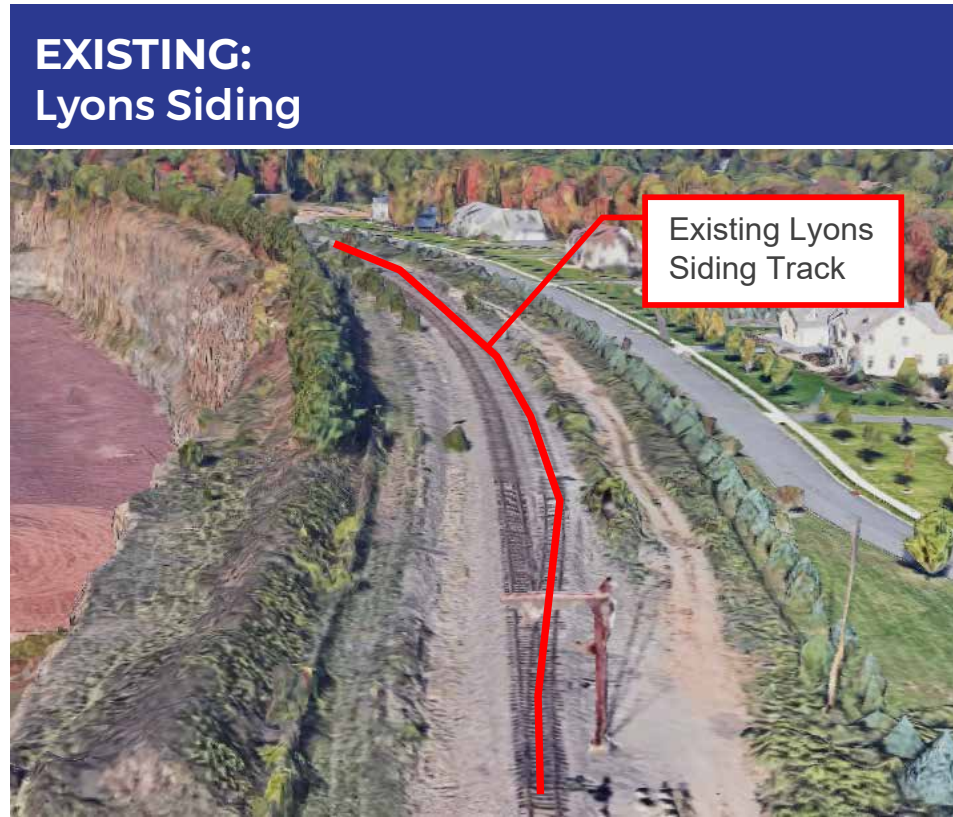
*Restore maintenance facilities to a state of good repair and **expand capacity and capabilities for a growing rail fleet.***

# PROJECT SHEET | MODIFY LYONS SIDING ON GLADSTONE LINE

## Description

The Gladstone line services NJ TRANSIT passengers between Gladstone and Summit, where it then merges into the Morristown Line and continues east towards Hoboken and New York Penn Station. The Gladstone line only operates with a single track, which requires inbound and outbound trains to coordinate their operations. These operations rely heavily on the use of siding track to allow the opposing train to pass. Bernardsville Station and Stirling Station are approximately six miles apart with the only two siding tracks between them located at the stations. This is a significant distance to travel between siding tracks, which greatly reduces the number of trains that can run along the line.

If funded, this project would modify the existing Lyons siding located east of Lyons Station so that it can be used by passenger rail. The existing Lyons siding can only be used by maintenance equipment because it is not controlled, meaning it has no signals and the switch to get into the siding is manually controlled. Converting this to a controlled siding would allow more inbound and outbound trains on the Gladstone Line and would provide greater flexibility of operation on the single track, which would ultimately mitigate train delays and provide a more reliable commute for NJ TRANSIT customers.



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

**\$11 Million**

## Value to Customers

- › Reduces train delays from bi-directional travel on a single track, and reduces headways

## Value to State

- › Increases on-time performance, safety, and service reliability, which will bolster public perception

# PROJECT SHEET MODIFY LYONS SIDING ON GLADSTONE LINE

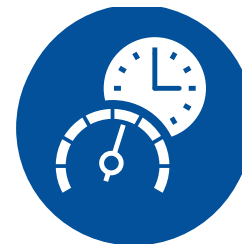
ESTIMATED TOTAL  
PROJECT COSTS

**\$11M**



## ***Business Performance/Financial Sustainability***

Converted siding would increase the capacity of the line and passenger revenue, while decreasing delays



## ***Service Reliability***

Conversion to a controlled siding would provide a more reliable commute for customers

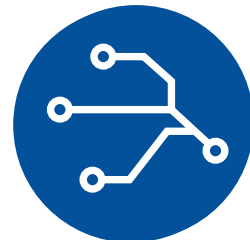
## **STRATEGIC GOALS MET**



*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*



## ***Regional Effect/Socioeconomic Sustainability***

Converted siding would allow more inbound and outbound trains with enhanced operational flexibility



## ***Ridership/Capacity***

Allow more inbound and outbound trains on the Gladstone Line

Converting to a controlled siding would **allow for more trains on the line, greater flexibility, and mitigate delays.**

# PROJECT SHEET | NEW BOONTON YARD

## Description

The Montclair-Boonton line services an average of 18,800 passengers per weekday between New York Penn Station and Mount Olive. Most of the line operates with two tracks to allow inbound trains and outbound trains to operate on separate tracks. Just east of Montclair State University Station, however, the two tracks merge into a single track which continues west to Denville Station. This requires inbound and outbound trains to coordinate their operations; these trains rely heavily on the use of siding track to allow the opposing train to pass. They also rely on rail yards for anticipated layovers in addition to providing storage. The existing siding track and rail yard west of Boonton Station is obsolete and in need of replacement.

If funded, this project would replace the existing Boonton rail yard and siding track with new and additional track, interlockings, and signals just west of Boonton Station. This would allow more inbound and outbound trains on the Montclair-Boonton Line and will provide greater operational flexibility on the single track, which would ultimately mitigate train delays and provide a more reliable commute for NJ TRANSIT customers.

### EXISTING: Boonton Yard

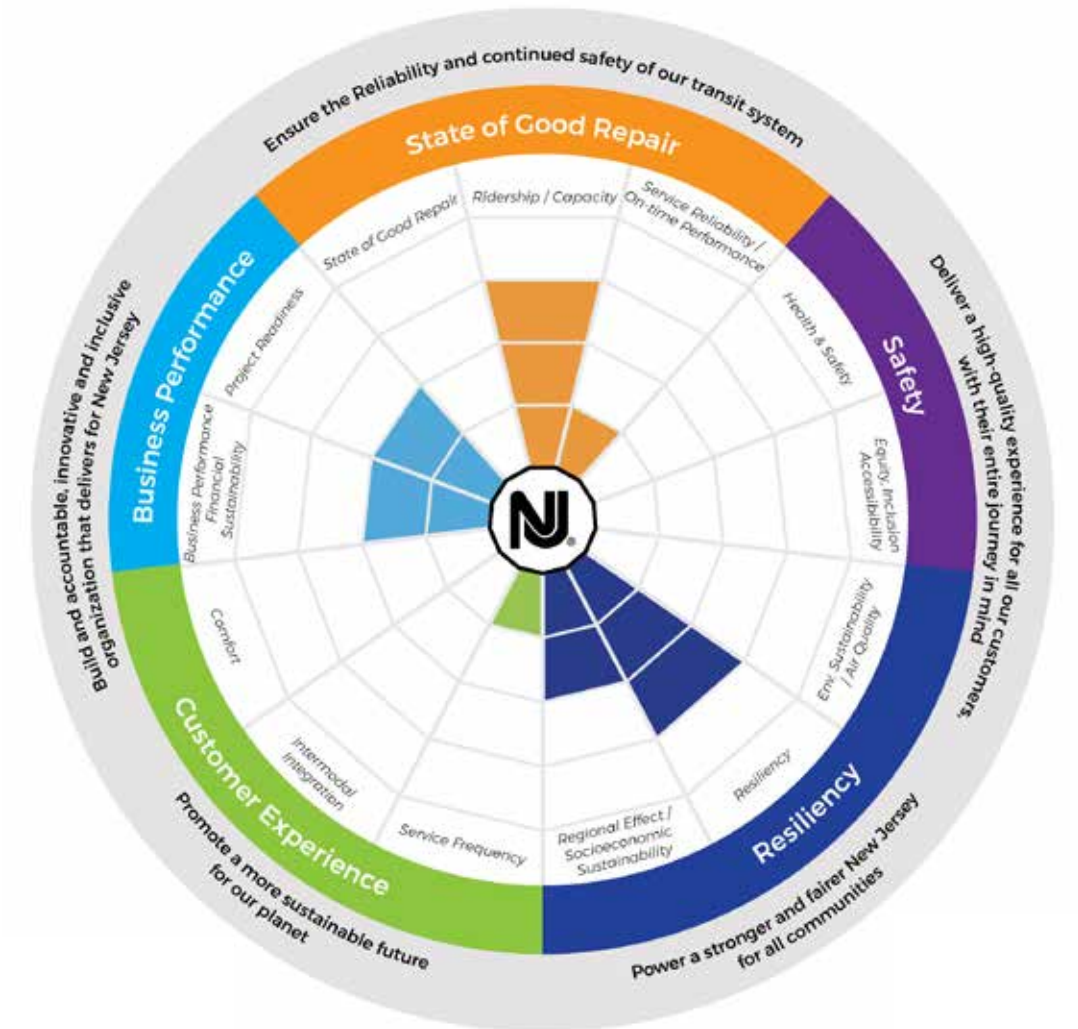


### PROPOSED: New Boonton Yard



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

**\$40 Million**



### Value to Customers

- › Reduce train delays from bi-directional travel on a single track, and reduces headways

### Value to State

- › Increases on-time performance, safety, and service reliability, which will bolster public perception

ESTIMATED TOTAL  
PROJECT COSTS  
**\$40M**



**Ridership/Capacity**

Adding additional track, interlockings, and signals would increase capacity on Montclair-Boonton Line



**Business Performance/Financial Sustainability**

Line capacity increases and reduced operational delays would improve business performance

**STRATEGIC GOALS MET**



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

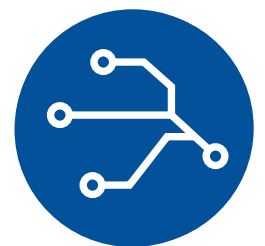


*Ensure the reliability and continued safety of our transit system*



**Business Performance/Financial Sustainability**

Adding additional track would provide greater operational flexibility



**Regional Effect/Socioeconomic Sustainability**

Improvements would reduce delays and improve operational flexibility to respond to service disruptions

Replacing the yard would enhance state of good repair, reliability, capacity, and business performance.



# PROJECT SHEET | MIDLINE LOOP

## Description

The Northeast Corridor (NEC) is NJ TRANSIT's most heavily used rail line and serves over 122,000 passengers on an average weekday, which makes up nearly 39% of total ridership. There currently is a major operational challenge on the corridor in New Brunswick at the existing Jersey Avenue Station. Eastbound trains originating at the station must move from the outbound Track 4 across all the NEC tracks to the inbound Track 1. This move requires use of the County Yard Interlocking just east of the station. Given the amount of NJ TRANSIT and Amtrak trains on the NEC, there are limited schedule windows to permit these train movements. Thus, delays with Jersey Avenue departures results in stack-up delays along the entire NEC as well along the North Jersey Coast Line (NJCL) which enters NEC territory near Rahway.

If funded, this project would include installing a fifth track (Track 5) along the NEC in North Brunswick, which would be an extension of the proposed Delco Lead track. The proposed Delco Lead track must be installed before the Midline Loop can become operational. The new Track 5 would continue onto a new viaduct structure that loops over the NEC right-of-way and enters back onto inbound Track 1. This track and flyover would eliminate the need for eastbound trains from Jersey Avenue Station to occupy the interlocking while moving across the NEC from Track 4 to Track 1. The Midline Loop project would have substantial operational benefits for both NJ TRANSIT and Amtrak, as it would mitigate operational delays for both agencies, improve on-time performances, reduce congestion, and provide much-needed capacity augmentation. Its operational benefits would also be magnified by the proposed North Brunswick Station and new Jersey Avenue Station projects.

### EXISTING: Northeast Corridor



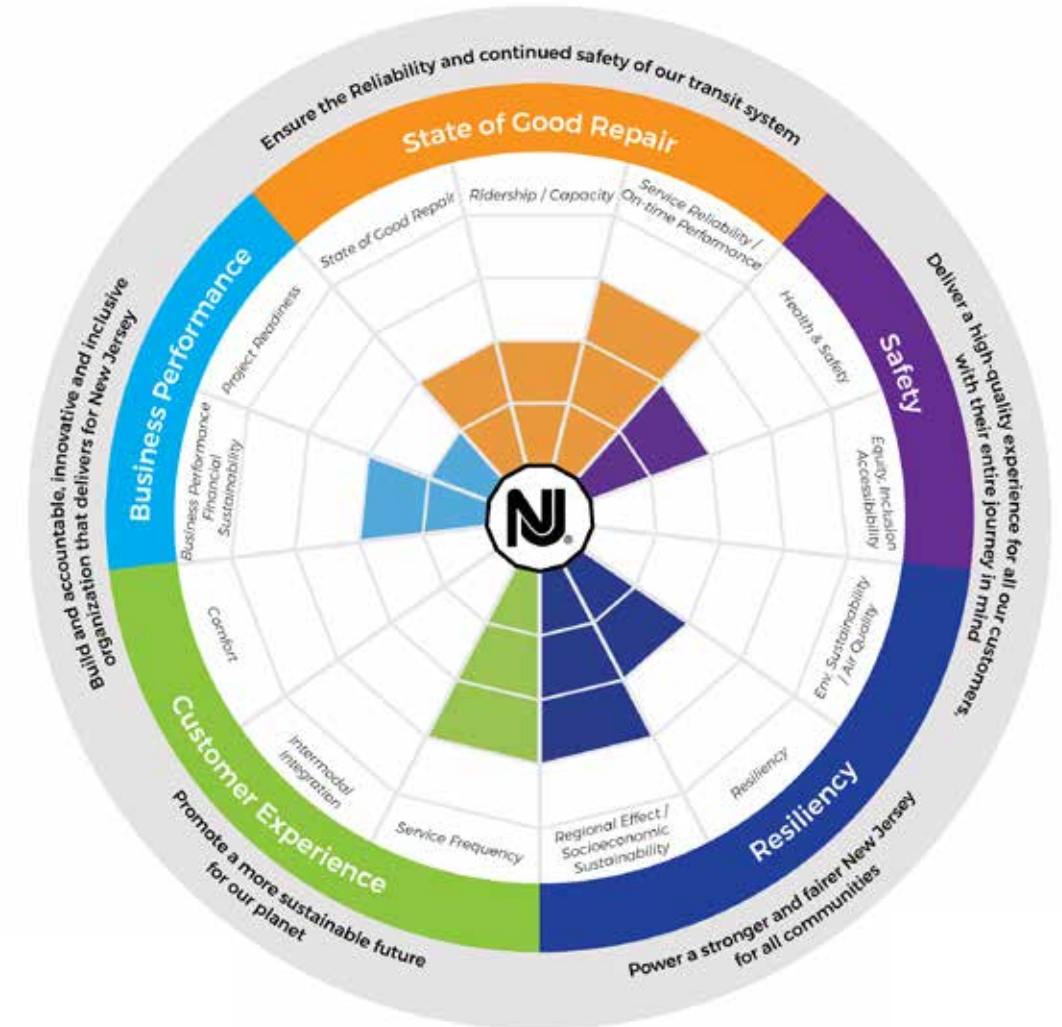
### PROPOSED: Midline Loop Viaduct



## ESTIMATED PROJECT COSTS (2020 DOLLARS):

**\*\$306 Million**

*\*Estimate based upon concept design*



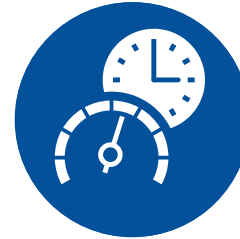
### Value to Customers

- › Increases on-time performance
- › Creates more train time slot openings
- › Decreases delays caused by conflicts at the interlocking

### Value to State

- › Increases on-time performance and service reliability
- › Lowers operating cost, which allows for more efficient use of public funds

ESTIMATED TOTAL  
PROJECT COSTS  
**\$306M**



**Service Reliability**

Delays and congestion along NEC would be significantly reduced as train movements on the interlocking would bypass Tracks 1-4



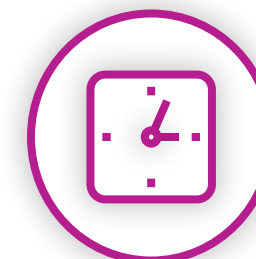
**Business Performance/Financial Sustainability**

Operational conflicts with Amtrak and NJ TRANSIT would be eliminated, allowing for more regular and reliable service along NEC

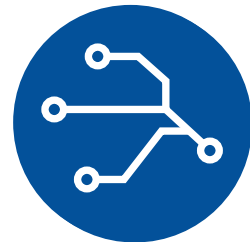
**STRATEGIC GOALS MET**



*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*



**Regional Effect/Socioeconomic Sustainability**

An additional fifth track would eliminate conflicts with the interlocking for NJ TRANSIT and Amtrak



**Service Quality/Frequency**

The project would create more capacity due to an increased number of time slots for trains

Midline Loop would **mitigate operational delays, reduce congestion, and improve on-time performance** on NEC.

# PROJECT SHEET | HUNTER FLYOVER

## Description

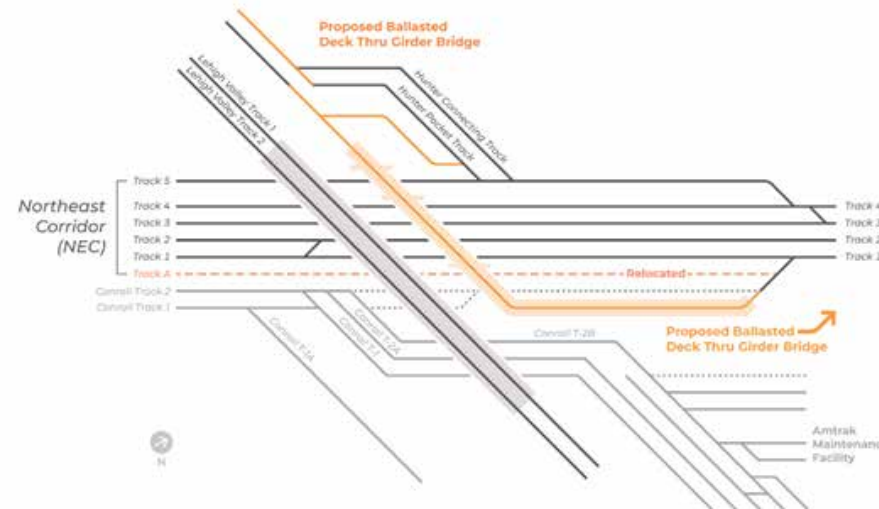
The Raritan Valley Line (RVL) extends from its western terminus in High Bridge eastward, and joins the Conrail-owned Lehigh Line at Aldene, NJ (near Cranford). Then continues on Conrail's Lehigh Line into Newark, where it enters the Amtrak-owned Northeast Corridor (NEC) approximately two miles west of Newark Penn Station. At a location known as Hunter Interlocking, eastbound trains on the RVL connect to the NEC on Track 4 (outbound) and must either cross over all of the existing NEC tracks at grade to reach inbound Track 1, or travel against the normal flow of rail traffic along Track 4 to reach Newark Penn Station. These complex movements create conflicts along the main stretch of the NEC between Newark Penn Station and Newark Airport Station, typically resulting in delays for the RVL trains as they wait for an open slot to enter the corridor.

If funded, the proposed Hunter Flyover project would mitigate these issues by constructing a structure over the NEC that will carry the RVL eastbound trains onto inbound Track 1, thereby eliminating the necessity to cross the NEC main tracks at grade. Elimination of crossover movements would substantially mitigate delays on both the RVL and NEC and increase train on-time performance. In addition, this operational improvement would support future growth of RVL service.

### EXISTING: RVL Merge with NEC



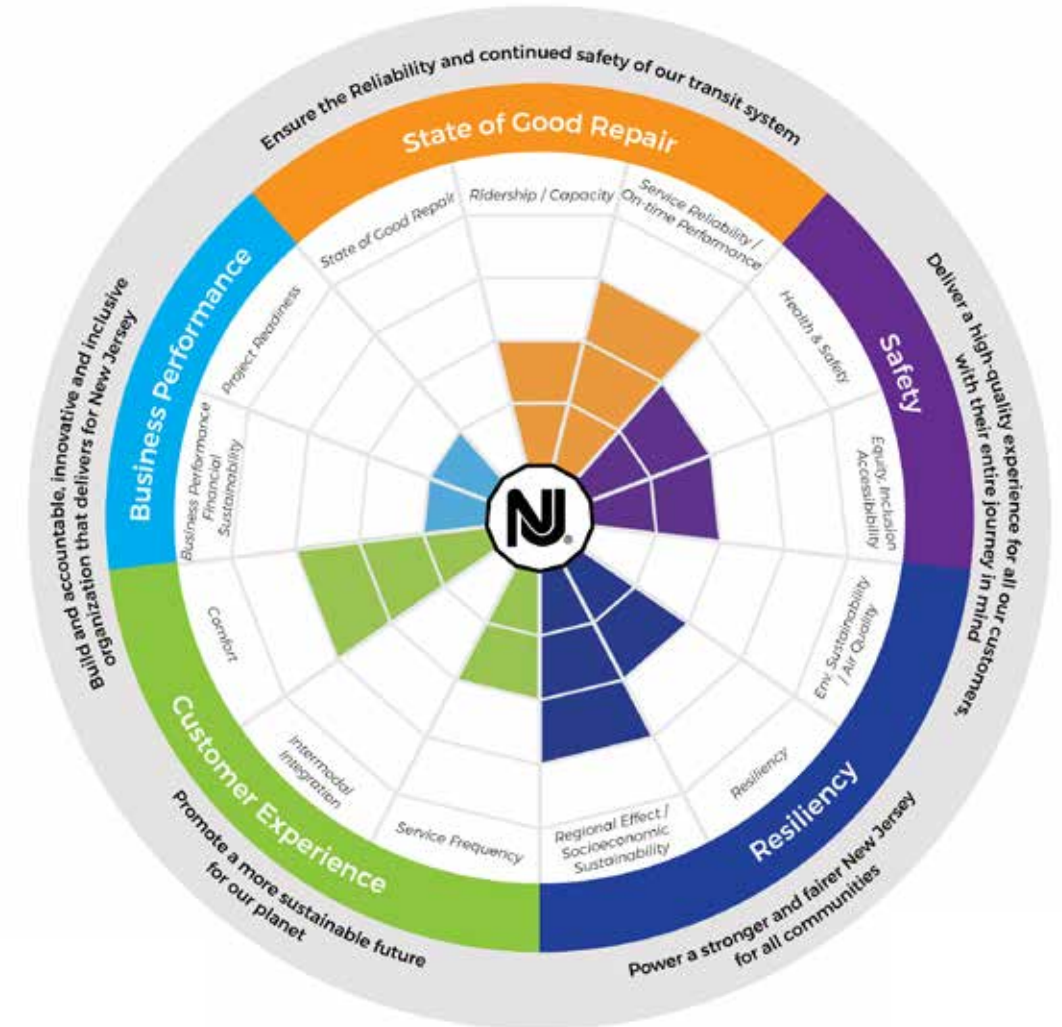
### PROPOSED: Hunter Flyover



## ESTIMATED PROJECT COSTS (2020 DOLLARS):

**\*\$300 Million**

\* Cost includes Track A work



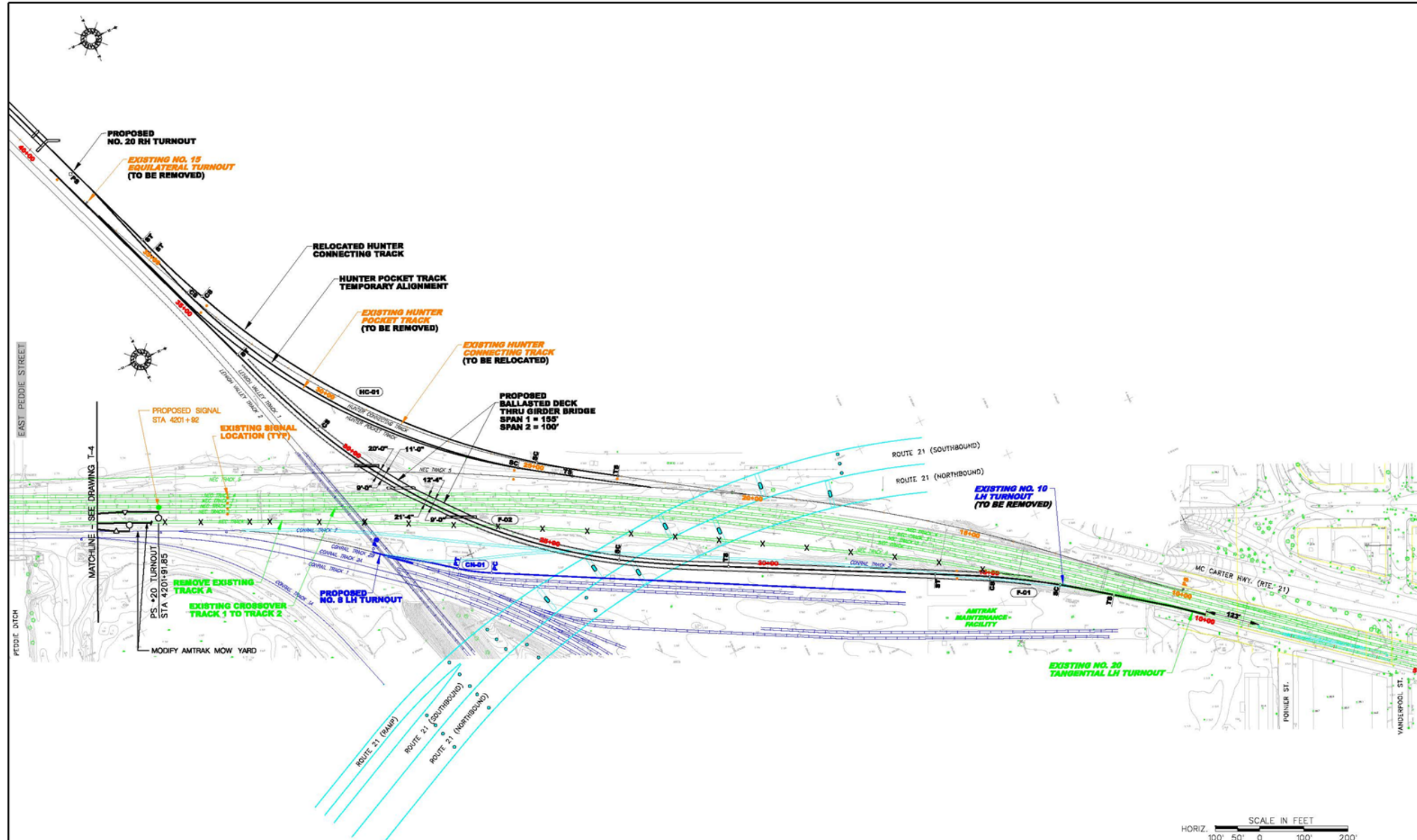
### Value to Customers

- › Reduces train delays
- › Enables more reliable service and increased on-time performance

### Value to State

- › Minimizes revenue loss from service disruptions
- › Provides for future revenue growth by supporting future growth of RVL

# PROJECT SHEET | HUNTER FLYOVER



Submitted by:  
**SYS TR A**  
 USA

DATE	REVISIONS	No.

DESIGNED:  
S. LO  
 DRAWN:  
R. JENSEN  
 CHECKED:  
J. BONSIGNORE  
 APPROVED:  
P. SULLIVAN

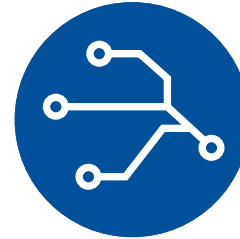
HUNTER FLYOVER  
 TRACK "A" ANALYSIS

PLAN

SCALE: AS NOTED	CONTRACT No. 09-090B
FILE NAME: 1873_08	ISSUE
DRAWING No.: T-5	REV.: DRAFT
DATE: 12/16/2011	SHEET No. 5 of 6

# PROJECT SHEET HUNTER FLYOVER

**ESTIMATED TOTAL PROJECT COSTS**  
**\$300M**



### **Regional Effect/Socioeconomic Sustainability**

The new flyover would mitigate delays on the Raritan Valley Line and NEC and is a vital link in restoring direct NYC service from the Raritan Valley Line



### **Safety**

The new flyover would eliminate movements across the NEC tracks to improve worker safety

## 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*



### **Service Reliability**

The new flyover would mitigate delays



### **Comfort**

The new flyover could provide one seat rides into New York City

Elimination of these movements would **substantially mitigate delays and increase train on-time performance.**

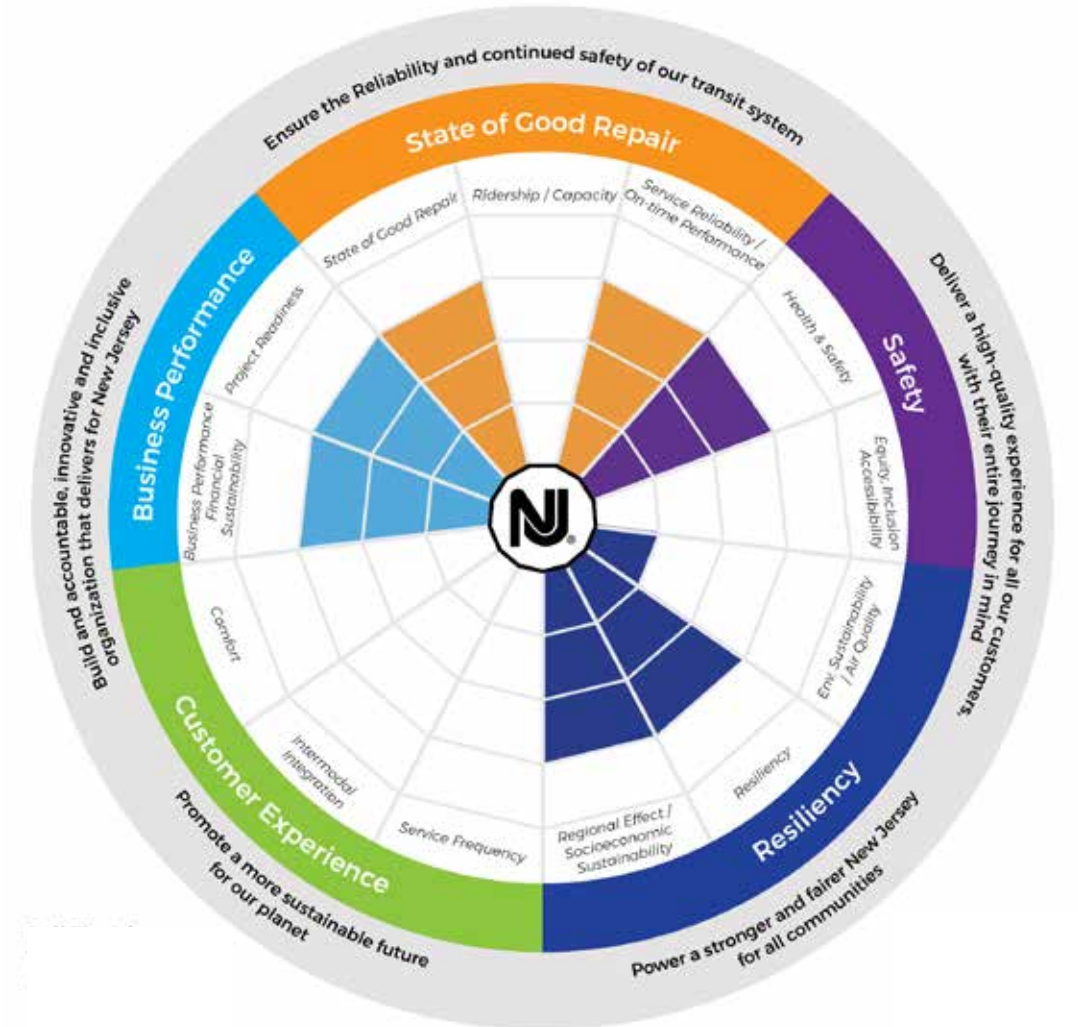
# PROJECT SHEET | RAIL ELECTRIC TRACTION SUBSTATION ASSESSMENT

## Description

NJ TRANSIT operates on seven rail lines, three of which use overhead catenary systems to power their locomotives: Morris & Essex, Montclair-Boonton, and the North Jersey Coast Line. The electric traction (ET) substations located in various sections along each electrified line are responsible for providing power to the catenary systems. The substations convert electric power supplied by power utility companies into a form that is usable by the catenary system. NJ TRANSIT is responsible for maintaining these substations and ensuring they remain in a state of good repair so that they can continue to provide reliable train service to their customers. A malfunctioning substation can result in loss of train power and massive delays.

In this project, NJ TRANSIT would seek to enter into an agreement with the Public Service Electric & Gas Company (PSE&G) to inspect and assess 16 of NJ TRANSIT's substations. The plan includes first having PSE&G inspect a single substation in order to develop an effective strategy for inspecting the remaining 15 substations. This would allow PSE&G to more efficiently and effectively assess each substation and provide NJ TRANSIT with the data to properly maintain its infrastructure. This project would ultimately improve rail reliability by ensuring its infrastructure remains in a consistent state of good repair.

**EXISTING:  
Mason Substation**



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

**\$9 Million**

## Value to Customers

- › Reduces train delays from power disruptions associated with substation malfunctions

## Value to State

- › Increases service reliability and on-time performance
- › Lowers operating cost, including unscheduled maintenance and overtime, allowing for more efficient use of public funds

# PROJECT SHEET RAIL ELECTRIC TRACTION SUBSTATION ASSESSMENT

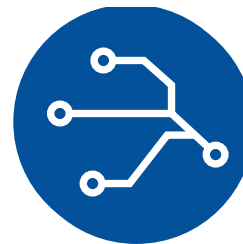
ESTIMATED TOTAL  
PROJECT COSTS

**\$9M**



### **Resiliency**

Regular monitoring and servicing of substations would ensure that trains are able to run reliably during all types of weather events



### **Regional Effect/Socioeconomic Sustainability**

Rail lines across the system would benefit from this program

## 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*



### **Service Reliability**

More reliable substation performance would enable trains to run on a more consistent schedule



### **State of Good Repair**

This program would ensure that rail substations are maintained well and serviced regularly

*This project would more **effectively and efficiently assess each substation** and provide NJ TRANSIT with the data to **properly maintain the infrastructure.***

# PROJECT SHEET | NEW GRAW SIGNAL SUBSTATION

## Description

The North Jersey Coast Line (NJCL) services approximately 22,800 NJ TRANSIT customers daily between Bay Head and New York Penn Station. The Aberdeen Substation, located just east of the Aberdeen-Matawan Station, is responsible for providing power to the track signal system between Aberdeen and Graw, which is the location where the NJCL enters the Northeast Corridor (NEC). A malfunction at the substation and/or with the signal system can result in an out-of-service condition for this corresponding stretch of track which spans approximately 14 miles. Given the lack of system redundancy at this location, there are increased susceptibility of service disruptions along this stretch of track.

If funded, this project would construct a new signal substation at the Graw Interlocking where the NJCL enters the NEC. The proposed substation would provide signal power west towards Aberdeen to add redundancy and limit the stretch of track that relies on a single substation for signal power. This much needed redundancy to the signal system between Aberdeen and Graw would mitigate the risk of loss of track operations due to signal system or substation malfunction. Ultimately, this project would decrease operational delays and improve reliability along the NJCL.

**EXISTING:**  
NJCL Entering NEC at Graw

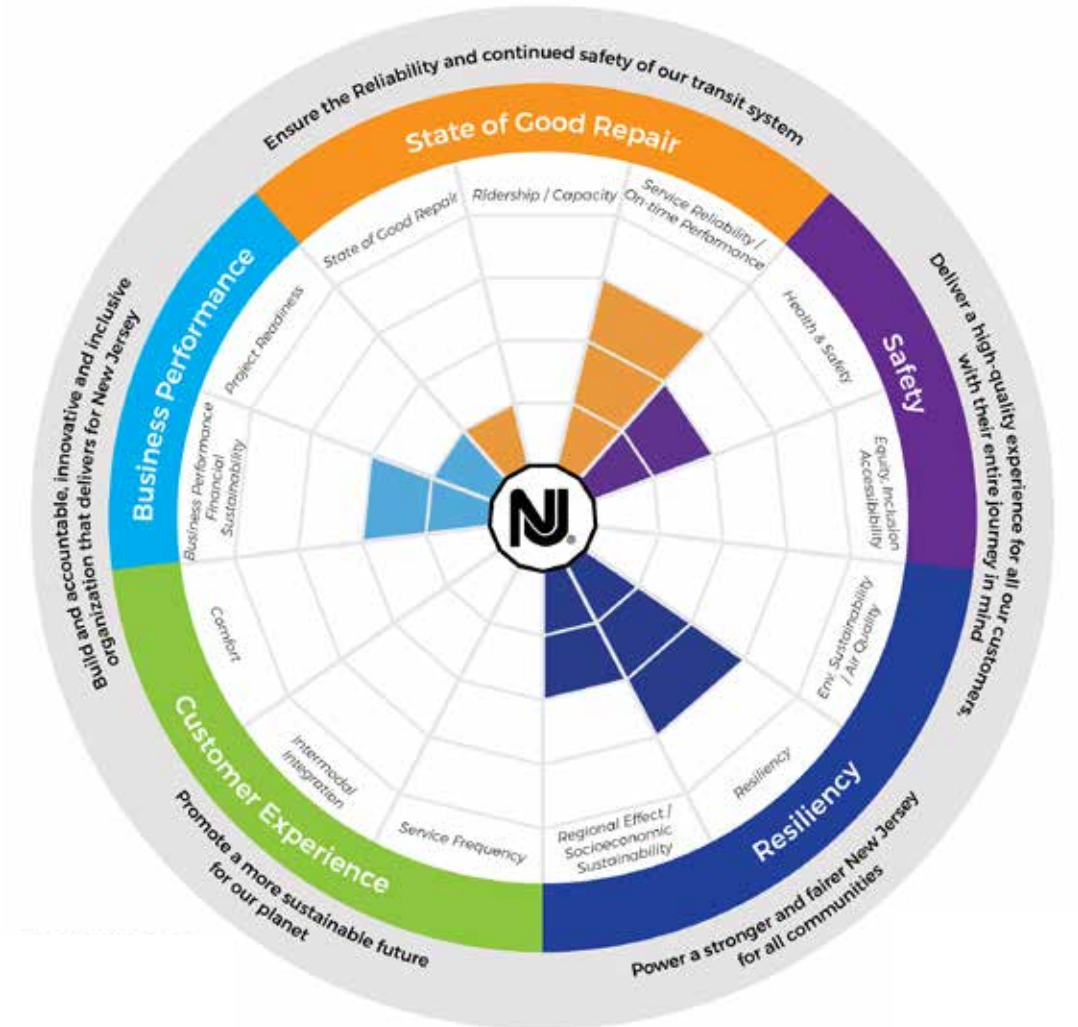


**PROPOSED:**  
Signal Substation



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

**\$20 Million**



### Value to Customers

- › Provides more reliable service

### Value to State

- › Lowers costs associated with recurring service outages, which allows for more efficient use of public funds



# PROJECT SHEET NEW GRAW SIGNAL SUBSTATION

ESTIMATED TOTAL  
PROJECT COSTS

**\$20M**



## **Business Performance/Financial Sustainability**

Added redundancy to the signal system would reduce pressure and maintenance costs on the stretch of track that relies on a single substation



## **Service Reliability**

Reduced risk of a track operations failure would increase service reliability

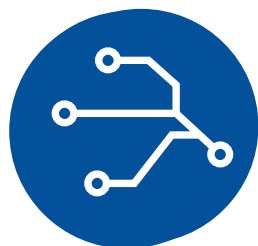
## STRATEGIC GOALS MET



*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*



## **Regional Effect/Socioeconomic Sustainability**

Limit the stretch of track that relies on a single substation for signal power



## **Resiliency**

Add redundancy to the signal system to mitigate the risk of track operations failure due to a signal system or substation malfunction

The substation would **provide signal power** west towards Aberdeen to **add redundancy** and limit the track that relies on a single substation for signal power.

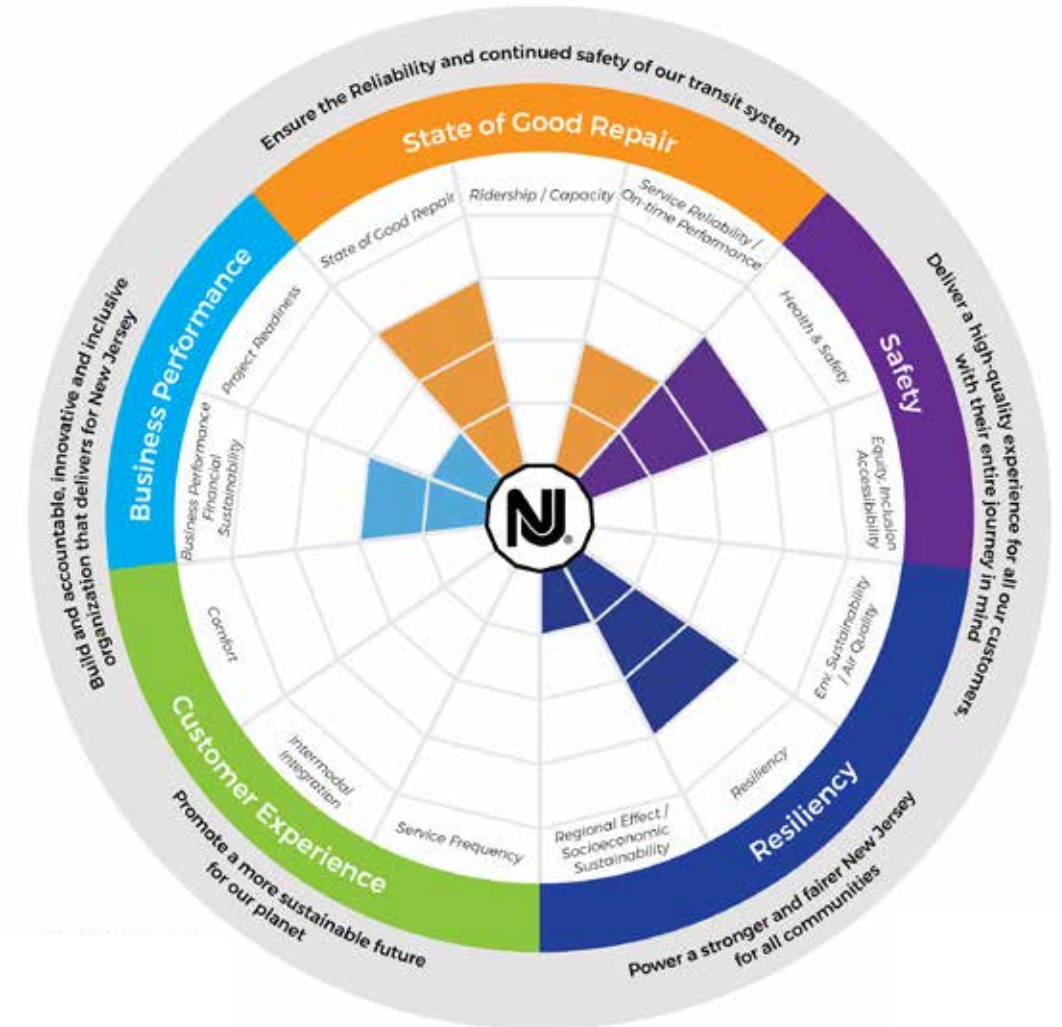
# PROJECT SHEET | SUFFERN SUBSTATION AND CREW QUARTERS

## Description

The Main-Bergen County Line services approximately 31,450 NJ Transit passengers a day between Suffern, NY and Hoboken, NJ. Just north of Suffern Station is the Suffern Substation, which is located underneath the access ramp for Interstate 87 and is part of Suffern Yard. This substation is responsible for providing power to trains parked in the yard, track switch heaters, brake air compressors and heaters, property lights, and the crew quarters. However, the existing substation has sustained considerable damage from ice and snow containing road salt being dropped on the switch gear. This condition is compromising the reliability of the equipment and the safety of NJ TRANSIT employees. In addition to switch gear damage, the current substation location is between a steep cliff and support pillars for the highway ramp, making it impossible to bring in any equipment to service the substation.

If funded, this project would replace the existing substation and move it north towards the existing Suffern Yard. This would put it in an area free of overhead roadways and support structures, which would prevent deterioration from snow, ice, and debris falling on the substation. This relocation would also improve access to the substation for maintenance crews and equipment. Additionally, the substation building would also function as a crew quarters for relevant NJ TRANSIT maintenance personnel. Ultimately, replacement and relocation of the Suffern Substation would mitigate substation maintenance concerns, improve worker safety, and increase service reliability.

## PROPOSED: New Substation



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

**\$21 Million**

## Value to Customers

- › Provides more reliable service
- › Increases equipment reliability

## Value to State

- › Lowers maintenance costs, which allows for more efficient use of public funds
- › Reduces in potential injuries associated maintenance work under overhead roadway

# PROJECT SHEET SUFFERN SUBSTATION AND CREW QUARTERS

ESTIMATED TOTAL  
PROJECT COSTS

**\$21M**



### ***Business Performance/Financial Sustainability***

Placing the new substation in a safer location would decrease maintenance and operations costs



### ***Service Reliability***

The new substation would be more reliable and decrease delays affecting the rail line and equipment due to the old substation's unreliable power supply

## 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*



### ***Health/Safety***

Relocating the substation away from the roadway would improve the safety of all personnel using the substation



### ***State of Good Repair***

Replacing the outdated substation and protecting the new substation from harmful weather would improve state of good repair

*Replacement and relocation of the substation would **mitigate substation maintenance concerns, improve worker safety, and increase service reliability.***

# PROJECT SHEET | WOOD TO STEEL POLE CONVERSION ON GLADSTONE BRANCH

## Description

The Gladstone Branch runs single track service between Gladstone and Summit and is an extension of the Morris and Essex (M&E) Line. Currently, there are wood poles along the Gladstone Branch right-of-way that support the catenary and signal lines for approximately 22 miles. These poles are frequently damaged during strong wind events and disrupt the track catenary and signal systems. Any disruption to service on this branch is felt throughout the entire line because it only runs a single track.

If funded, this project would replace the existing obsolete wood poles with stronger steel poles. The steel poles would withstand stronger winds and prevent widespread line outages during extreme events. Additionally, steel poles provide a much longer service life than wood, which would reduce maintenance expenses. Ultimately, replacement of the existing wood poles with stronger steel poles would allow the NJ TRANSIT to provide more reliable service to its customers along the Gladstone Branch while lowering costs.

**EXISTING:**  
Wood Poles

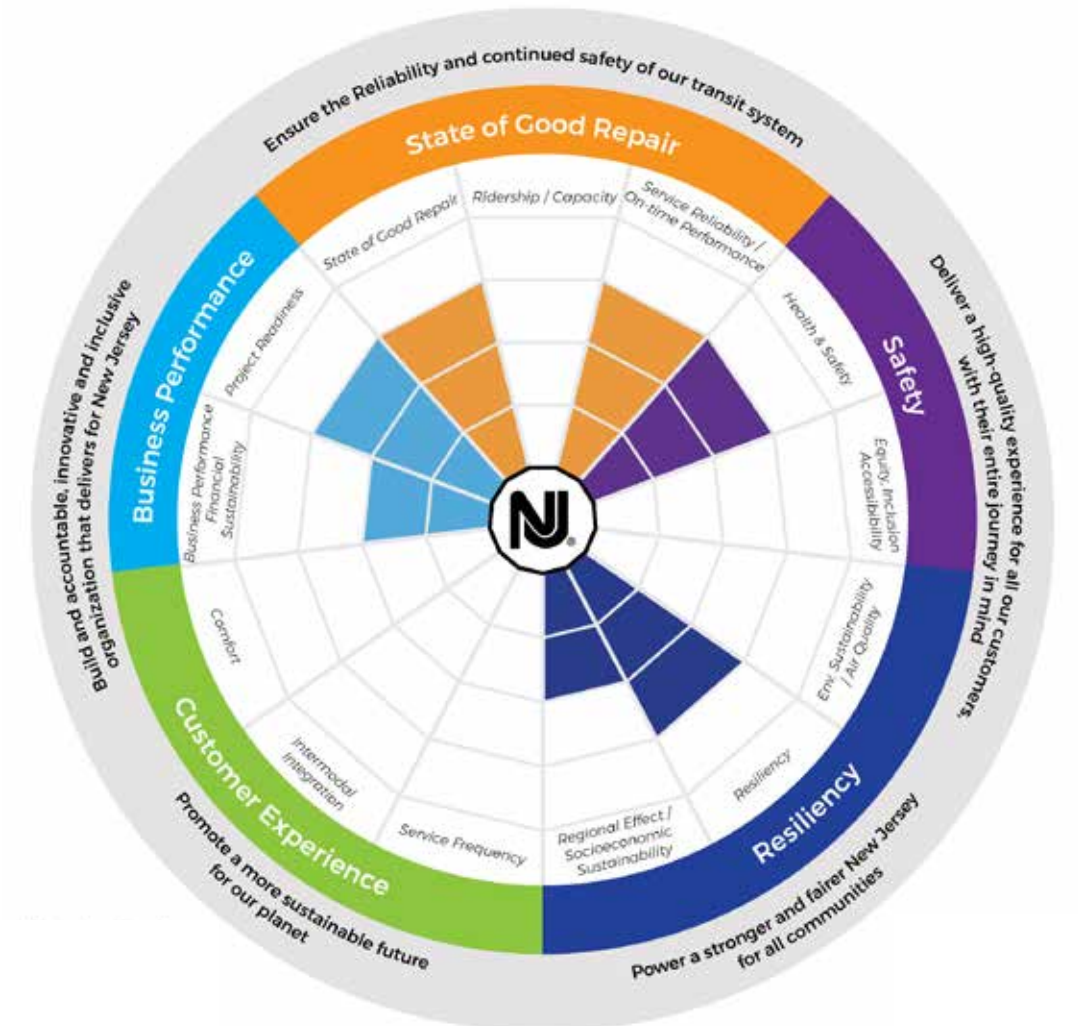


**PROPOSED:**  
Steel Poles



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

**\$81 Million**



## Value to Customers

- › Provides more reliable service
- › Increases on-time performance

## Value to State

- › Lowers costs associated with maintaining existing wood poles, allowing for more efficient use of public funds
- › Provides resilient infrastructure to prevent damage to signal and catenary systems during extreme wind events

# PROJECT SHEET WOOD TO STEEL POLE CONVERSION ON GLADSTONE BRANCH

ESTIMATED TOTAL  
PROJECT COSTS

**\$81M**



### **Resiliency**

New steel poles would be able to withstand strong wind events



### **Health/Safety**

Stronger steel poles would decrease the risk of poles falling during extreme wind events

## 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*



### **Service Reliability**

Replacing outdated wood poles with steel poles would reduce delays associated with downed poles



### **State of Good Repair**

Replacing wood poles with steel poles that have a longer service life would improve state of good repair

*Replacing obsolete wood poles with stronger steel poles would allow NJ TRANSIT to **provide more reliable service to customers along the Gladstone Branch.***

# PROJECT SHEET | ELECTRIC TRACTION STORAGE FACILITY

## Description

NJ TRANSIT currently has no formal central inventory facility or system to manage electric traction (ET) components. Equipment is either stored outside along the rail right-of-way or in shipping containers placed wherever space is available throughout electrified railroad territory. A lack of a central storage facility makes it challenging for NJ TRANSIT to procure ET equipment in both adequate quantities and timely manner. Furthermore, ET inventory is exposed to the elements in ad-hoc storage units scattered throughout the system.

If funded, a centralized inventory control facility where materials could be securely stored and inventoried after procurement would allow for quick sourcing from an organized stock and speed up deployment in times of scheduled maintenance, as well as when there is equipment failure or an emergency. The facility would be expected to include up to 75,000 square feet of indoor warehouse storage and 90,000 square-foot of yard storage to house and protect approximately \$40 million worth of inventory. Key facility features would include two operable cranes and large garage doors to simplify equipment movement within the site and to allow rapid load-out of service vehicles with replacement equipment to quickly restore service where or when failures may occur.

**EXISTING:** Example of Shipping Container Storage Site



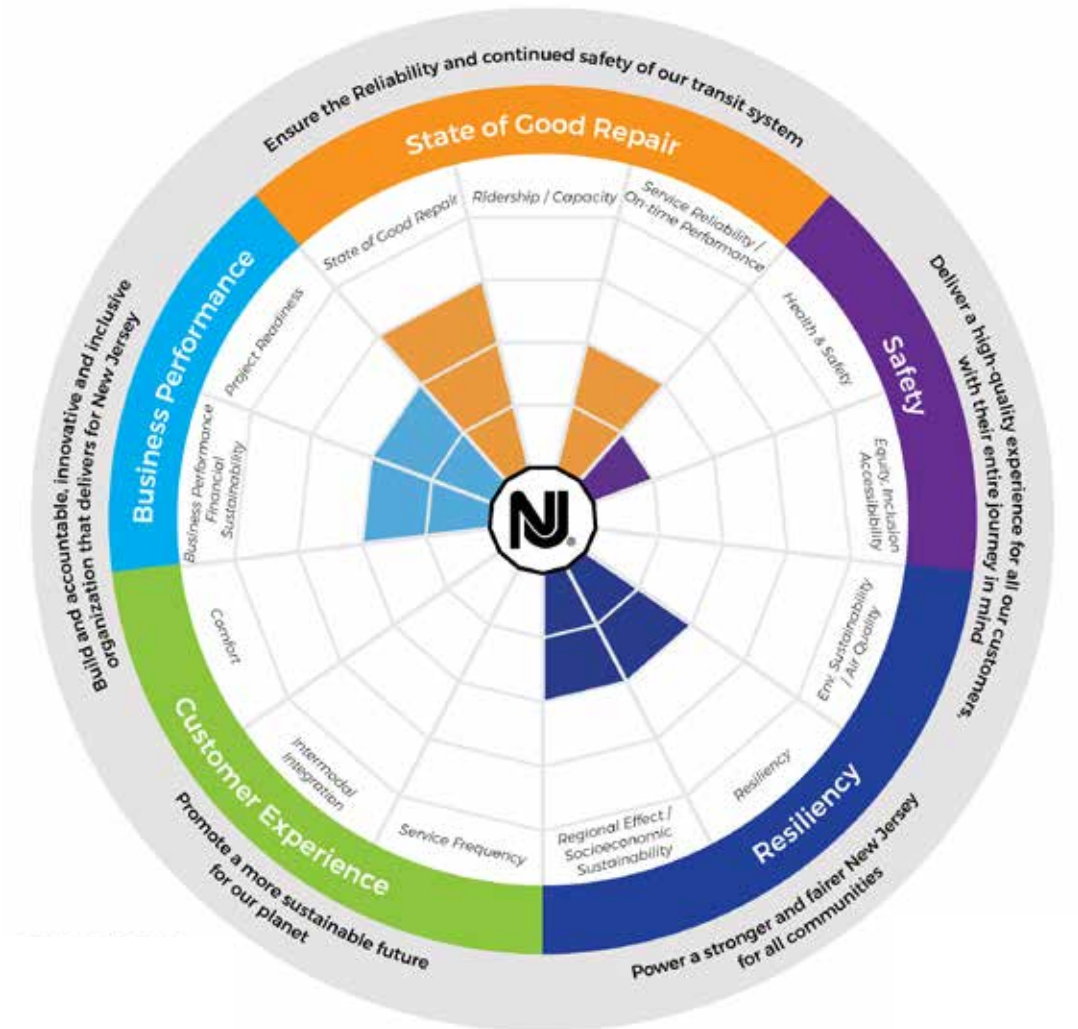
**PROPOSED:** Warehouse Style Storage With Overhead Crane



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

**\*\$26 Million**

*\*Estimate based upon concept design*



### Value to Customers

- › Increases on-time-performance, safety and service reliability
- › Reduces service outages

### Value to State

- › Increases efficiency of ET maintenance operations
- › Increases return on investment for use of equipment protected during storage
- › Lowers operating costs

# PROJECT SHEET ELECTRIC TRACTION STORAGE FACILITY

ESTIMATED TOTAL  
PROJECT COSTS

**\$26M**



### ***Business Performance/Financial Sustainability***

A centralized inventory would allow for quicker emergency deployment and reduced warehouse operating costs



### ***State of Good Repair***

A modern storage facility would better equip the agency to implement repairs and improve service life

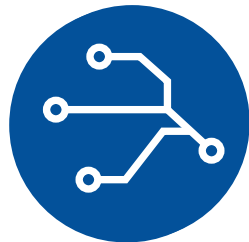
## STRATEGIC GOALS MET



*Promote a more sustainable future for our planet*



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



### ***Regional Effect/Socioeconomic Sustainability***

A centralized facility would allow for stockpiling of critical components for preventative maintenance; eliminating failures before they occur



### ***Resiliency***

New facility would allow for rapid recovery from extreme weather events or service emergencies

Centralized inventory would allow **quick sourcing from organized stock and reduce down time** in emergencies and outages.

# PROJECT SHEET | NJ TRANSITGRID

## Description

To provide a resilient energy supply for a targeted portion of rail infrastructure, NJ TRANSIT would construct a first-of-its-kind electrical microgrid to supply highly reliable power during storms or other times when the centralized power grid is compromised. NJ TRANSITGRID received a Record of Decision from the Federal Transit Administration in April 2020. NJ TRANSIT is considering ways to better incorporate renewable energy and storage as part of the project's continued development, in alignment with the State's Energy Master Plan.

NJ TRANSIT currently relies on a regional grid managed by Pennsylvania-New Jersey-Maryland Interconnection (PJM) to provide electricity for its traction power system. This creates a dependency on a single power supply and distribution system, which is vulnerable to power outages during extreme events. Vulnerability of the existing system was realized in 2012, when Superstorm Sandy caused widespread power outages that disrupted NJ TRANSIT service and operations for several days.

If funded, the proposed facility would operate 24/7 and be sized to handle limited operations on the Northeast Corridor between New York's Penn Station and NJ TRANSIT's Jersey Avenue Station in New Brunswick; the Morris & Essex line between Hoboken Terminal and Maplewood Station; and the Hudson-Bergen Light Rail (HBLR) Transit System. The project would also provide power to the signal system on a portion of the Main Line.

The NJ TRANSITGRID project involves constructing a microgrid central facility (MCF) and creating a distributed generation system. In addition to providing emergency backup power, these resources would allow NJ TRANSIT to participate in peak "shaving" practices, which would lower the cost of electricity provided by the regional grid. A nanogrid would be installed to provide emergency power for the HBLR.

NJ TRANSITGRID would maintain and enhance mobility and regional security during a power outage, minimize disruptions to the regional workforce and economy, enhance electric grid reliability by providing additional sources of efficient power, and minimize pollutants by utilizing clean energy technologies. As design is ongoing, a portion of the project would also incorporate distributed energy, renewable energy (solar panels and flywheels), and other technologies to provide power to key NJ TRANSIT stations, maintenance facilities, bus garages, and other buildings.

### EXISTING: Decommissioned Coal-Powered Hudson Generating Station



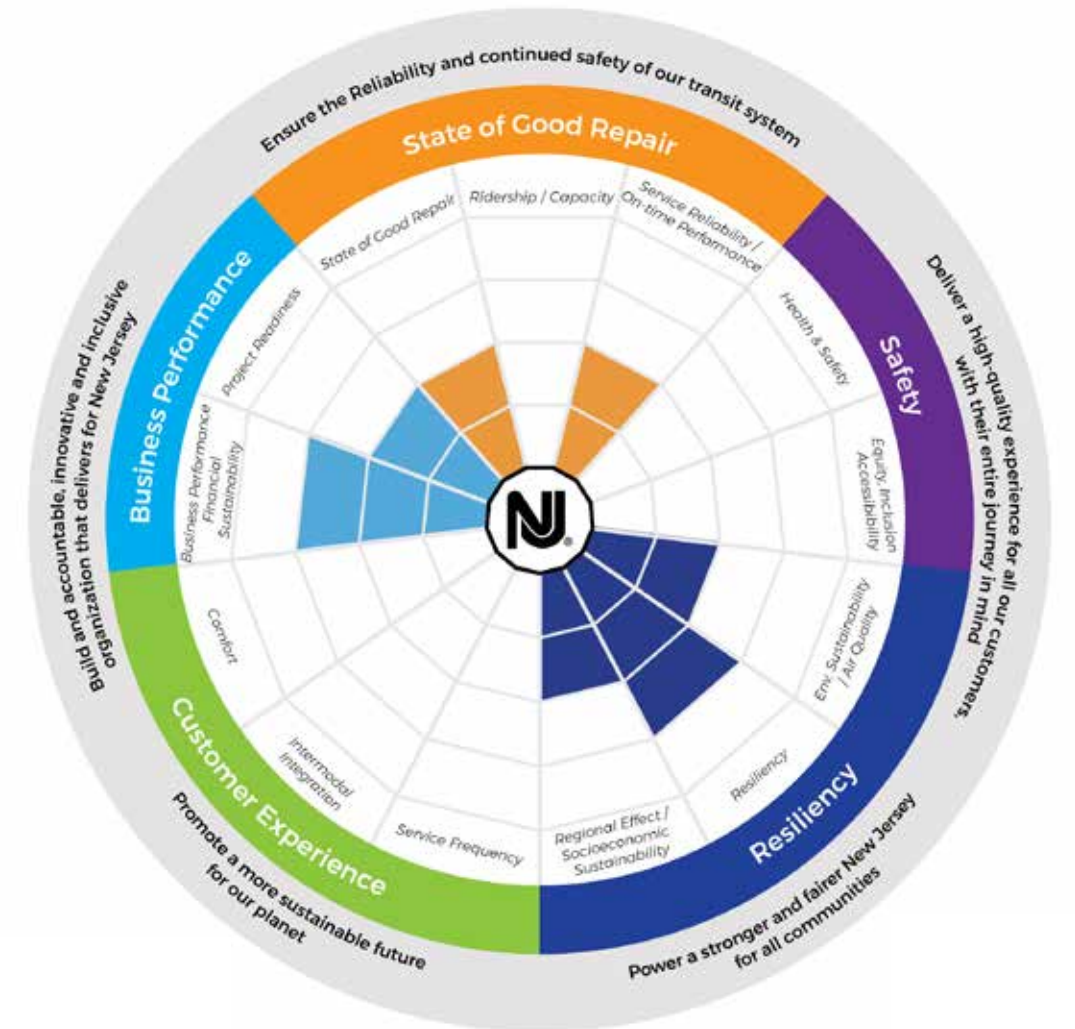
### PROPOSED: Microgrid Central Facility (MCF)



### ESTIMATED PROJECT COSTS (2020 DOLLARS):

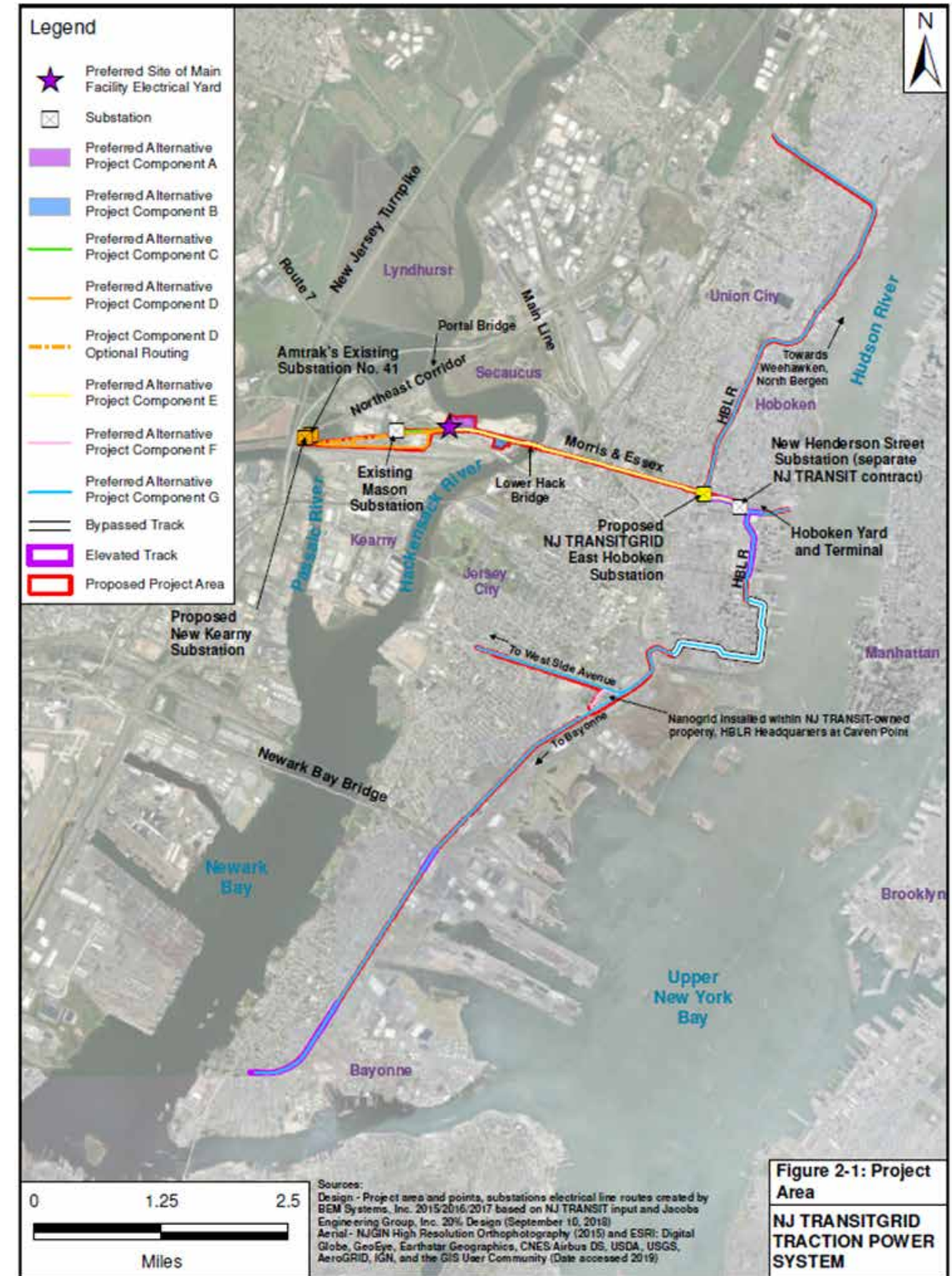
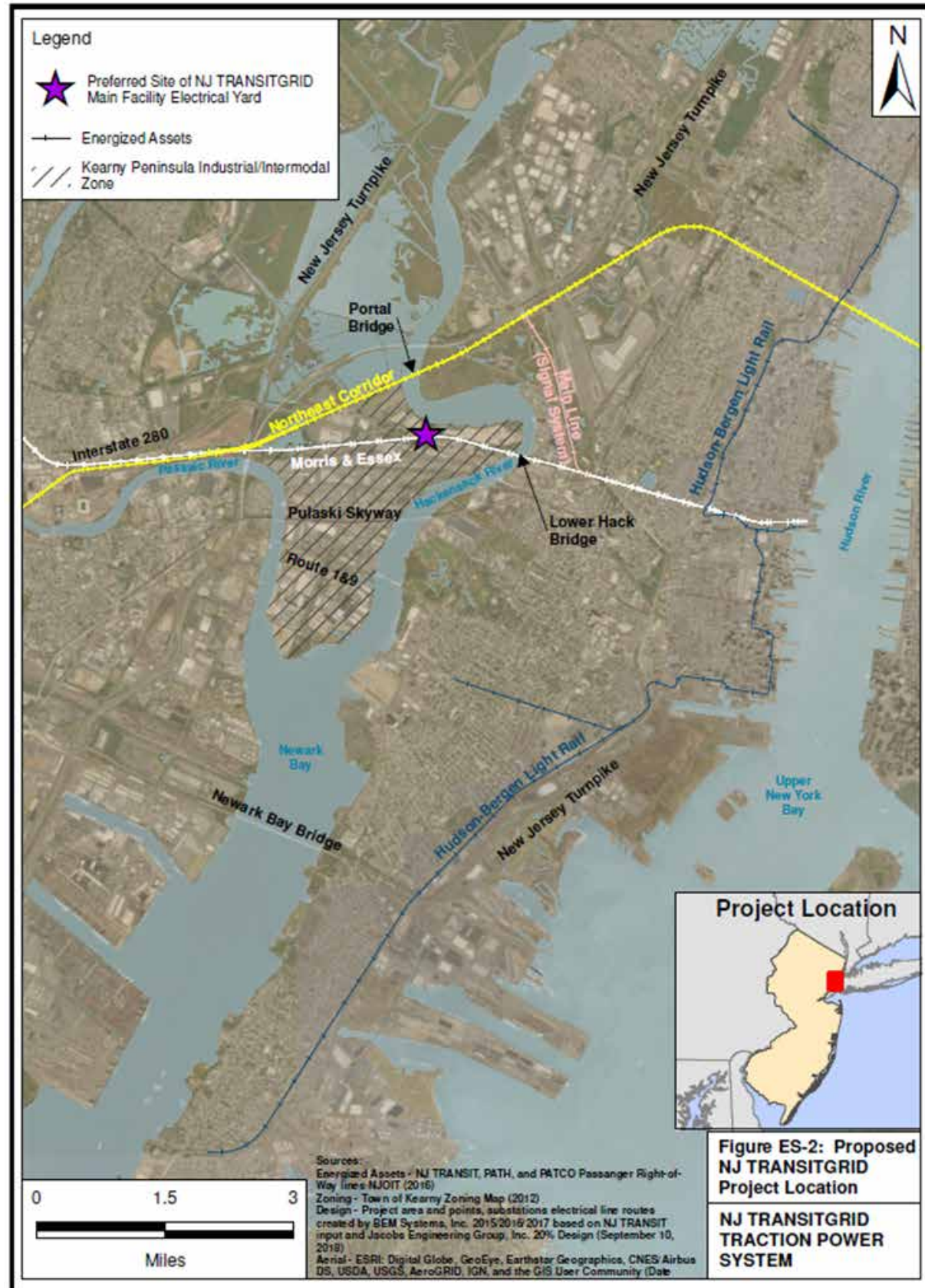
**\*\$577.4 Million**

*\* Year 1 includes funds already spent on design phase activities*





# PROJECT SHEET | NJ TRANSITGRID



**ESTIMATED TOTAL  
PROJECT COSTS**  
**\$577.4M**



**Business Performance/Financial Sustainability**

NJ TRANSITGRID would provide efficient power and lessen service outages



**Service Reliability**

A backup power source would increase service reliability and eliminate long disruptions during extreme weather events

**STRATEGIC GOALS MET**



*Promote a more sustainable future for our planet*

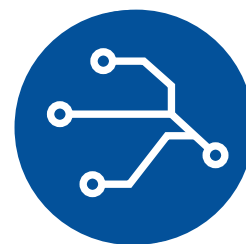


*Ensure the reliability and continued safety of our transit system*



**Resiliency**

NJ TRANSITGRID would provide a backup power source during extreme weather events



**Regional Effect/Socioeconomic Sustainability**

Reliable backup power source would lessen disruptions and keep service running across the transit network during extreme weather events

**NJ TRANSITGRID would enhance resilience to and preserve service during extreme weather events.**

# PROJECT SHEET | NEW SIGNAL CREW FACILITIES

## Description

A railway's signaling system is a critical component in providing safe and reliable train service. NJ TRANSIT has staff dedicated to maintaining these signals and making sure they function properly at all times. To perform this function, NJ TRANSIT provides crew quarters for the maintenance crews at critical locations along all its rail lines. These crew quarters, however, often need repair or require full replacement. The existing crew quarters servicing the Essay Interlocking is being removed as a result of the Raritan River Bridge Replacement Project and will need to be replaced with a new facility. Additionally, the crew quarters located at Kingsland Station is in need of rehabilitation.

If funded, a new crew quarters would be constructed near the existing Essay Interlocking on the North Jersey Coast Line and the existing crew quarters at Kingsland Station will be rehabilitated. These upgraded facilities would provide adequate office and administration space for six personnel and would allow them to work more safely and efficiently. Basic amenities such as lockers and bathrooms would also be provided. The reconstruction of the crew facility at Essay would need to be coordinated with the Raritan River Bridge Replacement Project.

**EXISTING:**  
Lyndhurst Signal Crew Quarters

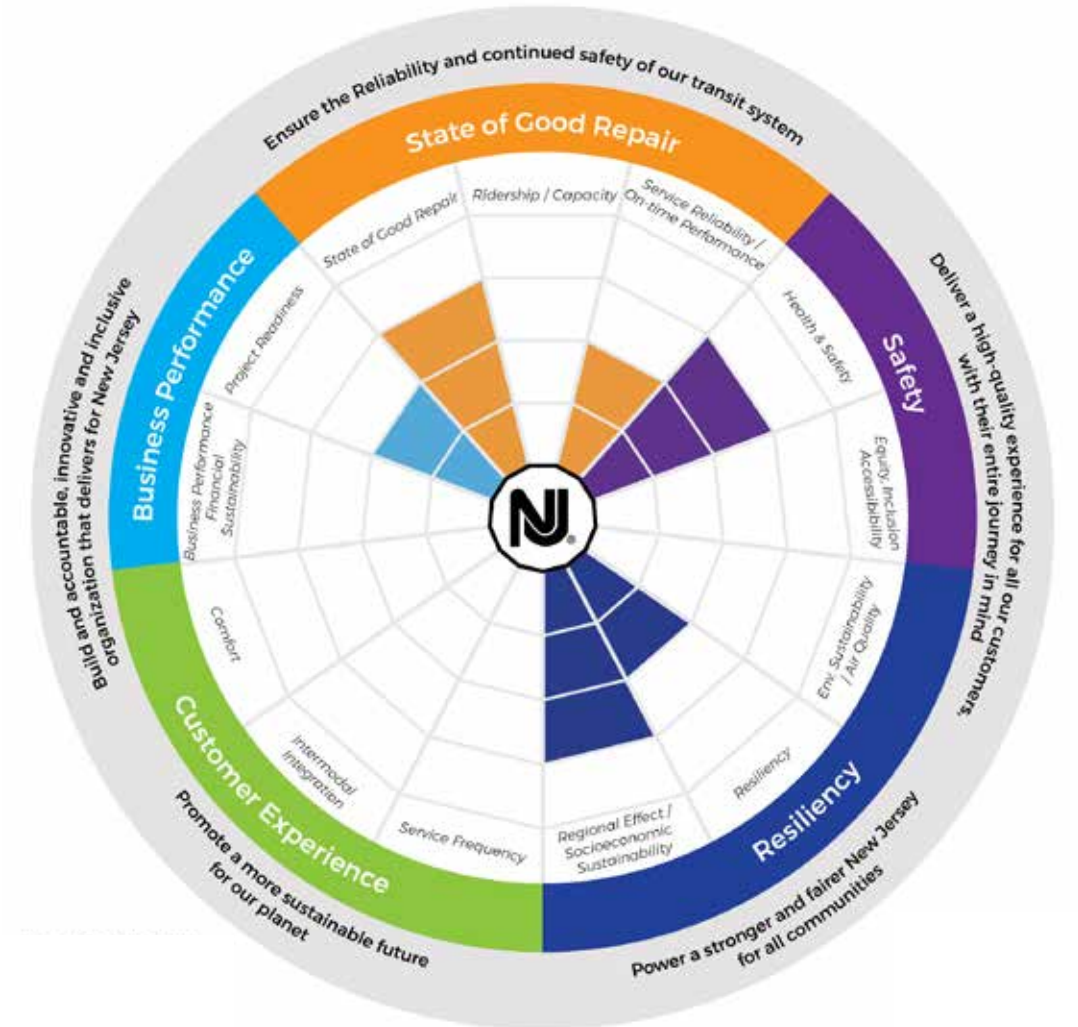


**PROPOSED:**  
Modular Office Building



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

**\$11 Million**



### Value to Customers

- › Provides new facilities for maintenance workers improving workforce efficiency

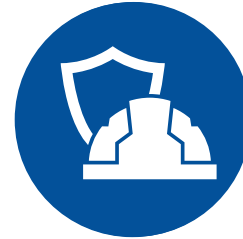
### Value to State

- › Reduces maintenance requirements for outdated facility

# PROJECT SHEET NEW SIGNAL CREW FACILITIES

ESTIMATED TOTAL  
PROJECT COSTS

**\$11M**



### **Health/Safety**

The new facilities would improve employee safety and provide more protections against extreme weather events



### **Resiliency**

The new facilities would be more resilient to extreme weather events

## STRATEGIC GOALS MET



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

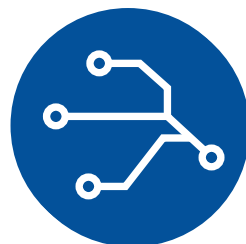


*Ensure the reliability and continued safety of our transit system*



### **State of Good Repair**

Outdated facilities would be replaced and rehabilitated



### **Regional Effect/Socioeconomic Sustainability**

New signaling facilities would help ensure service across the entire rail network runs smoothly

A new signal headquarters would **benefit the rail network and improve state of good repair and safety.**

# PROJECT SHEET | AUXILIARY TRANSIT OPERATIONS FACILITY

## Description

The Rail Operations Center (ROC) located in Kearny, NJ supports NJ TRANSIT's train and power dispatch operations and is its central command and control center for all train movements along its rail lines. Currently, there is no auxiliary facility to provide redundancy for operations, especially if the main facility is temporarily inaccessible or out of service. Additionally, as NJ TRANSIT continues to grow and more operations staff are needed, the current facility will not be able support the growing staff size.

If funded, this project would construct a new rail operations dispatch center just south of Paterson Station on the Main Line. The new resilient facility would provide redundancy to train and power dispatch operations by providing a second operations center and provide additional space for NJ TRANSIT personnel. Additionally, the proposed facility would serve as the HQ for Access Link and act as the training center for all NJ TRANSIT disciplines, including a separate structure for catenary work and fall protection adjacent to the proposed dispatch center. An attached garage would be constructed to provide adequate parking for both employees and visitors. Furthermore, the building would include space to store a 90-day stockpile of personal protective equipment (PPE) that could be easily accessed and distributed in the event of an emergency.

### EXISTING: NJ TRANSIT Lot

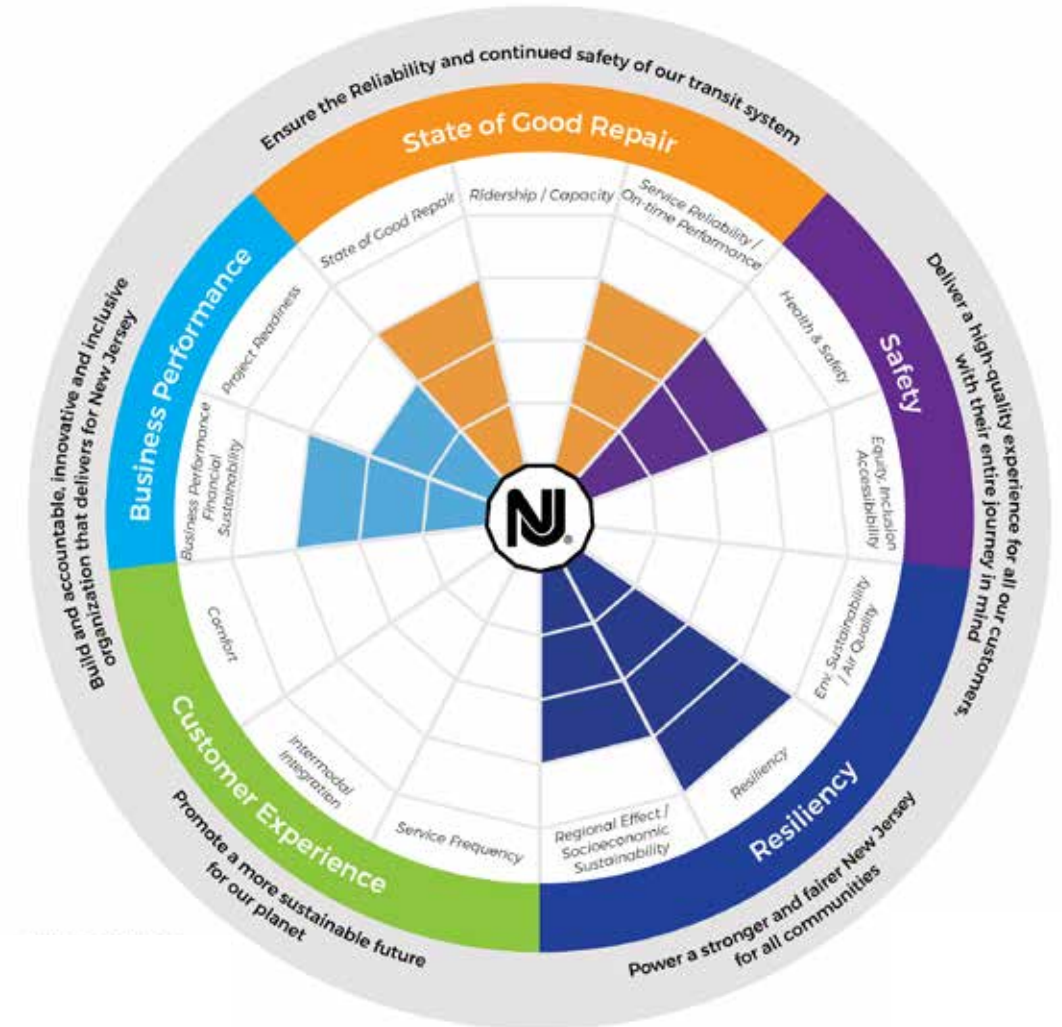


### PROPOSED: New Facility



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

**\$131 Million**



### Value to Customers

- › Reduces potential for service disruptions
- › Provides more reliable service

### Value to State

- › Minimizes revenue loss from service disruptions

# PROJECT SHEET AUXILIARY TRANSIT OPERATIONS FACILITY

ESTIMATED TOTAL  
PROJECT COSTS

**\$131M**



### **Resiliency**

The new facility would provide backup operations in case of an extreme weather event or emergency



### **Service Reliability**

The new facility would improve service reliability and on-time performance

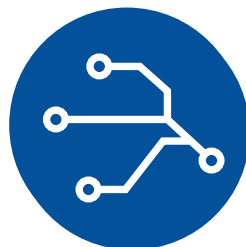
## STRATEGIC GOALS MET



*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*



### **Regional Effect/Socioeconomic Sustainability**

If an emergency event impacts the rail system, the network would have a backup command



### **State of Good Repair**

Upgrading to a new facility would ensure operations of dispatch commands in emergency situations

A new facility would **provide resiliency and redundancy** for train and power dispatch operations by providing a **second operations center** and additional space for personnel.

# PROJECT SHEET | RED BANK CREW QUARTERS REPLACEMENT

## Description

The Red Bank Yard, located just south of Red Bank Station, uses temporary trailers to support administration offices for the supervisory staff at Red Bank. These trailers are small, outdated, and do not provide the appropriate space or functionality needed for supervisors to perform their daily tasks. Furthermore, there is inadequate parking space for personnel.

If funded, this project would construct a new crew quarters at the Red Bank yard on the existing NJ TRANSIT right of way. The facility would be built to provide adequate office and administration space for 30 personnel and allow them to work more safely and efficiently. Additionally, a new parking lot would be built to support the additional staff.

### EXISTING: Red Bank Crew Quarters

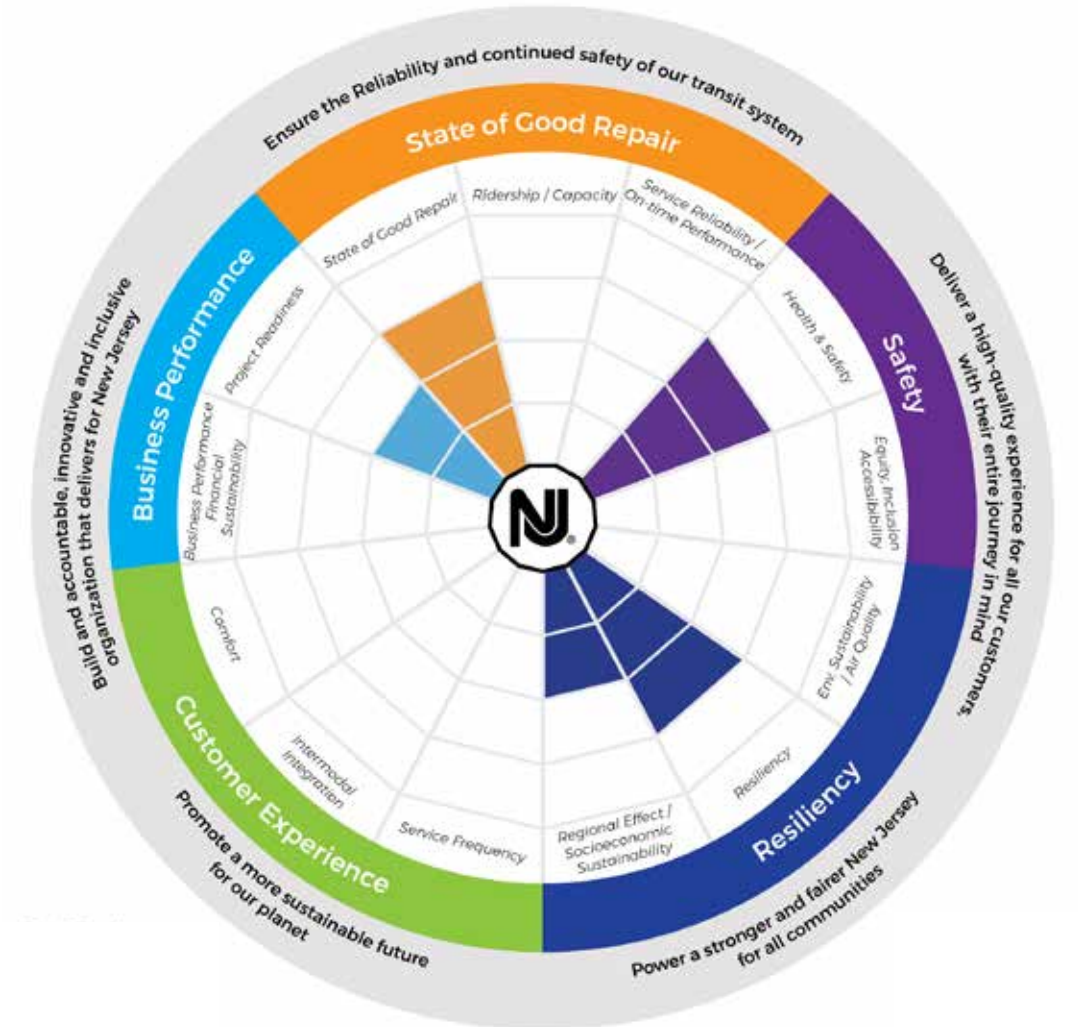


### PROPOSED: Modular Office Building



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

**\$7 Million**



### Value to Customers

- › Provides more reliable service

### Value to State

- › Reduces maintenance requirement for obsolete facility

# PROJECT SHEET RED BANK CREW QUARTERS REPLACEMENT

ESTIMATED TOTAL  
PROJECT COSTS

**\$7M**



## **Resiliency**

The new facility would be more resilient to extreme weather events



## 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**

The current crew quarters is obsolete and would be replaced with a new and more reliable facility



## **Health/Safety**

Constructing a new facility would improve employee safety and provide more protections against extreme weather events

New crew quarters would  
**improve employee safety and efficiency.**



# PROJECT SHEET | NORTHERN MOW FACILITY

## Description

The Wood-Ridge Maintenance-of-Way (MOW) Facility in Wood Ridge, NJ is located along the Bergen County Line just north of NJ TRANSIT's Westmont Station. This facility is used to house the equipment and personnel responsible for maintaining the railroad, which includes the tracks and signal systems. However, the existing facility will soon be unable to support the equipment and staff necessary to keep up with growing maintenance needs. This is a critical issue because maintaining the railway is paramount in providing reliable service to customers.

If funded, this project would construct a new MOW facility in Clifton, NJ along NJ TRANSIT's Main Line. The new site would be large enough to support additional MOW equipment, as well as provide adequate administrative space for the growing staff. Additionally, more space would be provided for parking and storing MOW equipment. Replacing the existing obsolete MOW facility with a larger, more modern MOW facility would allow NJ TRANSIT to better address the maintenance needs of the railway and provide a more consistent and reliable service to customers.

### EXISTING: Wood-Ridge MOW Facility

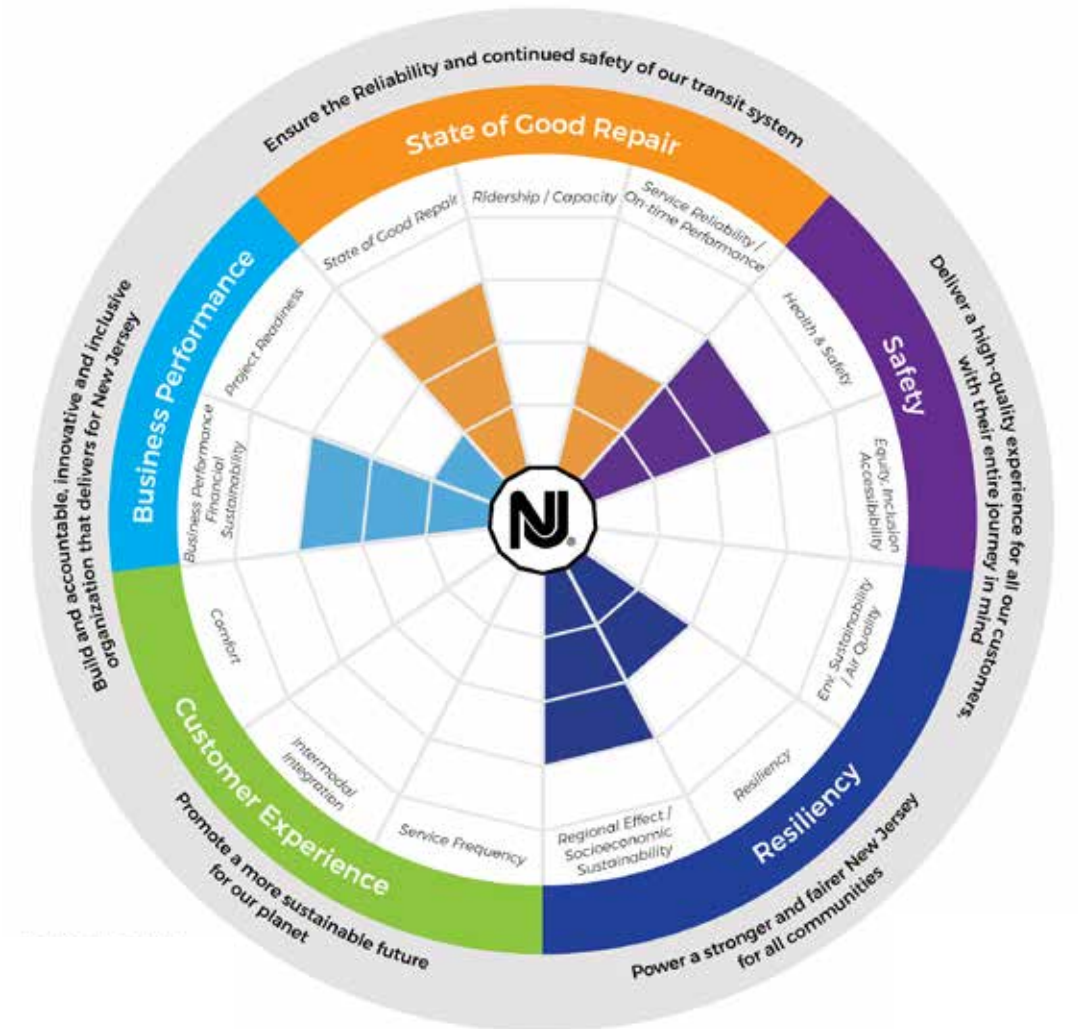


### PROPOSED: New Facility Location



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

**\$40 Million**



### Value to Customers

- › Increases on-timer performance and service reliability
- › Reduces service outages

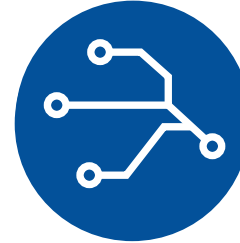
### Value to State

- › Minimizes revenue loss from service disruptions

# PROJECT SHEET NORTHERN MOW FACILITY

ESTIMATED TOTAL  
PROJECT COSTS

**\$40M**



### **Regional Effect/Socioeconomic Sustainability**

The new facility would improve equipment storage and space for administrative operations along the Main Line



### **State of Good Repair**

Upgrading to a larger facility equipped with additional storage space would improve state of good repair

## 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*



### **Service Reliability**

The new facility would decrease service delays due to maintenance issues and increase reliability



### **Business Performance/Financial Sustainability**

Less frequent service disruptions due to improved maintenance would reduce operations and maintenance costs

A new larger facility would allow NJ TRANSIT to **better address the maintenance needs** of the railway and **provide more reliable service to customers.**

# PROJECT SHEET | BERGEN TUNNEL SOUTH TUBE REHABILITATION

## Description

The Bergen Tunnels are two parallel tubes that carry four railroad tracks under Jersey City connecting NJ TRANSIT multiple rail branches to Hoboken Terminal. These tunnels are essential infrastructure that provide a vital, necessary link in the NJ TRANSIT network. Given the age of the structures, they must be carefully maintained to ensure they remain operational and in a state of good repair. In 2001, the north tube was rehabilitated to extend its overall service life, however, due to funding issues, work was not completed on the south tube. Currently, the south tube suffers from severe water leakage that forms large icicles during winter months, requiring daily maintenance crews to remove them from the ceiling. The tunnels also lack adequate lighting and life safety systems such as extinguishers, emergency phones and sprinkler systems. Given the age of the structures coupled with the excessive leakage, the track and track beds frequently deteriorate and require increased maintenance.

If funded, this project would rehabilitate the Bergen Tunnels South Tube, bring the remaining tunnel infrastructure to a state of good repair, providing safety enhancements with the introduction of additional safety systems required by the NJ TRANSIT Tunnel Safety Committee. It would feature new sealing and waterproofing to mitigate leakage, which would prevent ice from forming while improving the tunnel's durability. These efforts would ultimately increase the tunnel's service life while drastically reducing maintenance costs associated with daily ice removals, as well as frequent track bed repairs. Furthermore, enhanced safety systems and lighting would improve overall safety for those who use the tunnels, including NJ TRANSIT personnel.

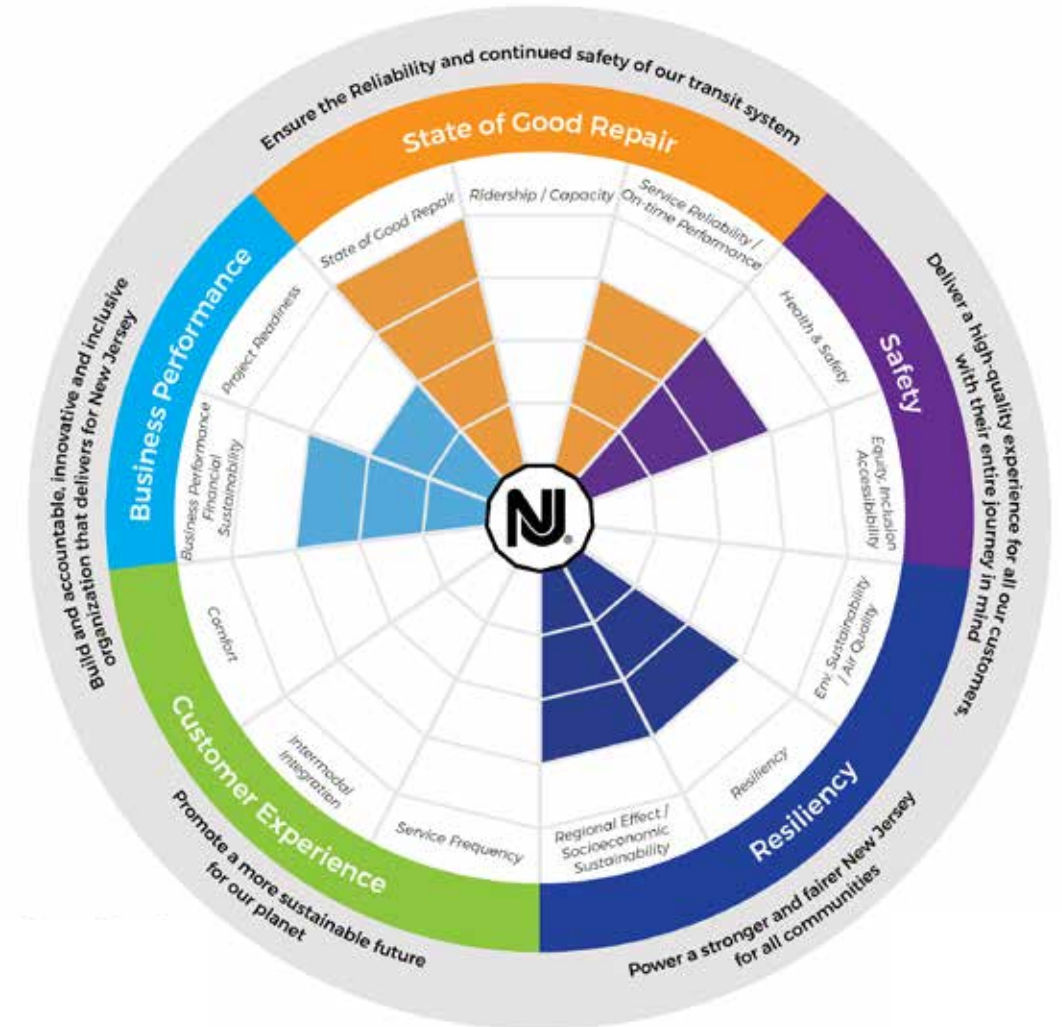
**ESTIMATED PROJECT COSTS  
(2020 DOLLARS):**

**\$155 Million**

**EXISTING:  
Bergen Tunnels**



**PROPOSED:  
Rehabilitation**



## Value to Customers

- › Increases on-time performance, safety and service reliability
- › Reduces train delays associated with tunnel maintenance

## Value to State

- › Lowers operating cost, including unscheduled maintenance and overtime, which allows for more efficient use of public funds

# PROJECT SHEET BERGEN TUNNEL SOUTH TUBE REHABILITATION

ESTIMATED TOTAL  
PROJECT COSTS

**\$155M**



### **Resiliency**

Rehabilitation features waterproofing and new sealing to mitigate leaks and improve durability



### **Business Performance/Financial Sustainability**

Reduce maintenance costs associated with ice removals and track bed repairs

## 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**

Increase tunnel's service life and bring the remaining tunnel infrastructure to a state of good repair

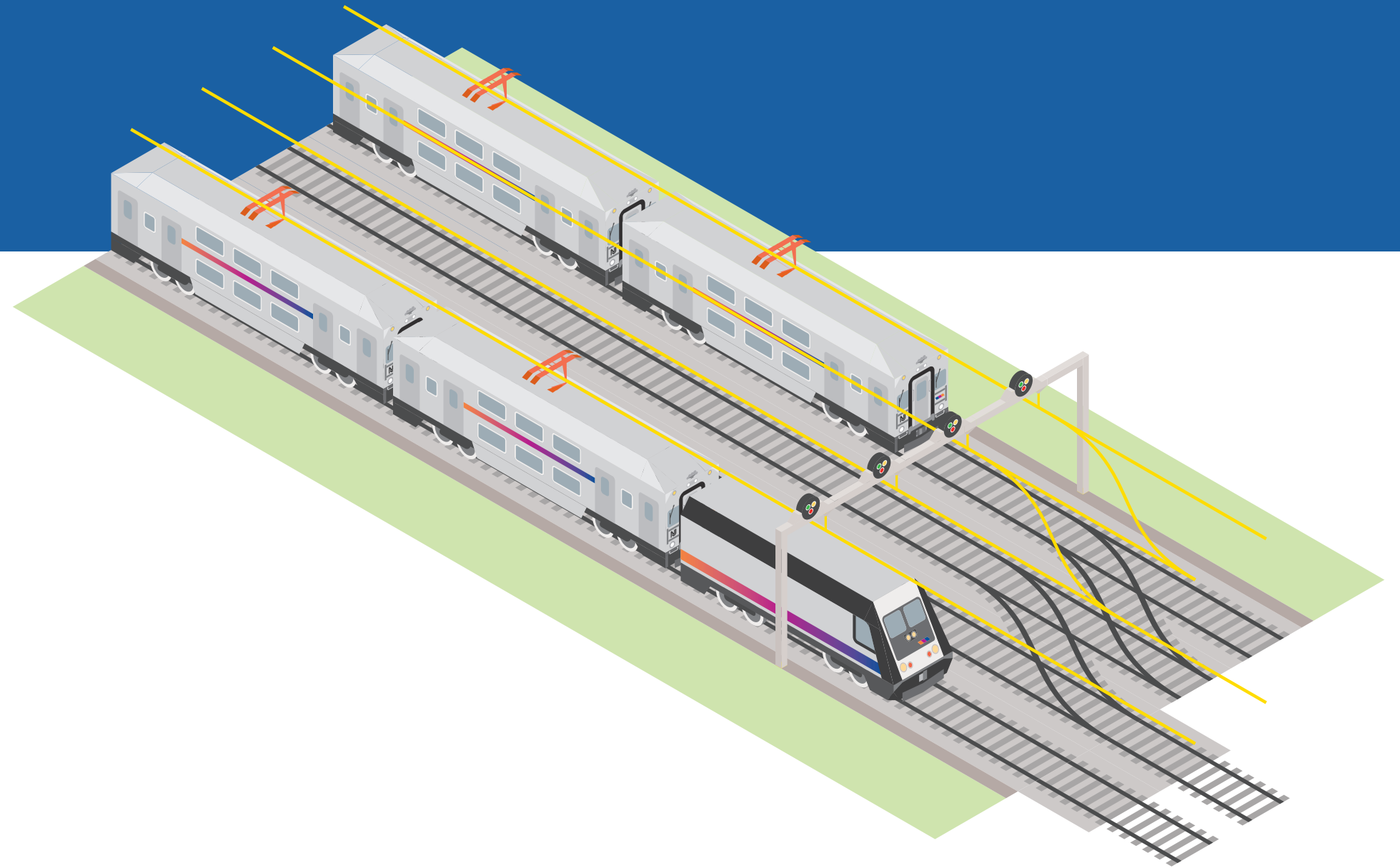


### **Health/Safety**

Enhanced lighting and safety systems required by the NJ TRANSIT Tunnel Safety Committee

Rehabilitating the Bergen Tunnels South Tube, would **bring the remaining tunnel infrastructure to a state of good repair and provide safety enhancements.**

# Rail Expansion



# PROJECT SHEET | LACKAWANNA CUTOFF

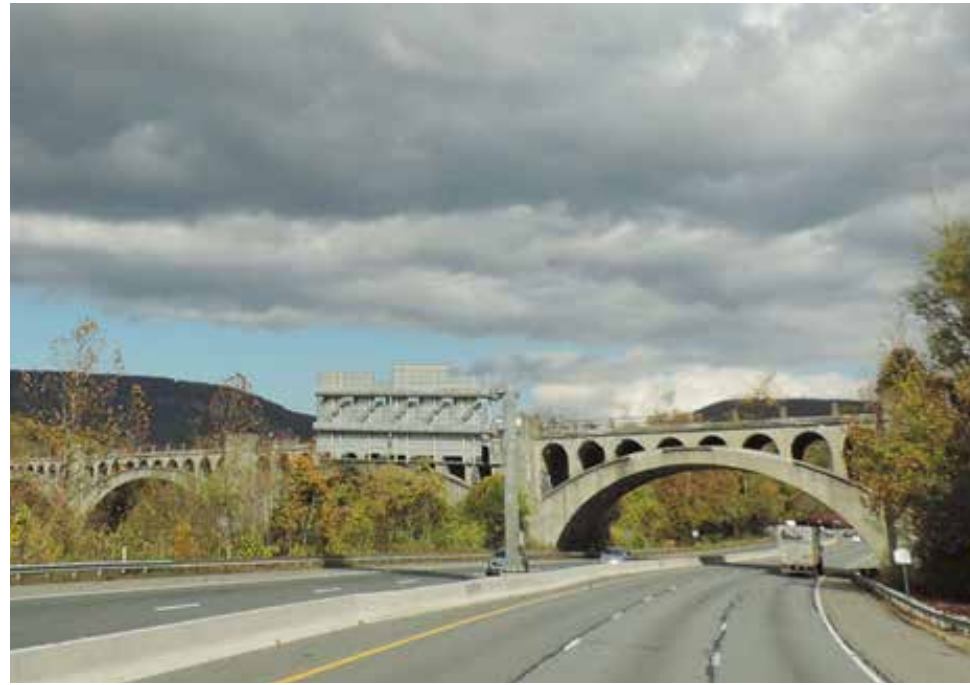
## Description

Lackawanna Cutoff is a disused rail right-of-way that stretches from Port Morris in Roxbury, NJ to Scranton, PA. Passenger service along Lackawanna Cutoff was discontinued in the 1960s, prior to the incorporation of NJ TRANSIT. Under this project, improvements will be made along the seven miles westward beyond Port Morris Junction (west of Lake Hopatcong Station) to connect to Andover, NJ, which would allow trains to operate through to New York Penn Station and Hoboken Terminal. In July 2006, the final environmental review for this project was submitted to the Federal Transit Administration for review and approval.

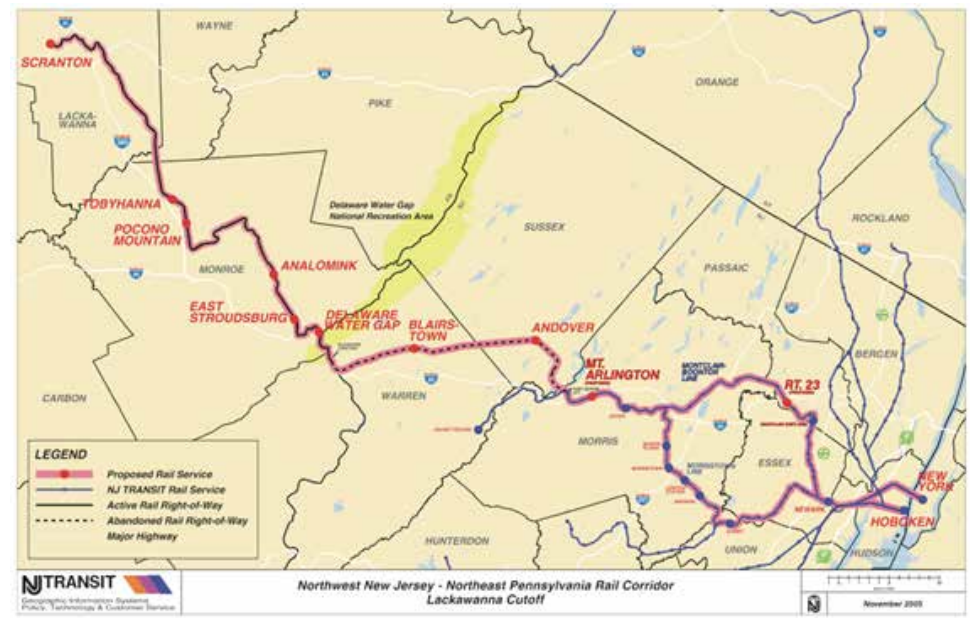
Significant infrastructure components, such as the 1,000-foot long Roseville Tunnel and track work to prepare for the addition of Andover Station are covered under the project's current funding and are currently in progress. Necessary trackwork around Port Morris is also included in this initial \$62 Million contract.

The extension to Scranton is uncommitted at this time. Studies to examine the feasibility of an extension from Andover to Scranton have been conducted, and in 2009 the environmental assessment was completed with a "Finding of No Significant Impact" (FONSI). A study completed in March 2020, analyzed project capital costs for this extension and was sponsored by the Pennsylvania Northeast Regional Rail Authority, which was created to help expedite efforts to restore passenger service on the Pennsylvania side of the project area.

## EXISTING: Delaware River Arch Viaduct of Lackawanna Cutoff Line



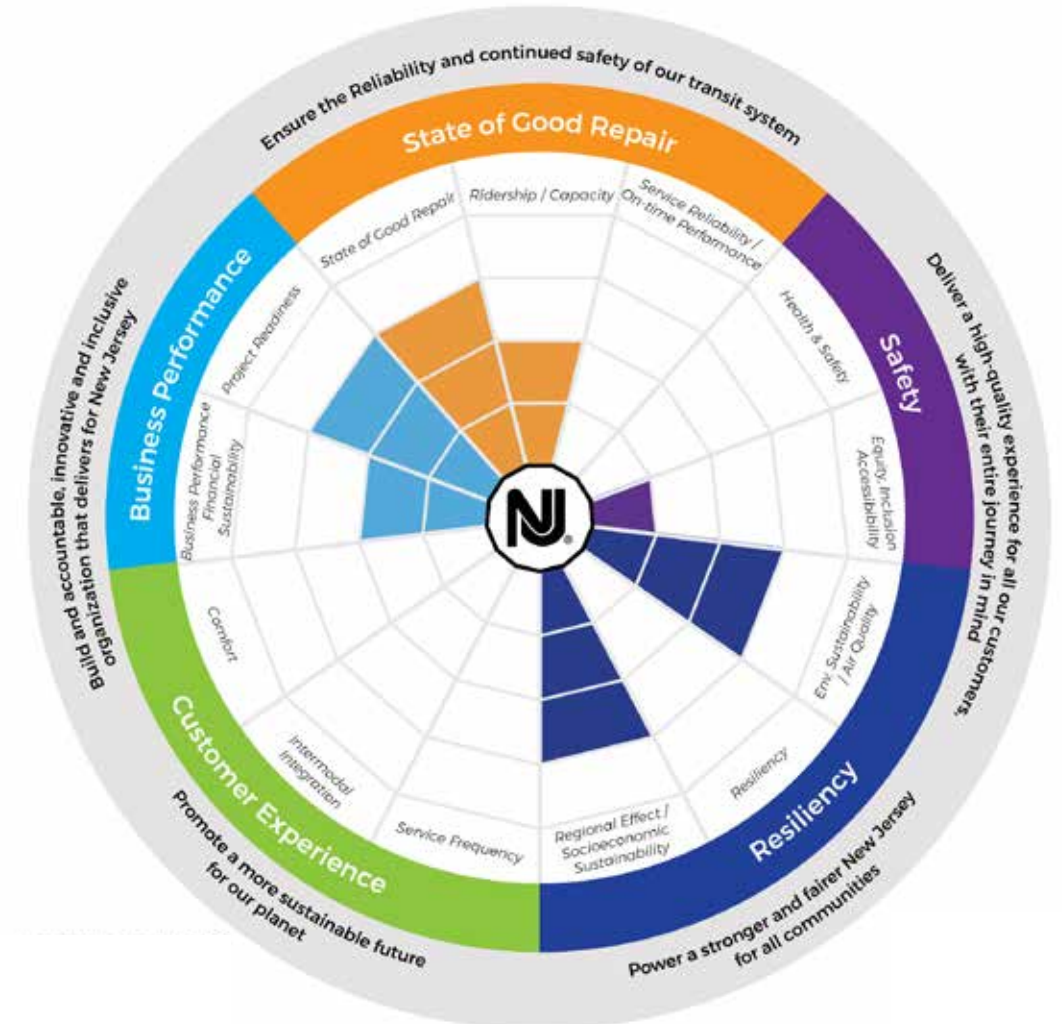
## PROPOSED: Map of Proposed Lackawanna Cutoff Service



## ESTIMATED PROJECT COSTS (2020 DOLLARS):

**\*\$200 Million**

\*(*\$62 Million currently funded for initial track work and stabilization of rail infrastructure*)



### 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 Sussex and Warren counties and NJ TRANSIT regional rail via Hoboken Terminal

### Value to State

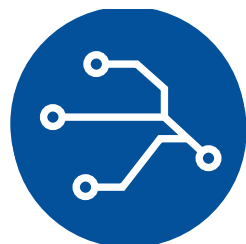
- › Attracts riders to transit by providing direct access to commuter rail system for passengers within Sussex and Warren Counties
- › Provides transportation capacity to support population and employment growth in the region

**ESTIMATED TOTAL PROJECT COSTS**  
**\$200M**



**Ridership/Capacity**

Expanding passenger service would increase the customer base and provide more options to existing customers



**Regional Effect/Socioeconomic Sustainability**

Expanding the transit network and adding connections to New York Penn Station and Hoboken Terminal would provide better transit connectivity to key destinations

**STRATEGIC GOALS MET**



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



*Power a stronger and fairer New Jersey for all communities*



**Environmental Sustainability/Air Quality**

An expanded transit network would reduce vehicle emissions and provide a more efficient, sustainable transportation option



**State of Good Repair**

Trackwork and other infrastructure upgrades would improve state of good repair along rail right-of-way

**Linking Port Morris Junction with Andover would allow trains to operate to New York Penn Station and Hoboken Terminal.**

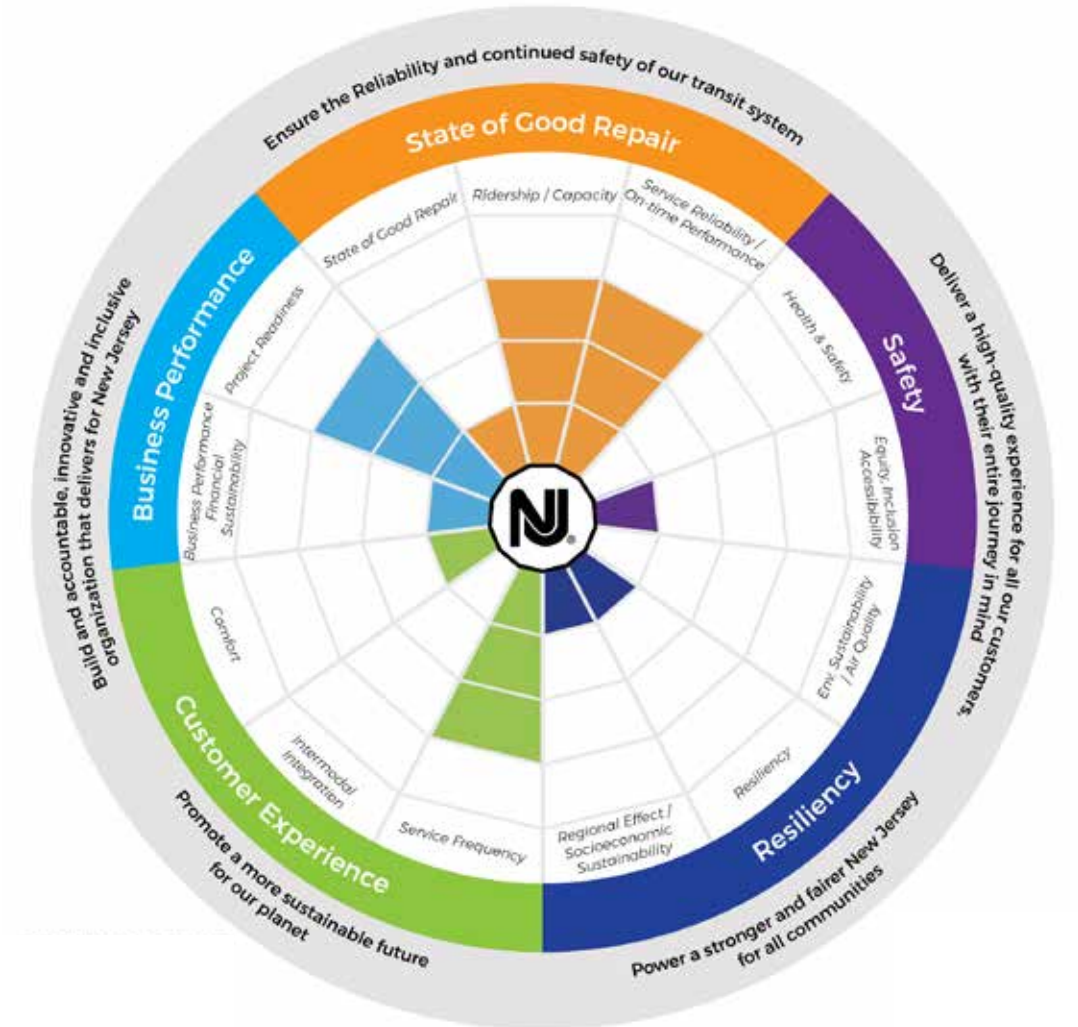
# PROJECT SHEET | THIRD TRACK BETWEEN WALDWICK AND SUFFERN

## Description

The NJ TRANSIT Main Line services an average of 31,450 passengers per day between Suffern, NY and Hoboken Terminal, and is one of the most heavily used NJ TRANSIT rail lines. Working east to west from Hoboken, the two-track Main Line and two-track Bergen County Line merge into three tracks at Ridgewood Junction. The line then operates on three tracks from Ridgewood to Waldwick but reduces to two tracks from Waldwick to Suffern. This two track section west of Waldwick limits the Main Line's capacity and prevents express trains from passing through occupied stations.

If funded, this project would continue the third track (Track 3) west from Waldwick to Suffern to provide additional capacity along the Main Line. Extension of Track 3 would require widening of multiple existing bridges, increased vertical clearance for the bridge over Route 202, the closing of various grade crossings, and the construction of new bridges over four existing highways. Additionally, all five existing stations along the limits of the proposed third track would require modifications, which include new, accessible high-level platforms and pedestrian tunnels to accommodate the additional track. The existing interlocking at Suffern and Waldwick would also be upgraded to allow trains to efficiently switch between the three tracks. Ultimately, this project would provide the capacity enhancement necessary to keep pace with ridership growth and provide a more reliable experience for Main Line and Bergen County Line customers. This work would be coordinated with the proposed WC Interlocking project, which will extend Track 3 into Waldwick Yard.

## EXISTING: Track Configuration



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

**\$619 Million**

## Value to Customers

- › Reduces train delays from train conflicts and increase on-time performance
- › Decreases scheduled train time

## Value to State

- › Increases on-time performance, safety, and service reliability
- › Increases lines capacity and revenue



# PROJECT SHEET THIRD TRACK BETWEEN WALDWICK AND SUFFERN

ESTIMATED TOTAL  
PROJECT COSTS

**\$619M**



### **Service Quality/Frequency**

Addition of a third track would improve overall Main Line service



### **Service Reliability**

Addition of a third track would enhance service capacity and reliability

## STRATEGIC GOALS MET



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

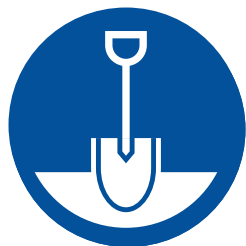


*Ensure the reliability and continued safety of our transit system*



### **Ridership/Capacity**

A third track would support ridership growth by enhancing capacity for service



### **Project Readiness**

This project could be begun quickly

*A third track would provide capacity enhancements necessary to keep pace with ridership growth with more reliable service.*

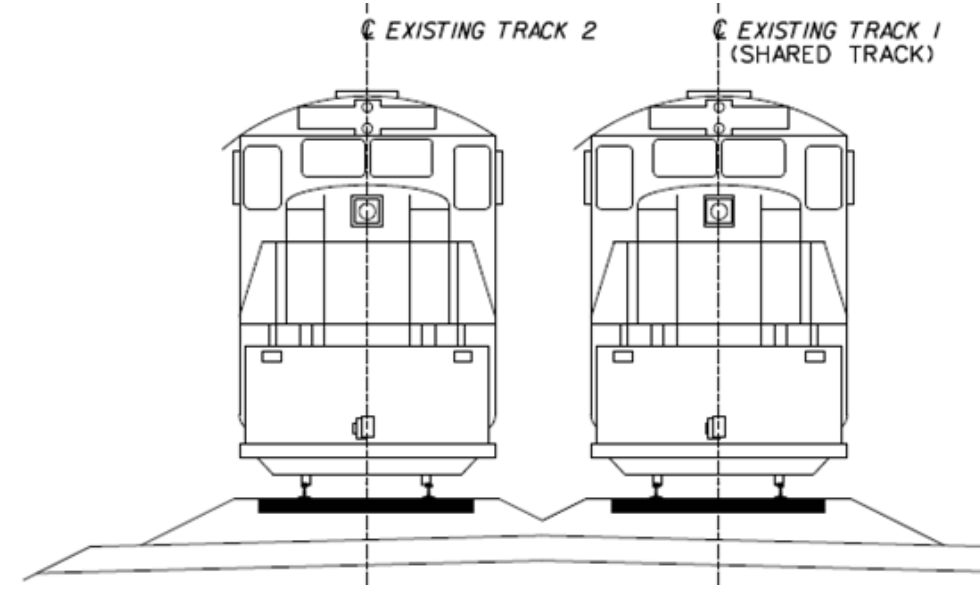
# PROJECT SHEET | LEHIGH THIRD AND FOURTH TRACKS

## Description

The Raritan Valley Line (RVL) connects High Bridge with Newark Penn Station to facilitate commutes to and from NYC. At the Aldene interlocking east of Cranford Station, the RVL merges with the Lehigh Valley Line, which is also used by Conrail. This line carries two tracks that continue to Newark Interlocking just before the RVL enters the NEC. However, these two tracks are shared by both NJ TRANSIT passenger trains and Conrail freight trains, which limits the capacity of the RVL and presents logistical issues because freight and passenger trains can occupy both tracks at any time.

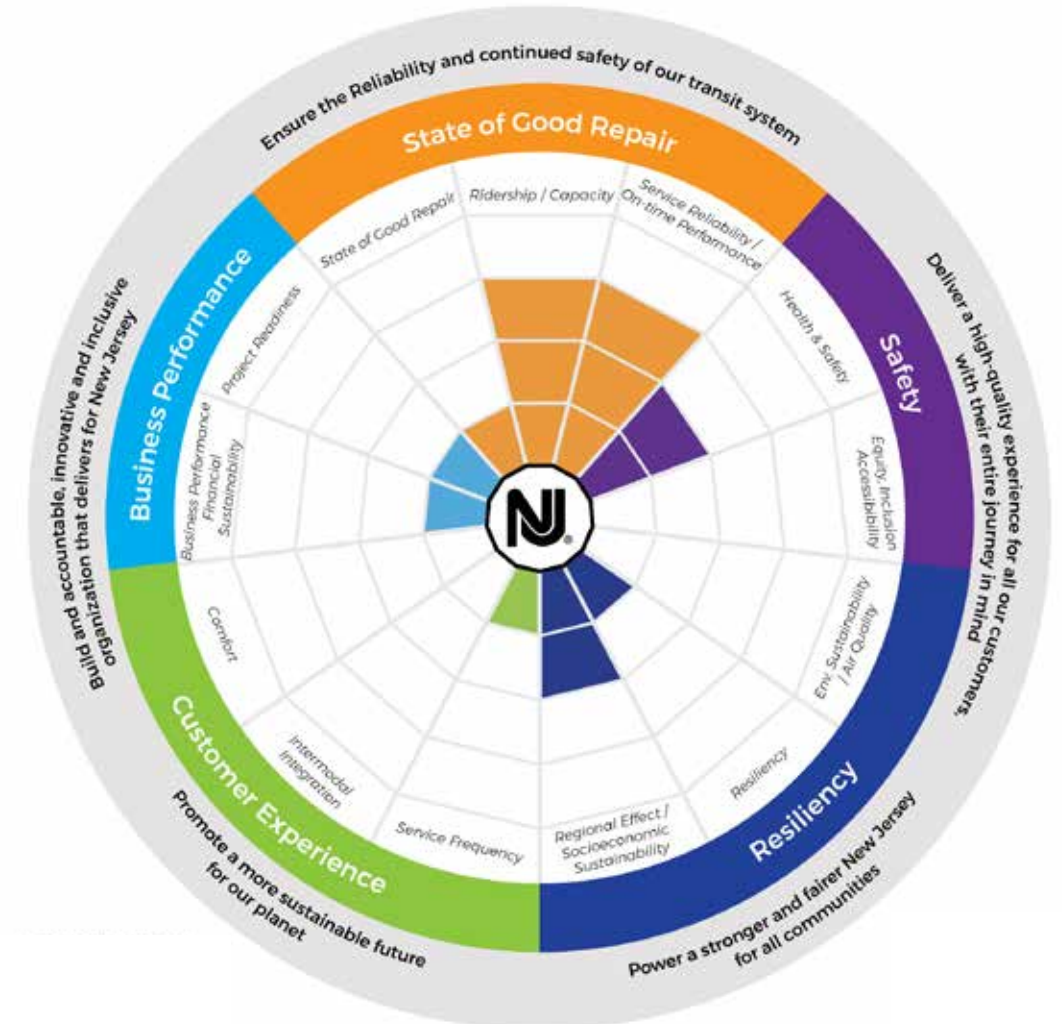
If funded, this project would add two additional tracks to the Lehigh Line between the Aldene and Newark Interlockings: a proposed Track 3 would be constructed north of existing Track 1, and a proposed Track 4 would be constructed south of existing Track 2 (ideally for freight). Track 1 and 2 would be the NJ TRANSIT tracks to use existing station platforms and avoid increased freight clearance limitations to platform edges and prevent any interferences between the two train entities. Additionally, platforms would be needed at Roselle Park Station and Union Station to accommodate the additional Track 3. Ultimately, providing additional tracks along the Lehigh Line would increase the capacity of the RVL and reduce scheduled commute times by mitigating the need to coordinate passenger trains with Conrail freight trains.

## EXISTING: Track Configuration



## ESTIMATED PROJECT COSTS (2020 DOLLARS):

**\$752 Million**



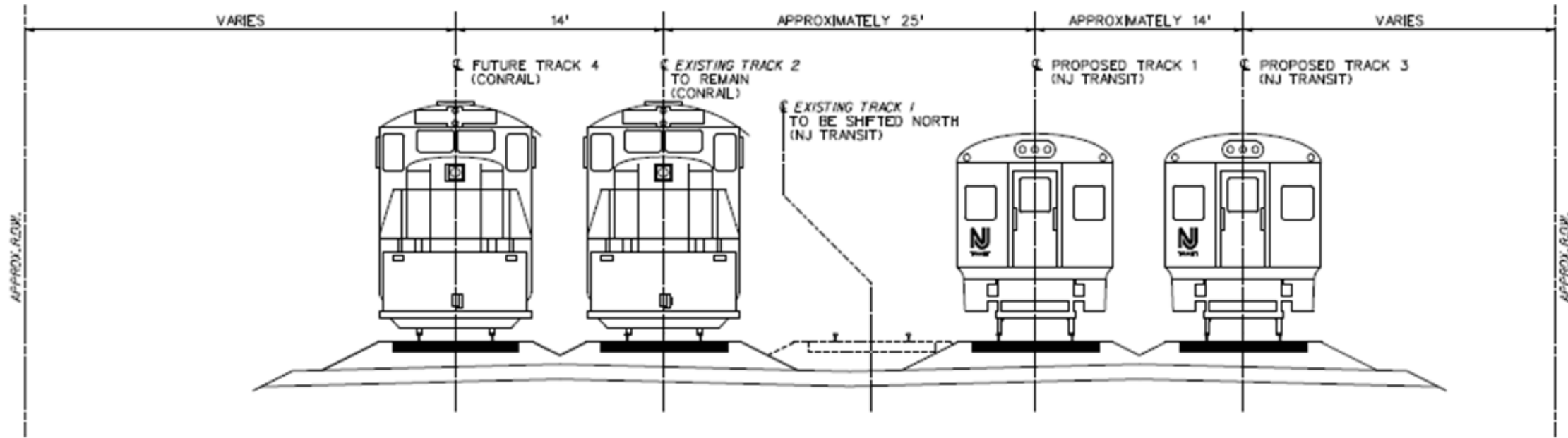
### Value to Customers

- › Decrease in scheduled train times
- › Provides more reliable service and increases on-time performance

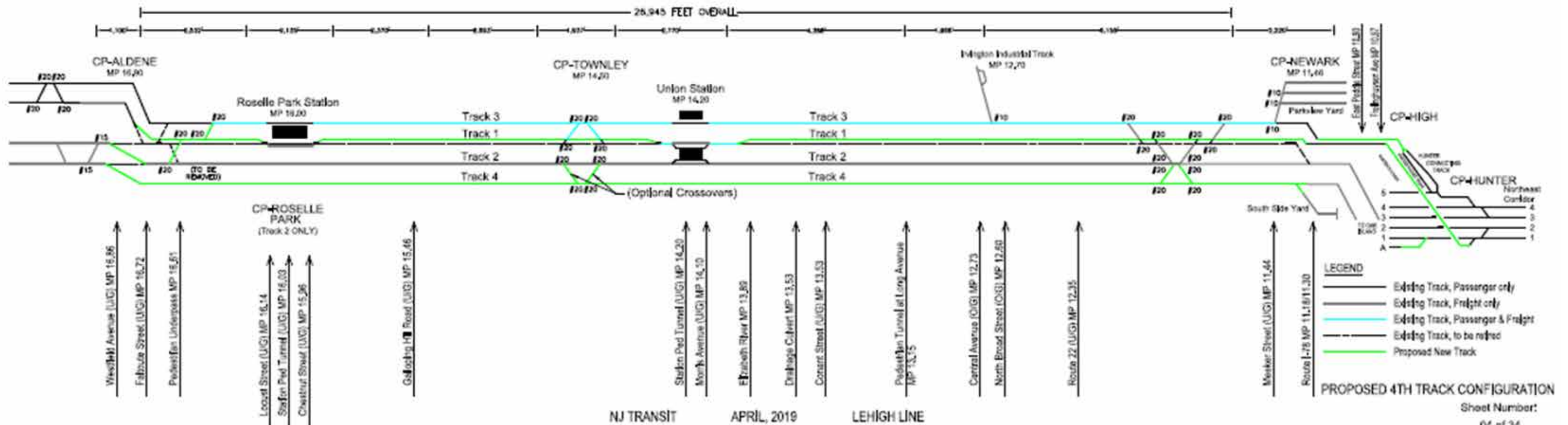
### Value to State

- › Increases in RVL capacity

# PROJECT SHEET | LEHIGH THIRD AND FOURTH TRACKS



TYPICAL - FUTURE FOUR TRACK SECTION (LOOKING WEST)



PROPOSED 4TH TRACK CONFIGURATION  
 Sheet Number:  
 04 of 34

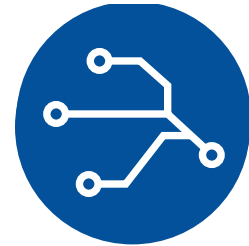
# PROJECT SHEET LEHIGH THIRD AND FOURTH TRACKS

**ESTIMATED TOTAL PROJECT COSTS**  
**\$752M**



### **Health/Safety**

Constructing two new tracks would avoid increased freight clearance limitations to platform edges



### **Regional Effect/Socioeconomic Sustainability**

Adding two new tracks would positively impact Raritan Valley Line service by eliminating conflicts with freight trains and ease commutes to/from NYC along the NEC

## **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*



### **Ridership/Capacity**

Adding two new tracks would increase capacity on the Raritan Valley Line



### **Service Reliability**

The new tracks would limit conflicts with freight and reduce delays and scheduled travel times

*Providing additional tracks would increase capacity of the Raritan Valley Line as well as reduce delays and travel times.*

# PROJECT SHEET | WESTBOUND WATERFRONT CONNECTOR

## Description

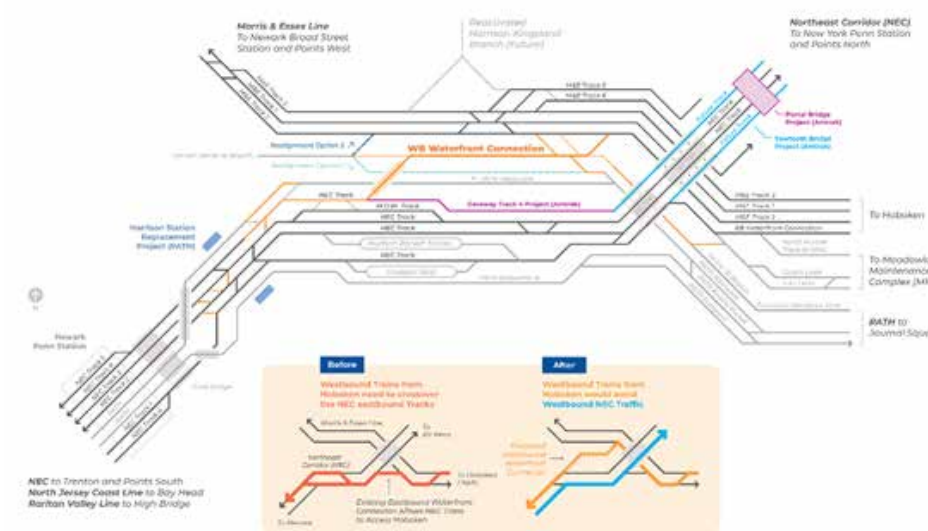
The Eastbound Waterfront Connector (EWC), built in 1991, is a single track that links Newark Penn Station with Hoboken Terminal. This track is used to carry trains both eastbound toward Hoboken and westbound toward Newark Penn Station, and is primarily used by NJCL trains that travel between Hoboken and Bay Head. However, the trains traveling westbound must make an at-grade crossing over two NEC tracks at the Dock Interlocking to enter Newark Penn Station on the appropriate westbound track. This complex movement creates conflicts with NEC trains traveling to and from New York and often results in delays for NJCL trains as they wait for an open slot to enter the corridor.

If funded, the proposed Westbound Waterfront Connector would overcome this challenge. A flyover track would be constructed across PATH Track G and the Center Street Industrial Track (CSIT) to connect the M&E Line Track 2 with Amtrak's NEC Track 4. This would allow westbound NJCL trains to enter the NEC Track 4 without having to cross at-grade between NEC tracks 2 and 3 at the Dock Interlocking. Eliminating this at-grade movement would not only mitigate delays on the NJCL, but it would also increase the capacity of the NJCL, RVL, and NEC.

### EXISTING: Dock Interlocking

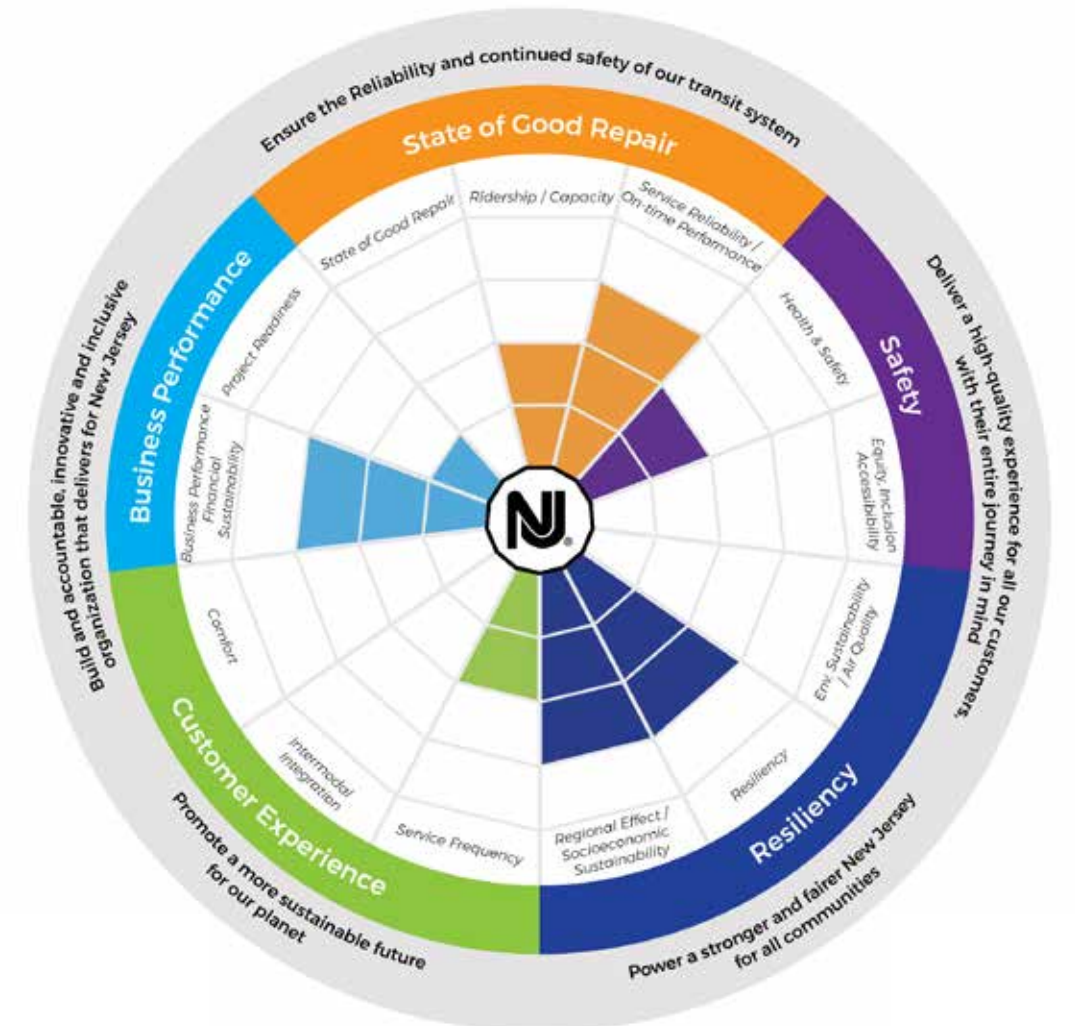


### PROPOSED: WB Waterfront Connection



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

**\$474 Million**



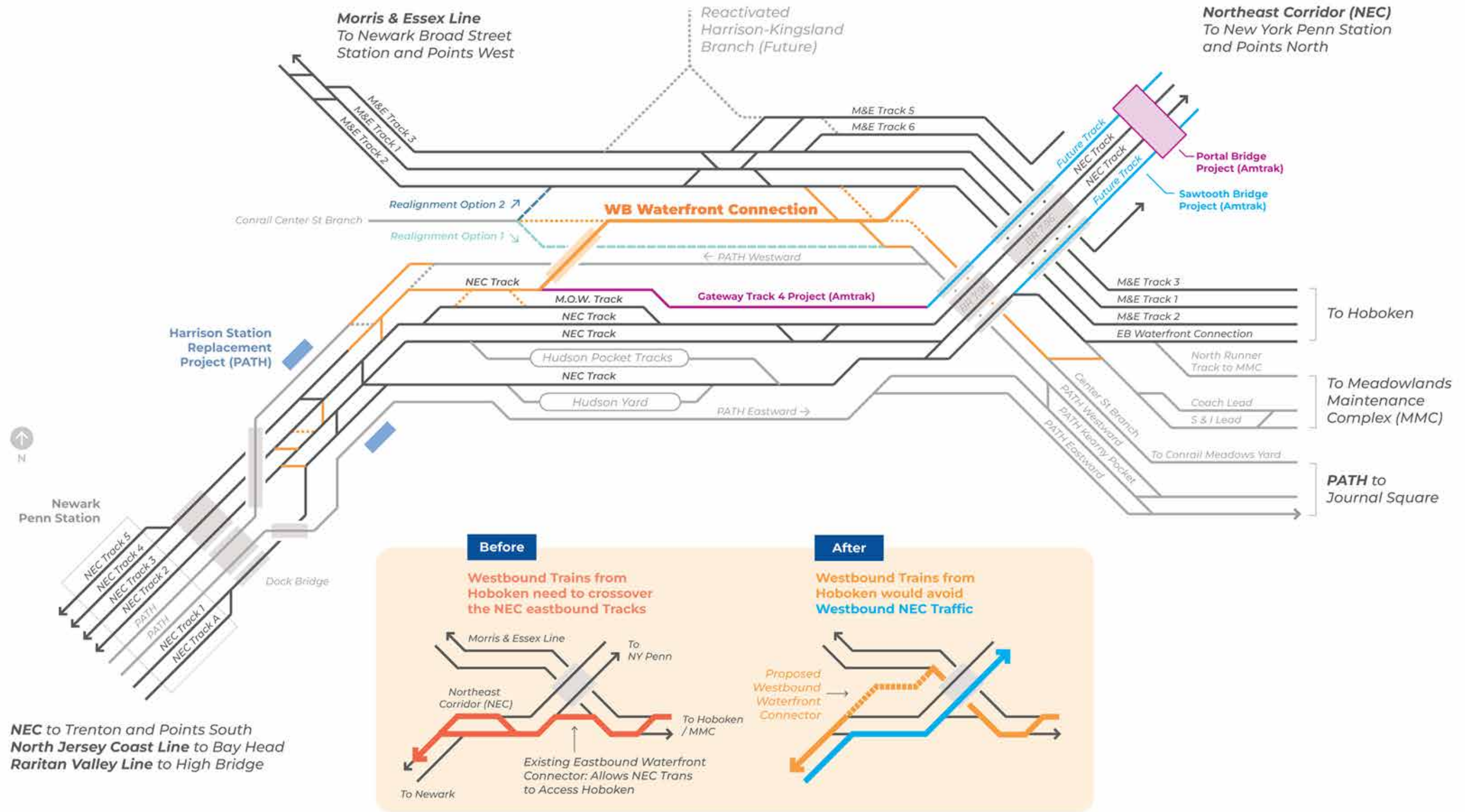
### Value to Customers

- › Reduces train delays
- › Provides more reliable service and increased on-time performance

### Value to State

- › Minimizes revenue loss from service disruptions
- › Increases revenue service

# PROJECT SHEET | WESTBOUND WATERFRONT CONNECTOR



# PROJECT SHEET WESTBOUND WATERFRONT CONNECTOR

**ESTIMATED TOTAL  
PROJECT COSTS**  
**\$474M**



### **Business Performance/Financial Sustainability**

Fewer service disruptions and delays would increase revenue service on three different rail lines



### **Service Reliability**

The flyover track would enable trains to operate with less delays and better on-time performance

## **STRATEGIC GOALS MET**



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

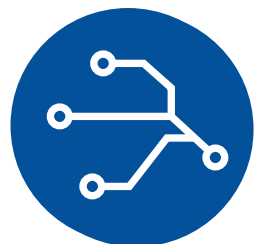


*Ensure the reliability and continued safety of our transit system*



### **Health & Safety**

Streamlining train movements will reduce risk of train conflicts creating a safer environment for employees



### **Regional Effect/Socioeconomic Sustainability**

Adding a flyover track would reduce regional delays between Newark Penn Station and Hoboken

*Eliminating the at-grade movement **would mitigate delays and increase capacity.***