Northeast Corridor Capital Investment Plan

Fiscal Years 2019-2023

July 2018

Congress established the Northeast Corridor Commission to develop coordinated strategies for improving the Northeast's core rail network in recognition of the inherent challenges of planning, financing, and implementing major infrastructure improvements that cross multiple jurisdictions. The expectation is that by coming together to take collective responsibility for the NEC, these disparate stakeholders will achieve a level of success that far exceeds the potential reach of any individual organization.

The Commission is governed by a board comprised of one member from each of the NEC states (Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, and Maryland) and the District of Columbia; four members from Amtrak; and five members from the U.S. Department of Transportation (DOT). The Commission also includes non-voting representatives from four freight railroads, states with connecting corridors and several commuter operators in the Region.

Contents


CAUTION
DO
NOT
RUN
STATION STREET
TRACK 3

Letter from the Co-Chairs

This year's Capital Investment Plan (CIP) represents continued progress in implementing the Northeast Corridor Commission's Cost Allocation Policy. The Policy, agreed to by Commission members in September 2015, allocates over $1 billion in shared annual operating and normalized replacement capital costs and requires increased transparency and accountability. Overcoming a great deal of initial skepticism, the development and implementation of this Policy has led to a new level of collaboration between the owners and operators of North America's busiest and most complex railroad.

This year's CIP provides better scope, schedule, and budget information for projects. One key process improvement is displaying funding needs for Special Projects by project development phase to help stakeholders understand how smaller increments of near-term funding could advance planning and design of construction projects to address our multi-billion-dollar state-of-good-repair backlog.

However, significant work remains to improve the planning process. Project planning requires more rigorous capital cost estimates, including explanations of notable cost changes year-over-year. As NEC owners implement more robust asset management systems and initial design work progresses for many of the Corridor's major projects, cost estimates to achieve and maintain a state of good repair will improve and will guide capital program development. The Commission and its members are also committed to subsequent plans providing a detailed assessment of the project phases that are feasible to complete in the five-year period given labor resource availability and track outage constraints.

Planning for capital renewal of basic infrastructure requires changes to business practices and data systems to provide location-based scopes, schedules, and budget estimates that can be tracked for performance measurement. Improvements to these planning and reporting processes are essential to showing state and federal partners that we are responsible stewards of public dollars and we expect further progress in these areas in the upcoming FY19 Implementation Plan, the FY18 Annual Report, and next year's CIP.

The Commission appreciates the increases in funding that Congress provided with the FY18 omnibus appropriations. NEC stakeholders are eager to see how higher funding levels in the Federal-State Partnership for State of Good Repair program and the Amtrak NEC account might serve as a down payment on addressing the condition of NEC infrastructure. Additionally, the Commission recognizes the need to build upon the success of our Cost Allocation Policy to develop a federal-state partnership to fund major projects such as bridge and tunnel replacement over the long-term.

Since assuming our positions on the Commission, we've been impressed by the dialogue and coordination among the various parties involved in delivering service on the NEC. Information-sharing and collaboration is already occurring on a wide array of issues and we have made improving the planning process a high priority. The Commission looks forward to building upon these efforts to forge a new partnership between states, railroads, and the federal government that will ensure a bright future for the NEC, its users, and our economy.

Kevin S. Corbett
Executive Director, NJ TRANSIT
Co-Chair, Northeast Corridor Commission

Ronald L. Batory
Administrator, Federal Railroad Administration
Co-Chair designee, Northeast Corridor Commission

Executive Summary

Action plan to support reliability and safety

The NEC Capital Investment Plan for federal fiscal years 2019-2023 documents the investments required over the next five years to reverse decades of deterioration and to modernize this important national asset for future economic growth. In total, the plan includes over $29 billion in investment on the NEC rail line. This total includes both funded projects (investments where funding is available or committed) and unfunded projects (proposed investments that need additional funding). While approximately $15.4 billion is funded over the next five years, an additional $13.9 billion is needed to fully fund the plan.

Capital renewal of basic infrastructure supports safety and reliability.

Capital renewal of basic infrastructure is the ongoing repair and replacement of the existing railroad infrastructure that is required to ensure the continued reliable and safe operations of trains (excluding the replacement of major bridges and tunnels). A key component of capital renewal is the Baseline Capital Charge (BCC) Program, which is funded by the ongoing capital contributions of Amtrak and the commuter railroads.

Amtrak, states, and commuter railroads will contribute approximately $3.1 billion over the next five years through the NEC Commuter and Intercity Rail Cost Allocation Policy (the Policy), helping create a reliable source of funding for the capital renewal of basic infrastructure assets. In FY17, one-third of all delays were due to engineering-related causes, including infrastructure failure, making investments in basic infrastructure assets a key priority for improving reliability for NEC riders.

Special projects address major backlog needs and support continued economic growth.

Special projects include major backlog projects, which replace the NEC's large, century-old moveable bridges and major tunnels in Connecticut, New York, New Jersey, and Maryland. Special projects also include improvements to stations and railroad infrastructure to increase reliability, modernize infrastructure, and expand capacity for future service.

This plan proposes over $25.6 billion in investments over the next five years in special projects on the NEC. These investments include addressing the major bridges and tunnels that are a key source of infrastructure failure, as well as improvements aimed at enhancing the passenger experience, reducing delays, and growing service. While some projects are funded, most require additional funding in order to move to the next stage of development.

FY19-23 NEC Capital Investment Plan funding summary

Program/ Project Type	FY19-23 Funded (Available or Committed)	FY19-23 Unfunded (Amount Needed)	FY19-23 Total
Capital Renewal of Basic Infrastructure	**$3,148,000,000**	**$486,000,000**	**$3,635,000,000**
Baseline Capital Charge (BCC) Program[1]	$2,203,000,000	$0	$2,203,000,000
Above BCC Obligations	$945,000,000	$486,000,000	$1,432,000,000
Special Projects	**$6,094,000,000**	**$6,098,000,000[2]**	**$12,191,000,000**
Major Backlog	$723,000,000	$1,930,000,000	$2,653,000,000
Improvement	$5,371,000,000	$4,168,000,000	$9,538,000,000
Special Projects: Gateway Program[3]	**$6,146,000,000**	**$7,289,000,000[2]**	**$13,435,000,000**
Major Backlog	$6,146,000,000	$6,652,000,000	$12,798,000,000
Improvement	$0	$637,000,000	$637,000,000
Total	**$15,388,000,000**	**$13,873,000,000**	**$29,261,000,000**

Notes: Funding figures are estimates based on information provided by coordinating agencies. (1) Assumes $440 million per year, equivalent to 80% of normalized replacement with existing asset data. This number may increase to $550 million per year if the Commission votes to fund 100% of normalized replacement in future years. (2) Funding needed for FY19-23 are reported estimated amounts needed for all project phases occurring in FY19-23. (3) For more information on the Gateway Program, see the Project Information Appendix, pgs. 77-86.

Funding opportunities to achieve a state of good repair

Congress memorialized many of the recommendations of the Policy in law when it passed the FAST Act in 2015, including the creation of a Federal-State Partnership for State of Good Repair program. Robust funding was provided to that program and to Amtrak's Northeast Corridor Account in FY18. This funding is an important first step in tackling the state-of-good-repair backlog. However, with a gap of approximately $13.9 billion over just the next five years, this funding partnership must be sustained and grow in size to guarantee the safety and reliability of the Northeast Corridor for future generations.


Boston
Springfield
Providence
Hartford
CT rail
Metro-North Railroad
New Haven
NJ TRANSIT
Long Island Rail Road
Newark
New York
AMTRAK
SEPTA
Harrisburg
Philadelphia
Wilmington
MARC
Baltimore
Washington DC
VRE

1. Introduction

The Northeast Corridor Commission

Congress established the Northeast Corridor Commission to develop coordinated strategies for improving the Northeast's core rail network in recognition of the inherent challenges of planning, financing, and implementing major infrastructure improvements that cross multiple jurisdictions. The expectation is that by coming together to take collective responsibility for the NEC, these stakeholders will achieve a level of success that far exceeds the potential reach of any individual organization.

The Northeast Corridor

The Northeast Corridor supports over 800,000 passenger trips each day, approximately 770,000 on eight commuter railroads and over 40,000 on Amtrak's various intercity services. The 457-mile main line railroad still includes many bridges and tunnels that date back to the period between the Civil War and the New Deal. Service disruptions caused by infrastructure failures, rail traffic congestion, and other factors already cost the economy $500 million per year in lost productivity. Without higher levels of capital investment, those losses are likely to grow. A loss of all NEC services for just one day would cost the economy an estimated $100 million.

The NEC Capital Investment Plan

The NEC Capital Investment Plan is a requirement of the Fixing America's Surface Transportation (FAST) Act (49 U.S.C. §24904(a)) and was developed in collaboration with eight states, the District of Columbia, the United States Department of Transportation, Amtrak, and eight commuter rail agencies.

NEC Capital Plans and Reports

The Commission produces two other plans and reports on an annual basis:

- **NEC One-Year Implementation Plan:** The One-Year Implementation Plan is a consolidated cross-agency record of the anticipated capital project activity in the upcoming federal fiscal year based on available capital funding.
- **NEC Annual Report:** The Annual Report documents the operational performance of NEC trains and the implementation of the capital program for the past federal fiscal year. The report also contains recommendations for improving planning for and reporting on capital projects.

These plans are developed in collaboration with eight states, the District of Columbia, the United States Department of Transportation, Amtrak, and eight commuter rail agencies. Download a copy of these plans and reports at: www.nec-commission.com.

The plan documents the investments required over the next five federal fiscal years to reverse decades of deterioration and begin to modernize this important national asset for future economic growth. The plan combines anticipated investments based on available funding and resources with capital investments that could occur with additional funding to restore and improve the condition of the NEC.

The plan is focused on the NEC main line and connecting corridors to Harrisburg, PA; Spuyten Duyvil, NY; and Springfield, MA. (Shown in dark blue at left.) This infrastructure supports a broader network of connecting corridors that feed additional commuter rail and Amtrak lines onto the NEC.

2. Plan Overview

Action plan to support reliability and safety

The NEC Capital Investment Plan for federal fiscal years 2019-2023 documents the investments required over the next five years to reverse decades of deterioration and to modernize this important national asset for future economic growth. In total, the plan includes over $29 billion in investment on the NEC rail line. This total includes both funded projects (investments where funding is available or committed) and unfunded projects (additional proposed investments that need additional funding). While approximately $15.4 billion is funded over the next five years, an additional $13.9 billion is needed to fully fund the plan.

The plan includes two key types of projects:

- **Capital renewal of basic infrastructure:** The ongoing repair and replacement of the existing railroad infrastructure that is required to ensure the continued reliable and safe operations of trains (excluding the replacement of major bridges and tunnels). A key component of capital renewal is the Baseline Capital Charge (BCC) Program, which is funded by the ongoing capital contributions of Amtrak and the commuter railroads.
- **Special projects:** Special projects include major backlog projects, which replace the NEC's large, century-old moveable bridges and major tunnels in Connecticut, New York, New Jersey, and Maryland. Special projects also include improvements to stations and railroad infrastructure to enhance the passenger experience, increase reliability, modernize infrastructure, and expand capacity for future service.

Figure 2-1. FY19-23 NEC Capital Investment Plan funding summary

Program/ Project Type	FY19-23 Funded (Available or Committed)	FY19-23 Unfunded (Amount Needed)	FY19-23 Total
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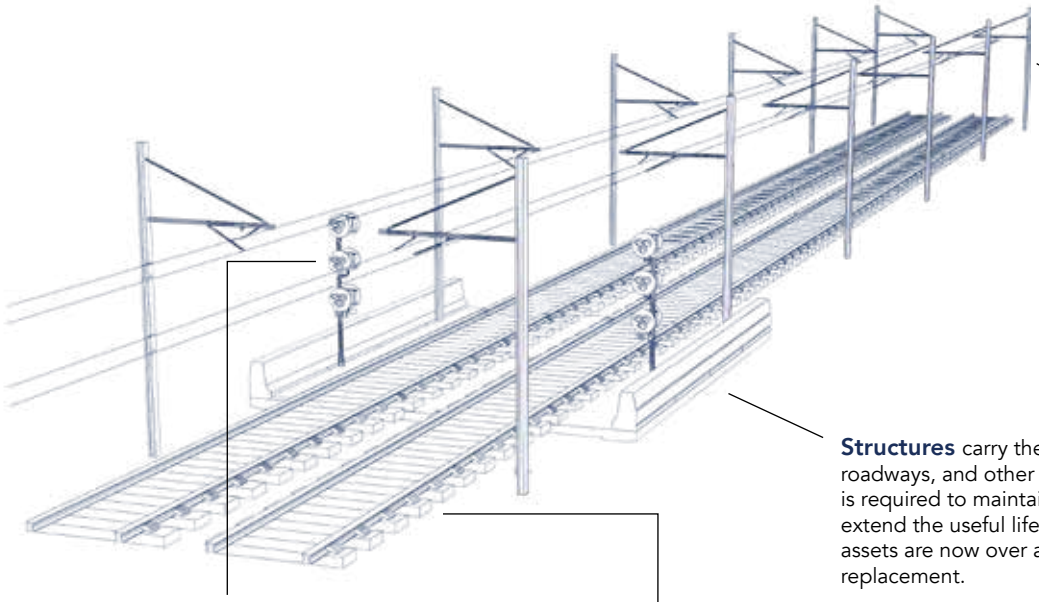
Basic infrastructure assets



Electric Traction systems draw power from the regional electric grid and distribute it to trains through a complex system of frequency converters, substation facilities, and overhead catenary lines. Many such assets that date back to the 1930s limit train speeds and are a frequent source of infrastructure failures and service disruptions.

Structures carry the railroad over rivers, streams, roadways, and other obstacles. Regular maintenance is required to maintain safe operating conditions and extend the useful life of assets. Hundreds of such assets are now over a century old and require complete replacement.

Communications and Signals control the movement of trains along tracks and between tracks at interlockings. The signal network on the NEC is among the most outdated of all assets as communications technology has rapidly developed in recent decades. Many replacement parts for the current system are not available.

Track physically supports the movement of trains, including rail, concrete or wooden ties, a trackbed of crushed stone, and sublayers designed to ensure proper drainage and prevent shifting of the railroad. Regular maintenance of such infrastructure is required to maintain safe operating conditions, prevent damage to train equipment, and promote comfortable ride quality.

Capital renewal of basic infrastructure ensures safety and reliability

Basic infrastructure assets play a critical role in ensuring reliable train service for NEC riders. In FY17, one-third of all rail delays were caused by engineering-related incidents, including infrastructure failure. Expanded and sustained investment in capital renewal of basic infrastructure has the potential to greatly improve the reliability of the NEC.

In FY19-23, the owners of the railroad right-of-way plan major investments in basic infrastructure assets. Amtrak's five-year capital renewal of basic infrastructure program expects to focus a majority of its investment in track work on the NEC main line and connecting corridors. MBTA's capital renewal program includes, but is not limited to, signal system upgrades at four interlockings and tie and rail upgrades at Boston South Station over the next five-years, all of which will result in better train performance for passengers.

Connecticut DOT has been funding replacement of existing capital assets at rates beyond those allocated by the Cost Allocation Policy in order to reduce the state-of-good-repair backlog. Connecticut DOT aims to complete replacement of the catenary system in its territory over the next five years, though additional investments in track and undergrade bridges are required to address the state-of-good-repair backlog. Basic infrastructure in Metro-North Railroad territory from New Rochelle, NY to the New York-Connecticut state line is considered to be largely in a state of good repair thanks to prior and ongoing investments in capital renewal, which will continue in FY19-23.

Special projects address critical major backlog needs and improve the railroad to support continued economic growth

This plan proposes approximately $25.6 billion in investments over the next five-years in special projects on the NEC. Funded projects include Connecticut DOT's replacement of the 120-year-old Norwalk River Bridge, which has become the site of major delays for Amtrak and Metro-North riders, and the Delaware Third Track Project, a multi-year initiative to support increased service and reduce delays for Amtrak and commuter rail riders in Delaware.

The plan also proposes important investments that need additional funding, including major backlog projects—the replacement of century-old moveable bridges and major tunnels—in order to move to the next stage of project development or to construction. For example, the Baltimore & Potomac Tunnel Replacement completed its required planning and environmental reviews in May 2017 and, if additional funding can be provided, is ready to advance to permitting, final design, and construction. On the Harrisburg Line, additional funding is needed to replace functionally obsolete interlockings that hamper reliability and growth of Amtrak's Keystone service and SEPTA's Paoli/Thorndale Line.

Stakeholders have also proposed improvements at major hub stations in Boston, New York, Newark, Philadelphia, and Washington, as well as investments and repairs at many intermediate stations across the NEC, including stations in Massachusetts, Rhode Island, Connecticut, and Delaware.

For detailed information on both capital renewal and special projects, see the Project Information Appendix on page 19.

Boston South Station.

The NEC state-of-good-repair backlog

Infrastructure assets have a useful life, which can vary from a few years to many decades, after which they should be replaced. The state-of-good-repair backlog is the population of assets beyond their useful life and contains both basic infrastructure assets (like rail ties and electric wire) and major assets (like tunnels and large moveable bridges).

Some assets can operate safely beyond their useful life, though they become more expensive to maintain and more vulnerable to failures that cause service disruptions. Failure to address the state-of-good-repair backlog will make it impossible to sustain existing NEC services. These projects are critical to operations of existing service along the NEC and will improve reliability by replacing assets that are beyond their useful lives and at risk of failure.

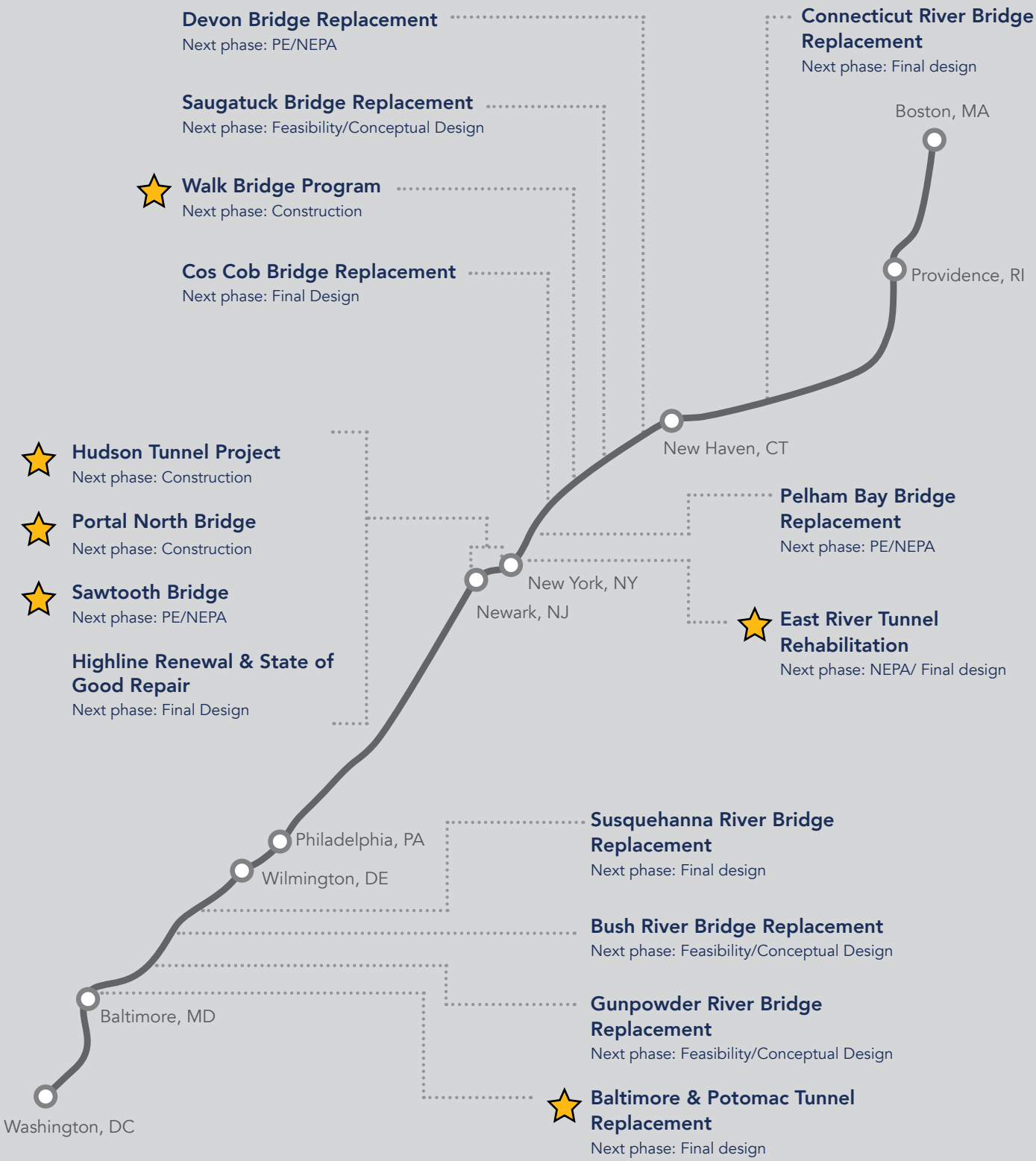
Some of these projects are many years away from construction. However, six projects could begin construction within the next five years if funding is made available. These critical projects are indicated below and highlighted on page 12. In many cases, these projects have already had federal investment in planning and design which would be wasted without additional dollars for construction. Additional details on these projects can be found in the Project Information Appendix B. Special Projects starting on page 27.

Asset Name	Replacement Value[1]
Basic Infrastructure Backlog	**$11,600M**
Track	$1,500M
Structures	$8,200M
Communications and Signals	$700M
Electric Traction	$1,200M
Major Backlog Projects	**$30,713M**
Connecticut River Bridge	$759M
Devon Bridge	$1,500M
Saugatuck Bridge	$1,100M
Walk Bridge (Norwalk River Bridge)[2]	$1,170M
Cos Cob Bridge	$1,000M
Pelham Bay Bridge	$546M
East River Tunnel[2]	$1,209M
Hudson Tunnel Project[2]	$12,970M
Portal North Bridge[2]	$1,602M
Sawtooth Bridge[2]	$1,600M
Highline Renewal	$300M
Susquehanna River Bridge	$1,707M
Bush River Bridge	$400M
Gunpowder River Bridge	$550M
Baltimore & Potomac Tunnel[2]	$4,300M
Total State-of-Good-Repair Backlog	**$42,313M**

Notes: Some of these projects combine elements of new capacity with the replacement of existing structures. Figures are order of magnitude estimates, as some projects are in the early stages of development. Actual construction estimates may change substantially. (1) Replacement values as provided by the infrastructure owner/ coordinating agency. (2) Indicates projects which could advance to construction in the next five years.

Below: The Susquehanna River Bridge between Havre de Grace and Perryville, Maryland.

Major backlog projects on the NEC



Projects could advance to construction within the next 5 years if funding is made available.

Major backlog projects that could advance to construction in the next five years

Walk Bridge Program

This program will replace the functionally obsolete 120-year-old Norwalk River Bridge which has experienced increasing deterioration of electrical and mechanical components. Connecticut DOT has committed to replace this asset with a combination of federal and state funds. Construction will require an extended continuous outage of two tracks where normally four are operational. This change in track availability could cause changes in schedule, decreases in reliability, or even reductions in service. Total cost for this project includes elements which will help mitigate these risks.

Aging moveable bridges pose a big risk of long-term major disruption of service along the NEC. These structures require constant maintenance, are functionally obsolete, and well beyond their useful life. The situation at Norwalk River Bridge is made worse by the fact that all four tracks reside on one moveable span. A failure of the span severs the entire NEC between New York and Boston.

East River Tunnel Rehabilitation

The East River Tunnel consists of four tubes that connect Manhattan to Long Island and are used for Amtrak and MTA Long Island Rail Road services. The tubes, constructed in 1909, require significant upgrades and rehabilitation in order to achieve a state of good repair.

This project would rehabilitate East River Tunnel tubes 1 and 2 which connect Penn Station, NY to Queens, NY. Each tunnel is approximately 13,000 feet in length. Through this project, both tunnel tubes will be demolished down to the concrete liner and rebuilt with new bench walls, communication systems, and modern electrical and signaling conduit.

The East River Tunnel tubes are in desperate need of rehabilitation and improvement, due to continually worsening conditions of the tunnel structure given both its age and damage related to Superstorm Sandy, to ensure continuation of operations for LIRR, NJ TRANSIT, and Amtrak. The tunnel renovations will also be designed to improve the safety and security (to the greatest extent practicable) in the tunnels.

Hudson Tunnel Project

Every weekday, almost 200,000 Amtrak and NJ TRANSIT passengers use the Hudson River Tunnel—originally built in 1910—to travel between New Jersey and Manhattan. The tunnel was significantly damaged by Superstorm Sandy in 2012. While operationally safe, the tunnel today continues to deteriorate due to corrosive minerals that damaged the bench walls, embedded steel, track, and signaling and electrical components.

The Hudson Tunnel Project will construct a new two-track tunnel beneath the Hudson River to enable the future rehabilitation and modernization of the existing two-track tunnel (referred to as the North River Tunnel). Existing service can only be maintained by the construction of a new tunnel to carry existing rail traffic during the rehabilitation of the North River Tunnel. Taking just one track out of service at a time without the new tunnel would reduce total capacity for Amtrak and NJ TRANSIT by as much as 75%, impacting 200,000 passengers on 450 trains each weekday.

Portal North Bridge

Portal Bridge is a century-old, swing-span bridge over the Hackensack River that carries approximately 450 Amtrak and NJ TRANSIT trains daily between Newark, NJ and New York Penn Station. The current bridge is a major bottleneck and source of delay. It has limited vertical clearance and must routinely be opened for maritime traffic. The bridge is functionally obsolete and experiences frequent mechanical failures, creating major delays for this section of the NEC. The risk of continued and increasing unplanned outages due to malfunctions cannot be mitigated by routine maintenance.

The Portal North Bridge project would replace the existing bridge with a new high-level, fixed-span bridge that would eliminate openings and therefore the risk of malfunctions and service disruptions.

In 2015, a TIGER grant was awarded to the state of New Jersey to complete early action construction items. Full construction of the new bridge can begin as soon as full funding can be secured.

Sawtooth Bridge

The Sawtooth Bridge carries the NEC over the NJ TRANSIT Morristown Line and the PATH rail line. The bridge is in a state of serious distress and is well beyond possibility of rehabilitation.

This project would replace the existing, structurally deficient bridge spans with four-track structures. Construction staging is complex because of the intensity of use of the NEC as well as intense usage on the railroad crossings below the structures.

When replaced, capacity would be increased from a two-track to a four-track right-of-way. A continuous third and fourth track would be essential to unlocking the full capacity gains promised by larger projects, including a new Portal North Bridge and new Hudson River Tunnels. This additional capacity would enable both Amtrak and NJ TRANSIT to increase service and would greatly improve reliability by creating the flexibility to divert trains to alternative tracks when there are disruptions on the line.

Baltimore & Potomac Tunnel

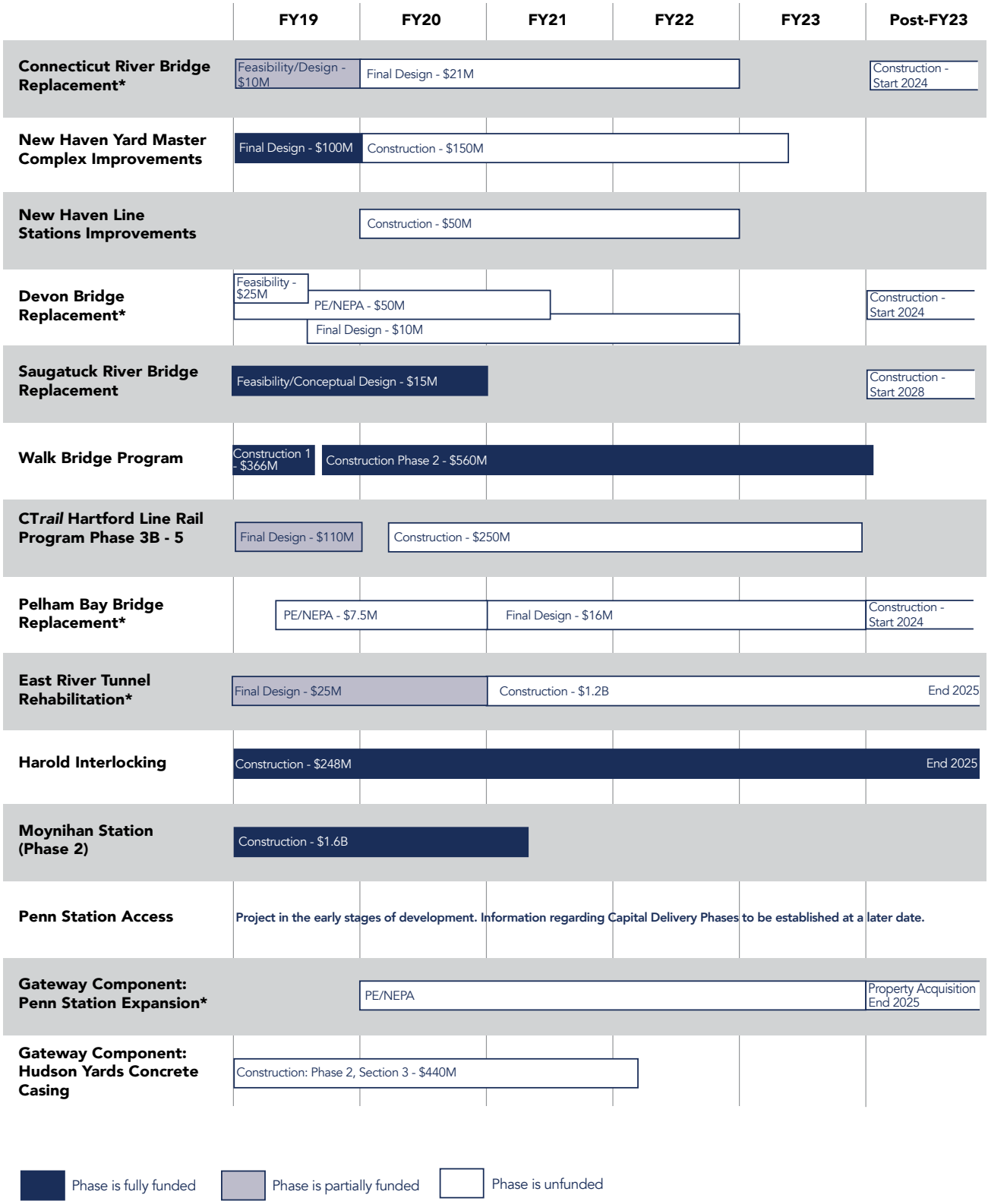
The Baltimore & Potomac Tunnel, built in 1873, runs underneath central Baltimore City and is a key chokepoint on the Corridor. The B&P Tunnel underwent rehabilitation in the 1980s, but that effort was not intended to be a permanent fix. The tunnel requires ongoing maintenance. High saturation of water in the soil beneath the tunnel causes its aging floor slabs to sink, forcing Amtrak to make repeated repairs.

Right-of-way is reduced from four to two tracks in the tunnel. Due to its tight curvature and aged structural conditions, the tunnel limits train speeds to 30 mph—down from 60 mph.

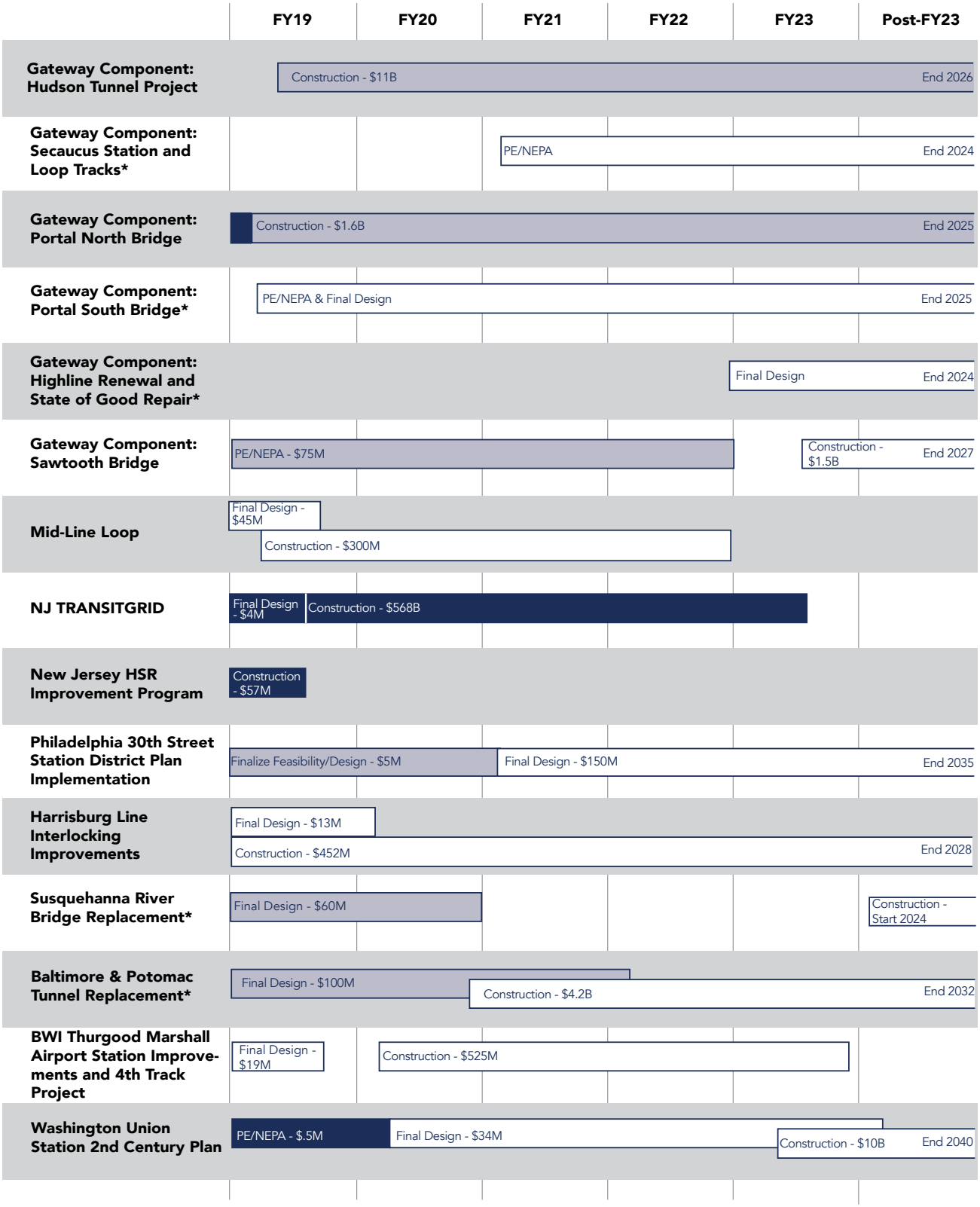
This project would replace the aging B&P Tunnel with a new four-track tunnel on an improved alignment to eliminate the current chokepoint for MARC and Amtrak trains near Baltimore Penn Station. The project would not only improve rail service reliability and safety, but also accommodate the future growth and demand.

Figure 2-3. Proposed FY19-23 schedule for major shared benefit projects on the NEC

Projects below are estimated to exceed $250M in total cost and are ordered by geography.



*Project in early stages of development. Cost information for some phases not yet available or are preliminary estimates.



*Project in early stages of development. Cost information for some phases not yet available or are preliminary estimates.

3. Funding the Plan

States, commuter railroads, and Amtrak are sharing costs to renew existing infrastructure

In September 2015, the Northeast Corridor states and Amtrak agreed to the NEC Commuter and Intercity Rail Cost Allocation Policy, which outlined a framework for NEC stakeholders to share operating and normalized replacement capital costs—***over* $1 billion annually**—to support commuter and intercity rail service throughout the corridor.

Amtrak, states, and commuter railroads are contributing approximately $3.1 billion over the next five years to create a reliable source of funding for the capital renewal of basic infrastructure assets, while using funding from federal grants, state bonds, and other sources for the construction of special projects (i.e., major backlog and improvement projects). NEC owners and operators are also committed to finalizing implementation of Positive Train Control to achieve compliance with federal statute and to ensure safety of all NEC riders.

These investments towards both basic infrastructure and special projects underscore the commitment from NEC stakeholders to ensure that the corridor is a reliable and safe transportation system.

Funding opportunities to achieve state of good repair

Even with the commitment described above, more funding is needed to help bring the corridor's aging assets into a state of good repair. In adopting the Cost Allocation Policy, Amtrak and the states made a commitment to funding ongoing capital renewal. The Policy stated that the federal government should play a significant role in addressing the state-of-good-repair backlog. The Policy also made specific recommendations for funding and recognized that a federal-state partnership is essential to the future success of the corridor.

Congress memorialized many of the recommendations of the Policy in law when it passed the FAST Act in 2015, including the creation of a Federal-State Partnership for State of Good Repair Program. In FY18, robust funding was provided to the Federal-State Partnership for SOGR Program, as well as to Amtrak's Northeast Corridor Account. This important funding may begin to advance backlog elimination. However, this strong federal partnership must be sustained and enhanced going forward in order to fully address the state-of-good-repair backlog. Multiple funding and financing programs will be critical to advancing key projects.

With a continued funding gap of approximately $13.9 billion over the next five years, strong sustained and consistent funding from all parties is needed to guarantee the safety and reliability of the Northeast Corridor for future generations.

Figure 3-1. Funding sources for NEC capital investments

Dedicated sources of funding: Capital programs from these agencies are committed to providing funding for the normalized replacement of capital assets through the BCC Program.

MBTA	Rhode Island DOT	Connecticut DOT	MTA Metro-North	MTA Long Island Rail Road	NJ TRANSIT
SEPTA	Delaware DOT	MARC	VRE	Amtrak	

Potential sources of funding: In addition to state, local, and other funding sources, capital investments on the NEC to reduce the state-of-good-repair backlog are eligible for funding through multiple federal funding and financing programs.

FRA Federal-State Partnership for State of Good Repair	FRA Consolidated Rail Infrastructure & Safety Improvement (CRISI)	BUILD Transportation Program	FTA Formula Funding
FTA Capital Investment Grants	Amtrak NEC Account Appropriations	Transportation Infrastructure Finance and Innovation Act (TIFIA)	Railroad Rehabilitation and Improvement Financing (RRIF)

Figure 3-2. Current funding need and potential additional funding

FY19-23 Funding Summary	FY19-23 Funded (Available or Committed)	FY19-23 Unfunded (Amount Needed)	FY19-23 Total
Capital Renewal of Basic Infrastructure[1]	$3,148,000,000	$486,000,000	$3,635,000,000
Special Projects	$6,094,000,000	$6,098,000,000[2]	$12,191,000,000
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Potential Additional Funding Sources	FY19-23 Total
Additional BCCs[4]	$550,000,000
Amtrak NEC Account[5]	$2,932,000,000
Federal-State Partnership Program - Potential Federal Contribution[6]	$1,500,000,000
Federal-State Partnership Program - Potential Matching Contribution[7]	$375,000,000 - $1,500,000,000
Total	**$5,357,000,000 - $6,482,000,000**

Notes: Figures are estimates based on information provided by project coordinating agencies. (1) Assumes $440 million per year, equivalent to 80% of normalized replacement with existing asset data, plus any amount above required Baseline Capital Charge obligations. (2) Funding needed for FY19-23 are reported cost estimates needed for all project phases occurring in FY19-23. (3) For more information on the Gateway Program, see the Project Information Appendix, pgs. 77-86. (4) Assume $110 million per year, equivalent to an increase to 100% of Normalized Replacement with existing asset data. (5) Assumes funding at authorized levels for FY19 ($552 million) and FY20 ($595 million) and consistent funding each year FY21-23 ($595 million annually). (6) Assumes $300 million annually each year, reflecting the amount authorized in FY19 and FY20. (7) Range shows potential 20% to 50% non-federal share of total project costs.

Project Information Appendix

Types of programs and projects

Programs/ Projects	Description
Capital renewal of basic infrastructure	Capital renewal of basic infrastructure covers the ongoing repair and replacement of existing assets (excluding the replacement of major bridges and tunnels). On the NEC, capital renewal is managed primarily by the infrastructure owners: Amtrak, MBTA, Connecticut DOT, and Metro-North Railroad.
Baseline Capital Charge (BCC) Program	In 2015, the NEC Commission made an historic agreement to share capital renewal of basic infrastructure costs in approving the NEC Commuter and Intercity Rail Cost Allocation Policy. Per the Policy, each operator contributes a Baseline Capital Charge, a proportional share, relative to use, of steady-state capital renewal cost (an estimate of the annual level of investment required to maintain assets if they were in a state of good repair). The Policy also requires NEC infrastructure owners to develop the first two years of the plan with sufficient geographic specificity to demonstrate whether each operator's BCC will be expended in its territory. This demonstration of geographic specificity will be a tool for anticipating BCC expenditures and potential investment shortfalls. An owner must use BCCs for eligible investments in an operator's territory in the year.
Special Projects	Special projects include all other project types (i.e., major backlog and improvement projects). Special projects are funded through a mix of sources, which may include but are not limited to: federal grants; funds from state and/or commuter railroad capital programs; and other sources of discretionary funding.
Major Backlog	Major backlog projects would replace the NEC's century-plus-old bridges and tunnels that are quickly deteriorating and at risk of severing service. Only one of fifteen major backlog projects, the Walk Bridge Program in Connecticut, is funded for construction.
Improvement	Improvement projects cover all other investments aimed at growing or upgrading the existing asset base to improve reliability, expand capacity, reduce travel time, or enhance the passenger experience.

A. Capital Renewal of Basic Infrastructure

Capital renewal of basic infrastructure covers the ongoing repair and replacement of existing assets (excluding the replacement of major bridges and tunnels). On the NEC, capital renewal is managed primarily by the infrastructure owners: Amtrak, MBTA, Connecticut DOT, and Metro-North Railroad.

Figure A-1. Amtrak FY19-23 Baseline Capital Charge Program
NEC Main Line (except in MA, CT, NY) and Connecting Corridors (except NY)

Territory/ Discipline	FY19 Forecast	FY20 Forecast	FY21 Forecast	FY22 Forecast	FY23 Forecast
NEC Track	$302,427,609	$299,188,019	$287,822,857	$330,022,729	$344,428,779
NEC Structures	$57,153,838	$59,272,838	$60,862,089	$60,862,089	$60,862,089
NEC Communications and Signals	$25,899,568	$24,833,372	$28,959,196	$24,721,196	$24,429,833
NEC Electric Traction	$40,486,859	$45,811,162	$51,119,257	$35,237,352	$22,523,352
National Network Track (NEC Connecting Corridors)	$28,909,781	$22,190,671	$22,611,609	$23,045,174	$23,491,747
National Network Communications & Signals (NEC Connecting Corridors)	$6,568,900	$2,648,750	$3,708,250	$2,648,750	$1,059,500
National Network Structures (NEC Connecting Corridors)	$10,340,721	$10,340,721	$8,221,721	$8,221,721	$8,221,721
National Network Electric Traction (NEC Connecting Corridors)	$476,775	$900,575	$1,324,375	$900,575	$476,775
Systemwide Program Management (NEC Allocation)	$11,124,750	$11,458,493	$11,802,247	$12,156,315	$12,521,004
Total	**$483,388,800**	**$476,644,600**	**$476,431,600**	**$497,815,900**	**$498,014,800**

Figure A-2. MBTA FY19-23 Baseline Capital Charge Program
NEC Main Line: Attleboro Line, MA

MBTA Program/ Project	FY19 Forecast	FY20 Forecast	FY21 Forecast	FY22 Forecast	FY23 Forecast
STRUCTURES AND FACILITIES					
ROW Fence Upgrades					
• **ROW Fence Upgrades.** This project is to install approx. 3,750 LF impass fencing per year.	$1,312,500	$1,379,000	$1,414,000	$1,449,000	$1,492,000
Southwest Corridor Infiltration Remediation					
• **Southwest Corridor Water Infiltration Remediation - Design/ Study.** Placeholder for design work related to SW Corridor Infiltration Remediation.	$200,000	$0	$0	$0	$0
• **Pedestrian Footbridge Drain Upgrades - MP221.85.** Placeholder to replace the drains on the pedestrian footbridge at MP221.85.	$100,000	$0	$0	$0	$0
• **Southwest Corridor Water Infiltration Remediation Construction.** Placeholder for construction work related to SW Corridor Infiltration Remediation.	$0	$750,000	$769,000	$788,000	$812,000
Emergency Egress Stairway Upgrades					
• **Upgrade Emergency Egress Stairways.** This project is to upgrade to six emergency egress stairway lights, heaters, and hatchways at 18 locations (6 per year.)	$602,848	$617,919	$0	$0	$0
South Station Upgrades					
• **South Station Platform Tactile Upgrades.** Placeholder for study and to bring platform tactile warning strip to State of Good Repair.	$2,000,000	$0	$0	$0	$0
Backbay Tunnel Ductwork Upgrades					
• **Backbay Tunnel Ductwork Upgrades - Construction.** Placeholder for construction work related to Backbay Tunnel Ductwork Ventilation.	$3,000,000	$0	$0	$0	$0
Rt 128 Station Upgrades					
• **Rt 128 HVAC and Mechanical Upgrades.** Placeholder for HVAC and mechanical system upgrades at RT 128 Station, MA, MP217.1.	$250,000	$0	$0	$0	$0
Material Control Warehouse					
• **Readville Material Control Warehouse - Construction.** Placeholder for the construction of a material control warehouse at Yard 5, Readville, MA.	$600,000	$0	$0	$0	$0
Culvert Upgrades					
• **Culvert Upgrades (4 Locations).** Placeholder for culvert upgrades or replacements - one location per year.	$0	$184,500	$190,000	$195,000	$200,000
Undergrade Bridge Upgrades					
• **Undergrade Bridge Upgrades.** Placeholder for undergrade bridge upgrades.	$0	$500,000	$500,000	$500,000	$500,000
COMMUNICATIONS & SIGNALS					
PTC Split Point Derail Upgrades					
• **PTC AB Line - MP216.2 Rte. 128 West Lead Split-Point Derail Install.** Installation of split point derail, approach track, and associated C&S equipment.	$525,570	$0	$0	$0	$0
• **PTC AB Line - MP217.0 Rte. 128 East Lead Split-Point Derail Install.** Installation of split point derail, approach track, and associated C&S equipment.	$525,570	$0	$0	$0	$0
TAMS Upgrade Program					
• **TAMS - Forest Hills Sta - TAMS Upgrades.** Upgrade TAMS system at Forest Hills Station (Boston, MA), MP 223.8.	$371,969	$0	$0	$0	$0
• **TAMS - Mansfield Sta - TAMS Upgrades.** Upgrade TAMS system at Mansfield, MA, Station, MP 204.0.	$447,927	$0	$0	$0	$0
• **TAMS - Sharon Sta - TAMS Upgrades.** Upgrade TAMS system at Sharon, MA, Station, MP 210.6.	$0	$459,453	$0	$0	$0
• **TAMS - South Attleboro Sta - TAMS Upgrades.** Upgrade TAMS system at South Attleboro, MA, Station, MP 191.7.	$0	$381,599	$0	$0	$0
• **TAMS - Hyde Park Sta - TAMS Upgrades.** Upgrade TAMS system at Hyde Park Station (Boston, MA), MP 220.4.	$0	$0	$473,803	$0	$0
Interlocking Signal System Upgrades					
• **Tower 1 Programmable Logic Controllers.** Placeholder for Interlocking Upgrades to Tower 1.	$500,000	$0	$0	$0	$0
• **South Bay INT - Microlok II and Comm Bldg Upgrades - LL Material.** Placeholder for Interlocking Upgrades to South Bay I/L - Long Lead Materials	$1,500,000	$0	$0	$0	$0
• **South Bay INT - Microlok II and Comm Bldg Upgrades - Install.** Placeholder for Interlocking Upgrades to South Bay I/L - Install	$0	$3,500,000	$0	$0	$0
• **Read INT - Signal System Upgrades - LL Material.** Placeholder for Interlocking Upgrades to Read I/L - Long Lead Materials	$0	$1,537,500	$0	$0	$0
• **Read INT - Signal System Upgrades - Install.** Placeholder for Interlocking Upgrades to Read I/L - Install	$0	$0	$3,587,500	$0	$0

MBTA Program/ Project	FY19 Forecast	FY20 Forecast	FY21 Forecast	FY22 Forecast	FY23 Forecast
Interlocking Signal System Upgrades, continued					
• **Transfer INT - Signal System Upgrades - LL Material.** Placeholder for Interlocking Upgrades to Transfer I/L - Long Lead Materials	$0	$0	$1,575,600	$0	$0
• **Transfer INT - Signal System Upgrades - Install.** Placeholder for Interlocking Upgrades to Transfer I/L - Install	$0	$0	$0	$3,677,000	$0
• **Plain INT - Signal System Upgrades - LL Material.** Placeholder for Interlocking Upgrades to Plain I/L - Long Lead Materials	$0	$0	$0	$1,615,000	$0
• **Plain INT - Signal System Upgrades - Install.** Placeholder for Interlocking Upgrades to Plain I/L - Install	$0	$0	$0	$0	$3,770,000
Power and Express Cable Upgrades.					
• **Power and Express Cable Upgrades - Construction.** Install approx.21,120 FT of express and power cables between Read I/L and Forest I/L.	$4,193,227	$0	$0	$0	$0
M3 Switch Machines Upgrades					
• **M3 Switch Machine Upgrades.** Upgrade eight M3 switch machines, including rods, attachments and head blocks.	$327,905	$336,103	$344,505	$353,118	$361,946
Switch Heater CAL ROD Upgrades					
• **Switch Heater CAL RODS Upgrades.** Placeholder for switch heater cal rods upgrades.	$350,000	$400,000	$450,000	$500,000	$550,000
TRACK					
Tie/Timber Program					
• **Tie/Timber Program.** Replace 400 ties per year.	$403,279	$413,361	$423,695	$434,287	$445,145
Tower One INT - Slip Switch Upgrades					
• **Tower One INT - Slip Switch Upgrades - 911/1011.** Replace the double slip turnouts 911/1011 in FY19 at Tower One Interlocking.	$1,550,000	$0	$0	$0	$0
• **Tower One INT - Slip Switch Upgrades - 910/89.** Replace the double slip turnouts 910/89 in FY20 at Tower One Interlocking.	$0	$1,800,000	$0	$0	$0
• **Tower One INT - Slip Switch Upgrades - 532/35.** Replace the double slip turnouts 532/35 in FY21 at Tower One Interlocking.	$0	$0	$1,840,000	$0	$0
• **Tower One INT - Slip Switch Upgrades - 21/32.** Replace the double slip turnouts 21/32 in FY22 at Tower One Interlocking.	$0	$0	$0	$1,885,000	$0
Interlocking Steel Replacement Program					
• **INT Steel Replacement Program.** Upgrade 10 units in FY18-FY23 of interlocking rail, stockrails, switch points, frogs and assoc. attachments.	$998,685	$1,028,646	$1,059,505	$1,091,290	$1,124,029
Interlocking Crossover Replacement Program					
• **Transfer INT - Crossover Replacement - 21 Crossover.** Renewal of turnouts 21A&B at Transfer Interlocking (MP219.2).	$1,697,726	$0	$0	$0	$0
• **Read INT - Crossover Replacement - 31 Crossover.** Renewal of turnouts 31A&B at Read Interlocking (MP219.4).	$1,861,480	$0	$0	$0	$0
• **Placeholder Crossover Replacement.** Renewal of a pair of crossovers each year in FY20-FY23.	$0	$3,817,397	$3,911,833	$4,009,902	$4,130,199
CWR Replacement Program					
• **CWR Upgrades.** This project is to replace 3000 TF in FY20, 4000 TF in FY21, 4000 TF in FY22, and 4000 TF in FY23.	$0	$520,000	$715,000	$730,000	$745,000
Insulated Joint Upgrade Program					
• **Insulated Joint Upgrades.** Replace 20 insulated joints per year.	$161,200	$165,230	$169,361	$173,595	$177,935
Joint Elimination Program					
• **Joint Elimination Program.** This project is to provide joint elimination at 300 locations.	$285,950	$262,750	$269,250	$276,000	$283,000
Tree Cutting Program					
• **Tree Cutting.** This project is to provide tree cutting along the right of way.	$1,000,000	$1,000,000	$1,000,000	$1,000,000	$1,000,000
Roadbed and Geometry Program					
• **Out of Face Surfacing.** This project is to provide out of face surfacing for up to 100,000 PF per year from FY18-FY23.	$1,200,000	$1,061,521	$1,085,071	$1,109,658	$1,134,668
• **Spot Surfacing.** This project is to provide spot surfacing along the Attleboro Line.	$499,980	$514,979	$530,429	$546,342	$562,732
• **Spot Undercutting.** This project is to provide spot undercutting along the Attleboro Line.	$150,000	$154,500	$159,135	$163,909	$168,826
Rail Grinding Program					
• **Rail Grinding.** Placeholder for rail grinding.	$0	$0	$0	$500,000	$0
South Station Tie and Rail Upgrades. This project is to provide concrete guardrail ties, rail, clip, pads, insulators, and ballast for:					
• **South Station Tie and Rail Upgrades.** Tracks 1-2 at South Station.	$2,576,887	$0	$0	$0	$0
• **South Station Tie and Rail Upgrades.** Tracks 3-4 at South Station.	$0	$2,941,778	$0	$0	$0
• **South Station Tie and Rail Upgrades.** Tracks 5-6 at South Station.	$0	$0	$3,074,795	$0	$0
• **South Station Tie and Rail Upgrades.** Tracks 7-8 at South Station.	$0	$0	$0	$3,176,420	$0
• **South Station Tie and Rail Upgrades.** Tracks 9-13 at South Station.	$0	$0	$0	$8,484,218	$0
Total	**$29,192,703**	**$23,726,236**	**$23,542,482**	**$32,657,739**	**$17,457,480**

Figure A-3. Connecticut DOT FY19-23 Baseline Capital Charge Program
NEC Main Line: New Haven Line, CT

Funding figures reflect programmed dollars to be spent over multiple years, not expenditure forecasts. BCC-eligible expenditures are still likely in years that show no values.

Program/ Project	FY19 Program	FY20 Program	FY21 Program	FY22 Program	FY23 Program
Safety/ Mandates					
Positive Train Control	$30,000,000	$35,000,000	$35,000,000	$30,000,000	$15,000,000
Track Rehabilitation					
Track Program (C Program)	$18,500,000	$20,000,000	$22,000,000	$24,000,000	$26,000,000
Bridge Replacements/ Rehabilitation					
S program/ Timber Program	$5,000,000	$6,000,000	$7,500,000	$9,000,000	$10,800,000
Bridges - Sound Beach/ Tomac Ave - Construction	$2,000,000	$0	$0	$0	$0
Bridge Design	$1,900,000	$2,300,000	$2,600,000	$3,200,000	$3,600,000
Bridge Replacement/ Repair Program	$5,000,000	$8,000,000	$10,000,000	$15,000,000	$30,000,000
Bridges - Atlantic Street Bridge, Stamford including Yard/ Platform/ Catenary	$20,000,000	$15,000,000	$5,000,000	$0	$0
Communications & Signals					
Signal System Replacement Phase 1	$12,000,000	$15,000,000	$15,000,000	$0	$0
Signal System Replacement Future Phases	$0	$0	$5,000,000	$15,000,000	$15,000,000
Network Infrastructure Upgrade - All Phases	$14,000,000	$14,000,000	$10,000,000	$12,000,000	$16,000,000
Electric Traction					
Catenary Replacement - Segments C1A and C2 - Construction (DOT03010145CN)	$20,000,000	$5,000,000	$0	$0	$0
Substation Replacements	$10,000,000	$0	$0	$0	$0
Moveable Bridges					
All Moveable Bridge Repairs	$10,000,000	$10,000,000	$15,000,000	$15,000,000	$5,000,000
Total	**$148,400,000**	**$130,300,000**	**$127,100,000**	**$123,200,000**	**$121,400,000**

Figure A-4. Metro-North Railroad FY19-23 Baseline Capital Charge Program
NEC Main Line: New Haven Line, NY

Funding figures reflect programmed dollars to be spent over multiple years, not expenditure forecasts. MTA has an approved capital program for 2015-2019. FY20-23 funding figures are estimates based on planned capital investments and historic funding levels.

Program/ Project		FY19 Program	FY20 Estimate	FY21 Estimate	FY22 Estimate	FY23 Estimate
Communications & Signals	Funded	$1,343,623	$0	$0	$0	$0
	Unfunded	$0	$1,983,000	$2,268,000	$918,000	$18,000
Electric Traction	Funded	$3,900,000	$0	$0	$0	$0
	Unfunded	$0	$2,000,000	$13,000,000	$13,000,000	$12,000,000
Structures/ Stations*	Funded	$7,522,028	$0	$0	$0	$0
	Unfunded	$0	$813,514	$3,458,041	$5,191,554	$5,011,554
Track	Funded	$3,894,289	$0	$0	$0	$0
	Unfunded	$0	$1,228,014	$3,518,826	$3,768,107	$3,648,107
System Wide Support	Funded	$1,344,627	$0	$0	$0	$0
	Unfunded	$0	$98,979	$574,096	$902,096	$764,469
Total	**Funded**	**$18,004,568**	**$0**	**$0**	**$0**	**$0**
	Unfunded	**$0**	**$6,123,507**	**$22,818,963**	**$23,779,757**	**$21,442,129**
Sole Benefit - Stations	Funded	$1,270,487	$0	$0	$0	$0
	Unfunded	$0	$8,670,270	$11,010,811	$11,641,081	$5,881,081

*There is no planned work at New Rochelle, the only shared station on the New Haven Line; this category only contains structural work.

Figure A-5. Metro-North Railroad FY19-23 Baseline Capital Charge Program

Connecting Corridor: Hudson Line *(Not subject to PRIIA Section 212)*

Funding figures reflect programmed dollars to be spent over multiple years, not expenditure forecasts. MTA has an approved capital program for 2015-2019. FY20-23 funding figures are estimates based on planned capital investments and historic funding levels.

Program/ Project		FY19 Program	FY20 Estimate	FY21 Estimate	FY22 Estimate	FY23 Estimate
Communications & Signals	Funded	$30,831,742	$0	$0	$0	$0
	Unfunded	$0	$55,034,000	$20,584,000	$9,284,000	$84,000
Structures/ Stations	Funded	$44,797,046	$0	$0	$0	$0
	Unfunded	$0	$1,840,541	$16,426,093	$19,826,633	$18,986,633
Track	Funded	$29,960,374	$0	$0	$0	$0
	Unfunded	$0	$5,535,063	$20,477,592	$23,009,151	$22,079,151
System Wide Support	Funded	$5,620,271	$0	$0	$0	$0
	Unfunded	$0	$154,979	$2,184,096	$3,660,096	$3,004,469
Total	**Funded**	**$111,209,433**	**$0**	**$0**	**$0**	**$0**
	Unfunded	**$0**	**$62,564,582**	**$59,671,781**	**$55,779,880**	**$44,154,252**
Sole Benefit - Shops & Yards	Funded	$380,000	$0	$0	$0	$0
	Unfunded	$0	$0	$20,000,000	$0	$0
Sole Benefit - Electric Traction	Funded	$2,139,977	$0	$0	$0	$0
	Unfunded	$0	$5,000,000	$8,160,000	$9,080,000	$9,380,000
Sole Benefit - Stations	Funded	$1,270,487	$0	$0	$0	$0
	Unfunded	$0	$13,670,270	$16,010,811	$16,641,081	$10,881,081

B. Special Projects

The following is a list of NEC Special Projects organized by location and project type (which include major backlog and improvement projects), listed alphabetically. Special Projects are funded through a mix of sources, which may include but are not limited to: federal grants; funds from state and/or commuter railroad capital programs; and other sources of discretionary funding.

- **Major backlog** projects would replace the NEC's century-plus-old bridges and tunnels that are quickly deteriorating and at risk of severing service. Only one of fifteen major backlog projects, the Walk Bridge Program in Connecticut, is funded for construction.
- **Improvement** projects cover all other investments aimed at growing or upgrading the existing asset base to improve reliability, expand capacity, reduce travel time, or enhance the passenger experience.

The list also notes projects that are potentially eligible for the **Federal-State Partnership for State of Good Repair** discretionary grant program. This program was created in the FAST Act and would fund capital projects that reduce the state-of-good-repair backlog of railroad assets. The legislation (49 U.S.C §24911) specifically identified the following criteria:

> ELIGIBLE PROJECTS. Projects eligible for grants under this section include capital projects to replace or rehabilitate qualified railroad assets, including—
>
> (1) capital projects to replace existing assets in-kind;
>
> (2) capital projects to replace existing assets with assets that increase capacity or provide a higher level of service;
>
> (3) capital projects to ensure that service can be maintained while existing assets are brought to a state of good repair; and
>
> (4) capital projects to bring existing assets into a state of good repair.

The projects noted on the following pages are preliminarily designated as potentially eligible (either in full or in part) for the Federal-State Partnership for State of Good Repair Program, based on the eligibility requirements above. Projects must be in locations with valid cost allocation agreements in place to be considered eligible. Please note that criteria issued in a Notice of Funding Opportunity set forth by the U.S. Department of Transportation may further impact eligibility. This designation is provided for illustrative purposes only and does not represent an actual determination of eligibility.

Massachusetts

Special Project	Coordinating Agency	Partners	Page
Improvement			
Back Bay Concourse Improvements	MBTA	Amtrak, MassDOT	40
Back Bay Station Leasehold Improvements	MBTA	MassDOT	41
Back Bay Station Stairway Pressurization Package 1	MBTA	Amtrak, MassDOT	42
Back Bay Station Platform Ventilation Package 2	MBTA	Amtrak, MassDOT	43
Boston South Station	MBTA	Amtrak	44
Boston South Station Component: Tower 1	MBTA	Amtrak	45
MBTA Station Improvements - Mansfield Station	MBTA		46
MBTA Station Improvements - Ruggles Street Station	MBTA		47
MBTA Station Improvements - South Attleboro Station	MBTA		48
New England Interlocking Improvements*	Amtrak	MBTA	49
Next Generation High Speed Fleet Infrastructure: Southampton St. Yard Facility Improvements	Amtrak		50

Highlight: Boston South Station

Boston South Station is the anchor of the northern half of the NEC, serving Amtrak and eight lines on the MBTA commuter rail system. With over 320 daily trains, South Station is Amtrak's third-busiest station on the NEC and the busiest in the MBTA commuter rail system. South Station is currently operating at capacity, creating a significant bottleneck and a major obstacle to increasing service.

This project would expand Boston South Station for future growth. State funding and a HSIPR grant are funding preliminary engineering and environmental review. The project is expected to dramatically increase capacity at the station. Plans may include new tracks and new passenger facilities, as well as additional storage space for MBTA trains.

* These projects are preliminarily designated as potentially eligible (either in full or in part) for the Federal-State Partnership for State of Good Repair Program, based on the eligibility requirements in statute (49 U.S.C. §24911). Projects must be in locations with valid cost allocation agreements in place to be considered eligible. Please note that criteria issued in a Notice of Funding Opportunity set forth by the U.S. Department of Transportation may further impact eligibility. This designation is provided for illustrative purposes only and does not represent an actual determination of eligibility.

Rhode Island

Special Project	Coordinating Agency	Partners	Page
Improvement			
MBTA Layover Facilities - Pawtucket Layover Facility	MBTA		51
Pawtucket/ Central Falls Station	RIDOT	MBTA	52
Providence Station*	RIDOT	Amtrak	53
RIDOT Stations: Warwick/ T.F. Green Airport	RIDOT	Amtrak	54

Highlight: Providence Station

Providence Station was relocated in the 1980s. Its current location lacks strong intermodal connections to ensure passengers can seamlessly travel to Providence Station for destinations along the Corridor, including Boston, MA. The current station is also in need of reprogramming of interior space to better reflect the needs of today's travelers.

This project includes short-term interior layout changes, emergency platform egress, and pedestrian access improvements to the station. Long-term actions could include connections to adjacent retail centers, enhanced bus/intermodal connections, increased parking, and station expansion.

* These projects are preliminarily designated as potentially eligible (either in full or in part) for the Federal-State Partnership for State of Good Repair Program, based on the eligibility requirements in statute (49 U.S.C. §24911). Projects must be in locations with valid cost allocation agreements in place to be considered eligible. Please note that criteria issued in a Notice of Funding Opportunity set forth by the U.S. Department of Transportation may further impact eligibility. This designation is provided for illustrative purposes only and does not represent an actual determination of eligibility.

Connecticut

Special Project	Coordinating Agency	Partners	Page
Major Backlog			
Connecticut River Bridge Replacement*	Amtrak	CTDOT	55
Cos Cob Bridge Replacement	CTDOT	Amtrak	56
Devon Bridge Replacement*	CTDOT	Amtrak	57
Saugatuck River Bridge Replacement*	CTDOT	Amtrak	58
Walk Bridge Program*	CTDOT	Amtrak	59
Improvement			
CT*rail* Hartford Line Commuter Station Improvements	CTDOT		60
CT*rail* Hartford Line Rail Program Phase 3B - 5	CTDOT	Amtrak	61
New Haven Line Network Infrastructure Upgrade	CTDOT		62
New Haven Line Stations Improvements*	CTDOT	Amtrak	63
New Haven Yard Master Complex Improvements	CTDOT	Amtrak	64
SLE Stations Improvements	CTDOT		65
Yale Interlocking	Amtrak	CTDOT	66

Highlight: Walk Bridge Program

The Walk Bridge Program is the only major backlog project (of fifteen total along the NEC) that is fully funded. Led by Connecticut DOT, this program will replace the functionally obsolete 120-year-old Norwalk River Bridge which has experienced increasing deterioration of electrical and mechanical components. The situation at Norwalk River Bridge is made worse by the fact that all four tracks reside on one moveable span—failures of this span to lock back into place after opening for marine traffic sever the entire NEC.

During FY19-23, the Walk Bridge Program seeks to complete final design and start construction in the summer 2019. Construction is expected to last four years, with a project completion date around fall of 2023.

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New York

Special Project	Coordinating Agency	Partners	Page
Major Backlog			
East River Tunnel Rehabilitation*	Amtrak	LIRR, NJ TRANSIT	67
Pelham Bay Bridge Replacement*	Amtrak	MNR	68
Improvement			
East River Tunnel - Right of Way Infrastructure Improvements	LIRR		69
Harold Interlocking	MTA Cap Cons	Amtrak	70
Moynihan Station (Phase 2)	Amtrak	Other, LIRR	71
Next Generation High Speed Fleet Infrastructure: Sunnyside Yard Facility Improvements	Amtrak		72
Penn Station Access*	MNR	Amtrak	73
Penn Station New York - LIRR Projects	LIRR		74
Penn Station New York - NJ TRANSIT Projects*	NJ TRANSIT	Amtrak	75
River-to-River Rail Resiliency Projects (R4)	LIRR		76

Highlight: Pelham Bay Bridge Replacement

The Pelham Bay Bridge, built in 1907, is a two-track moveable bridge that carries the NEC over the Hutchinson River in Bronx, NY. The bridge has reached the end of its useful life and requires extensive ongoing maintenance. Its obsolete and aging components have forced Amtrak to restrict speeds to 45 mph. The bridge has a lift span that is manned by a bridge operator. Today, the bridge still opens frequently for marine traffic and occasionally fails to properly close, creating a block for Amtrak service between Boston and New York.

Though some components have been recently upgraded, including substructure work for the approach spans done under the ARRA program, this bridge will not be in a state of good repair until the movable span is replaced.

This project would replace the century-old movable Pelham Bay Bridge with a new high-level fixed bridge with clearance for marine traffic. This project would increase reliability and may offer opportunities to increase capacity for Amtrak and proposed Metro-North Railroad service through the Penn Station Access project.

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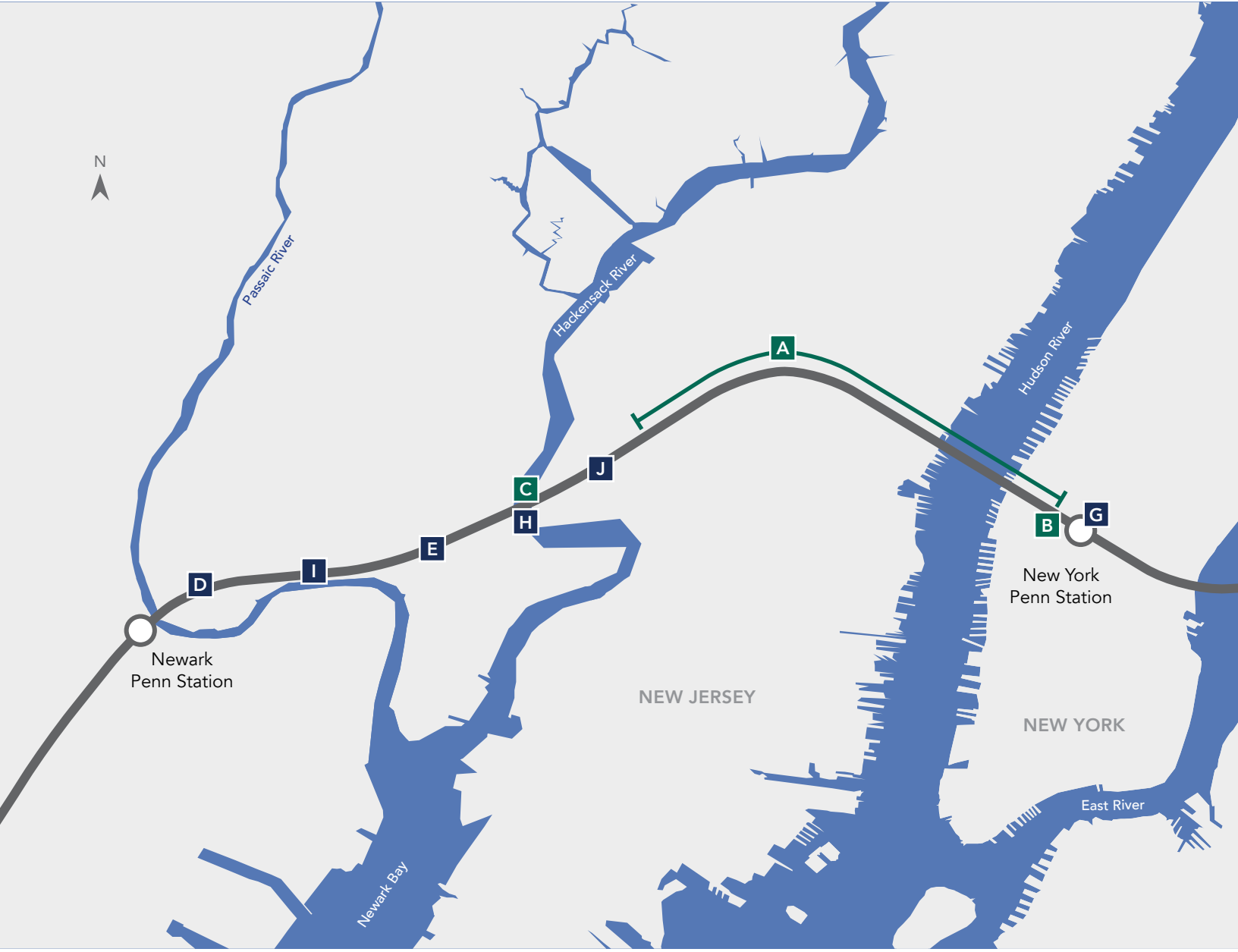
Gateway Program

Special Project	Coordinating Agency	Partners	Page
Major Backlog			
Highline Renewal and State of Good Repair*	Amtrak	NJ TRANSIT, Port Authority of New York and New Jersey, Gateway Program Development Corporation	77
Hudson Tunnel Project*	Amtrak	NJ TRANSIT, Port Authority of New York and New Jersey, Gateway Program Development Corporation	78
Portal North Bridge*	NJ TRANSIT	Amtrak, Port Authority of New York and New Jersey, Gateway Program Development Corporation	79
Sawtooth Bridge*	Amtrak	NJ TRANSIT, Port Authority of New York and New Jersey, Gateway Program Development Corporation	80
Improvement			
Harrison Fourth Track	Amtrak	NJ TRANSIT, Port Authority of New York and New Jersey, Gateway Program Development Corporation	81
Hudson Yards Concrete Casing*	Amtrak	LIRR, NJ TRANSIT, Port Authority of New York and New Jersey, Gateway Program Development Corporation	82
Penn Station Expansion	Amtrak	NJ TRANSIT, LIRR, Port Authority of New York and New Jersey, Gateway Program Development Corporation	83
Planning and Program Management	Amtrak	NJ TRANSIT, Port Authority of New York and New Jersey, Gateway Program Development Corporation	84
Portal South Bridge	Amtrak	NJ TRANSIT, Port Authority of New York and New Jersey, Gateway Program Development Corporation	85
Secaucus Station and Loop Tracks	Amtrak	NJ TRANSIT, Port Authority of New York and New Jersey, Gateway Program Development Corporation	86

* These projects are preliminarily designated as potentially eligible (either in full or in part) for the Federal-State Partnership for State of Good Repair Program, based on the eligibility requirements in statute (49 U.S.C. §24911). Projects must be in locations with valid cost allocation agreements in place to be considered eligible. Please note that criteria issued in a Notice of Funding Opportunity set forth by the U.S. Department of Transportation may further impact eligibility. This designation is provided for illustrative purposes only and does not represent an actual determination of eligibility.



Projects within the Gateway Program

Note: Due to size and scale of the map, the above project locations are approximations.

Phase 1 (by alphabetical order)

- A Hudson Tunnel Project
- B Hudson Yards Concrete Casing
- C Portal North Bridge

Phase 2 (by alphabetical order)

- D Harrison Fourth Track
- E Highline Renewal and State-of-Good-Repair
- F NJ TRANSIT Storage Yard (location TBD)
- G Penn Station Expansion
- H Portal South Bridge
- I Sawtooth Bridge
- J Secaucus Station and Loop Tracks

New Jersey

Special Project	Coordinating Agency	Partners	Page
Improvement			
County Yard	NJ TRANSIT	Amtrak	87
Delco Lead Safe Haven Facility Project	NJ TRANSIT	Amtrak	88
Edison Station	NJ TRANSIT		89
Elizabeth Station	NJ TRANSIT		90
Hunter Flyover	NJ TRANSIT	Amtrak	91
Hunter Yard Maintenance of Way Facilities Upgrades	Amtrak	NJ TRANSIT	92
Jersey Avenue Station	NJ TRANSIT		93
Metuchen Station	NJ TRANSIT		94
Mid-Line Loop	NJ TRANSIT	Amtrak	95
New Brunswick Station*	NJ TRANSIT	Amtrak	96
New Jersey HSR Improvement Program	Amtrak	NJ TRANSIT	97
Newark Penn Station Platform Rehabilitation*	Amtrak	NJ TRANSIT	98
NJ TRANSITGRID	NJ TRANSIT	Amtrak	99
North Brunswick Station	NJ TRANSIT	Amtrak	100
North Elizabeth Station	NJ TRANSIT		101
Princeton Junction Station*	NJ TRANSIT	Amtrak	102

Highlight: Mid-Line Loop

NJ TRANSIT's Northeast Corridor Line is the busiest line in its commuter rail system. Nearly half of peak commuter trains begin or end at a storage yard near North Brunswick, NJ. As trains leave the yard, they must complete a complex crossing of three tracks at grade, which causes long gaps in service. This configuration reduces capacity on the NEC and creates delays for both Amtrak and NJ TRANSIT trains.

The Mid-Line Loop project would construct a new above-grade connection. This project will reduce delays for riders, open capacity for all users, and improve reliability for NJ TRANSIT services. The capacity created would also help enable the goal of 160-mph speeds on Acela, as well as support future express service patterns planned by NJ TRANSIT.

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Pennsylvania

Special Project	Coordinating Agency	Partners	Page
Improvement			
30th Street to Phil Signals, Catenary and ROW Improvements*	SEPTA	Amtrak	103
30th Street West Catenary Replacement	SEPTA		104
Ardmore Station ADA Improvements*	SEPTA	Amtrak, PennDOT	105
Ardmore Station Parking Improvements	SEPTA	PennDOT, Amtrak	106
Exton Station - Bus & Parking Improvements	SEPTA	Amtrak, PennDOT	107
Exton Station Improvements*	SEPTA	PennDOT, Amtrak	108
Frazer Rail Shop and Yard Upgrade	SEPTA		109
Harrisburg Line - 3rd Track Paoli to Frazer	SEPTA	Amtrak, PennDOT	110
Harrisburg Line - Upgrade Track 2, Glen to Thorn (MP 25.3 to 35.0) & Glenside Interlocking*	SEPTA	Amtrak, PennDOT	111
Harrisburg Line - Zoo to Thorndale OCS Replacement & ROW Clearing*	SEPTA	Amtrak, PennDOT	112
Harrisburg Line - Zoo to Thorndale Signal Upgrade*	SEPTA	Amtrak, PennDOT	113
Harrisburg Line Interlocking Improvements*	PennDOT	Amtrak, SEPTA	114
Harrisburg Line Station Improvements*	PennDOT	Amtrak, Other	115
Malvern Station ADA	SEPTA		116
Paoli Transportation Center - Phase 1 (ADA & Infrastructure)*	Amtrak	SEPTA	117
Paoli Transportation Center - Phase 2*	SEPTA	Amtrak, PennDOT	118
Philadelphia 30th Street Station District Plan Implementation*	Amtrak	SEPTA	119
Villanova Station Improvements	SEPTA		120
West Barracks Yard	SEPTA		121

Highlight: Harrisburg Line Interlocking Improvements

The Harrisburg Line includes service from both Amtrak's Keystone Corridor and SEPTA's Paoli/Thorndale Regional Rail Line. SEPTA's service on this line has the system's highest ridership and serves over 7.9 million trips annually. The line's interlockings have far exceeded their useful life and are functionally obsolete, which creates challenges for reliability. The current configuration also no longer effectively supports ridership demands.

PennDOT, in coordination with SEPTA and Amtrak, is advancing this state-of-good-repair project to improve operational efficiencies by replacing or reconfiguring the functionally obsolete interlockings. If funding can be identified, this project will support existing and future ridership growth.

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Delaware

Special Project	Coordinating Agency	Partners	Page
Improvement			
Claymont Regional Transportation Center	Delaware DOT		122
Delaware Third Track Program	Delaware DOT	Amtrak	123
Newark (DE) Regional Transportation Center	Delaware DOT	SEPTA	124
Wilmington Maintenance of Equipment Facility - Complex Replacement	Amtrak		125

Highlight: Delaware Third Track Program

The Delaware Third Track Program will increase capacity for intercity and commuter service between Wilmington and Newark, DE by eliminating a current two-track bottleneck and installing a third track throughout most of the state.

This joint Amtrak and Delaware DOT project is funded by a combination of federal and state sources and is anticipated to be completed in 2021.

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Maryland

Special Project	Coordinating Agency	Partners	Page
Major Backlog			
Baltimore & Potomac Tunnel Replacement*	Amtrak	Maryland DOT	126
Bush River Bridge Replacement*	Amtrak	Maryland DOT	127
Gunpowder River Bridge Replacement*	Amtrak	Maryland DOT	128
Susquehanna River Bridge Replacement*	Amtrak	Maryland DOT	129
Improvement			
Baltimore Penn Station Infrastructure Improvements*	Amtrak	Maryland DOT	130
Baltimore Penn Station Master Plan	Amtrak	Maryland DOT	131
BWI Thurgood Marshall Airport Station Improvements and 4th Track Project*	Maryland DOT	Amtrak	132
BWI Thurgood Marshall Airport Station Interim Improvements*	Maryland DOT	Amtrak	133
Hanson Interlocking	Maryland DOT	Amtrak	134
MARC Station - Bayview	Maryland DOT		135
MARC Station Improvements - West Baltimore	Maryland DOT		136
MARC Storage - Northeast Maintenance Facility	Maryland DOT		137
MARC Storage Improvements - Martin Airport	Maryland DOT		138
Maryland Section Reliability Improvements	Amtrak	Maryland DOT	139

Highlight: Baltimore & Potomac Tunnel Replacement

The Baltimore & Potomac Tunnel, built in 1873, runs underneath central Baltimore City and is a key chokepoint in the NEC. The B&P Tunnel underwent rehabilitation in the 1980s, but that effort was not a permanent fix and requires ongoing maintenance. Right-of-way is reduced from four to two tracks in the tunnel. Due to its tight curvature and aged structural conditions, the tunnel also limits train speeds to 30 mph—down from 60 mph.

This project would replace the aging B&P Tunnel with a new four-track tunnel on an improved alignment to eliminate the current chokepoint for MARC and Amtrak trains near Baltimore Penn Station. In March 2017, FRA and Maryland DOT completed planning and environmental review. This project is ready to advance to permitting, final design, and construction if not for lack of funding. When completed, this project will not only improve rail service reliability and safety, but also accommodate the future growth of and demand for commuter and intercity passenger rail.

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District of Columbia

Special Project	Coordinating Agency	Partners	Page
Improvement			
Next Generation High Speed Fleet Infrastructure: Ivy City/ Washington Terminal Yard Facility Improvements	Amtrak		140
VRE Midday Storage Facility	VRE		141
Washington Union Station 2nd Century Plan	Amtrak	Maryland DOT, VRE, Union Station Redevelopment Corporation, Federal Railroad Administration	142
Washington Union Station Component: Claytor Concourse Modernization	Amtrak	Maryland DOT, VRE	143
Washington Union Station Component: Track 22 Rehabilitation*	Amtrak	VRE	144

Highlight: VRE Midday Storage Facility

Midday train storage in the Washington, DC metropolitan region is critical to VRE's continued operations and growth. VRE operates trains providing daily commuter rail service from as far as Manassas and Fredericksburg, Virginia, into Union Station. During the weekday midday, those trains need to be parked near Union Station and off the main line tracks.

Currently, VRE trains are stored in Amtrak's Ivy City rail complex in the District of Columbia. The current and future demand for train storage and maintenance functions within the existing Ivy City rail complex exceeds available space. To accommodate growth of intercity passenger rail service, Amtrak needs the tracks that VRE is using for maintenance and storage.

The Midday Storage Facility project will replace the current storage space. The project will include planning, designing, and constructing a permanent midday storage facility for VRE trains that travel to the District. The proposed facility will be used to store commuter trains on weekdays between the inbound morning commute and the outbound afternoon commute.

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Corridor-Wide

Special Project	Coordinating Agency	Partners	Page
Improvement			
Next Generation High Speed Fleet Infrastructure: Ride Quality Investment	Amtrak	This is a shared project on the NEC spine that will benefit all commuter rail operators	145
Next Generation High Speed Fleet Infrastructure: Safety Mitigation	Amtrak	This is a shared project on the NEC spine that will benefit all / several of commuter rail operators.	146

Highlight: Next Generation High Speed Fleet Infrastructure Projects

Amtrak's Next Generation High Speed Fleet Infrastructure projects are five projects across the NEC that will enable Amtrak to introduce its Acela Express service by 2021. The projects, funded by the Railroad Rehabilitation & Improvement Financing (RRIF) program, will address vital needs such as yard facility improvements to improve equipment and operational reliability as well as invest in ride quality and safety mitigation to increase intercity travels speeds and to provide a higher quality ride and passenger comfort.

Special Projects: Massachusetts (Improvement)

Back Bay Concourse Improvements

- Coordinating Agency: MBTA
- Partner Agency: Amtrak, MassDOT
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: Boston Properties (BP) has signed a long term lease and has assumed operational control of the concourse level of Back Bay Station. In accordance with the lease agreement, Boston Properties will be responsible for the maintenance, security, repairs and cleaning of the concourse level of the station. BP is also responsible for designing and constructing $32M of major concourse level station improvements including; new entrance doors, windows, lighting, renovated rest rooms, new retail space and public waiting areas, and a revised concourse layout.
- **Justification**: Transit oriented development with benefits to accessibility and the customer experience

Funding Information:

Total Project Cost: $32,000,000

Total Expenditure as of 9/30/17: $3,000,000

Funding Sources:

- Other Federal Grant, $32,000,000, Private-public partnership. The project is funded but MBTA has applied for a TIGER grant for added funding resources

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Final Design	$2,700,000	Fully funded. Boston Properties is currently on hold between 30% and 60% design, awaiting progress on MBTA ventilation work before commencing effort	Aug 2015 - Dec 2018					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

BP will progress their design sometime in 2018, and will likely extend the completion date into 2019.

Back Bay Station Leasehold Improvements

- Coordinating Agency: MBTA
- Partner Agency: MassDOT
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project will upgrade power and other mechanical improvements to the concourse to enable renovation/ upgrades.
- **Justification**: State of good repair.

Funding Information:

Total Project Cost: $6,000,000

Total Expenditure as of 9/30/17: $0

Funding Sources:

- Other Federal Grant, $0, Applied for TIGER grant

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Feasibility/ Conceptual Design	$0	Fully funded. Full scope is under study... preliminary study costs are covered under current tasks...new task will be processed once the scope is developed	Jan 2018 - Jul 2018					
Construction	$0		Sep 2018 - Jun 2019					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

We need to upgrade power within the station to handle future renovations and development. We are performing early scoping under a current task and once the new scope is identified, a separate task will be developed and the costs tracked.

Back Bay Station Stairway Pressurization Package 1

- Coordinating Agency: MBTA
- Partner Agency: Amtrak, MassDOT
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: Ventilation Package No. 1 will provide for the design and construction of pressurized Stairways No.'s 5 and 6 for Tracks and Platforms No.'s 1, 2 and 3 to significantly reduce the diesel fumes migrating up to the concourse level.
- **Justification**: Environmental, safety, and state of good repair benefits.

Funding Information:

Total Project Cost: $5,000,000

Total Expenditure as of 9/30/17: $250,000

Funding Sources:

- State/Local Funds, $5,000,000

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Construction	$5,000,500	Fully funded. bids open 2/28/18	Mar 2018 - Dec 2018					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Back Bay Station Platform Ventilation Package 2

- Coordinating Agency: MBTA
- Partner Agency: Amtrak, MassDOT
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: Ventilation package No. 2 will provide for the design and construction of an advanced ventilation system at the track and platform level. This will help remove diesel fumes from the Tracks and Platforms No.'s 1, 2 and 3. The air flows are currently being modeled and will render a preferred design solution.
- **Justification**: Environmental, safety, state of good repair.

Funding Information:

Total Project Cost: $7,000,000

Total Expenditure as of 9/30/17: $550,000

Funding Sources:

- State/Local Funds, $5,000,000, Applied for Tiger grant for additional construction monies for Back Bay projects

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Feasibility/Conceptual Design	$1,000,000	Fully funded. Other funding sources in process for construction	Jun 2017 - Oct 2018					
Construction	$6,000,000	Partially funded.	Jan 2019 - Dec 2019					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Boston South Station

- Coordinating Agency: MBTA
- Partner Agency: Amtrak
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project would expand Boston South Station for future growth. The terminal is currently operating at capacity, in terms of train movements and passengers, creating a significant bottleneck and a major obstacle to service expansion. State funding and a HSIPR grant are funding preliminary engineering and environmental review. Additional funding is required for final design and construction.
- **Justification**:

Funding Information:

Total Project Cost: TBD

Total Expenditure as of 9/30/17: $29,232,734

Funding Sources:

- Other, $27,574,659, HSIPR Grant. Federal Aid PARS #FRHSR0073
- State/Local Funds, $8,908,734, MassDOT Program #X124020

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
PE/NEPA	$36,483,393	Fully funded.	Jul 2012 - Dec 2019					
Final Design	$0	No funding identified.						
Construction	$0	No funding identified.						

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Boston South Station Component: Tower 1

- Coordinating Agency: MBTA
- Partner Agency: Amtrak
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: The examination of Tower 1 Interlocking is part of the Boston South Station Expansion (SSX) project. MassDOT and the MBTA have determined that this task could be implemented separately from the entire SSX project and provide more immediate operational improvements, but not preclude future expansion. Additional grant funds remain after completion of SSX preliminary engineering. With FRA's approval, MassDOT is examining this redesign project. The goal of the Tower 1 Early Implementation project is to address current reliability and resiliency issues that occur within this critical interlocking immediately south of South Station. The existing systems in place at Tower 1 are somewhat obsolete and prone to increased maintenance and decreased reliability. This project would address numerous issues contributing to operational deficiencies, including: replace the existing signal system, address differential settlement at switch points, heat switches so they don't freeze during winter months, and provide troughs to allow easier access to wires and cables. The improvements proposed will improve service reliability and provide operational flexibility. This project includes conceptual, preliminary, and final engineering design.
- **Justification**:

Funding Information:

Total Project Cost: $0

Total Expenditure as of 9/30/17: $0

Funding Sources:

- $0, Included in South Station Expansion (SSX)

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Final Design	$0	Fully funded. Cost: Included in SSX	Mar 2018 - Dec 2019					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

MBTA Station Improvements - Mansfield Station

- Coordinating Agency: MBTA
- Partner Agency:
- Type: Improvement Project
- Benefit: Sole

Project Information

- **Scope**: This project will make improvements to heavily used Mansfield Station which currently is not fully accessible. The project includes pedestrian ramps and stairways to make platforms accessible for inbound and outbound passengers, replacement of existing mini-high platforms which are in poor condition with ADA-compliant mini-high platforms, platform repaving, new tactile strips along both platforms, new lighting, guard rails, bollards, signage, curb cuts, and improvements in parking lots for better accessibility.
- **Justification**:

Funding Information:

Total Project Cost: $13,100,000

Total Expenditure as of 9/30/17: $0

Funding Sources:

- FTA Formula Grant, $156,250
- FTA Formula Grant, $1,657,391
- State/Local Funds, $11,286,359

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Construction	$11,241,376	Fully funded.	Oct 2016 - Dec 2018					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

MBTA Station Improvements - Ruggles Street Station

- Coordinating Agency: MBTA
- Partner Agency:
- Type: Improvement Project
- Benefit: Sole

Project Information

- **Scope**: This project will construct a new platform and make other improvements at Ruggles Station to enable all inbound and outbound MBTA trains to serve the station and to increase system capacity along this segment of the NEC. The project will improve accessibility by upgrading the existing elevators and adding one new elevator in the lower busway, and make interior and exterior repairs to bring the station to code. A TIGER grant partially funds this project, which is part of a larger initiative to modernize the Ruggles Station which requires additional funding for full construction.
- **Justification**: Today, more than 30 percent of inbound trains bypass Ruggles Station, requiring more than 500 inbound passengers to transfer from MBTA Commuter Rail to the MBTA Orange Line at Back Bay then backtracking to Ruggles, commonly known as the "Back Bay Detour." The new platform will provide service improvements for the MBTA Commuter Rail passengers and add operational flexibility for MBTA Commuter Rail and Amtrak. With full service to Ruggles Station, Commuter Rail ridership to the area surrounding the station will grow as station area employment and Boston region population grows.

Funding Information:

Total Project Cost: $36,500,000

Total Expenditure as of 9/30/17: $4,493,290

Funding Sources:

- Other Federal Grant, $20,000,000, TIGER Grant
- State/Local Funds, $16,500,000, STATE/BOND FUNDS

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Final Design	$0	Fully funded.	Mar 2012 - Jan 2017					
Construction	$19,667,000	Fully funded.	Feb 2017 - Mar 2019					
Feasibility/ Conceptual Design	$200,000	Partially funded.	2020 - 2021					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Ruggles Station will later undergo more construction under a modernization and improvement. RFP will be needed for the design.

MBTA Station Improvements - South Attleboro Station

- Coordinating Agency: MBTA
- Partner Agency:
- Type: Improvement Project
- Benefit: Sole

Project Information

- **Scope**: This project will improve South Attleboro Station including rehabilitation of stairways, pedestrian walkways, establishment of a new bus stop for RIPTA, accessible parking improvements, pedestrian crossings, and two side-by-side mini-high platforms. Emergency repairs currently are underway, but permanent improvements are needed.
- **Justification**: This project is to ensure the safety of customers who use the station and will allow the station to remain open. The pedestrian bridge repairs across the tracks will ensure passengers can gain access to the inbound platform.

Funding Information:

Total Project Cost: $3,900,000

Total Expenditure as of 9/30/17: $0

Funding Sources:

- FTA Formula Grant, $400,000
- State/Local Funds, $3,500,000

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Final Design	$9,861	Fully funded.	Jul 2018 - Jun 2019					
Construction	$3,728,770	Fully funded.	2018 - 2020					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Amtrak flagging will be required for future improvement work. Major platform level work and station work, if the major improvement option is implemented (based on funding) will require station outage.

New England Interlocking Improvements

- Coordinating Agency: Amtrak
- Partner Agency: MBTA
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project would install new interlockings in Mystic, CT ($31.5 million) and Hebronville, MA ($14.4 million). Construction would include the installation of turn-outs, rail, ties, sub-grade, ballast, overhead catenary, signal transformers, signals cables, signal bridges, switch heater, switch machines, switch houses, instrument houses, and interlocking lighting.
- **Justification**: These new interlockings would provide operating flexibility, improve reliability, and allow for future maintenance outages and track possessions.

Funding Information:

Total Project Cost: $45,890,000

Total Expenditure as of 9/30/17: $0

Funding Sources:

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Final Design	$2,000,000	No funding available.	Jul 2018 - Sep 2018					
Construction	$43,890,000	No funding available.	2019 - 2021					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

MBTA would be a project partner for the new interlocking in Hebronville, MA. The new interlocking in Mystic, CT would be an Amtrak sole use asset.

Next Generation High Speed Fleet Infrastructure: Southampton St. Yard Facility Improvements

- Coordinating Agency: Amtrak
- Partner Agency:
- Type: Improvement Project
- Benefit: Sole

Project Information

- **Scope**: The project scope includes the design and construction of infrastructure improvements for Southampton Street Yard to support the Next Generation High-Speed Rail (HSR). The project scope includes the design and construction of infrastructure improvements for Southampton Street Yard to support the Next Generation High-Speed Rail (HSR) Trainsets. The project elements funded by the RRIF loan include: (1) a HSR Train Scanner (an 18' x 28' train diagnostic facility): foundation with support bungalow and electric and telecommunications located before the Train Wash; (2) new storage tracks for servicing operations; and (3) an office trailer shell with telecommunications and HVAC for a staff of 10 (Alstom).
- **Justification**: A new and expanded S&I facility is necessary for commissioning, inspection, service, and maintenance of new Next Generation High-Speed Rail equipment, which is expected to be delivered between 2020 and 2022. The facility will improve equipment and operational reliability throughout the Northeast Corridor.

Funding Information:

Total Project Cost: $4,500,000

Total Expenditure as of 9/30/17: $15,937

Funding Sources:

- Other, $4,500,000, RRIF Loan

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Construction	$4,500,000	Fully funded.	Sep 2018 - Feb 2021					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Special Projects: Rhode Island (Improvement)

MBTA Layover Facilities - Pawtucket Layover Facility

- Coordinating Agency: MBTA
- Partner Agency:
- Type: Improvement Project
- Benefit: Sole

Project Information

- **Scope**: This project will implement improvements to the existing Pawtucket Layover Facility, where the MBTA stores and services some trains for the Providence/Stoughton Line. Enhancements will allow MBTA to perform fueling and some light equipment maintenance in Pawtucket, relieving pressure on other MBTA facilities. Phase 1, completed in 2013, included a 700 ft. inspection pit. Phase 2 is to install layover fluid handling equipment and other associated equipment. It includes systems for dispensing of diesel fuel, sanding, anti-freeze, and lube oil, some electrical work, and fencing.
- **Justification**:

Funding Information:

Total Project Cost: $21,985,929

Total Expenditure as of 9/30/17: $828,767

Funding Sources:

- FTA Formula Grant, $4,300,000

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Final Design	$0		Apr 2016 - Nov 2016					
Construction	$17,685,929	No funding available.	2018 - 2020					
Construction	$1,900,457	Fully funded.	2017 - 2017					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Pawtucket/ Central Falls Station

- Coordinating Agency: Rhode Island DOT
- Partner Agency: MBTA
- Type: Improvement Project
- Benefit: Sole

Project Information

- **Scope**: This project will build a new infill commuter rail station along MBTA's Providence Line in Pawtucket, RI with an anticipated opening in 2020/2021. The scope includes station platforms, a pedestrian overpass, and associated pedestrian access points. The project was the recipient of a 2016 USDOT TIGER Award.
- **Justification**: The new Pawtucket/Central Falls Station will provide Rhode Island's densest urban communities located between Providence and Attleboro with access to commuter rail service. This station will provide relief to overcrowded stations in Providence and South Attleboro, while attracting new riders from adjacent residential redevelopment areas that would take advantage of proximity to transit for access to jobs in Boston and Providence.

Funding Information:

Total Project Cost: $40,000,000

Total Expenditure as of 9/30/17: $0

Funding Sources:

- Other Federal Grant, $13,100,000, TIGER
- FTA Formula Grant, $18,000,000, FTA 5307
- State/Local Funds, $3,000,000, Municipal
- State/Local Funds, $5,900,000, State

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Feasibility/ Conceptual Design	$0		End Jun 2007					
PE/NEPA	$0		End Jan 2017					
Final Design	$6,000,000	Fully funded.	Sep 2018 - Sep 2019					
Construction	$34,000,000	Fully funded.	Oct 2018 - Jun 2021					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Providence Station

- Coordinating Agency: Rhode Island DOT
- Partner Agency: Amtrak
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project would construct interior layout changes, emergency platform egress, and pedestrian access improvements to Providence Station. The PE/NEPA phase included a full assessment of the station's condition, development of short- and long-term improvements for both the station's interior and exterior, 30 percent design for recommended short-term improvements, and an environmental review on the preferred alternative. Long-term actions could include connections to adjacent retail centers, enhance bus/ intermodal connections, increased parking, and station expansion. Rhode Island DOT is pursuing a separate project to develop a transit hub adjacent and connected to Providence Station.
- **Justification**: Providence Station was relocated in downtown Providence in the 1980s. The current station is in need of reprogramming of interior space to better reflect the needs of today's travelers. The relocation also created a need for new intermodal connections to ensure that passengers can seamlessly travel to Providence Station for destinations along the Corridor, including Boston, MA. Numerous companies in Boston have also decided to locate additional offices in Providence, thereby increasing the importance for service between the two cities.

Funding Information:

Total Project Cost: $23,750,000

Total Expenditure as of 9/30/17: $3,750,000

Funding Sources:

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
PE/NEPA	$3,750,000	Phase completed; funding has been expended.	Sep 2011 - Dec 2017					
Final Design	$1,500,000	No funding available. Official Start/End dates are TBD pending funding.	Oct 2018 - Sep 2019					
Construction	$18,500,000	No funding available. Official Start/End dates are TBD pending funding.	Oct 2019 - Sep 2021					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

RIDOT Stations: Warwick/ T.F. Green Airport

- Coordinating Agency: Rhode Island DOT
- Partner Agency: Amtrak
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project would expand Warwick/T.F. Green Airport rail station which opened in 2010. In that project, Rhode Island DOT constructed a station house and a single high-level platform to support the introduction of MBTA commuter rail services to the Airport and to new communities south of Providence. For this project, RIDOT and Amtrak have proposed expanding the station with additional track and platform capacity to accommodate intercity rail.
- **Justification**: This project would enable additional commuter rail service and the introduction of Amtrak service at Warwick/T.F. Green Airport rail station.

Funding Information:

Total Project Cost: $110,000,000

Total Expenditure as of 9/30/17: $500,000

Funding Sources:

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Feasibility Study	$500,000	Phase completed; funding has been expended.	Sep 2016 - Apr 2017					
Engineering Study	$500,000	Fully funded.	Jul 2018 - Jun 2019					
PE/NEPA	$3,000,000	No funding available. Official Start/End dates are TBD pending funding.	Oct 2019 - Sep 2020					
Final Design	$7,000,000	No funding available. Official Start/End dates are TBD pending funding.	Oct 2020 - Sep 2021					
Construction	$99,000,000	No funding available. Official Start/End dates are TBD pending funding.	Oct 2021 - Sep 2023					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Special Projects: Connecticut (Major Backlog)

Connecticut River Bridge Replacement

- Coordinating Agency: Amtrak
- Partner Agency: Connecticut DOT
- Type: Major Backlog Project
- Benefit: Shared

Project Information

- **Scope**: This project would replace the Connecticut River Bridge between Old Saybrook and Old Lyme, CT that carries Amtrak and Shore Line East trains. Completed in 1907, it is the oldest movable bridge between New Haven, CT and Boston, MA. The bridge has a movable span that is raised up to allow boats to pass. By law, the bridge must remain open from May through September for recreational boats to pass and closes only when trains approach. Plans would replace the Connecticut River Bridge with a new design that improves reliability and offers higher speeds for Amtrak and Shore Line East trains. FRA completed NEPA and issued a Finding of No Significant Impact (FONSI) for this project in January 2017. Preliminary design is underway, but no funding is available for final design or construction.
- **Justification**: A century of operation in a marine environment, coupled with the age of the structure, has taken its toll and speeds are restricted to 45 mph. Many key elements of the bridge have reached the end of their design life and require extensive maintenance to remain in operable condition. The frequent opening and closing of the bridge – over 3,000 times per year – puts high demands on its aging components, increasing maintenance costs for Amtrak and reducing reliability for both railway and marine traffic.

Funding Information:

Total Project Cost: $759,000,000
Project in early stages of development. Cost estimates are preliminary.

Total Expenditure as of 9/30/17: $13,115

Funding Sources:

- Non-BCC Amtrak Funds, $2,250,000, FY17 & Prior
- Non-BCC Amtrak Funds, $4,000,000, FY18

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Feasibility/ Conceptual Design	$10,000,000	Partially funded.	2018 - 2019					
Final Design	$21,000,000	No funding available. Project in early stages of development. Cost estimates are preliminary.	2019 - 2022					
Construction	$728,000,000	No funding available. Project in early stages of development. Cost estimates are preliminary.	2024 - 2030					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Cos Cob Bridge Replacement

- Coordinating Agency: Connecticut DOT
- Partner Agency: Amtrak
- Type: Major Backlog Project
- Benefit: Shared

Project Information

- **Scope**: This project would replace the existing Cos Cob Bridge that carries four tracks over the Mianus River in Greenwich, CT. Constructed in 1904, it is the busiest movable bridge on the New Haven Line. The bridge is comprised of twelve steel spans with a movable segment at its center that lifts to allow boats to pass below. The bridge received some rehabilitation in 1989. However, this bridge now requires substantial investment to address challenges caused by aging components and deferred maintenance. Recently, an engineering feasibility study was performed that identified near-term repairs to address service reliability and maintenance issues, as well as long-term alternatives for replacement or rehabilitation. Interim repairs will be conducted in the next few years that include replacing the miter rails and deck timber. These investments are included in the BCC Program. This project covers the design for a full replacement of the structure which should begin within the next 5 years.
- **Justification**: Aging moveable bridges pose a big risk of long-term major disruption of service along the NEC. These structures require constant maintenance, are functionally obsolete, and well beyond their useful life.

Funding Information:

Total Project Cost: $1,000,000,000

Total Expenditure as of 9/30/17: $0

Funding Sources:

By Capital Delivery Phase:

Note that this project is not scheduled to start within the FY19-23 timeframe.

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Final Design	$50,000,000	No funding available.	Start 2026					
Construction	$950,000,000	No funding available.	Start 2028					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Devon Bridge Replacement

- Coordinating Agency: Connecticut DOT
- Partner Agency: Amtrak
- Type: Major Backlog Project
- Benefit: Shared

Project Information

- **Scope**: This project would replace the functionally obsolete 111-year-old Devon Bridge. The bridge, which carries four New Haven Line tracks over the Housatonic River, has experienced serious deterioration, and is the next most critical movable bridge for replacement on the New Haven Line portion of the NEC after the Walk Bridge Program. Additional funding is required for design and construction of a replacement bridge.
- **Justification**: Aging moveable bridges pose a big risk of long-term major disruption of service along the NEC. These structures require constant maintenance, are functionally obsolete, and well beyond their useful life.

Funding Information:

Total Project Cost: $1,500,000,000
Project in early stages of development. Construction estimates are preliminary.

Total Expenditure as of 9/30/17: $3,729,820

Funding Sources:

- FTA Formula Grant, $15,000,000

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Feasibility/ Conceptual Design	$25,000,000	Funding is expected/proposed/targeted.	End Jan 2019					
PE/NEPA	$50,000,000	Funding is expected/proposed/targeted.	End Apr 2021					
Final Design	$10,000,000	Funding is expected/proposed/targeted.	End Apr 2023					
Construction	$1,450,000,000	No funding available. Project in early stages of development. Construction estimates are preliminary.	2023 - 2027					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Saugatuck River Bridge Replacement

- Coordinating Agency: Connecticut DOT
- Partner Agency: Amtrak
- Type: Major Backlog Project
- Benefit: Shared

Project Information

- **Scope**: The Saugatuck River Bridge is a 458-foot-long bascule bridge constructed in 1904. The bridge is actually not one, but two parallel bridges, each carrying two tracks. Like the Norwalk River Bridge, its age and deferred maintenance have caused deterioration encompassing both its electrical and mechanical components. CTDOT is aiming to fully replace major components of the bridges, including the movable spans and the approach tracks. This work would also include the replacement of mechanical and electrical systems, new signal equipment, and a new operator's house. This new bridge would greatly improve reliability for Amtrak and Metro-North riders, as well as maritime traffic.
- **Justification**: Aging moveable bridges pose a big risk of long-term major disruption of service along the NEC. These structures require constant maintenance, are functionally obsolete, and well beyond their useful life.

Funding Information:

Total Project Cost: $1,100,000,000

Total Expenditure as of 9/30/17: $11,963,967

Funding Sources:

- FTA Formula Grant, $15,000,000

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Feasibility/Conceptual Design	$15,000,000	Fully funded.	2017 - 2020					
PE/NEPA	$45,000,000	Unfunded/Funding targeted but not confirmed	2025 - 2026					
Final Design	$60,000,000	Unfunded/Funding targeted but not confirmed	2026 - 2028					
Construction	$1,000,000,000	Unfunded/Funding targeted but not confirmed	2028 - 2032					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Walk Bridge Program

- Coordinating Agency: Connecticut DOT
- Partner Agency: Amtrak
- Type: Major Backlog Project
- Benefit: Shared

Project Information

- **Scope**: This project will replace the functionally obsolete 120-year-old Norwalk River Bridge which has experienced increasing deterioration of electrical and mechanical components. Connecticut DOT has committed to replace this asset with a combination of federal and state funds. Construction will require an extended continuous outage of two tracks where normally four are operational. This change in track availability could cause changes in schedule, decreases in reliability, or even reductions in service. Two additional capital projects in the vicinity of Norwalk River Bridge will help address these concerns. The construction of CP243 interlocking will shorten the block length between Westport and Norwalk while increasing operational flexibility. Additionally, improvements at Dock Yard including the electrification of the lower Danbury Branch will allow for Metro-North trains to turn at Norwalk without increasing congestion on the main line of the NEC. FTA completed NEPA and issued a Finding of No Significant Impact (FONSI) for this project in July 2017.
- **Justification**: Aging moveable bridges pose a big risk of long-term major disruption of service along the NEC. These structures require constant maintenance, are functionally obsolete, and well beyond their useful life. The situation at Norwalk River Bridge is made worse by the fact that all four tracks reside on one moveable span. A failure of the span severs the entire NEC.

Funding Information:

Total Project Cost: $1,170,000,000

Total Expenditure as of 9/30/17: $123,845,788

Funding Sources:

- Federal Emergency Relief Award, $160,979,022
- Federal (FTA) Programmed, $282,606,925
- State Funding Programmed, $726,414,053

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Final Design	$234,100,000	Fully funded.	End Jun 2017					
Construction Phase 1	$366,338,696	Fully funded. Construction - CP243 / Dock Yard	End Feb 2019					
Construction Phase 2	$560,969,300	Full funding committed/expected. Construction - Walk.	Jun 2019 - Sep 2023					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Special Projects: Connecticut (Improvement)

CT*rail* Hartford Line Commuter Station Improvements

- Coordinating Agency: Connecticut DOT
- Partner Agency:
- Type: Improvement Project
- Benefit: Sole

Project Information

- **Scope**: This project will add additional station stops between New Haven, CT to Springfield, MA including North Haven, Newington, West Hartford, and Enfield. An additional platform at the State Street Station in New Haven is also in construction allowing riders on the new Hartford Line service walk-up access to downtown New Haven.
- **Justification**: The Hartford to Springfield corridor is extremely underserved by rail, increasing the negative impacts of congestion and stifling the local economy by denying access to jobs and regional markets. This project will increase ridership for the NEC and enhance regional rail travel in New England.

Funding Information:

Total Project Cost: $90,000,000

Total Expenditure as of 9/30/17: $16,567,186

Funding Sources:

- State/Local Funds, $80,000,000, Let's Go CT
- Other Federal Grant, $10,000,000, TIGER

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Construction	$90,000,000	. Funding targeted.	Apr 2019 - 2021					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

CT*rail* Hartford Line Rail Program Phase 3B - 5

- Coordinating Agency: Connecticut DOT
- Partner Agency: Amtrak
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: The program is being progressed in phases to rebuild and upgrade infrastructure between New Haven, CT and Springfield, MA. The final phases, not yet funded for construction, include adding a second track between Hartford and Enfield, rehabilitating or replacing many bridges and culverts, and improving stations at Windsor and Windsor Locks. The program also includes costs associated with replacing the elevated track structure through Hartford and the Connecticut River Bridge in Windsor Locks.
- **Justification**: The Hartford to Springfield corridor is extremely underserved by rail, increasing the negative impacts of congestion and stifling the local economy by denying access to jobs and regional markets. This project will increase ridership for the NEC and enhance regional rail travel in New England. These investments will improve reliability and allow for increased service of up to 25 round trips per day.

Funding Information:

Total Project Cost: $250,250,000

Total Expenditure as of 9/30/17: $328,858

Funding Sources:

- State/Local Funds, $15,000,000,

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Final Design	$110,250,000	Partially funded.	End 2019					
Construction	$250,250,000	Funding targeted but not committed..	2020 - 2023					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

New Haven Line Network Infrastructure Upgrade

- Coordinating Agency: Connecticut DOT
- Partner Agency:
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project will upgrade the communications network infrastructure along the New Haven Line segment of the NEC by installing fiber optic communication cable and equipment to support closed circuit television safety cameras at vulnerable passenger stations and bridges. This system will also be capable of supporting passenger information displays and other amenities at passenger stations.
- **Justification**: This project is critical to passenger safety and to the resiliency of the overall system. By providing for security cameras that can be monitored off-site, this project allows railroad security and law enforcement personnel a vital tool for preventing crime and terrorist activity.

Funding Information:

Total Project Cost: $70,000,000

Total Expenditure as of 9/30/17: $15,860,680

Funding Sources:

- FTA Formula Grant, $32,400,000, Mix of state and federal

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Construction	$32,400,000	Fully funded.	End 2021					
Construction	$35,000,000	Funding is expected/proposed/targeted.	2020 - 2022					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

New Haven Line Stations Improvements

- Coordinating Agency: Connecticut DOT
- Partner Agency: Amtrak
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This program will upgrade and repair the Stamford Station to ensure continued safe operation and improve the passenger experience. Work will increase canopy and windscreen coverage, provide additional pedestrian paths, repair and replace platform sections that are failing due to their age, and ensure ADA compliance. The future program also includes the construction of a pedestrian bridge at Stamford Station as well as a new parking garage. Additionally, the program includes a new parking garage for New Haven Station and the installation of real time audio and video systems at all main line stations.
- **Justification**: This program is critical not only to address passenger demands for enhancements at the stations, but also to provide repairs for aging platforms that are beginning to fail due to years of exposure salt and de-icing chemicals. This program allows for the continued safe operation of the stations.

Funding Information:

Total Project Cost: $320,000,000

Total Expenditure as of 9/30/17: $32,957,204

Funding Sources:

- Other Federal Grant, $10,000,000, TIGER
- State/Local Funds, $39,000,000,
- FTA Formula Grant, $5,000,000,

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Construction	$54,000,000	Fully funded.	End Nov 2018					
Construction	$50,000,000	Funding is expected/proposed/targeted.	2020 - 2022					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

New Haven Yard Master Complex Improvements

- Coordinating Agency: Connecticut DOT
- Partner Agency: Amtrak
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project is a multi-year initiative that receives funding on an annual basis to store and maintain the rail fleet and spare parts. Connecticut received $9 million in FTA Emergency Relief funds to install a backup feeder as an alternative power source at New Haven Yard. Additional funding would design and construct other modernization elements, including new facilities to improve efficiency and allow for growth.
- **Justification**: Continued funding for this project is vital to the ability of both the State of Connecticut and Amtrak to effectively store and maintain its passenger rail fleet. The upgrade of the Connecticut commuter fleet requires new facilities to maintain the vehicles and store parts. Lack of funding will jeopardize the significant investment that Connecticut has made in a state of the art rail passenger fleet.

Funding Information:

Total Project Cost: $750,000,000

Total Expenditure as of 9/30/17: $155,163,521

Funding Sources:

- State/Local Funds, $200,000,000,
- Other Federal Grant, $8,978,750, Hurricane Sandy Resiliency
- FTA Formula Grant, $38,000,000,

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Final Design	$100,000,000	Fully funded.	Jan 2017 - 2020					
Construction	$150,000,000	Funding is expected/proposed/targeted.	2019 - Feb 2023					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

SLE Stations Improvements

- Coordinating Agency: Connecticut DOT
- Partner Agency:
- Type: Improvement Project
- Benefit: Sole

Project Information

- **Scope**: This project is a series of investments to expand and improve stations, constructing two high-level platforms, improved waiting areas, and expanded parking at several stations. Work is underway at Clinton, Madison, and New Haven State Street. In addition, the state will study the feasibility of constructing a new station in Niantic, CT.
- **Justification**: When Shore Line East service was launched in the 1990s, most stations featured a single low-level platform along the eastbound track. As a result, westbound trains have been required to switch tracks to service these stations, which consumes capacity and creates conflicts with other trains. Two high-level platforms with a pedestrian bridge connection is critical to true bi-directional traffic for Shore Line East trains and has the added benefit of increasing capacity on this segment of the NEC.

Funding Information:

Total Project Cost: $70,000,000

Total Expenditure as of 9/30/17: $42,298,755

Funding Sources:

- State/Local Funds, $70,000,000

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Construction	$70,000,000	Partially funded.	End Sep 2020					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Yale Interlocking

- Coordinating Agency: Amtrak
- Partner Agency: Connecticut DOT
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project would include the construction of a new, wired universal interlocking in Clinton, CT that would split the current 16-mile long block between Guilford and View Interlockings. Construction would include the installation of #24 clothoidal turn-outs, rail, switch ties, sub-grade, ballast, components of the overhead catenary system, signal transformers, signal cables, signal masts, switch heaters, switch machines, switch houses, instrument houses, and interlocking lighting. Additional funding is necessary for construction.
- **Justification**: A new interlocking in Clinton would increase the flexibility of Shore Line East and Amtrak operations. This new interlocking would enable SLE trains to flexibly service the existing and future platforms at Clinton and Madison stations and make greater use of the Clinton siding, a short stretch of third track along the south side of the NEC. By enabling SLE trains to use all platforms and tracks in the area, the interlocking would enable Amtrak and SLE to expand services while reducing train conflicts and their resulting delays.

Funding Information:

Total Project Cost: $32,400,000

Total Expenditure as of 9/30/17: $1,963,604

Funding Sources:

- Non-BCC Amtrak Funds, $1,580,000, Amtrak General Capital

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Final Design	$1,937,604	Fully funded. Environmental work continues; $195K needed for FY18	Nov 2015 - Dec 2017					
Construction	$30,450,000	Funding is expected/proposed/targeted. Funding status: seeking an agreement under the CTDOT Master Agreement	Oct 2018 - Sep 2021					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

East River Tunnel Rehabilitation

- Coordinating Agency: Amtrak
- Partner Agency: Long Island Rail Road, NJ TRANSIT
- Type: Major Backlog Project
- Benefit: Shared

Project Information

- **Scope**: This project would rehabilitate East River Tunnel tubes 1 and 2 which connect Penn Station, NY to Queens, NY. Each tunnel is approximately 13,000 feet in length. Through this project, both tunnel tubes will be demolished down to the concrete liner and entirely rebuilt with new bench walls, communication systems, and modern electrical and signaling conduit. Rehabilitation of the track and drainage systems will require removal and replacement of track and ballast, new welded rail installations on a modern direct fixation track system, new impedance bond installations, new I joint installations, drainage system cleaning, and the removal and replacement of the third rail for the entire length of each tube. The tunnel renovations will also be designed to improve the safety and security (to the greatest extent practicable) in the tunnels. Some funding is available through FRA Superstorm Sandy recovery grants, but a significant funding gap remains.
- **Justification**: The East River Tunnel tubes are in desperate need of rehabilitation and improvement, due to continually worsening conditions of the tunnel structure given both its age and damage related to Superstorm Sandy, to ensure continuation of operations for LIRR, New Jersey Transit, and Amtrak.

Funding Information:

Total Project Cost: $1,208,900,000
Project in early stages of development. Cost estimates are preliminary.

Total Expenditure as of 9/30/17: $3,700,000

Funding Sources:

- Other, $19,600,000, Superstorm Sandy FRA Relief Funds and Insurance Claims

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Feasibility/ Conceptual Design	$3,600,000	Phase completed; funding has been expended.	Apr 2015 - Dec 2016					
NEPA/ Final Design	$25,300,000	Partially funded. Received NTP in July 2017. FRA and Amtrak to determine the NEPA Class of Action for this project.	Jul 2017 - Sep 2020					
Construction	$1,180,000,000	No funding available. Funding needed FY19-23: is only 2.5 of 4 year construction duration. Project in early stages of development. Cost estimates are preliminary.	Oct 2020 - Sep 2025					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Pelham Bay Bridge Replacement

- Coordinating Agency: Amtrak
- Partner Agency: Metro-North Railroad
- Type: Major Backlog Project
- Benefit: Shared

Project Information

- **Scope**: This project would replace the century-old movable Pelham Bay Bridge, which crosses the Hutchinson River in the Bronx, NY, with either a new high-level fixed bridge or a mid-level movable bridge with clearance for marine traffic. Additional funding is required for evaluation of these alternatives as well as the NEPA compliance for this project
- **Justification**: The Pelham Bay Bridge was built in 1907. The movable span consists of a two-track 82-foot long through truss. This bridge creates a bottleneck by constricting traffic down to speeds of 45 mph. The aging bridge still opens frequently for marine traffic and occasionally fails to properly close, creating delays for Amtrak service between Boston and New York as well as delays in freight and commuter service, which use the line. This asset will not provide the reliability needed for future expansion of train operations until the movable span is upgraded.

Funding Information:

Total Project Cost: $546,000,000
Project in early stages of development. Cost estimates are preliminary.

Total Expenditure as of 9/30/17: $563,000

Funding Sources:

- Non-BCC Amtrak Funds, $1,375,000, FY17 & Prior
- Non-BCC Amtrak Funds, $1,000,000, FY18

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Pre-NEPA	$63,000	Phase complete.	2018					
Feasibility/ Conceptual Design	$500,000	Phase complete.	2018					
PE/NEPA	$7,500,000	No funding available. Project in early stages of development. Cost estimates are preliminary.	2020					
Final Design	$16,000,000	No funding available. Project in early stages of development. Cost estimates are preliminary.	2021 - 2023					
Construction	$521,937,000	No funding available. Project in early stages of development. Cost estimates are preliminary.	2024 - 2027					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Special Projects: New York (Improvement)

East River Tunnel - Right of Way Infrastructure Improvements

- Coordinating Agency: Long Island Rail Road
- Partner Agency:
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project includes several initiatives in the East River Tunnels, including: Stray Current Study; Communications antenna replacement in lines 3 and 4; Total track replacement in line 4; and 1st Avenue substation replacement. Work would evaluate and mitigate stray current in the tubes, improve radio system infrastructure in the tunnels and on the platforms at Penn Station New York used by Amtrak and LIRR, renew track and track-bed infrastructure in East River Tunnels 3 & 4, and install a new fully operational AC-DC traction power substation to replace a substation that was damaged by Hurricane Sandy. These projects would improve reliability and reduce delays and maintenance costs by replacing and/or upgrading existing equipment. Some funding for these improvements is available. Additional funding is required for other improvements.
- **Justification**: Track and antenna replacement are state-of-good-repair projects to resolve existing and identified deficiencies. The Stray Current Study will identify source of stray current causing base corroded rail and will identify means to contain it. The new substation will replace a traction power substation damaged during Hurricane Sandy.

Funding Information:

Total Project Cost: $88,500,000

Total Expenditure as of 9/30/17: $26,487,584

Funding Sources:

- Other, $88,500,000,

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Construction	$88,500,000	Fully funded.	Jan 2017 - Dec 2022					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Harold Interlocking

- Coordinating Agency: MTA Capital Construction
- Partner Agency: Amtrak
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project will construct new conflict-free train routes through Harold Interlocking, the busiest switch point on the NEC. Located in Queens, NY, this interlocking sorts Amtrak, LIRR, and NJ TRANSIT trains as they travel north and east of Penn Station or access Sunnyside Yard for service and storage.
- **Justification**: The project, which utilized HSIPR funds, will greatly improve reliability, on-time performance, and travel time for all rail services operating through the Harold Interlocking.

Funding Information:

Total Project Cost: $763,870,448

Total Expenditure as of 9/30/17: $323,715,676

Funding Sources:

- ARRA/HSIPR Grant, $294,781,579
- State/Local Funds, $469,088,869, Local match

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Construction	$763,870,448	Schedule under review pending Amtrak staffing commitments	End Jul 2025					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Staffing Needs: The Harold Interlocking project relies on Amtrak for direct force account construction and 3rd party contractor access and protection including additional ET personnel, Communication and Signal staff, track foremen and watchmen. MTACC and Amtrak will review staffing agreements with the goal of maximizing productivity based on reliable levels of support in light of competing regional priorities.

Similarly, the project relies on the LIRR force account for direct construction and access and protection services. The LIRR forces include flagmen, 3rd rail protection, and track foreman in support of the 3rd party construction as well as signalmen, 3rd rail and track staff for direct force account construction. Again, MTACC works with the LIRR to maximize force account resources available to support the project.

Moynihan Station (Phase 2)

- Coordinating Agency: Amtrak
- Partner Agency: Other, Long Island Rail Road
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project expands Penn Station New York into the historic James A. Farley Post Office building, which will function as a joint Amtrak and Long Island Rail Road facility. Phase 1, which was completed in FY17, included the expansion and enhancement of the 33rd Street Connector between Penn Station and the West End Concourse; the extension and widening of the West End Concourse to serve nine of Penn Station's eleven platforms; new vertical access points and passenger circulation space; new entrances into the West End Concourse through the 31st and 33rd Street corners of the Farley building; and installation of an emergency ventilation system to improve life safety. Phase 2 (currently underway and associated with the funding and schedule information below) includes the construction of a new train hall occupying a sky-lit atrium section in the Farley building; construction of an emergency platform ventilation system at the perimeter of the Farley building; and improvements to the 33rd Street sub-street corridor connecting Penn Station and Moynihan Station. Moynihan Station Development Corporation (MSDC), the building owner, is coordinating the design of non-train hall work in collaboration with Amtrak and Long Island Rail Road. The project is being managed by the MSDC, a subsidiary of the Empire State Development Corporation, a public benefit corporation of the state of New York and the Port Authority of New York New Jersey, in cooperation with Amtrak and Long Island Rail Road.
- **Justification**: When Moynihan Station's train hall construction project is complete, Amtrak will be in a position to move its primary operations into the new facility, which will improve passenger comfort and security, relieve congestion, and enhance accessibility for passengers with disabilities in the busiest train station in the nation.

Funding Information:

Total Project Cost: $1,600,000,000

Total Expenditure as of 9/30/17:

- Amtrak: $105,000,000
- LIRR: $77,500,000

Funding Sources:

- Other, $105,000,000, Amtrak RRIF Loan
- Other, $100,000,000, Long Island Rail Road
- Other, $150,000,000, PANYNJ
- Other, $475,300,000, ESD Corporation
- Other, $526,100,000, ESD Corporation TIFIA Loan
- Other, $230,000,000, Developer payment
- Other, $21,965,000, Federal CMAQ funding for Penn-Farley Complex – Farley Building Loading Dock
- Other, $40,200,000, Federal CMAQ funding for Penn-Moynihan Station Complex Train-Shed Hardening Project

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Construction	$1,594,000,000	Fully funded. Amtrak's Phase 2 contribution was $106M	May 2017 - Jan 2021					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Next Generation High Speed Fleet Infrastructure: Sunnyside Yard Facility Improvements

- Coordinating Agency: Amtrak
- Partner Agency:
- Type: Improvement Project
- Benefit: Sole

Project Information

- **Scope**: The project scope includes the design and construction of infrastructure improvements for Sunnyside Yard in Queens, NY to support the Next Generation High-Speed Rail (HSR) trainsets. The project elements funded by the RRIF loan include: A new separate two-track, 2-story HSR S&I facility, including welfare space on the second floor; and (3) Three new storage / service ready tracks with a run-through track and improvements to the Eastward Engine Track.
- **Justification**: A new and expanded high-speed rail facility is necessary for commissioning, inspection, service, and maintenance of new Next Generation High-Speed Rail equipment, which is expected to be delivered between 2020 and 2022. The facility will improve equipment and operational reliability in New York and throughout the Northeast Corridor.

Funding Information:

Total Project Cost: $339,900,000

Total Expenditure as of 9/30/17: $6,123,181

Funding Sources:

- Other, $339,900,000, RRIF Loan

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Construction	$310,000,000	Fully funded. RRIF loan package	Aug 2018 - Mar 2021					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Penn Station Access

- Coordinating Agency: Metro-North Railroad
- Partner Agency: Amtrak
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project will open a new Metro-North Railroad link directly into Penn Station New York from the New Haven Line in Westchester and the State of Connecticut. Four new Metro-North stations will be built in the Bronx – near Co-op City, Morris Park, Parkchester/Van Nest, and Hunts Point. The project also includes upgrading the power and signal systems along the Hell Gate Line; adding new interlockings and tracks, and modifying existing ones and curves on a portion of the line; modifying existing over-the-street railroad bridges as necessary; and reinforcing the Bronx River Bridge.
- **Justification**: Penn Station Access will add resiliency and redundancy to the existing Metro-North New Haven Line service to Manhattan, providing greater mobility, access, connectivity, and travel times savings for existing and new Metro-North customers and helping to address Grand Central Terminal (GCT) capacity issues. The project will substantially reduce travel times between Manhattan's West Side and areas within Metro-North's East-of-Hudson service territory; provide a new one-seat ride from NHL communities to jobs, shopping and other destinations on Manhattan's West Side; and improve regional connectivity and mobility by completing direct connections at Penn Station among all of the New York area's regional and intercity rail carriers—Metro-North, LIRR, New Jersey Transit, and Amtrak. Furthermore, the four new stations will increase access from East Bronx communities to employers on Manhattan's West Side and along I-95 in Westchester and the State of Connecticut and access to East Bronx employers from the same areas. The benefits above will be cost-effective by largely using existing infrastructure.

Funding Information:

Approved Project Funding: $695,000,000

Total Expenditure as of 9/30/17: $3,254,974

Funding Sources:

- Other, $695,000,000, MTA 2015-2019 Capital Program

By Capital Delivery Phase:

Project in the early stages of development. Information regarding Capital Delivery Phases to be established at a later date.

General Notes

Penn Station New York - LIRR Projects

- Coordinating Agency: Long Island Rail Road
- Partner Agency:
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project will widen and raise the ceiling of the 33rd Street Corridor at Penn Station New York. This project will also repair and improve other assets at Penn Station New York. Work would include replacing elevators and escalators, upgrading customer service facilities, installing new HVAC equipment, improving lighting, and rehabilitating platforms. Elevators and escalators assets have reached the end of their useful life, stairways are in poor condition, and rehabilitation or upgrades are needed to HVAC, platforms, and lighting. Some funding for these improvements is available. Additional funding is required for other improvements.
- **Justification**: It has been determined by an outside inspection agency that the 22 year old elevators and escalators have reached the end of the useful life. Stairways have been repeatedly repaired but are in a state of deterioration. HVAC equipment continuously fails and requires modernization. Platforms have become worn and require rehabilitation. The lighting has become dull over the years and the station requires better lighting.

Funding Information:

Total Project Cost: $253,500,000

Total Expenditure as of 9/30/17: $6,745,369

Funding Sources:

- State/Local Funds, $83,500,000,
- State/Local Funds, $170,000,000, MTA Capital Plan Amendment

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Construction	$253,500,000	Fully funded.	Jan 2017 - Dec 2020					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

The MTA Board amended the MTA 2015-19 Capital Program in February 2017 to include the new Penn Station-33rd Street Corridor project, which would improve customer experience and flow throughout the LIRR concourse with additional space, upgraded lighting, and digital information screens.

Penn Station New York - NJ TRANSIT Projects

- Coordinating Agency: NJ TRANSIT
- Partner Agency: Amtrak
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project would make much needed improvements to Penn Station New York. Among the projects being advanced are extending the existing Central Concourse to allow for more vertical access to existing train platforms, improving the existing Hilton Corridor so it better connects between vertical access points to platforms, and improving signage and wayfinding to facilitate the safe and efficient movement of passengers and visitors. While some funding is programmed for this work, additional funding is needed to make all the necessary improvements.
- **Justification**: Construction of the multiple planned improvement projects at Penn Station New York will primarily be targeted on improving commuter safety and convenience. These projects will address serious vertical access and egress issues that currently exist between platforms and the various other levels of the station in an effort to increase capacity and improve the passenger experience.

Funding Information:

Total Project Cost: $75,000,000

Total Expenditure as of 9/30/17: $334,900

Funding Sources:

- FTA Formula Grant, $11,018,000, Federal Transit Administration

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Feasibility/ Conceptual Design	$0		Nov 2015 - Aug 2016					
Final Design	$11,018,000	Fully funded.	Sep 2016 - May 2018					
Construction	$63,982,000	No funding available.	Jan 2019 - Jan 2021					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

This Project consists of multiple but separate tasks with different start and completion timeliness, including Refurbishing and Expanding the Hilton Corridor; a Unified Signage Program, and; Relocation of the 7th Avenue Artwork.

River-to-River Rail Resiliency Projects (R4)

- Coordinating Agency: Long Island Rail Road
- Partner Agency: Amtrak
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This program will protect the East River Tunnels and the West Side Yard against flood hazards to ensure connectivity at New York Penn Station for Amtrak, LIRR, and NJ TRANSIT. The program consists of multiple elements, including West Side Yard perimeter protection and drainage improvements, hardening the Queens Portals of the East River Tunnels, resiliency improvements within the East River Tunnels, including the installation of permanent emergency generators, and waterproofing of the entrances and manhole/conduit points of entry to two ventilation facilities.
- **Justification**: This project will enhance weather resiliency.

Funding Information:

Total Project Cost: $108,100,000

Total Expenditure as of 9/30/17: $1,408,454

Funding Sources:

- Other, $108,100,000, FTA is funding 75% of the project. We anticipate that the 25% match will be shared by LIRR & Amtrak

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Feasibility/ Conceptual Design	$2,500,000	Fully funded. Conceptual Design period extended to include soil survey, profile and composition analysis.	Sep 2016 - Oct 2018					
Construction	$105,500,000	Fully funded.	Start 2019					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Special Projects: Gateway Program (Major Backlog)

Gateway Component: Highline Renewal and State of Good Repair

- Coordinating Agency: Amtrak
- Partner Agency: NJ TRANSIT, Gateway Program Development Corporation, Port Authority of NY & NJ
- Type: Major Backlog Project
- Benefit: Shared

Project Information

- **Scope**: This project would include the replacement of many assets between Newark, NJ and Penn Station, NY including short span bridges; electric catenary, aerial structures, and transmission lines; repainting Dock Bridge; and Newark Penn Station pedestrian facilities. Advancement of this project is unfunded.
- **Justification**: Much of the existing NEC infrastructure between Newark, NJ and Penn Station, NY is reaching the end of its useful life and must be replaced. Once new capacity is created under the Gateway Program and before service is expanded, elements of the NEC Highline would be upgraded to bring the infrastructure to a state of good repair.

Funding Information:

Total Project Cost: $300,000,000
Project in early stages of development. Cost information for some phases not yet available.

Total Expenditure as of 9/30/17: $0

Funding Sources:

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Final Design	TBD	No funding available.	2023 - 2024					
Construction	TBD	No funding available.	2025 - 2032					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Gateway Component: Hudson Tunnel Project

- Coordinating Agency: Amtrak
- Partner Agency: NJ TRANSIT, Gateway Program Development Corporation, Port Authority of NY & NJ
- Type: Major Backlog Project
- Benefit: Shared

Project Information

- **Scope**: This project will construct a new two-track rail tunnel beneath the Hudson River and rehabilitate and modernize the existing two-track North River Tunnel, which was inundated with corrosive salt water during Superstorm Sandy and continues to deteriorate without comprehensive rehabilitation. When complete, the project will provide increased reliability and operational flexibility for Amtrak and NJ TRANSIT on the NEC. Additional funding is required for construction. The project has been accepted by the FTA into project development for its Capital Investment Grant program.
- **Justification**: Service reliability in the North River Tunnel has been compromised because of the damage to tunnel components caused by Superstorm Sandy, which inundated both tubes with seawater in October 2012. Chlorides from the seawater remain in the tunnel's concrete liner and bench walls, causing ongoing damage to the bench walls, imbedded steel, track, and signaling and electrical components, requiring an extended outage of the tunnel in order to completely replace damaged systems and rehabilitate the tunnel. These improvements must be achieved while maintaining uninterrupted commuter and intercity rail service. Existing service can only be maintained by the construction of a new, two-track tunnel connecting to the existing Penn Station that would carry existing rail traffic during the rehabilitation of the North River Tunnel. Taking one track out of service at a time without the new tunnel would reduce total capacity for Amtrak and NJ TRANSIT by as much as 75%, impacting roughly 200,000 passenger trips on 450 trains each weekday.

Funding Information:

Total Project Cost: $12,970,000,000

Total Expenditure as of 9/30/17: $32,767,460

Funding Sources:

- Other, $1,900,000,000, PANYNJ - RRIF Loan Support Payments; HTP Finance Plan 12-14-17
- State/Local Funds, $1,900,000,000, NJ TRANSIT Commuter Train Usage or Access Backed Fee RRIF loan; HTP Finance Plan 12-14-17
- State/Local Funds, $1,750,000,000, State of New York RRIF Loan Support Payments; HTP Finance Plan 12-14-17
- Non-BCC Amtrak Funds, $32,904,644, Amtrak GCAP FY18
- State/Local Funds, $3,800,000, NJT has committed in-kind services up to $1.9M/year for conducting the NEPA process
- State/Local Funds, $35,000,000, PANYNJ FY18 reimbursement. PANYNJ has committed to reimburse Amtrak half the PE cost, up to $35M
- Non-BCC Amtrak Funds, $32,767,460, Amtrak GCAP 2016-2017

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
PE/NEPA	$70,000,000	Fully funded.	Apr 2016 - Jun 2018					
Construction	$11,100,000,000	Partially funded. New Hudson Tunnel	Apr 2019 - Dec 2026					
Construction	$1,800,000,000	No funding available. Rehab of Existing N. River Tunnel	Jan 2026 - Dec 2030					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Publication of Joint FEIS/ROD is pending.

Cost estimates reflect mid-point of construction; are lower than cost estimates submitted to the Federal Transit Administration (FTA) Capital Investment Grants Program which include finance costs and are stated in year of expenditure dollars.

Gateway Component: Portal North Bridge

- Coordinating Agency: NJ TRANSIT
- Partner Agency: Amtrak, Gateway Program Development Corporation, Port Authority of NY & NJ
- Type: Major Backlog Project
- Benefit: Shared

Project Information

- **Scope**: This project would replace the century-old swing-span Portal Bridge over the Hackensack River with a new two-track, fixed-span bridge, allowing a modest expansion of capacity. Amtrak and NJ TRANSIT have completed final design and environmental review. The project has been accepted by the FTA into project development for its Capital Investment Grant - Core Capacity grant program but still requires funding for construction. Once complete, the new bridge will save upwards of $1.3 million annually in reduced maintenance and operating costs due to the replacement of a swing bridge with a fixed bridge.
- **Justification**: The existing Portal Bridge is a major bottleneck and source of delay of train traffic. It has limited vertical clearance and must routinely be opened for maritime traffic. The bridge is functionally obsolete and experiences frequent mechanical failures, resulting in a single point-of-failure on the NEC and substantial delays. The risk of continued and increasing unplanned outages due to malfunctioning of the obsolete bridge cannot be mitigated by maintenance.

Funding Information:

Total Project Cost: $1,602,000,000 (Total Base Year dollars) / $1,707,000,000 (Core Capacity - Year of Expenditure dollars)

Total Expenditure as of 9/30/17: $69,500,000

Funding Sources:

- ARRA/HSIPR Grant, $38,500,000, For final design
- Non-BCC Amtrak Funds, $15,500,000, Amtrak share of PE
- State/Local Funds, $15,500,000, NJT share of PE
- Other Federal Grant, $16,000,000, TIGER grant to NJT for early construction work
- Non-BCC Amtrak Funds, $35,000,000, Amtrak GCAP FY18
- Other, $119,000,000, Federal CMAQ funding; FHWA Congestion Mitigation and Air Quality Improvement to NJT
- Other, $127,000,000, NJ Transit funding; NJT Contribution (Match for CMAQ funding) + NJ TRANSIT NJTTF Receipts
- Other, $62,000,000, NJEDA Bond Proceeds
- Other, $284,000,000, TIFIA Loan
- Other, $22,000,000, GDC Revenues; Gateway Development Corporation contribution

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
PE/NEPA	$69,500,000	Phase completed; funding has been expended.	End Jul 2017					
Construction	$20,000,000	Fully funded.	Oct 2017 - Feb 2019					
Construction	$1,600,000,000	Partially funded. $649M of committed funding. Cost estimate is Total Base Year dollars.	2019 - 2025					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

The cost estimate for total project cost in base year dollars include base cost, contingencies, and finance charges. Cost estimates submitted to the Federal Transit Administration (FTA) Capital Investment Grants Program are stated in year of expenditure dollars.

Gateway Component: Sawtooth Bridge

- Coordinating Agency: Amtrak
- Partner Agency: NJ TRANSIT, Gateway Program Development Corporation, Port Authority of NY & NJ
- Type: Major Backlog Project
- Benefit: Shared

Project Information

- **Scope**: This project would replace an existing structurally deficient two-track bridge with new structures that would allow for four tracks on the NEC where it crosses over other rail lines between Newark, NJ and Penn Station, NY. Construction staging would be complex because of the intensity of use of the NEC as well as the intensity of rail traffic below the structure.
- **Justification**: The Sawtooth Bridge is in a state of serious distress and well beyond possibility of rehabilitation. When replaced, capacity will be increased from two to four tracks to complement other aspects of the Gateway Program.

Funding Information:

Total Project Cost: $1,600,000,000

Total Expenditure as of 9/30/17: $1,105,860

Funding Sources:

- Non-BCC Amtrak Funds, $1,105,860, Amtrak GCAP 2016-2017
- Non-BCC Amtrak Funds, $550,000, Amtrak Capital FY18

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
PE/NEPA	$75,000,000	Partially funded.	Dec 2017 - Sep 2022					
Construction	$1,511,634,835	No funding available.	Jun 2023 - Dec 2027					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Special Projects: Gateway Program (Improvement)

Gateway Component: Harrison Fourth Track

- Coordinating Agency: Amtrak
- Partner Agency: NJ TRANSIT, Gateway Program Development Corporation, Port Authority of NY & NJ
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project includes the design and construction of approximately 2,000 ft. of additional main track along the Northeast Corridor through the city of Harrison, NJ on the western side of the corridor with new embankment and/or retaining structures, track, signal and third rail systems to allow shifting of the westbound PATH track to this new alignment. The project will identify and design changes necessary to connect the new track with the existing infrastructure and also be coordinated with PATH's on-going Harrison Station replacement project.
- **Justification**: This project would allow construction of a new fourth main track through Harrison, NJ using the former PATH track alignment. Currently, the NEC through Harrison consists of three shared commuter/ intercity rail tracks and two additional tracks operated on exclusively by PATH trains between Newark, NJ and Jersey City, NJ and other points east. Through the project site, the two PATH tracks lie immediately adjacent to the three NEC tracks and prevent adding additional NEC tracks due to this configuration. This is another increment in creating the full four-track Gateway Program alignment between Newark, NJ and Penn Station, NY.

Funding Information:

Total Project Cost: Project in early stages of development. Cost information for some phases not yet available.

Total Expenditure as of 9/30/17: $0

Funding Sources:

- Non-BCC Amtrak Funds, $2,000,000, Amtrak FY18 Capital

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
PE/NEPA	$6,700,000	Partially funded.	Mar 2018 - Dec 2021					
Construction	TBD	No funding available.	2021 - 2024					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Gateway Component: Hudson Yards Concrete Casing

- Coordinating Agency: Amtrak
- Partner Agency: Long Island Rail Road, NJ TRANSIT, Gateway Program Development Corporation, Port Authority of NY & NJ
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project is constructing an underground concrete casing to protect the future potential right-of-way of a Hudson River rail tunnel that would connect the NEC in New Jersey to Penn Station, NY. The project extends west from 10th Avenue in Manhattan, under 11th Avenue, to its termination point at 30th Street in the vicinity of 12th Avenue.
- **Justification**: This project protects the only viable right-of-way for the future Hudson River rail tunnel that will connect the NEC in New Jersey to Penn Station, New York, which runs directly under the Hudson Yards development project, where a private developer is constructing millions of square feet of commercial and residential properties, including a skyscraper taller than the Empire State Building.

Funding Information:

Total Project Cost: $714,000,000

Total Expenditure as of 9/30/17: $287,000,000

Funding Sources:

- Other Federal Grant, $185,000,000, 2013 Disaster Relief Appropriations Act
- Non-BCC Amtrak Funds, $30,700,000, Prior Years Amtrak Capital
- Other Federal Grant, $50,000,000, 2013 Disaster Relief Appropriations Act
- State/Local Funds, $14,290,307, Amtrak FY18 Capital
- State/Local Funds, $5,500,000, Long Island Rail Road
- State/Local Funds, $5,500,000, NJ TRANSIT

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Phase 1, Section 1 Construction	$210,000,000	Phase completed; funding has been expended.	Aug 2013 - Oct 2017					
Phase 2, Section 2 Construction (11th Ave)	$64,000,000	Phase completed; funding has been expended.	Dec 2014 - Oct 2017					
Phase 2, Section 3 Construction	$440,000,000	No funding available.	May 2018 - Dec 2021					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Gateway Component: Penn Station Expansion

- Coordinating Agency: Amtrak
- Partner Agency: NJ TRANSIT, Long Island Rail Road, Gateway Program Development Corporation, Port Authority of NY & NJ
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project would expand Penn Station New York to add new tracks, platforms, and concourse space to facilitate a growth in rail service in coordination with other Gateway Program investments to expand capacity
- **Justification**: Penn Station New York is a pinch point at the center of the NEC, with 21 tracks accommodating some 1,300 average weekday train movements. The expansion of Penn Station tracks, platforms, and concourses is necessary to address growth in trans-Hudson demand and rail service that will be accommodated by additional elements of the Gateway Program.

Funding Information:

Total Project Cost: Project in early stages of development. Cost information for some phases not yet available.

Total Expenditure as of 9/30/17: $0

Funding Sources:

- Non-BCC Amtrak Funds, $1,000,000, Amtrak FY18 Capital

By Capital Delivery Phase:

					Five Year Look Ahead			
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
PE/NEPA	TBD	No funding available.	2020 - 2024					
Property Acquisition	TBD	No funding available.	2024 - 2025					
Construction	TBD	No funding available.	2025 - 2033					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Gateway Component: Planning and Program Management

- Coordinating Agency: Amtrak
- Partner Agency: NJ TRANSIT, Port Authority of NY & NJ, Gateway Program Development Corporation
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: The Gateway Program would create four main line tracks between Newark, NJ and New York, NY to address and alleviate the most severe bottleneck on the NEC. Several of the Gateway Program elements are now progressing into design or construction and are carved out for the purposes of the NEC Capital Investment Plan, including the Hudson Tunnel Project, Portal North Bridge, Hudson Yards Concrete Casing, and the Sawtooth Bridge. The investments listed here focus on planning and program management for the rest of the program. Cost estimates for the full program are not yet complete as many project elements remain in early stages of development.
- **Justification**: The Gateway Program is a multi-decade planning vision to double corridor capacity between Newark, NJ and Penn Station New York, including in the first phase, preserving existing service and improving resiliency, and bringing critical infrastructure assets to a state of good repair. The Program is needed to meet steady, growing demand for trans-Hudson rail service into Manhattan, and to rehabilitate the existing Amtrak North River Tunnel, the only passenger rail connection of the NEC between Manhattan and points south, without disrupting service.

Funding Information:

Total Project Cost: $207,660,792

Total Expenditure as of 9/30/17: $3,813,544

Funding Sources:

- Non-BCC Amtrak Funds, $3,813,544, Amtrak GCAP FY14-17
- Non-BCC Amtrak Funds, $11,284,289, Amtrak GCAP FY18

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Program Management	$207,660,792	Partially funded.	Oct 2018 - Sep 2023					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Gateway Component: Portal South Bridge

- Coordinating Agency: Amtrak
- Partner Agency: NJ TRANSIT, Port Authority of NY & NJ, Gateway Program Development Corporation
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project would construct approximately 2.4 miles of new Northeast Corridor tracks and systems on new embankment and/or viaduct immediately south of Secaucus Junction including a new high-level, two-track Portal South Bridge. This would complete the addition of two new tracks to the Northeast Corridor, building out the Gateway Program new capacity in this territory. A Record of Decision relating to Portal South Bridge was issued by the FRA in 2008. However, Amtrak would likely need to re-examine the NEPA phase in order to advance this project.
- **Justification**: This project is another increment in completing a modern, four-track right-of-way on the NEC between Newark, NJ and Penn Station, NY. It is necessary to accommodate the ongoing and forecasted growth of services into Penn Station, NY.

Funding Information:

Total Project Cost: Project in early stages of development. Cost information for some phases not yet available.

Total Expenditure as of 9/30/17: $0

Funding Sources:

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
PE, NEPA & Final Design	TBD	No funding available.	2019 - 2025					
Construction	TBD	No funding available.	2024 - 2030					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Gateway Component: Secaucus Station and Loop Tracks

- Coordinating Agency: Amtrak
- Partner Agency: NJ TRANSIT, Port Authority of NY & NJ, Gateway Program Development Corporation
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project would expand the Secaucus Station platform system and approach tracks to support the growth of train movements through this territory and complement adjacent Gateway capacity projects. This project would also include loop tracks at Secaucus Junction which would provide a physical track connection between the NEC on the upper level of Secaucus Station and existing NJ TRANSIT rail lines located on the lower level.
- **Justification**: This project is another increment in completing a modern, four-track right-of-way on the NEC between Newark, NJ and Penn Station, NY. It is necessary to accommodate the ongoing and forecasted growth of services into Penn Station, NY and to create a one-seat ride for MTA Metro-North Port Jervis and Pascack Valley lines and NJT Main-Bergen services into Penn Station New York.

Funding Information:

Total Project Cost: Project in early stages of development. Cost information for some phases not yet available.

Total Expenditure as of 9/30/17: $0

Funding Sources:

By Capital Delivery Phase:

					Five Year Look Ahead			
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
PE/NEPA	TBD	No funding available.	2021 - 2024					
Construction	TBD	No funding available.	2024 - 2027					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Special Projects: New Jersey (Improvement)

County Yard

- Coordinating Agency: NJ TRANSIT
- Partner Agency: Amtrak
- Type: Improvement Project
- Benefit: Sole

Project Information

- **Scope**: This project will expand the existing County Storage Yard from its current footprint to include an unused part of an adjacent rail freight yard. The Delco Lead project, with County Yard improvements, will provide safe storage capacity for up to 444 rail cars in the event of flooding at other locations.
- **Justification**: County Yard supports the interrelated investments described for the New Jersey High-Speed Rail Improvement Program and the Mid-Line Loop, and is a key resiliency project designed in response to Superstorm Sandy. The project will also support future service expansion by providing additional train storage.

Funding Information:

Total Project Cost: $125,000,000

Total Expenditure as of 9/30/17: $9,482,500

Funding Sources:

- State/Local Funds, $111,549,518, State of New Jersey's Transportation Trust Fund (TTF)
- FTA Formula Grant, $13,450,482, Federal Transit Administration

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
PE/NEPA	$500,000	Phase completed; funding has been expended.	Jan 2013 - May 2016					
Final Design	$6,500,000	Phase completed; funding has been expended.	Jun 2013 - Jul 2017					
Construction	$118,000,000	Fully funded.	Mar 2018 - Jun 2022					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

The project is largely fully funded with a mixture of Federal and State Funding

Delco Lead Safe Haven Facility Project

- Coordinating Agency: NJ TRANSIT
- Partner Agency: Amtrak
- Type: Improvement Project
- Benefit: Sole

Project Information

- **Scope**: This project will construct a safe haven storage facility on the NEC south of the New Brunswick station to protect rail rolling stock against damage resulting from a storm surge. A service and inspection facility that is part of the project will facilitate the rapid return of equipment to service following a storm event. This project is supported by FTA Emergency Relief Program funds.
- **Justification**: The project will provide resilient storage for rail cars and service and inspection (S&I) capabilities to facilitate the rapid return to service of stored rolling stock equipment following an extreme weather event. The S&I Facility will be utilized for daily inspections and required equipment service at County Yard. Furthermore, the Delco Lead tracks would potentially be used in the future in conjunction with the proposed Mid-Line Loop and North Brunswick Station projects.

Funding Information:

Total Project Cost: $245,992,000

Total Expenditure as of 9/30/17: $9,647,000

Funding Sources:

- State/Local Funds, $61,498,090, State of New Jersey's Transportation Trust Fund (TTF)
- FTA Formula Grant, $184,493,910, Multiple FTA Grants (7)

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
PE/NEPA	$1,500,000	Phase completed; funding has been expended.	Oct 2014 - Feb 2016					
Final Design	$9,761,000	Fully funded.	Mar 2016 - May 2018					
Construction	$234,731,000	Fully funded.	Feb 2019 - Apr 2022					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

The project is generally fully funded with a mixture of state and federal funding. Although most of the funds have not been officially conveyed to NJ TRANSIT yet, the funds will be allocated to the project once the funding is received.

Edison Station

- Coordinating Agency: NJ TRANSIT
- Partner Agency:
- Type: Improvement Project
- Benefit: Sole

Project Information

- **Scope**: This project would relocate an existing freight turn-out switch to a location north of Plainfield Avenue by Edison Station and then extend the existing outbound high-level platform by 425 feet for a total platform length of approximately 1,020 feet. Additional funding is required for design and construction.
- **Justification**: The extended platform will result in smoother passenger boarding and deboarding as well as shorter dwell times.

Funding Information:

Total Project Cost: $7,072,000

Total Expenditure as of 9/30/17: $174,209

Funding Sources:

- State/Local Funds, $174,209, State of New Jersey's Transportation Trust Fund (TTF)

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Feasibility/ Conceptual Design	$250,000	Phase completed; funding has been expended.	Apr 2006 - Jun					
PE/NEPA	$0	Fully funded.	Jan 2018 - Jan 2019					
PE/NEPA	$750,000	No funding available.	2018 - 2019					
Final Design	$1,000,000	No funding available.	2019 - 2020					
Construction	$5,072,000	No funding available.	2020 - 2022					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Elizabeth Station

- Coordinating Agency: NJ TRANSIT
- Partner Agency:
- Type: Improvement Project
- Benefit: Sole

Project Information

- **Scope**: This project would reconstruct two side high-level concrete passenger platforms and two station buildings including new elevators, stairs, ticketing offices, operational office spaces, and retail spaces. Additional funding is required for design and construction.
- **Justification**: NJ TRANSIT plans to reconstruct the Elizabeth, NJ commuter rail station in its entirety with needed upgrades to bring the station up to current ADA compliance standards. The station activities will also accommodate a proposed future fifth track along the NEC planned to be built by Amtrak. The upgraded rail station will also provide longer platforms for NJ TRANSIT trains.

Funding Information:

Total Project Cost: $54,920,000

Total Expenditure as of 9/30/17: $2,093,000

Funding Sources:

- State/Local Funds, $1,861,000, State of New Jersey's Transportation Trust Fund (TTF)
- FTA Formula Grant, $9,915,000, FTA Grant Nos. NJ-90-0023 and NJ-2017-020-00

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
PE/NEPA	$250,000	Phase completed; funding has been expended.	Jan 2012 - Dec 2012					
Final Design	$1,500,000	Phase completed; funding has been expended.	Jan 2013 - Dec 2015					
Final Design	$7,000,000	Fully funded. A Design / Build Contract	Jun 2018 - Dec 2022					
Construction	$46,170,000	Fully funded. A Design / Build Contract	Jun 2018 - Dec 2022					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

This project is being advanced under a "Design / Build" concept. A 30% level design package was completed by NJ TRANSIT's internal staff. The contractor / engineering team will complete the design as well as construct the project.

Hunter Flyover

- Coordinating Agency: NJ TRANSIT
- Partner Agency: Amtrak
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project would construct an elevated viaduct structure to allow for NJ TRANSIT's Newark-bound Raritan Valley Line trains to cross over and above the NEC tracks to merge with the NEC's eastbound local track in order to continue their movement towards Newark. Additional funding is required for design and construction.
- **Justification**: Currently, Newark-bound Raritan Valley Line trains must travel along the westbound local track or cross the NEC at grade to reach the eastbound local track. NJ TRANSIT identified the need for a flyover that would eliminate at-grade crossings, thereby reducing conflict between trains, increasing capacity for NJ TRANSIT and Amtrak, and enabling NJ TRANSIT to improve Raritan Line service.

Funding Information:

Total Project Cost: $209,000,000

Total Expenditure as of 9/30/17: $0

Funding Sources:

- State/Local Funds, $2,000,000, State of New Jersey's Transportation Trust Fund (TTF)

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Feasibility/ Conceptual Design	$1,000,000	No funding available.	Start/End dates are TBD and dependent on additional funding					
PE/NEPA	$5,000,000	No funding available.	Start/End dates are TBD and dependent on additional funding					
Final Design	$10,000,000	No funding available.	Start/End dates are TBD and dependent on additional funding					
Construction	$250,000,000	No funding available.	Start/End dates are TBD and dependent on additional funding					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

This project remains on-hold due to the unavailability of funds

Hunter Yard Maintenance of Way Facilities Upgrades

- Coordinating Agency: Amtrak
- Partner Agency: NJ TRANSIT
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project would bring the maintenance of way facilities at Hunter Yard in New Jersey up to a state of good repair to meet operational needs. Currently, the facility is used solely by the track group within Amtrak. The intent would be to consolidate several engineering disciplines at one facility including structures and communications and signals. Amtrak Police would also be relocated to this expanded facility as well. These functions are currently largely based at Newark Penn Station. A phased construction would necessitate a temporary relocation of existing Amtrak forces at this location. Additional funding is required for construction.
- **Justification**: The current facilities are at the end of their useful life and do not meet current operational needs. A new consolidated facility at Hunter would allow for more effective and efficient production activities, including a greater ability to store equipment for work gangs. Resiliency is also an important element of this project with the intent to raise the entire facility by 5 feet to protect against flooding in the future.

Funding Information:

Total Project Cost: $36,256,961

Total Expenditure as of 9/30/17: $1,256,961

Funding Sources:

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Final Design	$1,256,961	Phase completed; funding has been expended.	Oct 2008 - Sep 2014					
Construction	$35,000,000	No funding available.	Oct 2020 - Jun 2023					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Jersey Avenue Station

- Coordinating Agency: NJ TRANSIT
- Partner Agency:
- Type: Improvement Project
- Benefit: Sole

Project Information

- **Scope**: This project would reconstruct the existing station including new eastbound and westbound platforms. These improvements would be complemented by the addition of a new commuter parking lot that would be connected to the station via a pedestrian overpass. This project is being coordinated with the construction of NJ TRANSIT's Delco Lead Project. Additional funding is required for design and construction.
- **Justification**: The purpose of the Jersey Avenue Station improvements is to make this station ADA accessible by installing new high-level platforms and elevators.

Funding Information:

Total Project Cost: $61,000,000

Total Expenditure as of 9/30/17: $0

Funding Sources:

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Feasibility/Conceptual Design	$1,000,000	No funding available.	Start/End dates are TBD and dependent on additional funding					
PE/NEPA	$3,000,000	No funding available	Start/End dates are TBD and dependent on additional funding					
Final Design	$7,000,000	No funding available.	Start/End dates are TBD and dependent on additional funding					
Construction	$50,000,000	No funding available.	Start/End dates are TBD and dependent on additional funding					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

This Project is on hold due to the unavailability of funding

Metuchen Station

- Coordinating Agency: NJ TRANSIT
- Partner Agency:
- Type: Improvement Project
- Benefit: Sole

Project Information

- **Scope**: This project would extend the existing outbound high-level platform at Metuchen Station by 360 feet. Additional funding is required for design and construction.
- **Justification**: The extended platform will result in smoother passenger boarding and deboarding as well as shorter dwell times.

Funding Information:

Total Project Cost: $57,000,000

Total Expenditure as of 9/30/17: $0

Funding Sources:

- State/Local Funds, $0, State of New Jersey's Transportation Trust Fund (TTF)

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Feasibility/ Conceptual Design	$500,000	Partially funded.	Nov 2013 - Nov 2014					
PE/NEPA	$1,500,000	No funding available.	Start/End dates are TBD and dependent on additional funding					
Final Design	$5,000,000	No funding available.	Start/End dates are TBD and dependent on additional funding					
Construction	$50,000,000	No funding available.	Start/End dates are TBD and dependent on additional funding					

Key

Fully funded or full funding committed/expected

Partially funded or partial funding committed

Unfunded or funding targeted but not committed

General Notes

This Project is on hold due to the unavailability of funding

Mid-Line Loop

- Coordinating Agency: NJ TRANSIT
- Partner Agency: Amtrak
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project would construct a new above-grade connection between existing and planned train storage facilities and the NY-bound local track of the NEC. The crossover would eliminate at-grade movements that create conflicts between commuter and intercity trains. Preliminary engineering is currently underway. Additional funding is required for final design and construction.
- **Justification**: The Mid-line Loop will eliminate at-grade movements that create conflicts between commuter and intercity trains. In doing so, this new infrastructure will open up capacity for all users while improving reliability for NJ TRANSIT services that today must wait for a slot to open before they can cross tracks to begin New York-bound service. The capacity created will help enable the New Jersey High-Speed Rail Program's goal of 160-mph speeds on Acela, as well as support future express service patterns planned by NJ TRANSIT.

Funding Information:

Total Project Cost: $350,000,000

Total Expenditure as of 9/30/17: $5,461,000

Funding Sources:

- State/Local Funds, $5,375,000, State of New Jersey's Transportation Trust Fund (TTF)
- Other, $86,000, NJ TRANSIT Operating Funds

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
PE/NEPA	$5,461,000	Fully funded.	Sep 2013 - Feb 2017					
Final Design	$44,539,000	No funding available.	2018 - 2019					
Construction	$300,000,000	No funding available.	2019 - 2022					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Preliminary 30% Design activities on the project were terminated in 2014. If funding is eventually allocated to the project the PE activities will commence again.

New Brunswick Station

- Coordinating Agency: NJ TRANSIT
- Partner Agency: Amtrak
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project would extend the current eastbound platform at New Brunswick Station by approximately 230 feet. Additional funding is required to design and construct an extension of the westbound platform and upgrade customer amenities at the station. The station is slated to undergo significant rehabilitation of its exterior brick façade; installation of new lighting, windows, HVAC system, and escalator; and painting.
- **Justification**: This major commuter rail station on NJ TRANSIT's NEC Line is in need of repairs in order to lengthen the useful life of the facility and to contain the cost to maintain the station.

Funding Information:

Total Project Cost: $21,791,000

Total Expenditure as of 9/30/17: $4,685,000

Funding Sources:

- State/Local Funds, $7,861,000, State of New Jersey's Transportation Trust Fund (TTF)
- Other Federal Grant, $9,930,000, NJ TRANSIT Operating Funds
- Other Federal Grant, $4,000,000, Federal Highway Administration Grant

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Feasibility/ Conceptual Design	$600,000	Phase completed; funding has been expended.	May 2007 - May 2012					
Final Design	$2,000,000	Fully funded.	Jun 2012 - May 2019					
Construction	$19,191,000	Funding is expected/proposed/targeted.	Dec 2010 - Mar 2022					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

This Project is delineated into 8 separate components. Each has a separate start and completion date for each phase of the Project; New Elevator Tower; Pedestrian Walkway Overpass; Elevator Rehabilitation; Escalator Replacement; Escalator Rehabilitation; NEC Eastbound Extension; Station Repairs and, Soft Costs.

New Jersey HSR Improvement Program

- Coordinating Agency: Amtrak
- Partner Agency: NJ TRANSIT
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: With $450 million in funding from the U.S. Department of Transportation, Amtrak is upgrading its rail infrastructure to support more frequent high-speed rail service and to improve the reliability of current service between New York and Washington. This project will upgrade electrical power, signal systems, tracks and overhead catenary wires along a 23-mile section of track between Trenton and New Brunswick, New Jersey. Amtrak is upgrading 24 miles of rail infrastructure to support faster, more reliable and more frequent service for all NEC users. The project will overhaul power supply systems, signal systems, track infrastructure, and overhead catenary wire between Trenton and New Brunswick, NJ. Modern infrastructure will allow Acela services to reach 160 mph, their highest speed anywhere on the NEC.
- **Justification**:

Funding Information:

Total Project Cost: $500,000,000

Total Expenditure as of 9/30/17: $441,443,668

Funding Sources:

- ARRA/HSIPR Grant, $449,944,000
- Non-BCC Amtrak Funds, $49,203,200

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Final Design	$0		Aug 2011 - Aug 2016					
Construction	$57,703,532	Fully funded.	Aug 2012 - Aug 2019					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Newark Penn Station Platform Rehabilitation

- Coordinating Agency: Amtrak
- Partner Agency: NJ TRANSIT
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project involves improvements to the condition, appearance and functionality on Platforms A, B, C and D in Newark Penn Station. Both Amtrak and NJ TRANSIT have responsibility to maintain to a state of good repair. To date, work on Platform E has been completed. This scope of this project includes the design and rehabilitation of Platforms A, B, C, and D; their roof/ canopy structures; and any other repairs deemed necessary by the initial structure assessment. The results of the structural assessment, which is planned to begin in FY17, may lead to a revised project scope and cost.
- **Justification**: The project would create a safer platform environment and boarding conditions for passengers by bringing station areas to a state of good repair and into compliance with USDOT regulations. Due to expansion issues that have occurred over time, the joints at level-boarding platforms are buckling. In many cases, the expansion joints correspond to skewed bearing locations on the viaduct below, complicating the issues at the expansion joints. This project would improve safety and accessibility for all commuters, including physically challenged customers that board and deboard both Amtrak and NJ TRANSIT trains.

Funding Information:

Total Project Cost: $123,262,000

Total Expenditure as of 9/30/17: $0

Funding Sources:

- BCCs--Variance Required, $303,000, BCCs used for initial structural assessment of the platforms.

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Structural Assessment	$262,000	Fully funded.	Jul 2017 - Jan 2018					
PE/NEPA	$3,000,000	Partially funded. NJ TRANSIT and PATH proportional funding agreements pending	Jun 2018 - Jun 2019					
Construction	$120,000,000	No funding available. NJ TRANSIT and PATH proportional funding agreements pending	Jun 2020 - May 2022					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

As the owner of the facility, Amtrak has indicated that it will soon be securing the services of a consultant to more fully understand and get a better grasp on the scope and cost of the rehabilitation work needed at Newark Penn Station. Over $32M was expended by NJ TRANSIT to rehabilitate and modernize Platform E alone. Newark Platforms A, B, C and D are also in dire need of a similar upgrade, particularly the platform surfaces which have suffered through degradation over many decades. The estimated cost of this work on the 4 remaining platforms could therefore equal over $130M (minimum). This estimated cost has therefore been proportioned over the 5 year period noted above.

NJ TRANSITGRID

- Coordinating Agency: NJ TRANSIT
- Partner Agency: Amtrak
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project will create a microgrid power generation and distribution system as a backup to the regional power network, allowing transit systems to function during storms or other times when the centralized power grid is compromised. NJ TRANSITGRID will incorporate renewable energy, distribution generation, and other technologies to provide resilient power to key NJ TRANSIT stations, maintenance facilities, bus garages, and other buildings. The project will also provide resilient electric traction power to NJ TRANSIT trains on critical corridors, including portions of the NEC, to continue to operate even when the traditional power grid fails.
- **Justification**: Superstorm Sandy highlighted the need for infrastructure improvements to increase the resilience of the region's transit system to withstand another major climatological event. NJ TRANSIT partnered with the U.S. Department of Energy and other agencies to evaluate opportunities to develop an independent power generating system to permit the operation of core train services in the event of power outages. This collaboration resulted in the NJ TRANSIT GRID Project with the intent on constructing a "Microgrid Electric Power Generating System" that will provide a resilient power source to energize portions of the NEC, NJ TRANSIT's Morris & Essex rail line, and the Hudson-Bergen Light Rail. The completion of this project will also provide resilient power at selected rail stations and bus maintenance facilities.

Funding Information:

Total Project Cost: $577,353,000

Total Expenditure as of 9/30/17: $10,294,000

Funding Sources:

- State/Local Funds, $100,252,000, State of New Jersey's Transportation Trust Fund (TTF)
- FTA Formula Grant, $409,764,814, Two FTA Section 5324 Grants
- Other, $67,336,186,

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
PE/NEPA	$4,547,000	Fully funded.	Dec 2014 - May 2017					
Final Design	$4,000,000	Fully funded.	Feb 2017 - Jan 2019					
Construction	$568,806,000	Fully funded.	Mar 2019 - May 2023					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

The project is generally fully funded with a mixture of State, Federal and other local funds

North Brunswick Station

- Coordinating Agency: NJ TRANSIT
- Partner Agency: Amtrak
- Type: Improvement Project
- Benefit: Sole

Project Information

- **Scope**: This project would build a new rail station along the NEC in the town of North Brunswick, NJ. The scope includes the construction of two center island platforms, each approximately 1,020 feet in length to support the NEC's 12-car trains. Also included is a new station building, parking facilities, and all related building systems including public address, security, conveyance, and passenger information systems. Due to its location on the NEC, the construction work will need to be divided over 2 phases. Funding is required for design and construction.
- **Justification**: This project is being coordinated with the planned Mid-Line Loop project. The project is also being advanced with a private real estate developer who intends to convert nearby vacant land into a major residential/ commercial complex.

Funding Information:

Total Project Cost: $75,000,000

Total Expenditure as of 9/30/17: $0

Funding Sources:

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Feasibility/Conceptual Design	$2,000,000	No funding available. Funding and phase information unresolved at this time.	End 2019					
PE/NEPA	$5,000,000	No funding available. Funding and phase information unresolved at this time.	2019 - 2021					
Final Design	$8,000,000	No funding available. Funding and phase information unresolved at this time.						
Construction	$60,000,000	No funding available. Funding and phase information unresolved at this time.						

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

This Project is currently on-hold due to the lack of funding and finalizing agreements with a real estate developer. Funding and phase information unresolved at this time.

North Elizabeth Station

- Coordinating Agency: NJ TRANSIT
- Partner Agency:
- Type: Improvement Project
- Benefit: Sole

Project Information

- **Scope**: This project would rehabilitate the existing high-level concrete platform and replace the tactile warning edge material on both the eastbound and westbound platforms at North Elizabeth Station. Additional funding is required for construction.
- **Justification**: An inspection indicated that there is advanced deterioration of the expansion joints, rub rail, and the concrete deck on both the eastbound and westbound high-level platforms.

Funding Information:

Total Project Cost: $2,000,000

Total Expenditure as of 9/30/17: $24,000

Funding Sources:

- State/Local Funds, $281,000, State of New Jersey's Transportation Trust Fund (TTF)
-

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Final Design	$100,000	Phase completed; funding has been expended.	Nov 2010 - Oct 2011					
Construction	$1,900,000	No funding available.	Jul 2018 - Jun 2019					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

This Project is currently on hold due to the lack of funding

Princeton Junction Station

- Coordinating Agency: NJ TRANSIT
- Partner Agency: Amtrak
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project will install a tactile edge panel at each of the three platforms where passengers load onto trains bound for Trenton and Newark as well as the local Dinky to Princeton. Interim repairs to the platforms will also be undertaken as needed.
- **Justification**: An inspection indicated that there is advanced deterioration of the tactile warning surface in addition to the three platforms themselves. This work will bring the station up to a state of good repair for the benefit of the stations users.

Funding Information:

Total Project Cost: $1,000,000

Total Expenditure as of 9/30/17: $142,000

Funding Sources:

- State/Local Funds, $350,000, State of New Jersey's Transportation Trust Fund (TTF)

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Final Design	$100,000	Phase completed; funding has been expended.	Jul 2011 - Oct 2011					
Construction	$900,000	Partially funded.	Apr 2019 - Dec 2019					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

30th Street to Phil Signals, Catenary and ROW Improvements

- Coordinating Agency: SEPTA
- Partner Agency: Amtrak
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: Reconfiguration and rebuilding of Regional Rail signals, track, catenary, and interlockings from 30th Street Station to Phil Interlocking (in University City). Work includes new track special work, Overhead Contact Systems (OCS), and switch and lock mechanisms, as well as the addition of new Positive Train Control (PTC) systems. The existing signal block layout will be modified. Design and construction will progress in phases with construction outages scheduled for the summer of 2018 and 2019. Once the project is complete, SEPTA will assume maintenance responsibility for Amtrak's tracks on a segment where SEPTA is the sole operator.
- **Justification**: The project will repair assets that are beyond their useful life and improve system reliability.

Funding Information:

Total Project Cost: $45,900,000

Total Expenditure as of 9/30/17: $9,651,512

Funding Sources:

- State/Local Funds, $45,900,000,
-

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Construction	$39,890,000	Fully funded. Funding is programmed in FFY 2019-2023 but not obligated.	Mar 2017 - Mar 2020					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

30th Street West Catenary Replacement

- Coordinating Agency: SEPTA
- Partner Agency:
- Type: Improvement Project
- Benefit: Sole

Project Information

- **Scope**: This project will replace and modernize the SEPTA overhead catenary system from 30th Street Station westbound to K and Zoo Interlockings, an area that includes SEPTA's Powelton Yard. Work also includes repairs to aging catenary support structures, foundations, retaining walls, tunnels, and site drainage.
- **Justification**: The project will rehabilitate assets beyond their useful life and improve system reliability.

Funding Information:

Total Project Cost: $77,000,000

Total Expenditure as of 9/30/17: $2,475,651

Funding Sources:

- State/Local Funds, $77,000,000

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Construction	$74,524,348	Fully funded. Funding is programmed in FFY 2019-2023 but not obligated	Sep 2018 - Jul 2021					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Ardmore Station ADA Improvements

- Coordinating Agency: SEPTA
- Partner Agency: Amtrak, Pennsylvania DOT
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project will make ADA improvements to Ardmore Station on SEPTA's Paoli/Thorndale Regional Rail Line and Amtrak's Keystone Corridor to make the station fully ADA compliant. The project includes a new station building, high-level platforms, modifications to the existing pedestrian tunnel, new canopies and passenger shelters, and site and circulation improvements. There is a separate project for construction of a parking garage at the station (see Ardmore Station Parking Improvements in the Northeast Corridor Capital Investment Plan Fiscal Years 2019-2023). SEPTA currently leases this station from Amtrak.
- **Justification**: The project will make the station fully accessible as well as improve the customer experience and bring the station into a state of good repair.

Funding Information:

Total Project Cost: $36,290,000

Total Expenditure as of 9/30/17: $3,823,655

Funding Sources:

- Other Federal Grant, $5,800,000, FTA Earmark
- FTA Formula Grant, $14,900,000
- State/Local Funds, $14,600,000

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Construction	$30,674,385	Fully funded. Construction funding is fully programmed and partially obligated.	Mar 2019 - Oct 2021					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Ardmore Station Parking Improvements

- Coordinating Agency: SEPTA
- Partner Agency: Pennsylvania DOT, Amtrak
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project will improve parking at Ardmore Station on SEPTA's Paoli/ Thorndale Regional Rail Line and Amtrak's Keystone Corridor. The project includes the construction of a parking garage and is currently unfunded. SEPTA currently leases this station from Amtrak.
- **Justification**: This project will enhance opportunities for use of SEPTA's Paoli/ Thorndale Regional Rail Line and Amtrak's Keystone Corridor.

Funding Information:

Total Project Cost: $26,051,090

Total Expenditure as of 9/30/17: $0

Funding Sources:

- Funding is programmed for this project starting in FY28. If funding is made available earlier then the project can be advanced sooner.

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
PE/NEPA	$2,500,000	No funding available.	Jul 2020 - Dec 2021					
Construction	$23,551,090	No funding available.	Jun 2022 - Dec 2024					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Exton Station - Bus & Parking Improvements

- Coordinating Agency: SEPTA
- Partner Agency: Amtrak, Pennsylvania DOT
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: The project includes the construction of a circulation bus loop with shelters and a fully accessible, multi-level parking garage with pathways to the station.
- **Justification**: The project will promote multimodal connections by adding parking to the station, which is currently at capacity, and providing seamless access to the station for transit buses and circulator shuttles.

Funding Information:

Total Project Cost: $39,500,000

Total Expenditure as of 9/30/17: $0

Funding Sources:

- , $0, Funding is programmed for this project starting in FY 2024. If funding is made available earlier then the project can be advanced sooner.

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Final Design	$4,026,500	No funding available. Funding is programmed for this project starting in FY 2024. If funding is made available earlier then the project can be advanced sooner.	Oct 2019 - Mar 2021					
Construction	$35,473,500	No funding available. Funding is programmed for this project starting in FY 2024. If funding is made available earlier then the project can be advanced sooner.	Jul 2021 - Jun 2024					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Exton Station Improvements

- Coordinating Agency: SEPTA
- Partner Agency: Pennsylvania DOT, Amtrak
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project will implement overall station improvements to Exton Station on SEPTA's Paoli/Thorndale Regional Rail Line and Amtrak's Keystone Corridor and will provide full-length high-level boarding. Work includes construction of high-level boarding platforms, ramps and stairs, a new station building, new canopies, and shelters. The project will bring the station to a state of good repair and make the station ADA compliant. SEPTA currently leases this station from Amtrak.
- **Justification**: The project will provide improved station accessibility as well as improve the customer experience and bring the station into a state of good repair. It will also improve environmental conditions by managing stormwater in a sensitive area.

Funding Information:

Total Project Cost: $24,200,000

Total Expenditure as of 9/30/17: $10,982,762

Funding Sources:

- FTA Formula Grant, $11,300,000,
- State/Local Funds, $12,100,000,

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Construction	$22,540,000	Fully funded. Funding in FY 2019-2023 is programmed but not obligated	Jun 2015 - Dec 2018					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Frazer Rail Shop and Yard Upgrade

- Coordinating Agency: SEPTA
- Partner Agency:
- Type: Improvement Project
- Benefit: Sole

Project Information

- **Scope**: This project will make significant renovations and expand the Frazer Rail Shop and Yard facilities. SEPTA is in the process of procuring new locomotives and a fleet of multi-level cars for the Regional Rail System and needs these investments to accommodate the increased fleet size. The initial phase will include significant earthwork and stormwater improvements at the 40-acre site to create space for additional yard tracks. Additional phases of work will include extending three existing storage tracks and adding three new storage tracks; major upgrades to the repair shop and equipment, including the wheel truing machine and drop table; construction of a shop extension, new cleaning track, vehicle washer building, and yardmaster building; and utility upgrades. Also, the roof will be upgraded and mechanical equipment and electrical connections will be replaced.
- **Justification**: The project will allow for the storage and maintenance of SEPTA's new rolling stock to accommodate Southeastern Pennsylvania's increasing demand for regional rail service, which has been consistently growing over the last decade.

Funding Information:

Total Project Cost: $139,000,000

Total Expenditure as of 9/30/17: $34,645,983

Funding Sources:

- State/Local Funds, $139,000,000

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Construction	$127,600,000	Fully funded. FFY 2019-2023 funding is programmed but not obligated.	Mar 2016 - Sep 2022					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Harrisburg Line - 3rd Track Paoli to Frazer

- Coordinating Agency: SEPTA
- Partner Agency: Amtrak, Pennsylvania DOT
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project would reinstall a third track on the 4-mile segment from Paoli to Frazer. In addition to the track work, the project will include overhead contact system (OCS), signal, interlocking modifications, and right-of-way work all of which is needed to operate on the new track. All work will occur in the existing right-of-way. This project is an estimated $50 million unfunded need.
- **Justification**: The project will improve operational efficiency.

Funding Information:

Total Project Cost: $50,000,000

Total Expenditure as of 9/30/17: $0

Funding Sources:

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
PE/NEPA	$2,000,000	No funding available.	Jan 2019 - Dec 2019					
Final Design	$3,000,000	No funding available.	Jan 2020 - Oct 2020					
Construction	$40,000,000	No funding available.	Mar 2021 - Mar 2023					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Harrisburg Line – Upgrade Track 2, Glen to Thorn (MP 25.3 to 35.0) & Glenside Interlocking

- Coordinating Agency: SEPTA
- Partner Agency: Amtrak, Pennsylvania DOT
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: The Upgrade of Track 2 on Amtrak's Keystone Corridor and SEPTA's Paoli/Thorndale Regional Rail Line from Glen to Thorn (MP 25.3 to 35.0) will restore the track to FRA Class 3 standards with a maximum authorization speed minimum of 45 miles per hour. Improvements to Glen Interlocking at MP 25.3 include the addition of a turnback that will allow for an eastbound move from Track 1 to Track 2.
- **Justification**: The Upgrade of Track 2 and Improvements to Glen Interlocking will reduce congestion on the corridor, which is particularly important as SEPTA is in the process of expanding its Frazer Yard to accommodate additional trains. Upgrading the track will return it to a state of good repair and allow for faster deadhead moves between Frazer and Thorndale thereby reducing the number of trains using Track 4. Improvements to Glen Interlocking will eliminate the need to deadhead to Downs Interlocking in order to access Frazer Yard.

Funding Information:

Total Project Cost: $9,250,000

Total Expenditure as of 9/30/17: $0

Funding Sources:

- SEPTA anticipates including the Upgrade of Track 2 in its FY 2019 Capital Budget and 12-year program.

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Final Design	$989,250	Funding is expected/proposed/targeted. SEPTA anticipates including the Upgrade of Track 2 in its FY 2019 Capital Budget and 12-year program.	Jul 2018 - Dec 2018					
Construction	$8,260,750	Funding is expected/proposed/targeted. SEPTA anticipates including the Upgrade of Track 2 in its FY 2019 Capital Budget and 12-year program.	Jan 2019 - Jun 2020					
Construction	$2,500,000	No funding available. No funding is available or planned for the Glen Interlocking Improvements.	Jan 2019 - Jun 2020					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Harrisburg Line - Zoo to Thorndale OCS Replacement & ROW Clearing

- Coordinating Agency: SEPTA
- Partner Agency: Amtrak, Pennsylvania DOT
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project would replace and upgrade the overhead contact system (OCS) and right-of-way (ROW) clearing along SEPTA's Paoli/Thorndale Regional Rail Line and Amtrak's Keystone Corridor from Zoo to Thorndale. This project is an estimated $200 million unfunded need.
- **Justification**: The project will rehabilitate assets beyond their useful life and improve system reliability.

Funding Information:

Total Project Cost: $200,000,000

Total Expenditure as of 9/30/17: $0

Funding Sources:

By Capital Delivery Phase:

Phase	Cost Estimate	Notes	Schedule	Five Year Look Ahead				
				FY19	FY20	FY21	2022	FY23
Feasibility/ Conceptual Design	$2,000,000	No funding available.	Oct 2019 - Mar 2020					
PE/NEPA	$1,000,000	No funding available.	Mar 2020 - Dec 2020					
Final Design	$18,000,000	No funding available.	Jan 2021 - Jun 2022					
Construction	$179,000,000	No funding available.	Jul 2022 - Dec 2025					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Harrisburg Line - Zoo to Thorndale Signal Upgrade

- Coordinating Agency: SEPTA
- Partner Agency: Amtrak, Pennsylvania DOT
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: PennDOT, Amtrak and SEPTA are coordinating and partnering on multi-phased signal improvements to Amtrak's Keystone Line and SEPTA's Paoli/Thorndale Line. Ultimately, this project will provide for implementation of bi-directional signaling (Rule 261 or 562 depending on the location) from Zoo to State Interlockings. The project budget below reflects the cost from Zoo to Thorndale, which is SEPTA's service area. PennDOT, in coordination with Amtrak and SEPTA, has completed or initiated design on the signal system from Zoo to Paoli. The cost to complete this project includes finalizing design and construction. This is $50 million unfunded need.
- **Justification**: The project will rehabilitate infrastructure that is beyond its useful life and functionally obsolete. In addition, the project will provide significant enhancements to operations by allowing for bi-directional train movements.

Funding Information:

Total Project Cost: $50,000,000

Total Expenditure as of 9/30/17: $0

Funding Sources:

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
PE/NEPA	$2,000,000	No funding available.	Oct 2019 - Mar 2020					
Final Design	$2,500,000	No funding available.	Mar 2020 - Jan 2021					
Construction	$45,500,000	No funding available.	May 2021 - Jun 2024					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Harrisburg Line Interlocking Improvements

- Coordinating Agency: Pennsylvania DOT
- Partner Agency: Amtrak, SEPTA
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: Recognizing that the interlockings on Amtrak's Keystone Corridor and SEPTA's Paoli/Thorndale Regional Rail Line have far exceeded their useful life and are functionally obsolete, PennDOT, in coordination with SEPTA and Amtrak, advanced a comprehensive conceptual design effort to evaluate and reconfigure the system of interlockings along the Line. The purpose of the conceptual design was to determine how to address the infrastructure condition and functionality to achieve both a state of good repair and optimal service performance on the highly utilized segment of the Keystone Corridor. Through an advanced conceptual design effort, which was last updated in 2015, PennDOT, Amtrak and SEPTA agreed that the following infrastructure replacements or reconfiguration would best support current and future growth along the corridor, as described below. Following the conceptual design phase, PennDOT led preliminary engineering of all interlockings and final design of Zoo Interlocking in coordination with Amtrak and SEPTA. Additional funding is needed to advance these critical infrastructure projects to construction. Zoo Interlocking: Modernize and reconfigure. Final design complete. Wynnfield Interlocking: Build new interlocking to replaces the existing Overbook Interlocking. Preliminary engineering complete. Villa / Nova Interlockings: Build new split Interlocking that replaces the existing Bryn Mawr Interlocking. Preliminary engineering complete. Paoli Interlocking: Modernize and reconfigure. Preliminary engineering complete. Potts Interlocking: New interlocking. Preliminary engineering complete. Baily Interlocking: New interlocking to replace Thorn and Caln Interlockings. Preliminary engineering complete.
- **Justification**: This project is a state of good repair initiative that will improve operational efficiencies by replacing or reconfiguring the functionally obsolete interlockings on Amtrak's Keystone Corridor and SEPTA's Paoli/Thorndale Line. Having far exceeded their useful, the interlockings currently in operation are outdated, which prohibits the most efficient and timely use of the interlocking and challenges reliability. The current interlocking configuration is no longer able to effectively support the ridership demands on the Line. SEPTA's Paoli/Thorndale Line is the highest ridership line on SEPTA's Regional Rail Network and provides over 7.9 million trips annually. Ridership has continually increased and trains are frequently operating at capacity or over capacity. To support existing and future ridership growth, SEPTA must enhance service. SEPTA's ability to enhance or alter service is stymied by the limitations of the existing interlockings. In order to address the ridership demand faced by both SEPTA and Amtrak, new interlockings are needed.

Funding Information:

Total Project Cost: $465,000,000

Total Expenditure as of 9/30/17: $0

Funding Sources:

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Final Design	$13,000,000	No funding available.	Oct 2018 - Dec 2019					
Construction	$452,000,000	No funding available. Zoo Interlocking is fully designed and can begin once funding is identified.	Oct 2018 - Dec 2028					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Harrisburg Line Station Improvements

- Coordinating Agency: Pennsylvania DOT
- Partner Agency: Amtrak, Federal Transit Administration
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project will eventually modernize virtually all of the Amtrak stations along the Harrisburg Line. PennDOT is leading construction of four new stations at Middletown, Mount Joy, Coatesville, Parkesburg, and Downingtown. All of the new stations will provide ADA access with high-level boarding platforms, improved/expanded parking, and multimodal connections. These projects will improve the passenger experience and lead to community and economic development. Middletown, Mount Joy, and Coatesville are fully funded while Parkesburg and Downingtown still requires additional funding for construction.
- **Justification**: These improvements will provide ADA access with high-level boarding platforms and improved parking.

Funding Information:

Total Project Cost: $160,000,000

Total Expenditure as of 9/30/17: $7,277,906

Funding Sources:

- FTA Formula Grant, $110,000,000, Funding Sources: FTA Section 5307 and Section 5337 grants with 20% match from Commonwealth of Pennsylvania

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Construction	$110,000,000	Fully funded.	End 2025					
Construction	$50,000,000	No funding available.	Start 2025					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Completion of station projects is dependent on availability of Amtrak labor. Benefit: Middletown (sole – Amtrak), Mount joy (sole – Amtrak), Coatesville (sole – Amtrak), Parkesburg (sole – Amtrak), Downingtown (shared – Amtrak & SEPTA)

Malvern Station ADA

- Coordinating Agency: SEPTA
- Partner Agency:
- Type: Improvement Project
- Benefit: Sole

Project Information

- **Scope**: Design and construction of high-level platforms and accessibility improvements at Malvern Station on SEPTA's Paoli/Thorndale Regional Rail Line. This station will receive new full length high-level platforms; new passenger shelters; accessible pathways, bike facilities; additional new signage and lighting; stormwater management systems and landscaping.
- **Justification**: The addition of high-level platforms will improve accessibility at Malvern Station.

Funding Information:

Total Project Cost: $15,260,000

Total Expenditure as of 9/30/17: $0

Funding Sources:

- State/Local Funds, $15,260,000,

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
PE/NEPA	$860,000	Funding is expected/proposed/targeted.	Mar 2021 - Dec 2021					
Final Design	$745,000	Funding is expected/proposed/targeted.	Dec 2021 - Jul 2022					
Construction	$13,655,000	Funding is expected/proposed/targeted.	Jan 2023 - Jun 2025					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Paoli Transportation Center - Phase 1 (ADA & Infrastructure)

- Coordinating Agency: Amtrak
- Partner Agency: SEPTA
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project will reconstruct Paoli Intermodal Station on SEPTA's Paoli/Thorndale Regional Rail Line and Amtrak's Keystone Corridor. Phase 1 will make the existing station ADA accessible and include a pedestrian overpass with elevators connecting to parking lots and a new high-level center platform. The outbound parking areas will be reconfigured and pedestrian linkages will be provided throughout the station area such as sidewalks and crosswalks. The project will also include changes to the railroad infrastructure as needed to accommodate the work. The construction cost for Phase 1 is approximately $41 million. SEPTA is contributing 2/3 of the project costs and Amtrak is providing 1/3 of the project costs.
- **Justification**: The project will make the station fully accessible as well as improve the customer experience and bring the station into a state of good repair.

Funding Information:

Total Project Cost: $51,020,000

Total Expenditure as of 9/30/17: $11,022,950

Funding Sources:

- Other, $40,779,200, 1/3 covered by Amtrak GCAP, 2/3 by SEPTA

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Construction	$39,996,301	Fully funded.	Dec 2017 - Apr 2019					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Paoli Transportation Center - Phase 2

- Coordinating Agency: SEPTA
- Partner Agency: Amtrak, Pennsylvania DOT
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project would reconstruct Paoli Intermodal Station on SEPTA's Paoli/Thorndale Regional Rail Line and Amtrak's Keystone Corridor. Phase 1 will make the existing station ADA accessible and include a pedestrian overpass with elevators connecting to parking lots and a new high-level center platform (see Paoli Transportation Center - Phase 1). Phase 2 includes an intermodal station complex complete with an additional high-level platform on the outbound side, waiting area and passenger amenities; enhanced bus facilities; and a parking garage. Completion of the complementary Darby Road Bridge Improvements project by PennDOT is required prior to advance of Phase 2 construction. SEPTA leases the station from Amtrak.
- **Justification**: The project will improve accessibility, passenger amenities and intermodal connections. In addition, the new parking garage will provide opportunities for more passengers to access SEPTA and Amtrak service.

Funding Information:

Total Project Cost: $51,200,000

Total Expenditure as of 9/30/17: $0

Funding Sources:

- State/Local Funds, $0, Funding is programmed for this project starting in FY23. If funding is made available earlier than the project can advance sooner. The schedule below is the amount needed to advance the project sooner.

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
PE/NEPA	$2,750,000	No funding available.	Jan 2021 - Dec 2021					
Final Design	$2,250,000	No funding available.	Jan 2022 - Dec 2022					
Construction	$46,200,000	No funding available.	Jun 2023 - Dec 2025					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Philadelphia 30th Street Station District Plan Implementation

- Coordinating Agency: Amtrak
- Partner Agency: SEPTA
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project includes immediate and long-term improvements to passenger and rail facilities. Work currently underway includes the completion of a comprehensive assessment of state of good repair needs, advancing the conceptual design of key station improvement projects and focusing on design projects to enhance the customer experience and expanding capacity of concourse to accommodate anticipated growth in Amtrak ridership. As established in the Philadelphia 30th Street Station District Plan, the plan for the station is multi-phased and incremental strategy designed to enable sustainable operational growth of 30th Street Station, while unlocking the development potential of the real estate assets over the course of a 35-year horizon. The next key project milestone is a two-phased master developer procurement process that will identify a master development partner to assist Amtrak with implementing state of good repair improvements, developing commercial assets, and maximizing the overall value of 30th Street Station.
- **Justification**: Philadelphia 30th Street Station is Amtrak's third busiest station in the nation and Pennsylvania's busiest intermodal station serving Amtrak, Southeastern Pennsylvania Transportation Authority (SEPTA) and NJ TRANSIT. Heavy utilization of the station coupled with deferred maintenance has left 30th Street Station in a state of disrepair. An estimated growth of 3.5 percent in annual ridership will stress state of good repair issues and push the station beyond its operating capacity unless the station is adapted to accommodate this growth.

Funding Information:

Total Project Cost: $517,000,000

Total Expenditure as of 9/30/17: $5,148,269

Funding Sources:

- Non-BCC Amtrak Funds, $11,964,433,

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Feasibility/ Conceptual Design	$2,877,522	Fully funded.	Jun 2014 - Sep 2016					
Feasibility/ Conceptual Design	$8,795,747	Fully funded.	Oct 2016 - Sep 2018					
Finalize Feasibility/ Design	$5,000,000	Partially funded.	Oct 2018 - Dec 2020					
Final Design	$150,000,000	No funding available.	Jan 2021 - Jan 2035					
Construction	$350,000,000	No funding available.	Jan 2035 - Jan 2050					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Milestones above are for overall master plan implementation. Additional milestones for overall master plan implementation are TBD.

Villanova Station Improvements

- Coordinating Agency: SEPTA
- Partner Agency:
- Type: Improvement Project
- Benefit: Sole

Project Information

- **Scope**: This project will modernize Villanova Station on SEPTA's Paoli/Thorndale Regional Rail Line. Work includes high-level platforms with canopies, a new pedestrian underpass with ramps and stairs, station building exterior improvements, parking lot modifications, stormwater management, and new signage, lighting, passenger amenities, and landscaping. The improvements will make the station fully ADA accessible. The project will be advanced in phases. Phase 1 activities will improve station accessibility, through the construction of a new pedestrian tunnel with access ramps and stairs, and modify the parking lot to improve stormwater management. Phase 2 will build high-level platforms, canopies, and an improved station building. SEPTA currently leases this station from Amtrak.
- **Justification**: The project will make the station fully accessible as well as improve the customer experience and bring the station into a state of good repair.

Funding Information:

Total Project Cost: $32,200,000

Total Expenditure as of 9/30/17: $12,352,560

Funding Sources:

- Other Federal Grant, $5,400,000, FTA Earmark
- State/Local Funds, $26,800,000,

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Phase 1 Construction	$12,900,000	Funding is expected/proposed/targeted. FFY 2019-2023 funding is programmed but not obligated.	Apr 2016 - Dec 2018					
Phase 2 Construction	$10,450,000	Funding is expected/proposed/targeted. Phase 2 is currently programmed in FFY 2024 and no funding is obligated. Should funding become available, this project can be advanced earlier.	Jan 2025 - Jun 2028					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

West Barracks Yard

- Coordinating Agency: SEPTA
- Partner Agency:
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project would construct West Barracks Yard, a new storage facility north of Trenton Station in New Jersey for SEPTA equipment. SEPTA is currently without a storage facility in Trenton and stores trains on station tracks and runs empty trains between Trenton, NJ and Philadelphia, PA. A yard would increase storage capacity, reduce operating costs, and open track and platform space for SEPTA, NJ TRANSIT, and Amtrak. This project is a $27 million unfunded need.
- **Justification**: This project would allow storage of rail cars outside of flood prone areas and is a cost-effective means to mitigate the risk of damage and allows a quicker turn around for trains, improving operational efficiency and reducing the operational cost of dead heading trains.

Funding Information:

Total Project Cost: $34,300,000

Total Expenditure as of 9/30/17: $203,007

Funding Sources:

- State/Local Funds, $270,000, SEPTA funded the feasibility and conceptual design but no funding is identified for engineering and construction.
- $34,030,000

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Final Design	$325,000	No funding available.	Jan 2019 - Oct 2020					
Construction	$33,300,000	No funding available.	Oct 2020 - Oct 2023					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Special Projects: Delaware (Improvement)

Claymont Regional Transportation Center

- Coordinating Agency: Delaware DOT
- Partner Agency:
- Type: Improvement Project
- Benefit: Sole

Project Information

- **Scope**: This project will replace the existing Claymont, DE train station. The new station will be located north of the current site to the former Evraz Steel Site in Claymont, Delaware. It will meet all current ADA standards, with two high-level platforms and a pedestrian overpass over the NEC. The new station will be a multi-modal transportation center with improved access for bus transit, bicycles, and pedestrians as well as added parking capacity.
- **Justification**: The current Claymont Station does not meet current accessibility standards although it is ADA compliant in the form of wheel chair lifts to a tunnel under the NEC and mini-high platforms. The tunnel has a flooding risk because of the high water table. The station is also located on a curve of the NEC causing trains to sit at an angle which is not an optimal situation for loading and unloading trains. In addition the 504 parking spaces at are capacity and vehicular and transit access to the station are congested. The project is also coordinated with redevelopment of the former industrial site and will spark economic activity.

Funding Information:

Total Project Cost: $45,612,000

Total Expenditure as of 9/30/17: $762,297

Funding Sources:

- Other Federal Grant, $10,000,000, TIGER 2016
- State/Local Funds, $18,770,000
- FTA Formula Grant, $16,830,000

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
PE/NEPA	$1,000,000	Fully funded.	Jan 2016 - Mar 2018					
Final Design	$2,000,000	Fully funded.	Apr 2018 - Aug 2018					
Construction	$42,600,000	Fully funded.	Dec 2018 - Dec 2020					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Delaware Third Track Program

- Coordinating Agency: Delaware DOT
- Partner Agency: Amtrak
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project will increase capacity for intercity and commuter service between Wilmington and Newark, DE by eliminating a current two-track bottleneck and thereby restoring a third track through most of the state. This joint Amtrak/Delaware DOT project is funded by a combination of federal and state sources.
- **Justification**: This project will remedy a choke point south of Wilmington, DE where the NEC, otherwise three tracks, has only two crossing a bridge over Mill Creek. A former third track was removed during NECIP and is being restored to provide capacity and service reliability for intercity and commuter service.

Funding Information:

Total Project Cost: $49,000,000

Total Expenditure as of 9/30/17: $32,600,000

Funding Sources:

- FTA Formula Grant, $14,700,000
- ARRA/HSIPR Grant, $13,300,000
- Other, $13,000,000, FHWA
- State/Local Funds, $8,000,000, Transportation Trust Fund

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Construction	$36,491,600	Fully funded.	Jul 2013 - Jul 2019					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Newark (DE) Regional Transportation Center

- Coordinating Agency: Delaware DOT
- Partner Agency: SEPTA
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project will construct an updated Regional Transportation Center in Newark, DE that will increase capacity and support additional SEPTA service between Newark and Wilmington, DE. The project includes construction of a new station house, a new platform, a new freight track connection, and a new pedestrian bridge so passengers are not forced to cross an active track. The project will make the station ADA-compliant, eliminate conflicts with freight operations, and permit expansion of regional and commuter service. This project is funded by a combination of federal, state, and local sources.
- **Justification**: Existing station is outdated, non-ADA-compliant, and Amtrak passengers are forced to board/disembark across an active track. The new station will remedy these flaws, serve an adjacent major commercial/industrial park, eliminate conflicts with freight operations, and permit expansion of regional and commuter service.

Funding Information:

Total Project Cost: $57,000,000

Total Expenditure as of 9/30/17: $9,700,000

Funding Sources:

- ARRA/HSIPR Grant, $10,000,000, TIGER IV
- FTA Formula Grant, $11,000,000,
- State/Local Funds, $36,000,000, State, County, City

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
PE/NEPA	$0	.	Jul 2013 - Dec 2015					
Final Design	$0	.	Dec 2015 - Apr 2018					
Construction	$27,800,000	Fully funded.	Jul 2017 - May 2021					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Wilmington Maintenance of Equipment Facility - Complex Replacement

- Coordinating Agency: Amtrak
- Partner Agency:
- Type: Improvement Project
- Benefit: Sole

Project Information

- **Scope**: This project would fully replace the Maintenance of Equipment Repair Shop (Buildings 1 & 2) at the Amtrak Maintenance Complex in Wilmington, DE. The project has completed the 30% design phase, and additional funding is needed to complete design work and construct the facilities.
- **Justification**: As the Repair Shop has exceeded it's life expectancy, this state-of-good-repair project is necessary for proper maintenance of Amtrak's maintenance-of-way equipment and would also allow Amtrak to relocate off-site materials management function.

Funding Information:

Total Project Cost: $112,200,000

Total Expenditure as of 9/30/17: $692,000

Funding Sources:

- Non-BCC Amtrak Funds, $5,000,000

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Final Design	$1,500,000	Fully funded. $692,000 was spent under Burns Engineering but this contract was cancelled and an NTP with another firm is imminent.	Sep 2014 - Mar 2019					
Construction	$110,000,000	No funding available.	Oct 2019 - Jan 2022					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Amtrak has cancelled the design contract with the engineering firm due to a contract issue, and has issued a new RFP to design firms to complete the Design. Amtrak has reviewed and qualified these design firms' proposals and is awaiting Procurement to issue a new design firm contract to complete the design; this work is expected to start in re-commence in February 2018.

Special Projects: Maryland (Major Backlog)

Baltimore & Potomac Tunnel Replacement

- Coordinating Agency: Amtrak
- Partner Agency: Maryland DOT
- Type: Major Backlog Project
- Benefit: Shared

Project Information

- **Scope**: This project would replace the aging B&P Tunnel, a key chokepoint where the right-of- way is reduced from four to two tracks and the tunnel's tight curvature require trains to reduce speeds to 30 mph. The existing tunnel is in need of constant monitoring and maintenance at high cost. This project would replace the existing two-track tunnel with a new four-track tunnel (as four single track bores) on an improved alignment. Preliminary engineering and environmental review were funded by a $60 million High-Speed Intercity Passenger Rail (HSIPR) grant and the FRA issued the Record of Decision on March 24, 2017. Additional funding is required for final design and construction.
- **Justification**: Built in 1873, the existing two-track tunnel is nearing the end of its useful life. Improvements are required in order to maintain operations through this section of Baltimore and additional tracks are needed to meet future demand.

Funding Information:

Total Project Cost: $4,300,000,000
Project in early stages of development. Cost estimates are preliminary.

Total Expenditure as of 9/30/17: $42,913,679

Funding Sources:

- ARRA/HSIPR Grant, $43,500,000
- Non-BCC Amtrak Funds, $5,750,000, Amtrak GCAP FY17
- Other, $1,182,389, SAFETEA-LU funding for inspection of existing tunnel.
- Non-BCC Amtrak Funds, $11,500,000, Amtrak FY18 Capital

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
PE/NEPA	$42,913,679	Fully funded.	Apr 2011 - Oct 2017					
Final Design	$100,000,000	Partially funded. Partial funding: $11.5M Amtrak GCAP in FY18. Project in early stages of development. Cost estimates are preliminary.	Oct 2017 - Dec 2021					
Construction	$4,155,282,611	No funding available. Project in early stages of development. Cost estimates are preliminary.	Oct 2020 - Dec 2032					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Given the importance of the project, Amtrak has allocated a portion of its limited resources to keep advancing the design, but at a slower pace than what could be achieved with proper funding. Amtrak does not have the resources to commit to construction.

Bush River Bridge Replacement

- Coordinating Agency: Amtrak
- Partner Agency: Maryland DOT
- Type: Major Backlog Project
- Benefit: Shared

Project Information

- **Scope**: This project would replace the half-mile long Bush River Bridge connecting Edgewood and Perryman, Maryland that was completed in 1913 and currently carries Amtrak, MARC commuter, and Norfolk Southern freight trains. Planning and design for a replacement bridge would explore constructing a new fixed bridge with enough clearance to allow boats to pass below, significantly improving mobility for both maritime and rail traffic. Planning would also consider options for providing additional capacity for intercity, commuter, and freight railroad operations. No funding is available for advancing any aspect of this project.
- **Justification**: Service reliability is under threat due to aging bridge components, which require continued maintenance. During the peak season, over twenty employees are required to open the bridge for passing boats using antiqued mechanisms to open and close the overhead power supply catenary wires and to manually unbolt the tracks. Bridge opening and closing failures can be highly disruptive. For example, a failed bridge closure in 2012 caused a 10-hour delay for all NEC traffic between New York and Washington, DC.

Funding Information:

Total Project Cost: $400,000,000

Total Expenditure as of 9/30/17: $0

Funding Sources:

By Capital Delivery Phase:

Note that this project is not scheduled to start within the FY19-23 timeframe.

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Feasibility/ Conceptual Design	$5,000,000	No funding available.	2024 - 2027					
PE/NEPA	$15,000,000	No funding available.	2024 - 2027					
Final Design	$25,000,000	No funding available.	2026 - 2028					
Construction	$355,000,000	No funding available.	2028 - 2031					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Gunpowder River Bridge Replacement

- Coordinating Agency: Amtrak
- Partner Agency: Maryland DOT
- Type: Major Backlog Project
- Benefit: Shared

Project Information

- **Scope**: This project would replace the Gunpowder River Bridge, an approximately one-mile long crossing between Chase and Joppa, MD. It carries Amtrak, MARC commuter, and Norfolk Southern freight trains. Design options for consideration include a higher-capacity four-track bridge that would increase service potential and reliability for Amtrak, MARC, and freight service. Potential for a separate freight track would also be examined as part of the plan, which would facilitate freight service at all times of day. No funding is available for design or construction.
- **Justification**: The existing Gunpowder River Bridge was completed in 1913. Worsening infrastructure conditions have led to more intensive maintenance and costs. Freight trains are restricted to nighttime operations over the bridge, as the two tracks are at capacity during normal passenger rail operating hours.

Funding Information:

Total Project Cost: $550,000,000

Total Expenditure as of 9/30/17: $0

Funding Sources:

By Capital Delivery Phase:

Note that this project is not scheduled to start within the FY19-23 timeframe.

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Feasibility/ Conceptual Design	$5,000,000	No funding available.	2024 - 2027					
PE/NEPA	$15,000,000	No funding available.	2024 - 2027					
Final Design	$25,000,000	No funding available.	2027 - 2028					
Construction	$505,000,000	No funding available.	2028 - 2032					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Susquehanna River Bridge Replacement

- Coordinating Agency: Amtrak
- Partner Agency: Maryland DOT
- Type: Major Backlog Project
- Benefit: Shared

Project Information

- **Scope**: This project would replace the existing two-track movable Susquehanna River Bridge with two modern high-level, fixed structures, each with two tracks. The project would benefit commuter and intercity rail as well as Norfolk Southern, which uses the segment to access the Port of Baltimore. Using a $22 million High-Speed Intercity Passenger Rail (HSIPR) grant, preliminary engineering and environmental review were completed in FY17. Additional funding is required for final design and construction.
- **Justification**: Built in 1906, the existing two-track bridge is nearing the end of its useful life. The current bridge requires trains to reduce speeds for almost a mile due to its condition. A new asset is required in order to maintain operations through this section of Maryland and additional tracks are needed to meet future demand.

Funding Information:

Total Project Cost: $1,707,000,000
Project in early stages of development. Cost estimates are preliminary.

Total Expenditure as of 9/30/17: $12,785,030

Funding Sources:

- ARRA/HSIPR Grant, $12,600,000
- Non-BCC Amtrak Funds, $2,500,000, Amtrak GCAP FY17
- Non-BCC Amtrak Funds, $4,500,000, FY18

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
PE/NEPA	$6,200,000	Fully funded.	2013 - May 2017					
Final Design	$60,000,000	Partially funded. Phase 2 proceeding with extremely limited Amtrak GCAP funding Final design reduced from $120M to $60M. Project in early stages of development. Cost estimates are preliminary.	May 2017 - Oct 2020					
Construction	$1,580,400,000	No funding available. Project in early stages of development. Cost estimates are preliminary.	2024 - 2030					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

PE and NEPA activities were completed in FY17 but there is no funding (federal or otherwise) available for additional phases at this time. The project could theoretically advance to design and construction during FY19-23 but the rate at which work could be accomplished would depend on when additional federal funding is secured, and the magnitude of the additional federal funding.

Special Projects: Maryland (Improvement)

Baltimore Penn Station Infrastructure Improvements

- Coordinating Agency: Amtrak
- Partner Agency: Maryland DOT
- Type: Improvement Project
- Benefit: Sole

Project Information

- **Scope**: This project will construct two additional platforms to support scheduled Acela overtakes of Northeast Regional and MARC trains. The scope includes a new Track 8 (F) platform, including new vertical access and canopy. The Track 3 existing low-level platform will be rebuilt as an accessible high-level facility, including repairs to the existing elevator and stairs. Additional track, signal, and electric traction improvements are also included to support the platform addition and improvement.
- **Justification**: The reconstruction of the existing platform and the construction of a new platform are required to support scheduled increases to the high-speed rail service, specifically overtakes of Northeast Regional and MARC trains in both the southbound and northbound directions.

Funding Information:

Total Project Cost: $43,000,000

Total Expenditure as of 9/30/17: $0

Funding Sources:

- Other, $43,000,000, RRIF Loan

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Feasibility/ Conceptual Design	$500,000	Fully funded.	Mar 2017 - Oct 2017					
PE/NEPA	$500,000	Fully funded.	Oct 2017 - Oct 2018					
Final Design	$1,000,000	Fully funded.	Apr 2018 - Aug 2018					
Construction	$41,000,000	Fully funded.	Jan 2019 - Jan 2021					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Additional scope will be added for new ET structures but will be funded outside of the RRIF loan budget.

Baltimore Penn Station Master Plan

- Coordinating Agency: Amtrak
- Partner Agency: Maryland DOT
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project would provide a comprehensive and integrated approach for Baltimore Penn Station to advance key near-term state-of-good-repair projects while establishing a development framework to leverage under utilized assets and accommodate future growth and redevelopment, potentially through a public private partnership. Additional funding is required for design and construction of improvements.
- **Justification**: Baltimore Penn Station is Amtrak's 8th busiest station serving nearly one million riders and an additional two million commuter passengers each year. The Station is challenged by aging infrastructure that is not conducive modern train operations. Both passenger and employee facilities are in need of improvement, and multimodal connectivity is strained by the station's current configuration. Efforts to advance state-of-good-repair programs, improve rail operations to accommodate additional Acela service, and the pursuit of a private-public partnership for large-scale redevelopment will set the future course to realize Baltimore Penn Station as a vibrant transportation hub interwoven within an integrated mixed-use urban district.

Funding Information:

Total Project Cost: $95,000,000

Total Expenditure as of 9/30/17: $3,142,798

Funding Sources:

- Non-BCC Amtrak Funds, $17,351,000,
- State/Local Funds, $300,000, Total project cost estimate includes non-BCC Amtrak funds, Master Developer and MTA funds.

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Feasibility/ Conceptual Design	$5,000,000	Fully funded.	May 2017 - Feb 2019					
PE/NEPA	$7,651,000	Fully funded.	Mar 2018 - Apr 2019					
Final Design	$9,970,000	No funding available.	Apr 2019 - Apr 2020					
Construction	$72,379,000	No funding available.	Jan 2020 - 2023					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

BWI Thurgood Marshall Airport Station Improvements and 4th Track Project

- Coordinating Agency: Maryland DOT
- Partner Agency: Amtrak
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project would add a fourth track to nine miles of the NEC between the Odenton MARC Station and the Halthorpe MARC Station. Additional improvements would include the construction of a new station and the reconfiguration of the platforms to allow boarding from all four tracks. The current three track layout only allows boarding at the two outside tracks. Additional funding is required for final design and construction.
- **Justification**: The BWI Rail Station is the eighth busiest Amtrak station on the NEC and serves approximately 148 Amtrak and MARC trains each day. The existing track capacity and station configuration does not meet current and future needs. The project would alleviate current and future operational and capacity constraints by doubling the platform capacity at the station and adding nine miles of fourth track in this heavily traveled section of the NEC between Baltimore and Washington, DC.

Funding Information:

Total Project Cost: $544,000,000

Total Expenditure as of 9/30/17: $0

Funding Sources:

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Final Design	$19,000,000	No funding available.	2018 - 2019					
Construction	$525,000,000	No funding available.	Start 2020					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

BWI Thurgood Marshall Airport Station Interim Improvements

- Coordinating Agency: Maryland DOT
- Partner Agency: Amtrak
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project will complete renovation of the existing BWI Thurgood Marshall Airport Station building to provide improved customer service, accessibility, and security. The project involves interior station improvements including new ADA-compliant restrooms; updated interior finishes and lighting; exterior station improvements to windows, the roof, and canopies; and a new pedestrian connector bridge between the north garage to the existing pedestrian bridge over the tracks.
- **Justification**: Station accommodates busy commuters as well as visitors to BWI Thurgood Marshall Airport. Adjacent to the station are access to local bus, taxi, and airport shuttle. A larger station will improve customer service and bring the station into ADA compliance.

Funding Information:

Total Project Cost: $9,502,000

Total Expenditure as of 9/30/17: $100,288

Funding Sources:

- FTA Formula Grant, $6,351,000, Additional funding spent in prior fiscal years.
- State/Local Funds, $3,151,000, Additional funding spent in prior fiscal years.

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
PE/NEPA	$0		Oct 2013 - Jan 2014					
Final Design	$0		Dec 2013 - Oct 2016					
Construction	$7,323,000	Fully funded.	Mar 2018 - May 2019					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Hanson Interlocking

- Coordinating Agency: Maryland DOT
- Partner Agency: Amtrak
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project would improve operational flexibility at New Carrollton station and reduce delays for Amtrak and MARC service. A new interlocking would allow universal moves and reduce conflicts that occur when trains must pass other trains stopped at New Carrollton. Construction of Hanson Interlocking would also advance a state of good repair by allowing for the retirement of aging Landover Interlocking.
- **Justification**: This project will expand capacity and reduce congestion by enabling express and local trains to operate simultaneously in both directions.

Funding Information:

Total Project Cost: $36,600,000

Total Expenditure as of 9/30/17: $1,062,953

Funding Sources:

- FTA Formula Grant, $8,000,000, Additional funding spent in prior fiscal years.
- State/Local Funds, $2,000,000, Additional funding spent in prior fiscal years.
- Non-BCC Amtrak Funds, $26,600,000, Balance of funding required is funded by Amtrak through written agreement for the cost sharing.

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Feasibility/ Conceptual Design	$0	Phase completed; funding has been expended.	Jun 2007 - Jun 2009					
Final Design	$0	Phase completed; funding has been expended.	Jun 2007 - Jul 2009					
Construction	$16,000,000	Fully funded.	Oct 2011 - Dec 2023					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

MARC Station - Bayview

- Coordinating Agency: Maryland DOT
- Partner Agency:
- Type: Improvement Project
- Benefit: Sole

Project Information

- **Scope**: This project would build a new MARC station at Bayview Medical Center in Baltimore with two high-level platforms, a pedestrian access bridge and elevators, as well as associated track, signal, and catenary infrastructure investments between Bay and Point Interlockings. Additional funding is required for design and construction.
- **Justification**: A new station at Bayview is proposed to provide a convenient station for MARC riders northeast of Baltimore and to improve regional access to the Johns Hopkins Bayview Medical Center.

Funding Information:

Total Project Cost: $79,000,000

Total Expenditure as of 9/30/17: $0

Funding Sources:

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Feasibility/ Conceptual Design	$1,850,000	No funding available.	Jan 2018 - Mar 2020					
Construction	$85,500,000	No funding available.	Start 2021					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

MARC Station Improvements - West Baltimore

- Coordinating Agency: Maryland DOT
- Partner Agency:
- Type: Improvement Project
- Benefit: Sole

Project Information

- **Scope**: This project would reconstruct the West Baltimore MARC Station to add high-level platforms and bring the station into ADA compliance. The West Baltimore MARC Station improvement may be incorporated into the B&P Tunnel Replacement Project because the tunnel's selected Preferred Alternative (Alternative 3B) can incorporate the new MARC station into its alignment. Funding levels here assume the West Baltimore MARC Station project remains a stand-alone project. Conceptual design is completed, but additional funding is required to complete NEPA documentation, project engineering, and construction.
- **Justification**: This project would improve the passenger experience and bring the station into ADA compliance.

Funding Information:

Total Project Cost: $32,000,000

Total Expenditure as of 9/30/17: $77,941

Funding Sources:

- FTA Formula Grant, $2,741,000, Includes work done prior to FY17
- State/Local Funds, $2,402,000, Includes work done prior to FY17

By Capital Delivery Phase:

Phase	Cost Estimate	Notes	Schedule	Five Year Look Ahead FY19	FY20	FY21	2022	FY23
Feasibility/ Conceptual Design	$0		Feb 2010 - Jun 2015					
Final Design	$3,354,000	Fully funded.	Sep 2016 - Jun 2019					
Construction	$26,857,000	No funding available.	Sep 2019 - Mar 2022					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Project may or may not proceed in FY18 and is contingent on start date for B&P Tunnel Project's design and construction.

MARC Storage - Northeast Maintenance Facility

- Coordinating Agency: Maryland DOT
- Partner Agency:
- Type: Improvement Project
- Benefit: Sole

Project Information

- **Scope**: This project would construct a new MARC maintenance facility north of Baltimore in Cecil County, Maryland. The new facility would support existing and expanded MARC Penn Line operations by consolidating maintenance and layover functions to a MARC-controlled facility.
- **Justification**: This project would address the need for additional Penn Line storage, consolidate maintenance and inspection functions, and support future growth and service expansion.

Funding Information:

Total Project Cost: $370,000,000

Total Expenditure as of 9/30/17: $0

Funding Sources:

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
	$370,000,000	No funding available.	Start Jan 2017					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

MARC Storage Improvements - Martin Airport

- Coordinating Agency: Maryland DOT
- Partner Agency:
- Type: Improvement Project
- Benefit: Sole

Project Information

- **Scope**: This project will construct additional storage tracks and related infrastructure at the Martin State Airport Facility. MARC trains lack adequate storage along the Penn Line and often are required to run empty trains between Perryville and Baltimore, MD, using up track capacity and increasing operating costs.
- **Justification**: The new facility will accommodate current operational needs and projected ridership growth on the MARC system.

Funding Information:

Total Project Cost: $16,465,000

Total Expenditure as of 9/30/17: $461,946

Funding Sources:

- FTA Formula Grant, $7,832,000, Additional funding spent in prior fiscal years.
- State/Local Funds, $8,633,000, Additional funding spent in prior fiscal years.

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
PE/NEPA	$200,000	Fully funded.	Apr 2016 - Apr 2019					
Final Design	$439,000	Fully funded.	May 2016 - Mar					
Construction	$14,951,000	Fully funded.	Jun 2018 - Dec 2019					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Maryland Section Reliability Improvements

- Coordinating Agency: Amtrak
- Partner Agency: Maryland DOT
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project will upgrade 30 miles of existing Track 1 in Maryland and make associated signal system and track upgrades for higher speed operations on the Washington-to-Baltimore section of the NEC. In addition, a new 1,050 foot side platform will constructed on Track 1 at New Carrollton Station, with associated vertical access and other required modifications to connect to the underground station.
- **Justification**: This section of the NEC operates at or near capacity today and is not able to reliably absorb increases in service without additional infrastructure improvements. This project targets reductions in congestion-related delays and provides new overtake capacity between different classes of service (high-speed, conventional, and commuter), allowing the faster, high-speed trains to pass slower trains. These improvements, along with structural and operational changes, optimize use of this infrastructure and provide the necessary capacity to meet the Service Plan requirements.

Funding Information:

Total Project Cost: $20,600,000

Total Expenditure as of 9/30/17: $663,000

Funding Sources:

- Other, $20,600,000, RRIF Loan

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Final Design	$1,575,396	Fully funded.	Aug 2017 - Sep 2018					
Construction	$19,021,680	Fully funded.	Mar 2019 - Sep 2020					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Next Generation High Speed Fleet Infrastructure: Ivy City/ Washington Terminal Yard Facility Improvements

- Coordinating Agency: Amtrak
- Partner Agency:
- Type: Improvement Project
- Benefit: Sole

Project Information

- **Scope**: This project will satisfy the anticipated maintenance requirements of a new High Speed Rail (HSR) fleet and an increase in service operations. The project scope includes the design and construction of infrastructure improvements for Ivy City Maintenance and Coach Yard Facility (also known as the Washing Terminal Yard) to support the Next Generation HSR Trainsets. The project elements funded by the RRIF loan include: (1) A new single-track, 1-story HSR S&I facility attached to the existing HSR S&I building; (2) HSR Train Scanner (an 18' x 28' train diagnostic facility): foundation with support bungalow and electric and telecommunications located before the Car Wash; (3) Three new electrified HSR storage tracks located at the northeast end of the yard and a non-electrified diesel storage track.
- **Justification**: A new and expanded facility is necessary for commissioning, inspection, service, and maintenance of new HSR equipment, which is expected to be delivered between 2020 and 2022. The facility will improve equipment and operational reliability throughout the Northeast Corridor.

Funding Information:

Total Project Cost: $98,000,000

Total Expenditure as of 9/30/17: $2,246,004

Funding Sources:

- Other, $95,600,000, RRIF Loan

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Construction	$95,600,000	Fully funded.	Mar 2018 - Feb 2021					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

VRE Midday Storage Facility

- Coordinating Agency: VRE
- Partner Agency:
- Type: Improvement Project
- Benefit: Sole

Project Information

- **Scope**: The Midday Storage Facility project will replace the current storage space leased from Amtrak at the Ivy City Coach Yard in the District of Columbia. The project will include planning, designing, and constructing a permanent midday storage facility for VRE trains that travel to the District. The proposed facility will be used to store commuter trains on weekdays between the inbound morning commute and the outbound afternoon commute.
- **Justification**: Midday train storage in the Washington, DC metropolitan region is critical to VRE's continued operations and growth. VRE operates trains providing daily commuter rail service from as far as Manassas and Fredericksburg, Virginia, into Union Station. During the weekday midday, those trains need to be parked near Union Station and off the main line tracks. Currently, VRE stores trains in Amtrak's Ivy City rail complex in the District of Columbia. The current and future demand for train storage and maintenance functions within the existing Ivy City rail complex exceeds available space. To accommodate growth of intercity passenger rail service, Amtrak needs the tracks that VRE is using for maintenance and storage.

Funding Information:

Total Project Cost: $89,666,508

Total Expenditure as of 9/30/17: $3,570,102

Funding Sources:

- FTA Formula Grant, $89,666,508

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Development	$4,877,802	Fully funded. VRE's Phase 1 is named "Development" which encompasses Conceptual Design, Prel. Eng. and NEPA	Jun 2015 - Dec 2019					
Final Design & Property Acquisition	$16,788,706	Fully funded.	Jun 2016 - Jul 2019					
Construction	$68,000,000	Fully funded.	Jul 2019 - Jun 2021					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Washington Union Station 2nd Century Plan

- Coordinating Agency: Amtrak
- Partner Agency: Maryland DOT, VRE, Union Station Redevelopment Corporation, Federal Railroad Administration
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project would build on the 2012 Washington Union Terminal Master Plan which outlined a long- term vision to redevelop the station to address capacity constraints and aging infrastructure as well as coordinate with the air rights project known as Burnham Place. The near-term program consists of modernizing the Claytor Concourse, implementing platform improvements for Tracks 15/16, electrifying Tracks 8/9, rehabilitating Track 22 for revenue service, and fully repairing the subbasement structural components. Two of these near-term projects- -the Claytor Concourse Modernization and Track 22 Rehabilitation--and their associated funding information have been extracted as stand-alone projects within this document. All of these near-term projects are funded for design which is expected to be completed by the end of FY18, with construction starting right after. Near-term elements will be advanced in parallel with the preparation of an Environmental Impact Statement (EIS) for long-term improvements such as doubling rail passenger capacity and train capacity by modernizing and expanding station facilities and rail infrastructure. Improvements would also integrate three million square feet of transit-oriented development over the existing rail yard. Additional funding is required for design and construction of these long-term improvements once the EIS is complete in FY20 (tentatively).
- **Justification**: The Washington Union Station complex, including passenger, operational, and train handling facilities and infrastructure, is not in a state of good repair. Long-term, the Washington Union Station Expansion Project is evaluating alternatives for station redevelopment to meet growing demand for commuter and intercity rail.

Funding Information:

Total Project Cost: $10,055,000,000

Total Expenditure as of 9/30/17: $31,000,000

Funding Sources:

- Non-BCC Amtrak Funds, $49,400,000, Amtrak GCAP Investments prior to FY17.
- $2,350,000, FRA Federal Railroad Safety Infrastructure Improvement Grant. This is the federal funded portion of the FRA grant Amtrak has received for the North Hangar safety improvements project. Matching funds will be provided via non-federal funds through Amtrak.
- Non-BCC Amtrak Funds, $3,350,000, Amtrak FY17 Capital.
- Non-BCC Amtrak Funds, $13,600,000, Amtrak FY18 Capital

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Feasibility/Conceptual Design	$0	Phase completed; funding has been expended.	Nov 2013 - Nov 2014					
PE/NEPA	$20,500,000	Funding is expected/proposed/targeted. Additional funding will come from Amtrak, USRC and Akridge to close out Phase 2.	Nov 2015 - Dec 2019					
Final Design	$34,000,000	No funding available.	Dec 2019 - Dec 2023					
Construction	$10,000,000,000	No funding available. Phase 4 projected to end in 2040	2023 -					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Washington Union Station Component: Claytor Concourse Modernization

- Coordinating Agency: Amtrak
- Partner Agency: Maryland DOT, VRE
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project will modernize the Washington Union Station Claytor Concourse to provide additional passenger space, waiting areas, improved amenities, an expanded Metropolitan Lounge (formerly known as Club Acela) and safety egress improvements.
- **Justification**: These improvements are needed to correct safety egress issues as well as capacity limitations and to improve the overall passenger experience for Amtrak and commuter riders.

Funding Information:

Total Project Cost: $65,000,000

Total Expenditure as of 9/30/17: $0

Funding Sources:

- Other, $65,000,000, RRIF Loan

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Construction	$65,000,000	Fully funded.	Jun 2018 - Jul 2021					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Washington Union Station Component: Track 22 Rehabilitation

- Coordinating Agency: Amtrak
- Partner Agency: VRE
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: The Washington Union Station Track 22 Rehabilitation project provides for construction of an additional revenue track and platform to serve the run through tracks at Washington Union Station. The new platform and track will increase rail capacity on the run-through level at Washington Union Station. This project will also include new Americans with Disabilities Act (ADA) compliant vertical circulation elements from the North Hangar area of the Claytor Concourse at Washington Union Station.
- **Justification**: In addition to providing current and future operational flexibility, the Project is essential to maintaining rail operations during the construction of the Subbasement Structural Replacement project. The run through rail tunnel bisects the historic station at the basement level. A lower level basement, running underneath the tunnel is known as the Subbasement and is home to a number of critical station infrastructure. The existing structure supporting the run through tracks above the Subbasement is beyond its useful life and requires replacement. Reconstruction of the Subbasement will require track outages for extended periods of time. In an effort to maximize construction efficiency and maintain rail service during subbasement reconstruction, it has been determined through operations simulations that additional rail capacity is required. The Project will provide additional rail capacity during subbasement construction, allowing for the efficient construction of a critical state-of-good-repair project.

Funding Information:

Total Project Cost: $39,499,752

Total Expenditure as of 9/30/17: $1,235,963

Funding Sources:

- Non-BCC Amtrak Funds, $1,522,391, Amtrak FY15 General Capital to undertake Design work.
- , $6,500,000, FRA THUD Grant
- Other, $2,166,666, VRE Access Fees
- Non-BCC Amtrak Funds, $4,333,334, Amtrak Operating

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Final Design	$1,425,677	Fully funded.	Apr 2016 - Feb 2018					
Construction	$38,074,075	Funding is expected/proposed/targeted.	Jun 2018 - May 2020					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Next Generation High Speed Fleet Infrastructure: Ride Quality Investment

- Coordinating Agency: Amtrak
- Partner Agency: This is a shared project on the NEC spine that will benefit all commuter rail operators.
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project, which consists of two parts, will establish reference surfacing on those portions of the NEC main line maintained by Amtrak. The first project element is developing the database necessary for computer controlled track surfacing. The second is the acquisition of three sets of equipment for the ongoing surfacing of the NEC. Reference surfacing systems have the capability to correct track geometry error better than the system Amtrak presently uses, which will result in an overall better ride quality with more durable results.
- **Justification**: The expected results will be a track quality better than current methods. The amount of time between tamping will increase, and the wear and tear on track and vehicle equipment will decrease. This will result in higher quality track geometry and, in turn, higher ride quality and passenger comfort.

Funding Information:

Total Project Cost: $67,000,000

Total Expenditure as of 9/30/17: $14,525

Funding Sources:

- Other, $67,000,000, RRIF Loan
-

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Selection of methodology/ proof of concept:	$31,620,647	Fully funded.	Sep 2017 - Sep 2019					
Survey, design, and equipment purchase	$35,379,353	Fully funded.	Oct 2019 - Sep 2021					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

Next Generation High Speed Fleet Infrastructure: Safety Mitigation

- Coordinating Agency: Amtrak
- Partner Agency: This is a shared project on the NEC spine that will benefit all commuter rail operators.
- Type: Improvement Project
- Benefit: Shared

Project Information

- **Scope**: This project will make several investments to allow Amtrak to permit operation of Tier III Trainsets on the NEC at up to the maximum speed of FRA Tier III standards. Amtrak undertook a detailed and lengthy risk analysis that demonstrates that this standard can be met with a limited investment in infrastructure improvements designed to limit intrusions on to the right of way and/or high- speed tracks in designated high-speed zones expected to be used by Acela. These investments include 20 miles of security fencing, 1/2 mile of guardrails, and other provisions associated with the Tier III FRA Waiver.
- **Justification**: These investments will increase intercity travels speeds and reduce overall travel time.

Funding Information:

Total Project Cost: $90,000,000

Total Expenditure as of 9/30/17: $4,183,106

Funding Sources:

- Other, $90,000,000, RRIF Loan

By Capital Delivery Phase:

				Five Year Look Ahead				
Phase	**Cost Estimate**	**Notes**	**Schedule**	**FY19**	**FY20**	**FY21**	**2022**	**FY23**
Construction	$90,000,000	Fully funded.	Oct 2017 - Mar 2021					

Key

- Fully funded or full funding committed/expected
- Partially funded or partial funding committed
- Unfunded or funding targeted but not committed

General Notes

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Page 12: Hudson Tunnel. Courtesy of Amtrak.

Page 12: East River Tunnel. Courtesy of Amtrak.

Page 13: Portal Bridge. Courtesy of Amtrak.

Page 13: Sawtooth Bridge. Courtesy of Amtrak.

Page 13, 37: Baltimore & Potomac Tunnel. Courtesy of Amtrak.

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