OVERVIEW
The Gateway Program is a comprehensive program of strategic rail infrastructure improvements designed to improve current services and create new capacity that will allow the doubling of passenger trains into Manhattan. The program will increase track, tunnel, bridge, and station capacity, eventually creating four mainline tracks between Newark, New Jersey, and Penn Station, New York, including a new Hudson River tunnel. The program will also strengthen system resiliency with the modernization of existing infrastructure, and updates to the electrical system that supplies power to the roughly 450 daily trains using this segment of Amtrak’s Northeast Corridor.

WHY IS THE GATEWAY PROGRAM NEEDED?

The Northeast Corridor (NEC), connecting Washington, DC and Boston, MA, is at or near capacity at many locations, but nowhere is the demand on the existing rail system greater than in Penn Station, New York and its associated infrastructure. The existing, 105-year-old rail tunnel into midtown Manhattan – the only intercity passenger rail crossing into New York City from New Jersey – operates today at 95 percent capacity during rush hour, creating a severe bottleneck that limits NEC train volume across the entire rail corridor. Trains and stations are currently severely overcrowded at peak periods, and this will worsen as demand for service is projected to increase significantly by 2030. Additionally, much of the existing rail infrastructure in this portion of the NEC was damaged following Super Storm Sandy and now faces reliability challenges.

The vulnerability of access to Penn Station, New York was brought into national focus after Super Storm Sandy inundated the Hudson and East River tunnels, severing all rail service to New York. With the Gateway Program, the construction of a new Hudson River tunnel will permit the closing of the existing century-old tunnel for extended periods so that essential repair and replacement work can be done. The current volume of traffic through the tunnel is so dense that long-term closures are impossible to plan unless the new Gateway tunnel is in place. The disruption of the daily traffic into and out of Manhattan would be too great. Today, work is done during elaborately scheduled 55-hour weekend periods to avoid crippling weekday service reductions – but longer-term closures cannot be avoided due to the degree of damage that has been discovered following Super Storm Sandy.

In sum, the Gateway Program will create the new infrastructure essential to greater resiliency against future potential storms and disasters, while enabling repairs to damage and achieving capacity and reliability-related investments to meet the needs of the NEC’s operators for the next 30-50 years.
**KEY COMPONENTS**

**New Hudson River Tunnel:** A new, two-tube trans-Hudson River rail tunnel from the Bergen Palisades in New Jersey to Manhattan will directly serve an expanded Penn Station. This new tunnel will provide operational benefits for the existing Penn Station and increased capacity for commuter and intercity rail operations including NJ Transit and Amtrak. Construction has been completed on an 800-foot concrete casing through the Hudson Yards site, west of Penn Station, to preserve the only viable right-of-way for the future tunnel into Penn Station. A second 105-foot section is now underway.

**Expanded Moynihan/Penn Station, New York:** An expansion of existing New York Penn Station tracks and platforms and the creation of new “Penn South” concourses will also provide direct connections to the future Moynihan Station. These improvements will support the long-term growth of commuter and intercity passenger rail service at both Penn Station and the historic Farley Post Office Building, which is being transformed into the new “Moynihan Station” by the Moynihan Station Development Corporation. The expanded Moynihan/Penn Station complex creates a consolidated Amtrak operation on Manhattan’s West Side and the high level of service and connectivity required for the growth of Amtrak’s Acela and future NextGen high-speed rail services.

**New Portal Bridges:** Two new high-level, fixed bridges, known as North and South Portal Bridges, will replace the 100-year-old, moveable Portal Bridge over the Hackensack River between Kearny and Secaucus, New Jersey, doubling corridor capacity. Final design and federal environmental review for the North Bridge, the first to be constructed, has been completed. The new bridge is estimated to cost approximately $1 billion over a 5-year construction period and will proceed with the cooperation of NJ Transit, Amtrak, and the federal government, as soon as funding can be secured.

**Newark-to-Secaucus Improvements:** The existing NEC will be greatly improved between Newark and Secaucus, New Jersey. The mainline will be expanded from two to four tracks between Newark and the Bergen Palisades tunnel portals, better connections will be built to link the NEC with the NJ Transit Morris and Essex Lines, and various bridges will be upgraded or replaced.

**Reconstruction of Existing Hudson River Tunnel:** It has long been Amtrak’s goal that the existing Hudson River tunnel, completed in 1910 by the Pennsylvania Railroad, be rebuilt and modernized. However, the damage to the tunnel following Super Storm Sandy has changed the situation entirely. Instead of work being a long term goal, it is now an urgent necessity. The Gateway Program resiliency components must be expedited for that work to proceed without causing acute disruptions to the NEC.
PROGRAM BENEFITS

By eliminating the bottleneck in New York and creating additional tunnel, track, and station capacity in the most congested segment on the NEC, the Gateway Program will provide greater levels of service, increased redundancy, added reliability for shared operations, and additional capacity for the future increases in commuter and intercity rail service.

- **Preservation:** The construction of a new Hudson River tunnel is necessary to preserve NJ Transit and Amtrak service to and from Penn Station while removing from service the existing Hudson River Tunnel for a continuous, extended outage. Without extensive repairs and rebuilding of the existing tunnel, service reliability is likely to continue to deteriorate due to ongoing damage from saltwater incursion during Super Sandy, eventually forcing a shutdown of one or both tubes of the Hudson River Tunnel.

- **Capacity:** The Gateway Program will benefit both intercity and commuter rail passengers, as well as communities and states along the entire NEC. When all components of the Gateway Program are put in place, it will double capacity for train operations under the Hudson River and expand tracks and platforms at Penn Station by nearly 40 percent.

- **Operational Reliability and Resiliency:** The Gateway Program will provide essential Hudson River system redundancy and operational flexibility critical to both managing and maintaining the system reliably day-in and day-out and in responding to emergencies. The new Hudson River tunnel will be built to provide enhanced resiliency against natural and man-made threats.

- **Commuter Rail Service Expansion:** The Gateway Program will enable the expansion of one-seat ride opportunities to New York City for NJ Transit and Metro-North West-of-Hudson commuters. It will also support the introduction of Metro-North Railroad New Haven and Hudson Line commuter services to Penn Station, New York and provide additional capacity to expand Amtrak high-speed, regional, and state-supported intercity services throughout the entire Northeast Region.

- **High-Speed Rail:** The Gateway Program improvements will enable expansion of existing Amtrak high-speed Acela Express and other intercity services, including Amtrak’s proposed 220 mph, next generation high-speed rail trains. Without the infrastructure and capacity improvements contained in the Gateway Program, it will not be possible to achieve the proposed high-speed goals.

- **Economic Growth:** The Gateway Program will grow the economy by making business travel in the Northeast Region more convenient and reliable. The Program will also increase access to labor and job markets on both sides of the Hudson River for employers and employees, creating more comfortable and reliable commuting options. The expansion of high-speed Acela Express service and future introduction of 220 mph high-speed service will shrink travel times between major cities in the Northeast Region, forging new economic linkages critical in today’s globally competitive market.
PROGRESS TO DATE AND NEXT STEPS

Hudson Yards Right-of-Way Preservation
Early actions to preserve the future pathway of a new Hudson River tunnel connecting to Penn Station have already begun. Amtrak began construction in 2013 on a concrete casing to preserve an underground right-of-way that could serve as the future alignment for the Gateway tunnel into Penn Station, New York. Amtrak has determined that this alignment through the Hudson Yards provides the only viable route for new Hudson River tunnel to access Penn Station and serve existing tracks and platforms. In December 2014, construction began to extend the concrete casing another 100 feet under the 11th Avenue Viaduct. This effort has been supported by approximately $235 million of federal Sandy Resiliency funding under Disaster Relief Appropriations Act of 2013 and a local match shared by Amtrak, NJ Transit and the Metropolitan Transportation Authority.

Design of Program Elements
Amtrak is advancing concept design for discrete elements of the Gateway Program, many of which offer independent utility as replacement or resiliency projects, until they are all activated to deliver the capacity benefits of the Gateway Program. These include projects such as Replacement of “Sawtooth” Bridges in New Jersey, Harrison Station Fourth Track, and Elizabeth Station Fifth Track, and Penn Station Expansion. The Gateway Program’s modular design allows these individual elements to advance as funding becomes available. For example, final design and environmental review of Portal North Bridge, which will replace the existing Portal Bridge over the Hackensack River, is already complete, making the project “shovel ready.”

Environmental Review and Preliminary Engineering of a new Hudson River Tunnel
A new tunnel under the Hudson River from the Bergen Palisades to Penn Station in Manhattan is likely to be the first major element of Gateway Program to advance. This new tunnel is needed in order to reroute rail traffic while the existing Hudson River Tunnel undergoes extensive repairs. Amtrak is now conducting outreach prior to launching the environmental review process required by the National Environmental Policy Act (NEPA), with an aim to begin the NEPA process for the new tunnel, in cooperation with its state and federal partners, in fall 2015. Amtrak has also partnered with NJ Transit to advance design and construction of a micro-grid supply within the Gateway Program area. When completed, this project will deliver electric power generated by independent sources and introduce new measures of a resilient power supply for this vitally important area.

Program Development
Amtrak has completed a system level design study that evaluated traction power, signalization, and operational concepts for a new pair of rail tubes under the Hudson River that connect to a new 8-track expansion of Penn Station New York south of 31st Street in Manhattan. The next phase of the study, Program Development, explores implementation and phasing, including initiating the NEPA process, organizational approach and program delivery, funding and financing, and further planning of the integrated Penn Station facility. The Program Development study is ongoing through early 2016.

Visit NEC.Amtrak.com for more information on the Gateway Program and other NEC infrastructure investments.