

**1.1 INTRODUCTION**

The Federal Railroad Administration (FRA) and New Jersey Transit Corporation (NJ TRANSIT) as joint lead agencies are preparing an Environmental Impact Statement (EIS) to evaluate the Hudson Tunnel Project (the “Proposed Action” or the “Project”) in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 USC § 4321 et seq.). The Proposed Action is intended to preserve the current functionality of the Northeast Corridor’s (NEC) Hudson River passenger rail crossing between New Jersey and New York and strengthen the resilience of the NEC. The Project would consist of construction of a new rail tunnel under the Hudson River, including railroad infrastructure in New Jersey and New York connecting the new rail tunnel to the existing NEC, and rehabilitation of the existing NEC tunnel beneath the Hudson River.

The Project Sponsor that will advance the Project through final design and construction, including compliance with mitigation measures, has not yet been identified. The Project Sponsor may include one or more of the Port Authority of New York & New Jersey (PANYNJ), the National Railroad Passenger Corporation (Amtrak), NJ TRANSIT, and/or another entity that has not yet been determined. The Project Sponsor, once identified, will be responsible for ensuring all commitments and mitigation measures presented in the Environmental Impact Statement (EIS) are implemented. The Project Sponsor is expected to pursue Federal financial assistance from the U.S. Department of Transportation, including through the FRA or the Federal Transit Administration (FTA). Prior to issuing permits or approvals for a project, including approval of funding, Federal agencies must consider the environmental effects of their actions under NEPA. Accordingly, FRA and NJ TRANSIT prepared this Draft EIS (DEIS) to comply with the requirements of the Council on Environmental Quality’s (CEQ) regulations implementing NEPA (40 CFR Parts 1500-1508), the FRA *Procedures for Considering Environmental Impacts* (FRA’s Environmental Procedures, 64 FR 28545, May 26, 1999, as updated in 78 FR 2713, January 14, 2013), and the Federal Highway Administration (FHWA) and FTA *Environmental Impact and Related Procedures* (23 CFR Part 771). The DEIS also documents compliance with other applicable Federal, New Jersey and New York State, and local environmental laws and regulations, including Section 106 of the National Historic Preservation Act; the Conformity requirements of the Clean Air Act; the Clean Water Act; the Rivers and Harbors Act of 1899; Section 4(f) of the Department of Transportation Act of 1966 (Section 4(f)); the Endangered Species Act; Executive Order 11988 and USDOT Order 5650.2 on Floodplain Management; Executive Order 11990 on Protection of Wetlands; the Magnuson-Stevens Act related to Essential Fish Habitat; the Coastal Zone Management Act; Executive Order 12898 on Environmental Justice; and the *Environmental Justice Policy Guidance for Federal Transit Administration Recipients*, FTA C 4703.1. Where relevant, the analysis also meets the NEPA procedures of the two Cooperating Agencies for the Project—the FTA and the U.S. Army Corps of Engineers (USACE)—as well as the requirements of other agencies from which permits or approvals will be sought.

CEQ’s NEPA regulations require Federal agencies to consider the direct and indirect environmental effects and cumulative impacts of their actions. Consistent with those regulations, this DEIS identifies reasonable and feasible alternatives to the Proposed Action; the likely impacts the Project would have on social, economic, and environmental conditions; and measures to avoid, minimize, or mitigate adverse impacts.



The existing NEC rail tunnel beneath the Hudson River is known as the North River Tunnel.<sup>1</sup> **Figure 1-1** illustrates the location of the North River Tunnel and its approach tracks. This tunnel is used by Amtrak for intercity passenger rail service and by NJ TRANSIT for commuter rail service. The tunnel operates at capacity to meet current demands. As shown in the figure, the approach to the tunnel begins east of NJ TRANSIT's Frank R. Lautenberg Secaucus Junction Station in Secaucus, New Jersey (which is 5 miles east of Amtrak and NJ TRANSIT's Newark Penn Station). The tracks of the NEC approach the North River Tunnel on a raised embankment through the New Jersey Meadowlands in Secaucus and North Bergen, New Jersey. The tracks enter a tunnel portal at the western face of the Palisades<sup>2</sup> in North Bergen, passing beneath Union City and Weehawken, New Jersey and the Hudson River before emerging at Penn Station New York (PSNY) in New York City. The North River Tunnel actually has two separate tunnels (individually referred to as "tubes"), each accommodating a single track for electrically powered trains, and extends approximately 2.5 miles from the tunnel portal in North Bergen to PSNY.

In October 2012, Superstorm Sandy inundated the North River Tunnel and today the tunnel remains compromised. The North River Tunnel is currently safe for use by Amtrak and NJ TRANSIT trains traveling between New Jersey and New York City and beyond. However, it is in poor condition as a result of the storm damage and has required emergency maintenance that disrupts service for hundreds of thousands of rail passengers throughout the region. Despite the ongoing maintenance, the damage caused by the storm continues to degrade systems in the tunnel and can only be addressed through a comprehensive reconstruction of the tunnel.

The Project would rehabilitate the North River Tunnel without disrupting existing levels of train service, and provide redundant capability for rail service crossing the Hudson River. To perform the needed rehabilitation in the existing North River Tunnel, each tube of the tunnel will need to be closed for more than a year. If no new Hudson River rail crossing is provided, closing a tube of the existing tunnel for rehabilitation would reduce the number of trains that could serve PSNY to a fraction of current service, because the single remaining tube would have to support two-way service. For that reason, to ensure rehabilitation is accomplished without notable reductions in weekday service, the Project would include construction of two new rail tubes beneath the Hudson River (the Hudson River Tunnel) that can maintain the existing level of train service while the damaged North River Tunnel tubes are taken out of service one at a time for rehabilitation. Once the North River Tunnel rehabilitation is complete, both the old and new tunnels will be in service, providing redundant capability and increased operational flexibility for Amtrak and NJ TRANSIT.

This chapter contains the following sections:

- 1.1 Introduction
- 1.2 Project Background
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  - 1.2.2 Gateway Program
  - 1.2.3 NEC FUTURE
  - 1.2.4 Project's Relationship to Proposed Capacity Enhancement
- 1.3 Project Purpose
- 1.4 Project Need
  - 1.4.1 Need to Rehabilitate the North River Tunnel
  - 1.4.2 Need to Maintain Existing Passenger Rail Service

<sup>1</sup> "North River" is an alternate name for the Hudson River, based on an early Dutch name for the river.

<sup>2</sup> The Palisades are a line of steep cliffs that run along the western side of the Hudson River from northeastern New Jersey into southern New York State. In North Bergen and Union City, the Palisades are approximately 300 feet above the land to their west and east.



— Existing Northeast Corridor    Existing North River Tunnel

0 5,000 FEET



Project Location  
Figure 1-1

- 1.4.3 Summary
- 1.5 Goals and Objectives

## 1.2 PROJECT BACKGROUND

The existing North River Tunnel is located on the NEC. The NEC is the most heavily used passenger rail line in the U.S., both in terms of ridership and service frequency. The NEC extends from Washington, D.C., in the south to Boston, Massachusetts, in the north, serving the densely populated Northeast region, including PSNY. Amtrak, the nationwide intercity passenger rail operator, operates over the entire NEC, providing regional service, long distance service, and high-speed Acela Express service. Amtrak owns the majority of the NEC, including the portion in New Jersey and the North River Tunnel. NJ TRANSIT operates an extensive commuter rail network in New Jersey that extends to Philadelphia, Pennsylvania; Orange and Rockland Counties in New York; and New York City. In New Jersey, NJ TRANSIT owns much of the commuter rail network that converges on the NEC. NJ TRANSIT's rail lines all include direct or connecting service to PSNY. **Figures 1-2 and 1-3** illustrate the NEC and NJ TRANSIT routes that serve PSNY via the North River Tunnel.

Amtrak's NEC service and NJ TRANSIT's commuter rail service provide connections between the major cities of the Mid-Atlantic and Northeast states and commuter access for thousands of people who work in the region. Therefore, both services are important to the region's economy. The Tier 1 Final EIS for the NEC FUTURE program, described in more detail below in Section 1.2.3, describes the importance of the NEC to the region's economy:

The Northeast regional economy, which approximates the Northeast and Mid-Atlantic regions, is unique among U.S. regional economies in that it is the most densely urban region in the United States, with the NEC connecting some of the nation's largest and most mature urban economies. . . . The region's infrastructure has some of the oldest assets in the nation's transportation network. To maintain its role as a global economic center, the region must modernize its aging infrastructure and add capacity to support future growth. Absent the ability to efficiently move large numbers of people in, out, and between these large economic centers daily, the negatives of large metropolitan economies begin to cancel the positives, tempering economic development and incentivizing businesses to expand elsewhere in the United States.<sup>3</sup>

Recent census data indicate that in 2014, 13.6 percent of the workforce in Manhattan consists of residents of New Jersey and 7.9 percent of all New Jersey workers commute to Manhattan.<sup>4</sup> In 2016, Amtrak carried approximately 20,500 weekday passenger trips (one-way ride) each day on more than 100 trains between New York and New Jersey, not counting passengers who traveled through the North River Tunnel and PSNY but did not get off or on at PSNY. In 2016, NJ TRANSIT carried approximately 192,000 weekday trips each day on approximately 350 trains between New York and New Jersey.

Extensive engineering work and environmental documentation have been prepared over the past two decades for a new Hudson River rail tunnel as part of efforts to improve passenger rail service in the region, and ongoing work continues related to preservation and expansion of service. Relevant past and ongoing studies include those for the Access to the Region's Core

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<sup>3</sup> FRA, NEC FUTURE Tier 1 Final EIS, December 2016, Volume II, pp. 6-2 and 6-3, available at [www.necfuture.com/tier1\\_eis/feis/volume\\_2/chapter\\_06.aspx](http://www.necfuture.com/tier1_eis/feis/volume_2/chapter_06.aspx).

<sup>4</sup> U.S. Census Bureau. 2016. OnTheMap Application. Longitudinal-Employer Household Dynamics Program. <http://onthemap.ces.census.gov/>.



0 50 MILES

- Existing North River Tunnel
- Rail Station (not all shown)
- Northeast Corridor
- Connecting Rail Corridor
- National Rail Network



Amtrak Northeast Corridor and Connecting Rail Network  
**Figure 1-2**



http://www.njtransit.com/pdf/rail/Rail\_System\_Map.pdf



(ARC) Project, the Gateway Program, and the NEC FUTURE program. These projects are described in the following sections.

### **1.2.1 ACCESS TO THE REGION'S CORE (ARC) PROJECT**

Detailed studies and design were conducted for the ARC Project from 1995 through 2010, including a Draft, Supplemental Draft, and Final EIS, as well as supplemental studies after completion of the EIS in support of the project's construction. These studies evaluated several options for construction of a new tunnel under the Hudson River in combination with an expansion of station capacity in midtown Manhattan to accommodate growing passenger demand. The final selected alternative for the ARC Project included two additional tracks from Secaucus Junction Station, alongside the NEC in the Meadowlands, through a tunnel beneath the Palisades and under the Hudson River, to a new station in Manhattan under West 34th Street between Sixth and Eighth Avenues. It included a loop track at Secaucus to connect NJ TRANSIT's Hoboken Division lines to the NEC; and a new midday rail storage yard in Kearny. The combination of these improvements and the purchase of new rolling stock would have allowed NJ TRANSIT to increase service throughout its system substantially, with peak hour service to Midtown doubled. The improvements also would have created additional peak-hour capacity for Amtrak; Amtrak planned to add one train during the peak hour each day.

While the ARC Project included many of the same elements as the Hudson Tunnel Project's Preferred Alternative, its purpose was to allow an increase in rail passenger capacity; it did not connect to PSNY and did not include rehabilitation of the North River Tunnel. The project was canceled in 2010 shortly after initial construction had begun. FRA and NJ TRANSIT have used materials developed as part of the ARC Project's NEPA review to provide baseline information for the study of the Project, as appropriate.

### **1.2.2 GATEWAY PROGRAM**

The Gateway Program is a comprehensive program of strategic rail infrastructure improvements designed to preserve and improve current services and create new capacity that will allow the doubling of passenger trains on the NEC between Newark, New Jersey, and PSNY. The Gateway Program will increase track, tunnel, bridge, and station capacity, eventually creating four mainline tracks between Newark and PSNY, though the specific details of most of the capacity-enhancing elements are still under development. In addition to capacity expansion, the Gateway Program also includes preservation projects to update and modernize existing infrastructure and repairs to infrastructure elements that are damaged due to age or events such as Superstorm Sandy. The Gateway Program is in the planning and design phase and is included in the NEC FUTURE Preferred Alternative (described in more detail below), but certain discrete, non-capacity-enhancing projects that are components of the Gateway Program, including the Hudson Tunnel Project, are proceeding ahead of the rest of the program as critical infrastructure projects with their own independent utility. As appropriate, FRA and NJ TRANSIT have used the work conducted for the Gateway Program Feasibility Study to provide baseline information for the study of the Project.

### **1.2.3 NEC FUTURE**

In 2012, the FRA launched NEC FUTURE to consider the role of rail passenger service in the context of current and future transportation demands and to evaluate the appropriate level of capacity improvements to make across the NEC. The intent of the NEC FUTURE program is to help develop a long-term vision and investment program for the NEC. Through NEC FUTURE, FRA is currently evaluating overall capacity improvements and environmental consequences associated with improved NEC rail services, including trans-Hudson service. However, as described above, the Hudson Tunnel Project addresses a specific need related to deterioration

of the existing North River Tunnel and so it is considered independently from the other projects analyzed in the NEC FUTURE EIS. FRA released the NEC FUTURE Tier 1 Final EIS on December 16, 2016. The Preferred Alternative evaluated in the Tier 1 Final EIS consists of an investment program that grows the role of rail by identifying numerous upgrades and state-of-good-repair projects along the length of the NEC. The Preferred Alternative includes all of the elements of the Gateway Program discussed above. The Preferred Alternative is also consistent with the Hudson Tunnel Project and includes new Hudson River tunnel investments similar to this Proposed Action.

#### **1.2.4 PROJECT'S RELATIONSHIP TO PROPOSED CAPACITY ENHANCEMENT**

A new Hudson River crossing on the NEC is urgently needed to maintain existing service. While the Project addresses maintenance and resilience of the NEC Hudson River crossing, it would not increase rail capacity. This future need, while important, is not part of the purpose or scope of the Hudson Tunnel Project, and an increased scope required to address the future need for increased capacity as part of the Proposed Action would result in unacceptable delays to the implementation of the tunnel rehabilitation project. At the same time, the Project would not preclude other future projects to expand rail capacity in the area. Accordingly, while the Project may also be an element of a larger future program to expand rail capacity, it would meet an urgent existing need and is being evaluated as a separate project from any larger initiative. Ultimately, an increase in service between Newark Penn Station and PSNY cannot be realized until other substantial infrastructure capacity improvements are built. These improvements would be the subject of one or more separate design, engineering, and environmental reviews.

Because of the importance of the North River Tunnel to essential commuter and intercity rail service between New Jersey and New York, the Project needs to be accomplished as soon as possible. Therefore, this Project to address the need related to deterioration of the existing North River Tunnel is being advanced independently of any initiatives to expand rail capacity on the NEC, but does not preclude other future projects to expand rail capacity in the area.

### **1.3 PROJECT PURPOSE**

The purpose of the Hudson Tunnel Project is: to preserve the current functionality of Amtrak's NEC service and NJ TRANSIT's commuter rail service between New Jersey and PSNY by repairing the deteriorating North River Tunnel; and to strengthen the NEC's resiliency to support reliable service by providing redundant capability under the Hudson River for Amtrak and NJ TRANSIT NEC trains between New Jersey and the existing PSNY. These improvements must be achieved while maintaining uninterrupted commuter and intercity rail service and by optimizing the use of existing infrastructure.

### **1.4 PROJECT NEED**

The existing North River Tunnel is a critical NEC asset and is the only intercity passenger rail crossing into New York City from New Jersey and areas west and south.<sup>5</sup> This tunnel, constructed between 1904 and 1908 and opened for service in 1910, is more than 100 years old and was designed and built to early 20th-century standards. Service reliability through the tunnel, already suboptimal because of the tunnel's age and antiquated standards, has been

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<sup>5</sup> As shown in Figure 1-3, PANYNJ's Port Authority Trans Hudson (PATH) rail service also crosses the Hudson River, serving local New Jersey and New York commuters rather than intercity or regional commuters.



further compromised because of the damage to tunnel components caused by Superstorm Sandy.

#### **1.4.1 NEED TO REHABILITATE THE NORTH RIVER TUNNEL**

Superstorm Sandy inundated both tubes in the North River Tunnel with seawater in October 2012, resulting in the cancellation of all Amtrak and NJ TRANSIT service into New York City for five days. Seawater rose to above the top of rail for approximately 3,200 feet of the tunnel's north tube and 2,300 feet of the south tube. The flood level reached above the height of the bench walls at the tunnel's lowest point.<sup>6</sup> The bench walls were inundated for approximately 1,900 feet in the north tube and 800 feet in the south tube. While the tunnel was restored to service and is now safe for travel, chlorides from the seawater remain in the tunnel's concrete liner, bench walls, and ballast, causing ongoing damage to these elements as well as to embedded steel, track and third rail systems, and signaling, mechanical and electrical components.

The most serious damage affects the concrete bench walls, which run the length of the tunnel and provide emergency egress and maintenance access to trains and track. Ducts housed inside the bench walls contain electrical wiring, utility cables, and other essential equipment. As a result of the seawater inundation, the bench walls have longitudinal cracks, severe spalls with exposed steel, and corrosion of embedded steel elements. As a result of steel corrosion that has caused the concrete to spall, the continuous bench walls and duct work cannot perform reliably or be repaired. While the tunnel is structurally sound and safe for continuing passenger rail use, these conditions necessitate that the existing bench walls be replaced with new bench walls. These should be constructed at the proper height to meet current fire-life safety standards (National Fire Protection Association (NFPA) 130). This replacement should occur portal to portal, since it is not practical to construct the middle portion of a bench wall at different height than the two ends, given that the bench wall operates as one continuous system providing emergency egress and housing duct work inside.

In addition, the North River Tunnel's rock ballast is coated with chlorides remaining from the seawater that flooded the tunnel. The existing rail system in the North River Tunnel consists of rock ballast, treated timber ties, running rail and third rail. Full removal of the chlorides from the ballast, including from the inaccessible surfaces, is not physically possible; therefore, the ballast needs to be entirely removed. This requires removal of the tie and rail systems as well, in order to remove the ballast.

The damage caused by Superstorm Sandy is compounded by the tunnel's age and the intensity of its current use, resulting in frequent delays due to component failures within the tunnel. The damage to the bench walls and ballast and track systems necessitates full portal-to-portal replacement of these elements, which form integrated systems running the length of the tunnel. Moreover, both systems would need to be reconstructed to meet modern standards including fire and life safety; it would be both impractical and unsafe to reconstruct a portion of either system to a higher standard while other portions remain constructed to an older, incompatible standard.

#### **1.4.2 NEED TO MAINTAIN EXISTING PASSENGER RAIL SERVICE**

Because the existing two-track North River Tunnel is operating at its full peak period capacity, it does not provide redundancy for reliable train operations during disruptions or maintenance. Any service disruption therefore results in major passenger delays and substantial reductions to

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<sup>6</sup> The bench wall is a ledge along a tunnel's side wall that can serve as a walkway for maintenance and emergency use; the bench wall also houses ducts that contain electrical wiring, equipment, cables, and other essential equipment. The North River Tunnel has two bench walls, one on each side.

overall system flexibility, reliability and on-time performance. With no other Hudson River passenger rail crossing into PSNY, single-point failures can suspend rail service, causing delays that cascade up and down the NEC and throughout NJ TRANSIT's commuter system, disrupting service for hundreds of thousands of passengers. For example, such a failure occurred on April 14, 2017, when a power outage in one of the tunnel's tubes during the evening peak period stranded approximately 1,200 passengers in a NJ TRANSIT train in the tunnel for several hours and resulted in cascading delays to Amtrak, NJ TRANSIT, and Long Island Rail Road trains headed into and out of PSNY that evening.

This condition is exacerbated by the need to perform increased maintenance to address damage caused by Superstorm Sandy. These maintenance demands are difficult to meet because of the intensity of rail service in the tunnel. Efforts to maintain the North River Tunnel in a functional condition currently require nightly and weekend tunnel outages with reductions in service due to single-track operations. Train service is adjusted to allow one tube of the North River Tunnel to be closed each weekend for maintenance for a 55-hour window beginning on Friday evening and ending early on Monday morning. These closures dramatically limit the number of trans-Hudson trains that can be operated on a given weekend day and constrain NJ TRANSIT's ability to serve current customer demand for weekend travel. Service disruptions will continue to occur, and over time will happen more frequently as the deterioration related to the seawater inundation continues and components fail in an unpredictable manner.

Because of the importance of the North River Tunnel to essential commuter and intercity rail service between New Jersey and New York City, rehabilitation of the existing North River Tunnel needs to be accomplished without notable reductions in weekday service.

Removing one tube in the existing North River Tunnel from operation without new redundant capability in place would reduce weekday service to volumes well below the current maximum capacity of 24 trains per hour in the peak direction. Such a scenario would reduce tunnel capacity by well over 50 percent due to the need to accommodate two-way service on the single remaining track. The theoretical best case scenario for single-track operation would provide nine trains per hour in the peak direction (a 63 percent reduction in peak direction service), but even this reduced level of service represents throughput under perfect operating conditions, and is therefore higher than what would be expected in a real-world operating environment. Such a dramatic reduction in service levels would force many rail passengers to switch to alternate modes of transportation for several years until rehabilitation work is complete and full service is restored. Because all trans-Hudson transportation routes and services are operating at or near capacity during peak travel hours, public transportation services paralleling the North River Tunnel (PATH trains, commuter buses, and ferries) would experience extreme overcrowding and delays and many passengers might elect not to make the trip or to travel via automobile on the region's congested roadway system. Those passengers who choose to continue using passenger rail service through the North River Tunnel could face potentially unsafe levels of overcrowding on trains and station platforms. Furthermore, if the single remaining available track were forced to close for an emergency repair, all trans-Hudson passenger rail service would have to be suspended for the duration of the emergency closure. Any such closure of the North River Tunnel would disrupt up to 20,500 daily weekday Amtrak passenger trips (one-way rides) and up to 192,000 daily weekday NJ TRANSIT passenger trips based on existing ridership, on up to approximately 450 trains per day, as a worst-case scenario. In addition, Amtrak passengers who travel through the North River Tunnel and PSNY but do not get off or on at PSNY would also be affected. This scenario would have wide-ranging negative effects on local, regional, and national travel patterns and economic activity and on regional environmental conditions.

### 1.4.3 SUMMARY

In summary, the Hudson Tunnel Project will address the following critical needs:

- *Improve the physical condition and rehabilitate the existing North River Tunnel:* Both tubes in the North River Tunnel were inundated with seawater during Superstorm Sandy in October 2012, resulting in the cancellation of all Amtrak and NJ TRANSIT service into New York City for five days. The more than 100-year-old North River Tunnel, already in need of repair due to its age, has been further compromised as a result of the storm damage and service reliability has suffered.
- *Preserve existing NEC capacity and functionality during rehabilitation of existing North River Tunnel:* The need to maintain existing levels of rail service is critical as it supports intercity, regional, and local mobility and associated economic benefits regionally and nationally.
- *Strengthen the NEC's resiliency to support reliable service by providing redundant capability at the critical Hudson River crossing, so as to reduce commuter and intercity rail delays caused by unanticipated events or routine maintenance:* The lack of redundant capability across the Hudson River means that any service outage, either unplanned or for planned maintenance, results in substantial reductions to NEC reliability and on-time performance. Once the Project is constructed, maintenance can take place without these service disruptions.

## 1.5 GOALS AND OBJECTIVES

FRA and NJ TRANSIT established five goals and related objectives to address the Project purpose and need. The objectives further define the goals and provide specific and measurable means by which to evaluate the Project alternatives.

- Goal 1:** Improve service reliability and upgrade existing tunnel infrastructure in a cost-effective manner.
- Objective 1.1: Reduce infrastructure-related delays due to poor condition of the North River Tunnel following Superstorm Sandy.
  - Objective 1.2: Rehabilitate the North River Tunnel to modern system standards.
- Goal 2:** Maintain uninterrupted existing NEC service, capacity, and functionality by ensuring North River Tunnel rehabilitation occurs as soon as possible.
- Objective 2.1: Optimize use of existing infrastructure.
  - Objective 2.2: Use conclusions from prior planning studies as appropriate and to the maximum extent possible.
  - Objective 2.3: Avoid regional and national economic impacts associated with loss of rail service.
- Goal 3:** Strengthen the NEC's resiliency to provide reliable service across the Hudson River crossing, facilitating long-term infrastructure maintenance and enhancing operational flexibility.
- Objective 3.1: Construct additional tracks to allow for continued NEC rail operations during maintenance periods and unanticipated human-caused and natural events.
- Goal 4:** Do not preclude future trans-Hudson rail capacity expansion projects.
- Objective 4.1: Allow for connections to future capacity expansion projects, including connections to Secaucus Junction Station through to the Portal Bridge

over the Hackensack River, and connections to station expansion projects in the area of PSNY.

**Goal 5:** Minimize impacts on the natural and built environment.

- Objective 5.1: Avoid/minimize adverse impacts on communities and neighborhoods.
- Objective 5.2: Strive for consistency with local plans and policies.
- Objective 5.3: Preserve the natural and built environment to the extent practicable.

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