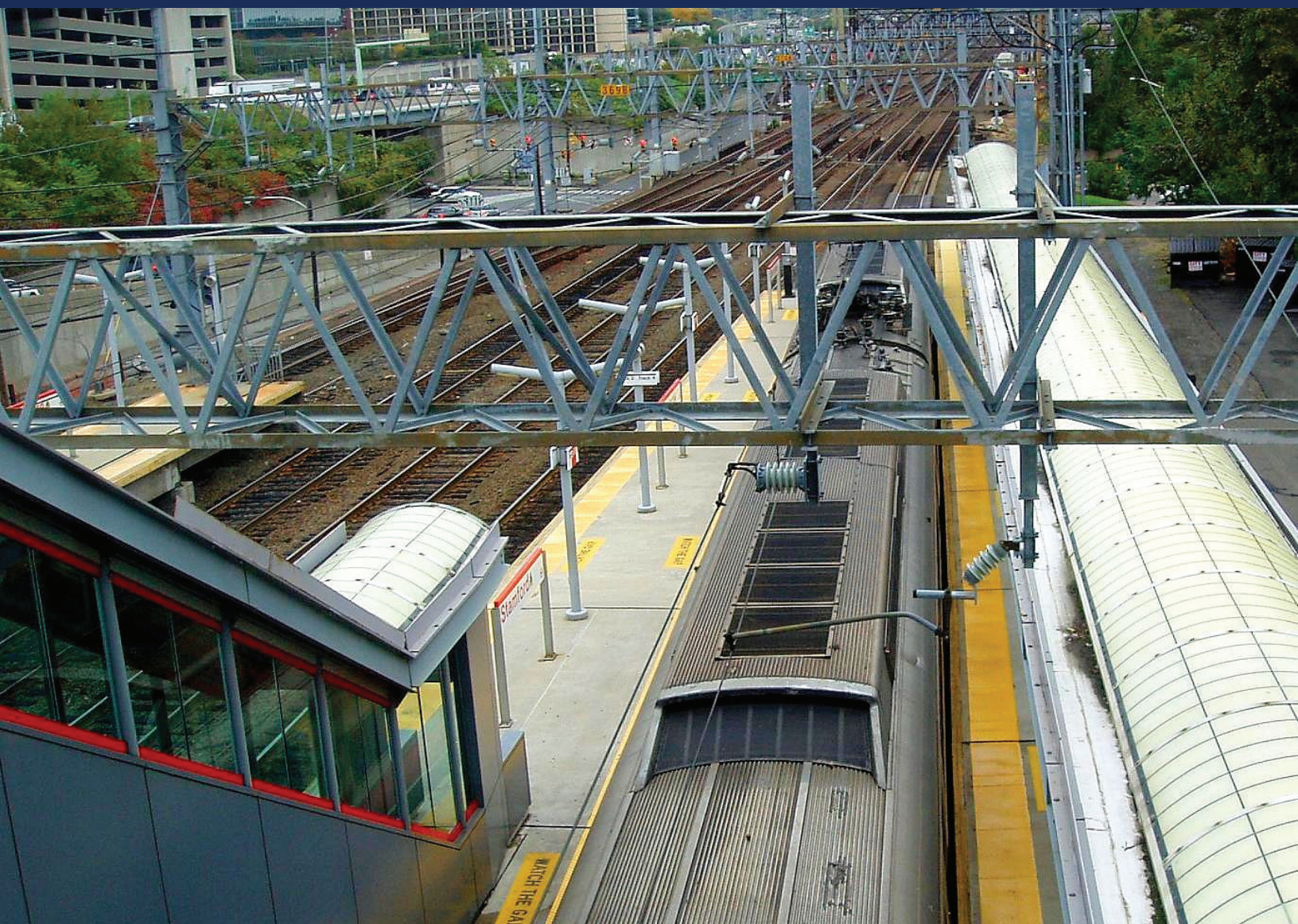
Northeast Corridor Annual Report: Infrastructure and Operations

Fiscal Year 2023

March 2024



March 2024

Northeast Corridor Annual Report: Infrastructure and Operations

Fiscal Year 2023

A report by the
Northeast Corridor Commission

In partnership with:

Massachusetts Department of Transportation (MassDOT)

Massachusetts Bay Transportation Authority (MBTA)

Rhode Island Department of Transportation (RIDOT)

Connecticut Department of Transportation (CTDOT)/CT*rail*

Metropolitan Transportation Authority (MTA)

MTA Metro-North Railroad (Metro-North)

MTA Long Island Rail Road (LIRR)

New Jersey Transit (NJ TRANSIT)

Southeastern Pennsylvania Transportation Authority (SEPTA)

Pennsylvania Department of Transportation (PennDOT)

Delaware Department of Transportation (DelDOT)

Maryland Department of Transportation (MDOT) Maryland Transit Administration (MTA) / Maryland Area Regional Commuter (MARC)

District Department of Transportation (DDOT)

Virginia Railway Express (VRE)

Amtrak

U.S. Department of Transportation (USDOT)


11
11
MARC

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Train Information
Time No. Train To Status
11:30 am
Gate
11:21a 143 N.E. Regional Washington Last Call 7
11:35a 6141 Thruway Bus Reading Boarding BUS
12:00p 118 N.E. Regional New York On Time
12:18p 82 N.E. Regional Boston On Time
12:31p 195 N.E. Regional Richmond On Time
12:38p 4677 NJTRANSIT Atlantic City On Time
12:39p 2252 Acela Boston On Time
12:40p 91 Silver Star Miami On Time
Messaging
Please be advised that Amtrak is renovating the Gray 30th Street Station.There will be several phases of construction focusing on
SEPTA Regional Rail
Car Rental
Market Street
Market-Frankford Line
Trolley Lines
Buses
30TH STREET
HEALERS, BUILDERS, RESEARCHERS & CREATORS
Baggage Policy

Letter from the Executive Director

Thanks to the Bipartisan Infrastructure Law, the Northeast Corridor is entering a new era. One where the biggest challenge, for the moment, is not obtaining funding for our largest and most important projects but delivering these projects on time and on budget. Infrastructure investment reached a record $2.7 billion in FY23, the highest level since the Commission began tracking annual investment in FY16, and nearly triple the $1.06 billion invested that year. However, this amount was less than the $3.5 billion FY23 expenditure included in the FY23-27 CIP. The FY24-28 Capital Investment Plan projects a $5.25 billion expenditure in FY24, nearly double the level reached in FY23. Increasing investment levels this quickly is a challenge in any environment and particularly on a railroad as crowded and complex as the Northeast Corridor.

To achieve the promise of this historic federal investment, Northeast Corridor Commission members have begun coordinating in unprecedented ways to secure the necessary track time, workforce, contractors, equipment, and materials. For example, the Commission is establishing an Implementation Coordination Program (ICP) to support our members in promoting effective collaboration and successful project delivery. As part of the ICP, the Commission is working to standardize and improve the granularity of project schedule data so we can develop a realistic, resource-loaded program schedule for funded projects that includes key milestones. This initiative will focus initially on preconstruction work such as project design and project agreements to more effectively coordinate work and monitor progress towards construction.

At the same time that agencies have started advancing major projects to rebuild and renew NEC infrastructure, ridership continues to rebound from pandemic lows. Weekday ridership increased to an average of 594,000 in FY23. This is a 16% increase over FY22 but is below the 902,000 weekday trips the corridor averaged in FY19. Monitoring this ridership recovery and accurately forecasting future demand will become increasingly important as there is an inherent tension between the need for track outages to perform construction work and the desire to maintain service levels and win back riders.

The Bipartisan Infrastructure Law provides an unprecedented opportunity to rebuild the Northeast Corridor, but there is much work, and many challenges, ahead. The Commission and its members are focused on meeting this moment and providing better, faster, more frequent, and more reliable service for today's riders and for future generations.

Mitch Warren
Executive Director
Northeast Corridor Commission

Executive Summary

Federal fiscal year 2023 (FY23) spans October 1, 2022 through September 30, 2023—a period that saw continued ridership recovery from the pandemic and record levels of infrastructure investment as agencies began to ramp up spending in response to the Bipartisan Infrastructure Law (BIL).

Infrastructure

NEC project sponsors invested nearly $2.7 billion in infrastructure in FY23, above FY22 investment of $2.2 billion but below the $3.5 billion approved in the FY23-27 Capital Investment Plan.

Collective NEC infrastructure investment grew from $2.2 billion in FY22 to $2.7 billion in FY23—the highest level of investment since the Commission began publishing the NEC Annual Report. NEC project sponsors completed several construction projects and made advancement in pre-construction on other projects, with many anticipated to enter construction in FY24. NEC operators also continued their commitment to the NEC Cost Allocation Policy, providing a reliable funding stream for capital renewal activities shared based on each operator's relative use of NEC infrastructure.

While FY23 featured record-high capital investment, the total $2.7 billion in expenditure fell short of the planned $3.5 billion investment (78% of planned expenditure) documented in the approved FY23-27 CIP. The Commission remains focused on understanding and improving plan adherence and achieving the ambitious increase in annual investment required to implement the FY24-28 CIP and the 15-year CONNECT NEC Program.

With additional BIL funds becoming available in late 2023, measuring plan adherence is more important than ever. The Commission will work with all owners and project sponsors to develop more comprehensive metrics to measure plan adherence to provide a richer picture of capital program delivery progress. This effort will require some Commission member agencies to reform internal systems to provide reliable cost, schedule, track outage, and production unit data without burdensome manual data gathering processes.

Operations

Service and ridership levels continue to rebound, ending FY23 with the highest observed levels since the coronavirus outbreak began.

The Northeast Corridor has been and remains the busiest rail corridor in the United States. The NEC was expected to break ridership and service records in FY20 before the pandemic outbreak. Ridership rebounded throughout FY22, growing to 509,000 average weekday trips. FY23 saw a further increases in ridership with an annual average weekday ridership of 594,000 (67% of pre-pandemic trips).

NEC operators have continued to incrementally increase service close to pre-pandemic levels. NEC service featured an average of 2,029 daily intercity and commuter trains in FY23, roughly 96% of pre-pandemic service. NEC service grew by over 8% from the prior fiscal year.

Increase in service brings back challenges to maintaining the relatively high levels of reliability experienced during the pandemic.

NEC train service has generally been more reliable since the start of the pandemic, largely due to lower ridership service levels that create fewer opportunities for delays to occur. Roughly 8.5% of NEC trains arrived late, annulled, or were terminated in FY23, an increase from 7.5% of trains in FY22, but below 11.0% of trains in FY19.

Challenges and Recommendations

Commission members are already delivering on the investments made possible by BIL. Though initial Fed-State Partnership grant awards were announced in early FY24, the promise of pre-award authority that reimburses eligible past expenditures enabled project sponsors to make progress on many key projects in FY23 that will now be funded by BIL.

However, as discussed in many of the Commission's past annual reports, the ability to deliver projects on-schedule and on-budget remains a challenge. The Commission and its members continued to advance initiatives in FY23 to understand and address the root causes driving these outcomes. Recommendations in this report include advancing the Commission's Implementation Coordination Program (ICP), internal reforms at agencies to standardize data systems and business practices, and continued workforce development.

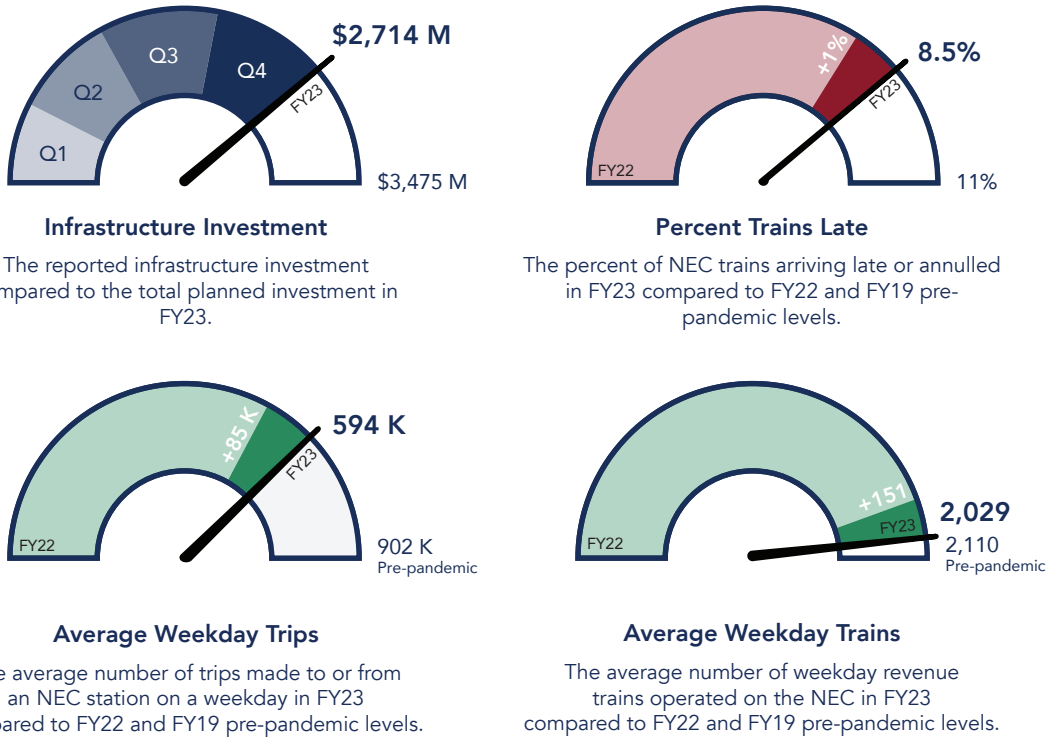

The Northeast Corridor consists of four right-of-way infrastructure owners (Amtrak, MBTA, Connecticut DOT, and NY MTA Metro-North Railroad) and multiple station owners and service providers.
Boston
MBTA
MA
Springfield
Providence
RI
NY
Hartford
CT
Metro-North Railroad
CTrail
New Haven
Long Island Rail Road
PA
Newark
New York
SEPTA
Trenton
NJ TRANSIT
Harrisburg
Philadelphia
Wilmington
NJ
MARC
Baltimore
Amtrak
MD
DE
DC
Washington
VRE
VA
NEC Main Line
NEC Connecting Corridor
Intercity Rail
Commuter Rail
Massachusetts Bay Transportation Authority
CT rail
Metro-North Railroad
Long Island Rail Road
NJTRANSIT The Way To Go.
SEPTA
MARC
VRE
AMTRAK

1. Introduction

Northeast Corridor-Wide Summary

Federal fiscal year 2023 (FY23) spans October 1, 2022 through September 30, 2023—a period that saw continued ridership recovery from the pandemic and record levels of infrastructure investment as agencies began to ramp up spending in response to the Bipartisan Infrastructure Law (BIL).

Figure 1-1. FY23 metrics at a glance



Background

The Northeast Corridor

The Northeast Corridor—both the NEC main line from Boston, MA to Washington, DC and connecting corridors to Harrisburg, PA; Spuyten Duyvil, NY; and Springfield, MA—hosts the passenger rail operations of eight commuter railroads, Amtrak's intercity services, and six freight railroad services. The NEC, long the nation's busiest passenger railroad, has been a cornerstone of the region's development and continues to be a driver of its economic success. NEC ridership peaked in 2019 with 902,000 average weekday trips.

The 457-mile main line still includes many bridges and tunnels that date back to the period between the Civil War and the New Deal. The NEC's state-of-good-repair (SOGR) backlog must be addressed to prevent further impacts to service reliability, which can jeopardize the economic well-being of the Northeast region and the entire nation. Fortunately, the historic Infrastructure Investment and Jobs Act (IIJA) also known as the Bipartisan Infrastructure Law (BIL) includes tens of billions of dollars for rail and transit investments and required the Federal Railroad Administration to develop an NEC Project Inventory to fund a predictable pipeline of NEC infrastructure investment.

While the coronavirus outbreak dramatically reduced all travel and created economic uncertainty, Amtrak and commuter agencies were able to survive thanks to emergency federal support, and in some cases capital plan adjustments and responsiveness to changing service demands. The FY23 NEC Annual Report shows that service levels and ridership have continued to increase since their lows in spring 2020, and the Northeast Corridor Commission expects rail travel to continue to be a critical mode of travel for many people, including those without access to a car. Capital investment can both ensure the future viability of this service and contribute to the continued recovery from the pandemic's economic challenges.


1520
NO EMERGENCY ACCESS AT THIS LOCATION
CT rail
1520


Track 11
Location A
8th Av, Amtrak
Subway A C E 1 2 3
Elevator
7th Av, LIRR
NJ TRANSIT
Elevator
11
12

The NEC Commission

The Northeast Corridor Commission was authorized by Congress in 2008 (49 U.S.C. § 24905) to develop coordinated strategies to improve 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, Commission member agencies will achieve a level of success that far exceeds the potential reach of any individual organization.

The Commission is 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. The Commission also includes non-voting representatives from four freight railroads, states with connecting corridors, and several commuter operators in the region.

The NEC Commuter and Intercity Rail Cost Allocation Policy

The Cost Allocation Policy was adopted by the Commission in September 2015 and renewed in October 2020. The Policy outlines a partnership built on three pillars: (1) operator cost sharing; (2) transparency, collaboration, and accountability; and (3) federal partnership.

The key components of the transparency, collaboration, and accountability pillar include NEC planning and reporting processes to develop and update the 15-year CONNECT NEC Program and the five-year Capital Investment Plan (CIP). These processes are intended to enhance coordination on service goals, associated capital investments, and the resources required to implement them. CONNECT NEC identifies long-term service objectives and associated capital investments over the next 15 years, while the annual CIP demonstrates how the Commission and its member agencies plan to advance CONNECT NEC in the near-term.

The Policy also requires the first federal fiscal year of the CIP to be an implementation plan constrained by available funding and resources. The implementation plan is a valuable tool for collaboration, transparency, and accountability among Commission member agencies. The first year of the CIP, as agreed to and approved by the Commission, serves as the baseline for infrastructure delivery reporting and is summarized each year in the NEC Annual Report.

Infrastructure delivery reporting is meant to establish a uniform understanding of capital activities and support greater accountability between all parties.

The NEC Annual Report is called for in the Policy and required by statute. The NEC Annual Report summarizes corridor activity during the prior federal fiscal year, including train operations and performance, ridership and service trends, infrastructure delivery, and progress in assessing and eliminating the NEC state-of-good-repair backlog. The Annual Report may also include recommendations on these subjects, as appropriate.

Figure 1-2. NEC Commission plans and reports

CONNECT PROGRAM

A 15-year plan with the long-term vision for a modern and resilient railroad with safe, reliable, and more frequent service; connections to new markets; and reduced travel times between communities.

Capital Investment Plan

A five-year plan that integrates NEC agencies' planned infrastructure investment detail. Year One of the CIP serves as an implementation plan and the baseline for infrastructure delivery reporting.

Annual Report

A report that documents the operational performance of NEC trains and the delivery of Year One of the CIP.

2. Infrastructure

The Commission approved the FY23-27 NEC Capital Investment Plan (CIP) in October 2022, which identified each agency's capital investments planned for federal fiscal year 2023 based on available funding known at the time. This section summarizes the capital investments made by NEC owners and project sponsors during FY23, including notable progress and accomplishments and adherence to plan.

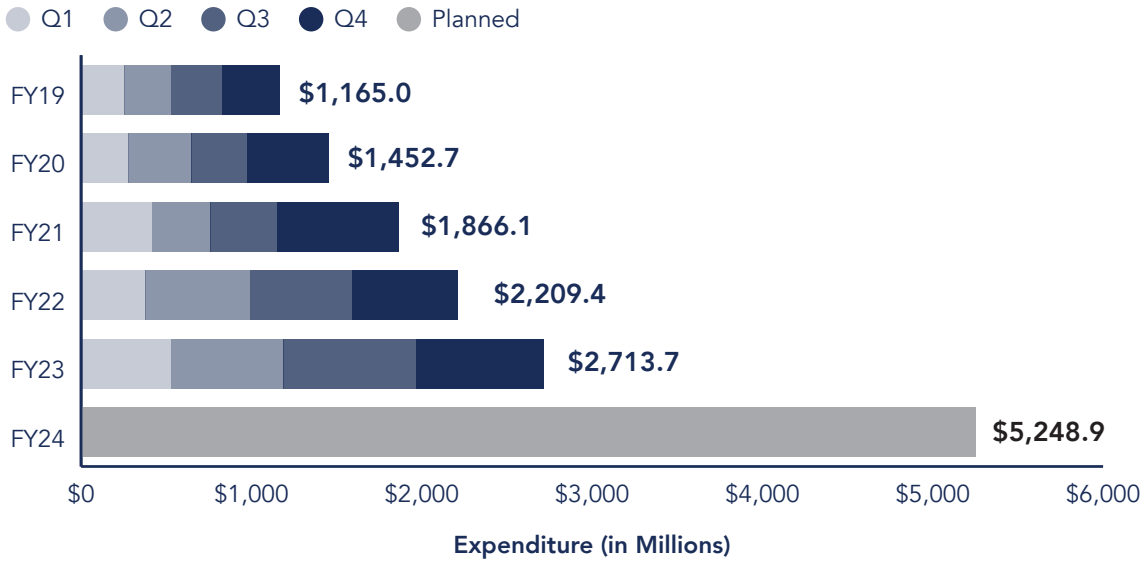
NEC project sponsors invested nearly $2.7 billion in infrastructure in FY23, above FY22 investment of $2.2 billion but below the $3.5 billion approved in the FY23-27 CIP.

Collective NEC infrastructure investment grew from $2.2 billion in FY22 to $2.7 billion in FY23—the highest level of investment since the Commission began publishing the NEC Annual Report (see Figure 2-1).

Investments across the corridor included a mix of project types, including major backlog, capital renewal, improvement, and stations projects. The top ten FY23 investments by dollar value total $1.1 billion, or 56% of all FY23 expenditures. These high-dollar-value investments are a mix of project types and are concentrated in the New York City Metro region. NEC project sponsors completed several construction projects in FY23 and made advancement in pre-construction on other projects, with many anticipated to enter or continue construction in FY24.

NEC operators also continued their commitment to the NEC Cost Allocation Policy in FY23, providing a reliable funding stream for shared-benefit capital renewal activities based on each operator's relative use of NEC infrastructure. Right-of-way owners invested $885.6 million, or 33% of all FY23 expenditures, toward these eligible capital renewal investments.

Figure 2-1. FY19-23 actual infrastructure investment by year and quarter vs. FY24 planned expenditure (millions)



While FY23 featured record-high capital investment since the Commission began publishing the NEC Annual Report, the total $2.7 billion in expenditure fell short of the planned $3.5 billion investment documented in the approved FY23-27 CIP. The Commission remains focused on understanding and improving plan adherence and achieving the ambitious increase in annual investment required to implement the FY24-28 CIP and the 15-year CONNECT NEC Program.

Infrastructure Investment and Jobs Act

Enactment of Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Law (BIL), in November 2021 allows for historic levels of investment in the NEC and means decades of deferred NEC investments can now move forward. Through BIL, many of the federal funding sources received an increase in their annual authorization amount along with an additional amount of guaranteed appropriations.

In November 2023, the Federal Railroad Administration announced more than $16 billion in grants from the Federal-State Partnership for the Intercity Passenger Rail Grant Program. These funds will support 25 projects along the Northeast Corridor, including full-funding for seven major backlog projects through construction (see Figure 2-9). FRA expects to announce another round of funding in 2024 with an update to the NEC Project Inventory early in the year. The NEC Project Inventory creates a project pipeline and is guided by information from the Commission's FY24-28 CIP.

FY23 Progress and Accomplishments

By quarter. The ability to undertake work on the NEC can vary by season, with the summer months typically being the most productive for construction work. FY23 investments were consistent with this seasonality with nearly 44% of investments occurring the first half of the fiscal year from October through March and the remaining 56% during the warmer months from April through September (see Figure 2-1).

By region. Roughly two-thirds of FY23 investment was planned for and more than half occurred in the New York City Metro region (between New Rochelle, NY and Trenton, NJ), totaling $1,490.2 million (see Figure 2-2). The New York City Metro region includes several critical projects, such as Portal North Bridge, Penn Station Access, New York Penn Station LIRR Concourse, and Harold Interlocking. The remainder of the total investment was split among the other NEC regions.

Figure 2-2. FY23 infrastructure investment by region (millions)

Region	FY23 Planned Expenditure	FY23 Actual Expenditure	FY23 Percent of Plan Spent	FY22 Actual Expenditure	Percent Change Actual Expenditure (FY22 to FY23)
New England	$169.0	**$170.3**	101%	$132.6	+28%
Connecticut-Westchester (NHL)	$146.0	**$247.1**	169%	$209.3	+18%
New York City Metro	$2,257.2	**$1,490.2**	66%	$1,140.5	+31%
Mid-Atlantic North	$366.6	**$355.2**	97%	$294.2	+21%
Mid-Atlantic South	$412.3	**$320.7**	78%	$262.9	+22%
Amtrak System-wide	$124.6	**$130.1**	104%	$169.9	-23%
Total	**$3,475.7**	**$2,713.7**	**78%**	**$2,209.4**	**+22%**

In FY23, many project sponsors moved forward on procurement for major design and construction contracts. The Frederick Douglass Tunnel Program awarded three contracts that advance construction on the project, while the East River Tunnel Rehabilitation project released bids for Line 1 and Line 2 construction. These advances in procurement represent considerable coordination between project sponsors, infrastructure owners, and federal partners to ensure documentation, funding, and design were in alignment. This work will contribute to advances in future years on all project types.

FY23 saw many advances in station capital work. Both the MTA's New York Penn Station LIRR Concourse and Rhode Island DOT's Pawtucket/Central Falls Station wrapped up construction this year and opened to the public. These station

improvements provide a better passenger experience through new amenities and improved transit access.

Shared-Benefit Capital Renewal Investments. Right-of-way owners invested $910.6 million in programs and projects that are eligible for the Baseline Capital Charges (BCCs) contributed by each NEC operator for their relative use of NEC infrastructure, as directed by the NEC Cost Allocation Policy (see Figure 2-3). Amtrak invested an additional $217.5 million in eligible investments above and beyond operators' BCC contributions.

Figure 2-3. FY23 BCC-eligible capital renewal infrastructure investment by RoW owner (millions)

RoW Owner	FY23 Actual Expenditure	FY23 BCC Obligation	FY23 BCC Obligation Met
Amtrak-owned territory[1]	**$768.7**	$551.2	139%
MBTA-owned territory	**$13.4**	$28.2	47%
Connecticut DOT-owned territory	**$111.8**	$108.2	103%
MTA Metro-North-owned territory	**$16.7**	$17.6	95%
Total BCC-eligible Investment	**$910.6**	**$705.1**	

Note: (1) BCC obligation is subject to revision per Amtrak-MTA Long Island Rail Road Agreement

Figure 2-4. Map of FY23 accomplishments

Highlighted Project Accomplishments

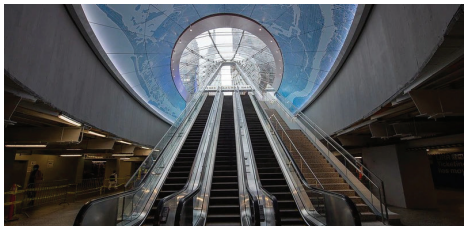
Highlighted Capital Renewal Activity

Penn Station Access

MTA completed Track 1 of Leggett Interlocking and made progress on Overhead Contact System foundations/columns and drainage work.

New York Penn Station LIRR Concourse

MTA opened the LIRR Concourse in New York Penn Station in March 2023. The work created a wider concourse with higher ceilings that improve the station's environment and ease passenger wayfinding.



Southwest Connection Improvement Project

SEPTA completed all major construction components of the project. This project has replaced mainline infrastructure from 30th Street Station to Arsenal Interlocking. Some of this infrastructure was more than 80 years old.

PA Capital Renewal

Amtrak completed 26 miles of undercutting between both the Cork to Rheems segment and the Roy to State segment of the Harrisburg Line.

NHL Capital Renewal

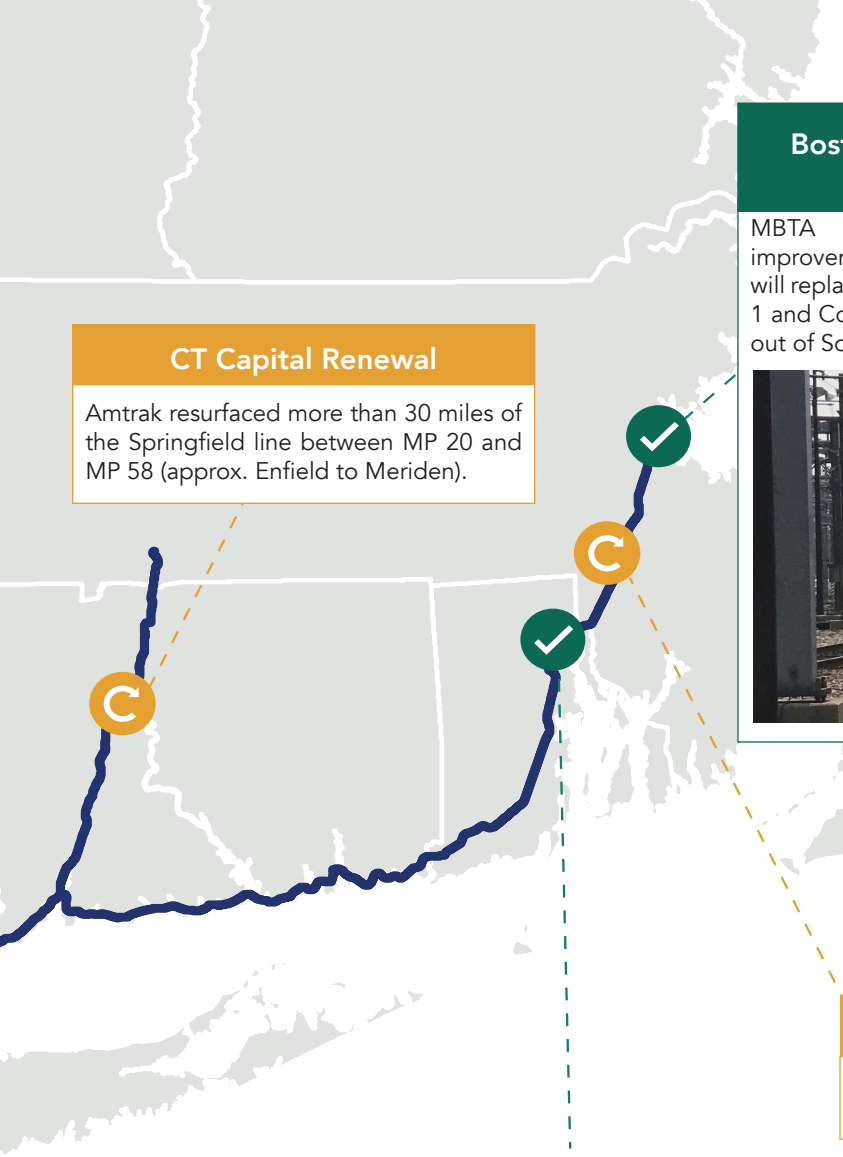
Metro-North replaced seven switches, 11 miles of running rail, and renewed more than 200 track welds on the New Haven Line.

Mid-Atlantic Capital Renewal

Amtrak performed undercutting, installed 11,000 concrete and wood ties, and spot surfaced 500,000 feet of track throughout the Mid-Atlantic region.

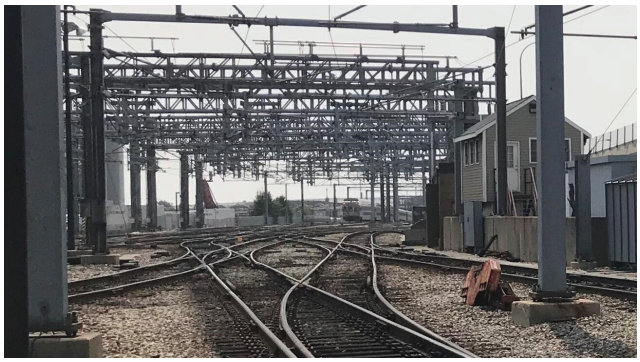
Frederick Douglass Tunnel Program

Amtrak moved forward with procurement of a Construction Manager At-Risk (CMAR) vendor who will build a new West Baltimore MARC station, replace multiple undergrade bridges, relocate utilities, and construct the southern approach to the tunnel.



Boston South Station: Tower 1 and Cove Interlockings Improvements

MBTA bid, awarded, and began construction on improvements around Boston South Station. This project will replace outdated signal infrastructure and replace Tower 1 and Cove Interlockings, which control all rail traffic in and out of South Station, in their entirety.



CT Capital Renewal

Amtrak resurfaced more than 30 miles of the Springfield line between MP 20 and MP 58 (approx. Enfield to Meriden).

New England Capital Renewal

Amtrak replaced over 3,500 concrete and wood ties on the NEC Main Line.

Pawtucket/Central Falls Station

Rhode Island DOT opened the Pawtucket/Central Falls Station in January 2023 for passenger service. The new station provides access to MBTA commuter rail service and connects riders to local bus transit service.

Measuring Plan Adherence Beyond Expenditures: A New Framework for FY24

As described in the FY21 and FY22 Annual Reports, the Commission has struggled to measure planned adherence beyond using annual expenditures due to the quality and availability of units and milestone data.

The Commission spent FY23 determining a framework for comprehensive performance metrics and began collecting FY24-28 Capital Investment Plan data to support this vision. Under this new framework, agencies will report changes to life-of-project (LOP) schedules and costs on a quarterly basis starting in FY24. LOP schedule data are standardized to follow FRA's project lifecycle phases as defined in their "Guidance on Development and Implementation of Railroad Capital Projects." Regularly collecting standardized LOP performance data will allow the Commission to meaningfully track and analyze progress and delays across projects and agencies.

Additionally, tracking annual planned and actual activities is still a critically important part of the comprehensive performance metrics framework. This is especially true of planned and actual fiscal year expenditures and units for those asset types identified for measuring the elimination of the SOGR backlog (see page 26). To that end, the Commission will continue to collect planned and actual expenditures and units for all investments in FY24.

Importantly, meaningful Annual Report analysis relies on quality plan and reporting data collected throughout the previous fiscal year. This means that the FY23 Annual Report relies on unit and milestone data collected before the new framework was developed, limiting the quality of plan adherence analysis in this report. Furthermore, while the Commission made progress defining the new framework in FY23, many agency-provided LOP schedules in the FY24-28 CIP have significant holes and, like in FY23, only Amtrak and MBTA provided planned units for a subset of their investments in the plan. Persistent data quality issues like these will prevent meaningful plan adherence analysis going forward, underscoring the need for agencies to update data systems and business practices to provide regular, reliable data for Commission plans and reports.


2017
AMTRAK
RWP

Delivering Year One of the FY23-27 NEC Capital Investment Plan

Year One of the CIP serves as the baseline for infrastructure delivery analyses in the NEC Annual Report. These analyses attempt to understand accomplishments relative to plan and adjustments to plan which can occur, particularly with workforce challenges facing the industry.

Measuring plan adherence remains important to the Commission's key pillars of transparency, collaboration, and accountability and supports Commission members as they build their ability to deliver the CONNECT NEC Program bolstered by historic funding from BIL.

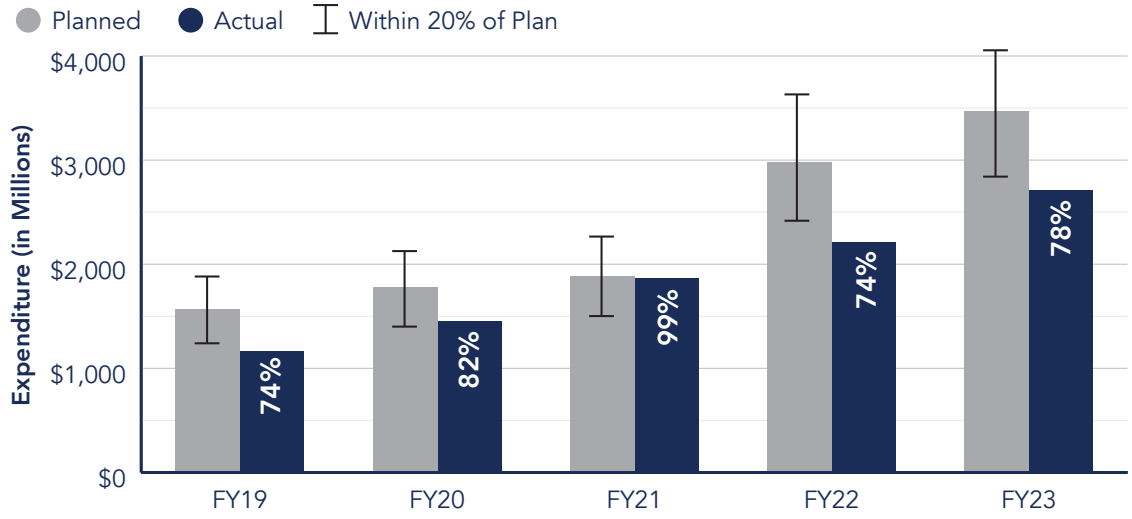
While the Commission continues to develop and implement holistic capital program delivery metrics (see page 18), the Commission continues to define plan adherence as end-of-year expenditures that fall within 20% of the planned expenditure approved in Year One (FY23) of the CIP.

Overall adherence to planned expenditure improved in FY23 compared to FY22

NEC project sponsors planned to spend almost $3.5 billion in FY23, but fell short and invested $2.7 billion—above FY22 total spending, but only 78% of FY23 planned expenditures (see Figure 2-5).

This adherence to plan roughly matches previous years, with the exception of FY21 when large unanticipated expenditures in the New York City Metro region contributed to a 99% adherence rate.

Figure 2-5. FY19-23 total planned and actual expenditures (millions) and adherence to plan (percent)



Plan adherence analyses

By region. Of the NEC's six regions, all but the New York City Metro and Mid-Atlantic South regions nearly met or exceeded 100% of their FY23 planned expenditures (see Figure 2-2). The Connecticut-Westchester (NHL) region exceeded its FY23 planned amount primarily due to higher expenditures than expected on Connecticut DOT's Stamford Station Parking Garage project and MTA's track program.

The Mid-Atlantic South region had poor plan adherence (78%) primarily due to delays in negotiations between Amtrak and VRE regarding the VRE Midday Storage Facility. In the New York City Metro region, the Penn Station Access project had limited working time related to Amtrak workforce support and track access, as well as design delays, which contributed to the lowest regional plan adherence (66%).

By submitting agency. Many NEC project sponsors experienced difficulty spending within 20% of their respective FY23 planned expenditures (see Figure 2-6). However, Amtrak, NJ TRANSIT, Delaware DOT, and MARC did meet the Commission's plan adherence metric. Some agencies, such as MBTA, MTA, Pennsylvania DOT, and VRE spent less than 50% to plan.

Figure 2-6. FY23 adherence by submitting agency (millions)

Submitting Agency	Total Investments in FY23	FY23 Planned Expenditure	FY23 Actual Expenditure	Percent of Plan Spent
Amtrak	187	$1,444.6	**$1,270.9**	88%
MBTA	30	$46.5	**$17.9**	39%
Rhode Island DOT	4	$16.2	**$8.9**	55%
Connecticut DOT	38	$128.3	**$253.5**	198%
MTA	13	$1,136.5	**$558.8**	49%
NJ TRANSIT	20	$590.9	**$512.2**	87%
SEPTA	9	$21.2	**$30.4**	143%
Pennsylvania DOT	5	$32.6	**$14.7**	45%
Delaware DOT	2	$24.3	**$26.2**	108%
Maryland DOT MTA / MARC	7	$22.7	**$20.1**	88%
VRE	1	$12.0	**<$0.1**	0%
Total	**316**	**$3,475.7**	**$2,713.7**	**78%**

By investment type. NEC project sponsors were within planned expenditures for major backlog and capital renewal investment types, while stations had the least plan adherence in FY23.

Some capital renewal investments fared well from an expenditure perspective. Amtrak's infrastructure renewal work through the turnout renewal program, rail grinding program, and regional catenary programs, achieved good plan adherence as well as MTA's undergrade bridge rehabilitation program.

Planned adherence varied for major backlog projects. While some projects such as Portal North Bridge and Susquehanna River Bridge were at target, others were under their FY23 planned expenditures. The Hudson Tunnel Project experienced a change in project components when the Hudson Yards Concrete Casing project became its own project and thus its expenditures no longer contribute to the Hudson Tunnel project. In contrast, Amtrak experienced overruns on the Connecticut River Bridge Replacement project due to design and permitting change orders.

Figure 2-7. FY23 adherence by investment type (millions)

Investment Type	Total Investments in FY23	FY23 Planned Expenditure	FY23 Actual Expenditure	Percent of Plan Spent
Major Backlog	12	$920.7	**$742.5**	81%
Capital Renewal	200	$808.0	**$957.4**	118%
Improvement	45	$985.9	**$599.8**	61%
Stations	54	$760.4	**$413.5**	54%
Planning Studies	5	$0.8	**$0.5**	60%
Total	**316**	**$3,475.7**	**$2,713.4**	**78%**

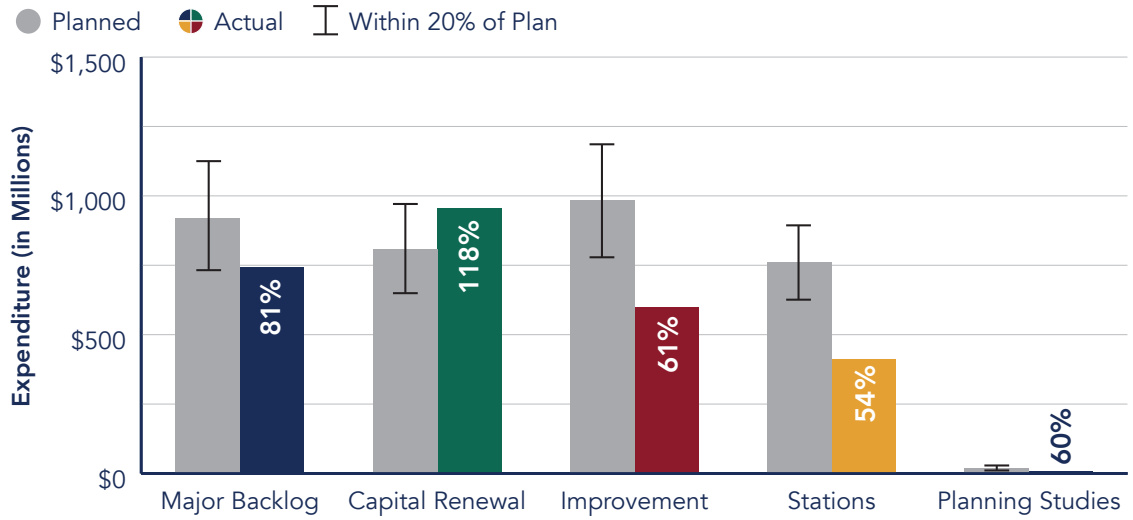


Figure 2-8. Top ten projects that did not adhere to plan (millions)

Project Name	FY23 Planned Expenditure	FY23 Actual Expenditure	Variance	Explanation of Variance
Penn Station Access (MTA)	$496.0	$242.9	-$253.1	Limited working time related to Amtrak workforce support and track access, as well as design delays resulted in fewer activities and expenditures.
New York Penn Station LIRR Concourse (MTA)	$275.3	$140.3	-$135.0	The FY23 Planned Expenditure amount did not accurately reflect expected costs, however the project achieved substantial completion on schedule and on budget in March 2023.
New York Penn Station Reconstruction (MTA)	$115.0	$8.3	-$106.7	NEPA initiation has been delayed.
Gateway: Hudson Tunnel Project (Amtrak)	$178.1	$83.5	-$94.6	In the CIP, this project included the scope of the Hudson Yard Concrete Casing work, which has since been separated into its own project. Further, one of the tunnel contracts was not executed until the end of FY23, so the work was delayed to FY24, also contributing to the underspend.
Gateway: Portal North Bridge (NJ TRANSIT)	$532.2	$481.7	-$50.4	Planned amount included unspent contingency and contractor retainage fees contributing to the variance, but the difference is anticipated to be spent over future fiscal years.
Harold Interlocking (MTA)	$200.0	$150.2	-$49.8	Limited working time related to Amtrak workforce support and track access resulted in fewer activities and expenditures.
Philadelphia 30th Street District Plan (Amtrak)	$91.3	$50.5	-$40.8	Project incurred a change order that delayed start of construction. Because the project did not start on time, funds were not spent as expected.
Mid-Atlantic Track Program (Amtrak)	$59.8	$97.1	+$37.3	A portion of the Mid-Atlantic Track Program budget was used to hire new employees in the fiscal year leading to schedule changes.
Frederick Douglass Tunnel Program (Amtrak)	$125.2	$89.6	-$35.6	Underspending can be attributed to delays in the construction contractor procurement for Package B and fewer properties being acquired than planned for FY23.

Project Name	FY23 Planned Expenditure	FY23 Actual Expenditure	Variance	Explanation of Variance
WALK Bridge: Enabling Components (CP243, Danbury Dockyard, East Catenary) (CTDOT)	$0.0	$33.6	+$33.6	Delays associated with activating the new interlocking located at CP 243.

Note: See *Project Information Appendix* for more project detail.

Broader trends likely contributing to gaps between plan and performance

Project sponsors submit explanations for any variance between planned and actual expenditure (see the *Project Information Appendix* for details). Common reasons for differences between actual expenditures and planned expenditures include project delays, scope changes, and unforeseen expenses. Workforce and material availability are frequently referenced in project submissions. While material availability creates project risk during the procurement and construction phases, workforce availability concerns can cause delays throughout the entire life of the project.

Progress in Assessing and Eliminating the State-of-Good-Repair Backlog

A state of good repair (SOGR) means assets are within their useful life or are in a condition to perform as designed. The SOGR backlog refers to the population of assets—both large bridges and tunnels (major backlog) and the programmatic capital renewal of basic infrastructure assets—on the NEC that are no longer in this condition. An asset's useful life can vary from a few years to many decades, after which it should be replaced. Some assets can operate safely beyond their useful life, though they can become more expensive to maintain and more vulnerable to failures that cause service disruptions.

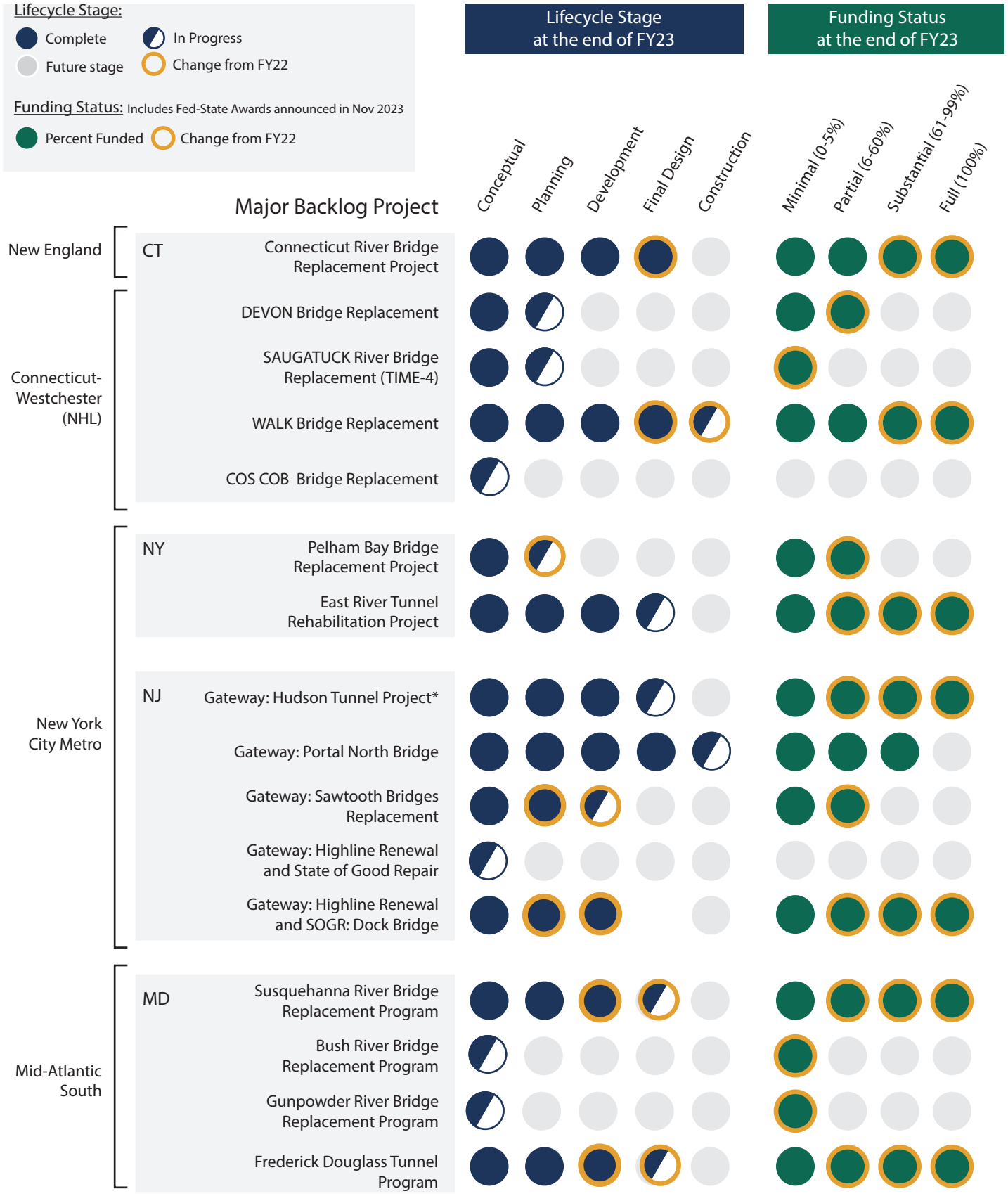
The NEC Cost Allocation Policy requires that the Commission report on the progress in eliminating the NEC SOGR backlog in the Annual Report. In the FY20 and FY21 Annual Reports the Commission reported it would first work with Amtrak, as the largest RoW infrastructure owner, to determine the appropriate method to establish the basic infrastructure backlog as a baseline to measure progress, but noted challenges with Amtrak data systems.

In the FY22 Annual Report, the Commission provided an initial status of major backlog projects, which has been updated in Figure 2-9 and reflects the Fed-State program grants announced in November 2023. The FY22 Annual Report also identified an approach for baselining and reporting on the share of basic infrastructure assets in a SOGR on an annual basis. Since then, the Commission has worked with RoW owners to gather the data necessary to assess the basic infrastructure backlog in their respective territories for some of these assets, which are reported on in Figure 2-10.

Major Backlog

Major backlog projects are large bridge and tunnel replacement or rehabilitations that will eliminate a significant portion of the SOGR backlog for many generations, when funded and implemented. Figure 2-9 on the next page notes the current lifecycle stage and funding status of major backlog projects as of the end of FY23 (i.e., September 2023) and reflects the Fed-State program grants announced in November 2023. It serves as the baseline for measuring future progress. The combination of current life cycle stage and funding status will provide a holistic status evaluation over time as implementation of these large projects may last a decade or longer. Although many of these projects received historic levels of funding from Fed-State Awards in November 2023, it will take longer to see progress in lifecycle stages.

Figure 2-9. Status of major backlog projects at the end of FY23



*Assumes full funding for construction will be identified

Programmatic Backlog

In the FY22 Annual Report, the Commission identified a proposed approach for setting a baseline of a percent of a certain subset of assets in a SOGR at the beginning of the federal fiscal year, and then reporting the percent in a SOGR at the end of the year. This assessment would be based both on additional assets that aged out of SOGR and new assets that replaced backlog assets during that federal fiscal year.

Since then, the Commission has worked with RoW owners to determine this initial baseline percentage for these assets. The percent of some Amtrak basic infrastucture assets in a SOGR were included in the FY24-28 Capital Investment Plan and more have been included in Figure 2-10. That information reflects the progress thus far in determining the percent of basic infrastructure assets in a SOGR.

While it would be preferable to use condition data to measure the backlog, the Commission proposes to continue to use age versus useful life as a SOGR proxy until condition data is gathered more robustly.

Many of the same systems issues that plague production unit reporting are behind this inability to set a SOGR baseline and track progress for all basic infrastructure assets. RoW owners must reform internal asset tracking systems to be able to generate this information reliably and efficiently. The Commission will continue to work with RoW owners to calculate the percent of assets in SOGR for all basic infrastructure assets.

Figure 2-10. Status of programmatic backlog at the end of FY23

Asset Type	Unit	Asset Count	Percent in SOGR
Amtrak (Amtrak and Massachusetts)			
Catenary Wire (Replacement)	Miles of Catenary	1,468	25.3%
Concrete Ties (Replacement)	Each	3,255,490	97.6%
Culvert (Replacement)	Each	802	1.0%
Substations (Replacement)	Each	86	2.3%
Signals (INT Replacement)	Each	1,832	38.8%
Signals (ABS Replacement)	Each	784	10.2%
Wood Ties (Replacement)	Each	2,586,764	76.2%
Catenary Poles (Replacement)	Each	Asset list being updated; should be complete end of FY24	
Central Instrument House (Replacement)	Each	Asset list being updated; should be complete end of FY24	
Rail (Replacement)	Rail Miles	Not tracked in asset inventory, but may be in the future	
Switch Machine (Replacement)	Each	Asset list being updated; should be complete end of FY24	
Turnouts (Replacement)	Each	Asset list being updated; should be complete end of FY24	
Undergrade Bridges (Replacement)	Each	Asset list being updated; should be complete end of FY24	
Metro-North (New York and Connecticut unless noted otherwise)			
Culverts (Replacement, NY only)	Each	5	40%
Rail (Replacement)	Rail Miles	442	43%
Turnouts (Replacement)	Each	15	60%
Undergrade Bridges (Replacement, NY only)	Each	20	90%
Catenary Poles (Replacement)	Each	MNR will work with Commission staff to provide condition information as it becomes available.	
Catenary Wire (Replacement)	Miles of Catenary		
Central Instrument House (Replacement)	Each		
Switch Machine (Replacement)	Each		
Concrete Ties (Replacement)	Each	MNR will continue to discuss with Commission staff how best to utilize the SOGR assessment data it has provided for these assets in the context of this endeavor and in alignment with FTA asset management oversight requirements.	
Wood Ties (Replacement)	Each		
Signals (Replacement)	Each	MNR will continue to work with Commission staff regarding the best way to provide information for these assets as systems allow.	
Substations (Replacement)	Each		

Note: The asset types listed above represent a subset of the asset data the Commission collects.


Left: Portal North Bridge in New Jersey, 2024. **Middle:** Next Generation Amtrak Acela Rendering, 2019. **Right:** Helmets used at the Baltimore Penn Station Groundbreaking, 2021.

Infrastructure Project Spotlights

Portal North Bridge

The Portal North Bridge Project will replace the existing 113-year-old swing bridge with a higher-clearance, fixed bridge over the Hackensack River. The new bridge will allow river traffic to pass beneath, without affecting Amtrak and NJ TRANSIT operations on the Northeast Corridor (NEC). The Portal North Bridge is an important element of the broader Gateway Program that will build the infrastructure to support a doubling of rail capacity between Newark, NJ and New York, NY.

Built in 1910 by the Pennsylvania Railroad, the existing Portal Bridge is a two-track moveable swing span, and a critical link in the 10-mile stretch taking trains into and out of New York. The swing bridge earned its name because it leads to the "portal" of the North River Tunnel, located just three miles away in North Bergen, NJ.

Prior to the COVID-19 pandemic, Portal Bridge carried more than 450 daily Amtrak and NJ TRANSIT trains and 200,000 daily passengers. The bridge is a major bottleneck and source of delay in the most congested section of the NEC, particularly when the aging structure malfunctions when opening and closing for maritime traffic.

In FY23, the Portal Bridge was responsible for delaying over 1,000 trains and caused nearly 17,000 train delay minutes, nearly 2% of the total train delay minutes on the entire NEC. More than 40% of these delays were due to normal operations of the bridge opening for maritime traffic, and the remainder were from failures during the opening and closing of the bridge.

The Portal North Bridge Project will replace this outdated and increasingly unreliable structure with a modern, more reliable network tied arch bridge that will rise 50-feet over the river—more than double the height of the existing bridge—and including the approaches, span nearly 2.5 miles of the NEC.

By eliminating the problematic swing bridge, the Portal North Bridge Project will improve resiliency and operational reliability in this important stretch of the railroad and allow for higher operating speeds and a modest increase in capacity. The new design will allow trains to operate at 90 mph, deconflict marine and rail traffic, and eliminate maintenance issues and costs associated with the old bridge.

The project is approximately 50 percent complete and on schedule for completion in 2027. In FY23, the project reached several milestones including construction of all temporary access platforms and placement of the first girders. Other progress included construction of retaining walls and construction of the main bridge piers—footings on which to place the steel girders. By December of 2024, the project is expected to complete all guideway bridge approach structures, half of the retaining walls, completion of the bridge piers, and placement of structural steel for the new bridge.

The success of the project to date stems from close collaboration and interagency coordination between Amtrak, NJ TRANSIT, and the contractor. Quarterly meetings are held at the executive level, while daily meetings are conducted at the project level. In addition, Amtrak and NJ TRANSIT staff are co-located in the project's Secaucus, NJ office and work closely together in the field.

Ashok (A.J.) Nayee, Amtrak Deputy Chief Engineer, and Lenny Patton, Amtrak Sr. Capital Construction Manager said some of the project challenges include the availability of AC electrical outages and track outages. To find a solution, they are working with NJ TRANSIT and Amtrak planners to adjust train schedules where possible to accommodate longer working hours for work crews.

When asked about their favorite part of their jobs A.J. said, "as a civil engineer, seeing something that is going to last for another hundred years and function for generations to come," brings him the most satisfaction. Lenny likes that he is constantly learning and that "it's not your typical 9-5, the unexpected happens and you have to find solutions and be quick on your feet."

Led by NJ TRANSIT, the project works five days per week, two shifts per day. An overnight third shift is worked when track outages and overhead wire outages are needed. The outages are scheduled on overnights to mitigate impacts to train operations. On an average day, the contractor has between 400 and 500 workers on site and uses union labor.

When completed, the Portal North Bridge will have an outsized impact on the efficiency of the NEC, especially for commuters headed to and from New York City. Passengers will see more resilient, more reliable, and more efficient service, making train travel a more attractive option to customers throughout the NEC.



Progress on the Portal North Bridge in New Jersey, 2024.

Baltimore Penn Station Platforms

Built in 1911, Baltimore Penn Station is the fourth busiest Amtrak owned station on the Northeast Corridor serving more than 2.2 million annual Amtrak and MARC passengers. It's been 40 years since the historically significant train station had a major renovation.

Amtrak recently convened a ribbon cutting to celebrate completion of the new platform 5, which will begin serving trains this spring, and is currently in the process of reconstructing platform 2 in the historic station as part of a larger Baltimore Penn Station restoration and expansion. The much-needed updates will help ensure that next-generation Acela trains, long-distance trains, and MARC trains can reliably, safely, and efficiently move passengers in and out of Baltimore.

These upgrades will improve on-time performance for high-speed train operations by providing route flexibility and allowing unimpeded travel—especially important since Amtrak ridership in Baltimore increased by 29% over the past year. The upgrades also relieve a major pinch point along the Corridor as Amtrak has plans to double peak hour Acela train service between Boston and D.C. The longer platforms will increase capacity at the station and alleviate overcrowding that happens during peak hours, making it safer for passengers waiting on their trains.

The recently completed platform 5 was built from the ground up in an adjacent structure next to the existing station. The project started in 2019 and wrapped up roughly three years after the official groundbreaking. In FY23 the new platform was outfitted with a new public information display system, electrical wiring, upgraded train signals, and an ADA compliant escalator and elevator that had to be dropped in the station with an ariel crane. It was also outfitted with a pedestrian bridge that safely connects passengers to the existing station.

Qwyn Durret, the Amtrak Project Manager for platforms 5 and 2, explained some of the challenges with the major project such as designing and installing the new public information display system, switching from an analog to a new fiber optics system. They installed 6 giant monitors along the new 1,200-foot platform to ensure customers have access to all the train information and live updates they need to keep moving. Another challenge, given the historic nature of the site, was navigating the sub-surface structures that existed below the building, like sewer systems and tunnels. These surprises tucked below the surface of the new platform posed a risk to the project budget and schedule.

Baltimore Penn Station is undergoing a complete restoration and expansion. Work at the historic station includes stone façade work, copper work, mill work, and interior finishes requiring almost every trade you can imagine including masonry, welders, plumbers, electricians, mechanics, technologists, and more. Everything from doors

and handles, antique equipment, and the station's iconic iron and glass canopy is being restructured. There will also be new restaurants and retail options and amenities for customers.

Upgrades at stations, whether platforms, interiors, retail, or wayfinding, enhance the traveling experience for customers. Investments like the ones at Baltimore Penn Station will support growing intercity and commuter rail service for years to come.

Learn more about the NEC from these past Annual Report case studies:

- Spotlight on **Hanson Interlocking**, FY22 Annual Report, pages 28-29
- Spotlight on **pre-construction**, FY21 Annual Report, pages 25-27
- Spotlight on **resiliency**, FY21 Annual Report, pages 37-39
- Spotlight on the **B&P Tunnel**, FY20 Annual Report, pages 22-23
- Spotlight on **switch machines**, FY20 Annual Report, pages 39-40
- How **weather** can affect train operations and performance, FY19 Annual Report, page 15
- How operational performance of the railroad is closely linked to the **infrastructure condition** and investment, FY19 Annual Report, pages 18-20

3. Operations

This section summarizes NEC operations during federal fiscal year 2023 using available data for service and ridership, train performance, and major service incidents. Analyzing operations, including trends over time, helps track how well the corridor serves its customers and also helps agencies identify ways to improve service.

Service and Ridership

Service and ridership levels continue to rebound, ending FY23 with the highest observed levels since the coronavirus pandemic began.

The Northeast Corridor has been and remains the busiest rail corridor in the United States. The NEC was expected to break ridership and service records in FY20 before the pandemic outbreak. There were 902,000 average weekday trips and 2,110 average weekday trains on the corridor in FY19 — just before the onset of the coronavirus pandemic that brought on historic lows for both intercity and commuter rail services.

Ridership plummeted in March 2020, followed by oscillating ridership trends due to the emergence of new coronavirus variants. Ridership recovered over FY22, ending the period with over 583,000 average weekday trips in September 2022 (62% of pre-pandemic trips), and has continued to recover over FY23. Ridership levels hit a yearly low in January 2023 of 549,000 and plateaued until March before recovering strongly throughout the rest of the year, ending FY23 with over 628,000 average weekday trips in September 2023 (65% of pre-pandemic trips)—the highest since March 2020 (see Figure 3-1). Over the course of FY23, trips on the NEC grew by 17% from the prior fiscal year. All NEC operators experienced ridership growth. On average, weekday trips on the NYC-area commuter rail systems (Metro-North, LIRR, and NJ TRANSIT) accounted for 75% of all NEC weekday trips in FY23. The largest percentage growth over FY23 were trips on VRE and MBTA services with 49% year-over-year growth.

NEC operators have continued to incrementally increase service closer to prepandemic levels. NEC service averaged 2,029 daily intercity and commuter trains throughout FY23, roughly 96% of pre-pandemic service. NEC service grew by over 8% from the prior fiscal year. Average weekday train service from MBTA, CT*rail*, Metro-North, MARC, and VRE remained reasonably constant in FY23, while Amtrak, LIRR, NJ TRANSIT, and SEPTA were operating additional weekday trains by the end of the fiscal year (see Figure 3-2).

Figure 3-1. FY22-23 average NEC weekday trains and trips by month

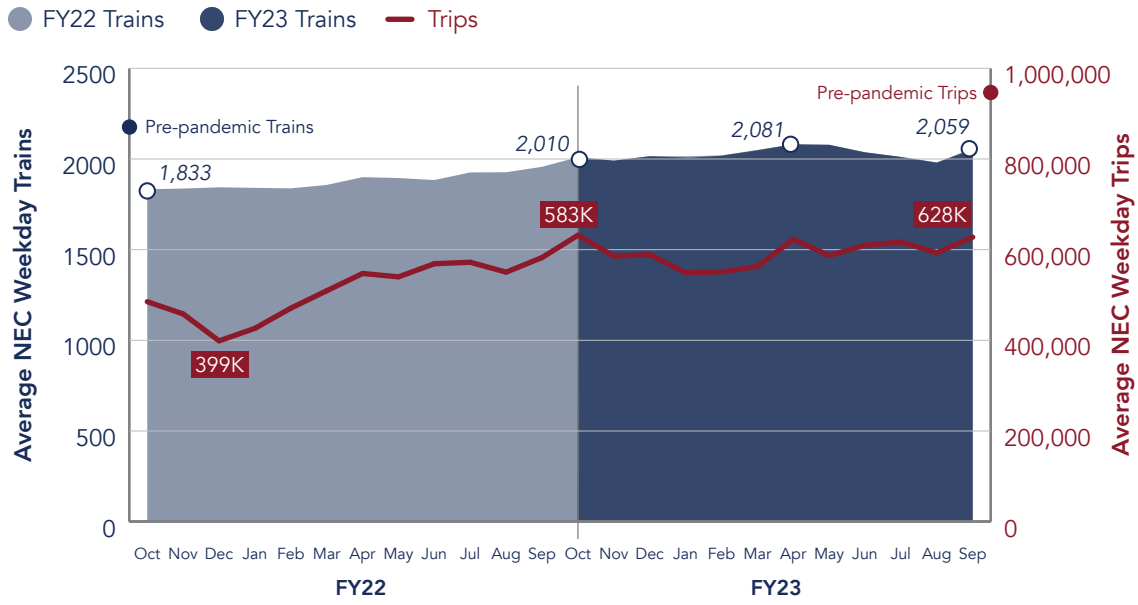


Figure 3-2. FY19-FY23 average NEC weekday trains by operator

Operator	Average NEC Weekday Trains						
	FY19	FY20	FY21	FY22	FY23	Change From FY22	Change From FY19
Amtrak	156	88	78	99	126	26.9%	-19.1%
MBTA	308	262	269	313	315	0.7%	2.4%
CT*rail*	46	42	30	39	41	5.2%	-11.4%
Metro-North	298	226	196	267	300	12.3%	0.8%
LIRR	451	437	407	421	450	7.1%	-0.1%
NJT	383	351	381	395	401	1.4%	4.6%
SEPTA	340	245	217	216	267	23.9%	-21.3%
MARC	96	78	56	97	97	0%	0.6%
VRE	32	24	23	31	31	0%	-1.8%
Total	2,110	1,753	1,659	1,878	2,029	8.0%	-3.8%

Figure 3-3. FY19-FY23 average NEC weekday trips by operator

Operator	Average NEC Weekday Trips						
	FY19	FY20	FY21	FY22	FY23 Avg.	Change From FY22	Change From FY19
Amtrak	49,936	24,771	17,169	35,678	**47,380**	**32.8%**	**-5.2%**
MBTA	67,892	40,304	15,796	36,193	**54,002**	**49.2%**	**-20.5%**
CT*rail*	2,198	1,033	327	618	**653**	**5.6%**	**-70.3%**
Metro-North	119,995	61,737	34,626	68,203	**80,312**	**17.8%**	**-33.1%**
LIRR	322,284	185,524	122,358	200,606	**202,170**	**0.8%**	**-37.3%**
NJT	240,872	126,522	68,783	126,211	**162,460**	**28.7%**	**-32.6%**
SEPTA	64,657	33,143	16,034	32,399	**35,279**	**8.9%**	**-45.4%**
MARC	29,964	14,711	3,686	8,417	**10,293**	**22.3%**	**-65.6%**
VRE	4,264	2,001	380	903	**1,347**	**49.3%**	**-68.4%**
Total	**902,061**	**489,746**	**279,160**	**509,228**	**593,895**	**16.6%**	**-34.2%**

Figure 3-4. Top ten U.S. commuter rail systems by number of system-wide trips

Primary State	Operator	Sep 2023 System-wide Trips (Millions)	Percent of all Commuter Rail Trips	Sep 2019 System-wide Trips (Millions)	Percent of all Commuter Rail Trips
NY	LIRR	6.1	23%	9.8	23%
NJ	NJ TRANSIT	5.1	19%	7.7	18%
NY	Metro-North	4.9	19%	7.5	18%
IL	Metra	2.9	11%	5.2	12%
MA	MBTA	2.2	8%	2.6	6%
PA	SEPTA	1.6	6%	3.1	7%
CO	RTD	0.8	3%	0.9	2%
CA	Caltrain	0.6	2%	1.5	3%
CA	Metrolink	0.4	2%	1.1	2%
UT	FrontRunner	0.4	1%	0.5	1%

Note: Data from the Federal Transit Administration's National Transit Database. Trips are inclusive of all commuter rail services offered by the operator, not just those operating on the NEC.

NEC Operating Surplus

Federal statute and the NEC Cost Allocation Policy requires Amtrak to provide an accounting of how its NEC operating surplus, if any, was expended. Amtrak staff will report to the NEC Commission for future Annual Reports on how its revenues are reinvested back into the NEC.

Operating surplus on Amtrak's NEC service line was as follows for the last five years:

Fiscal Year	Surplus ($M)
2019	$568.5
2020	($3.9)
2021	($345.1)
2022	($1.6)
2023	$198.7

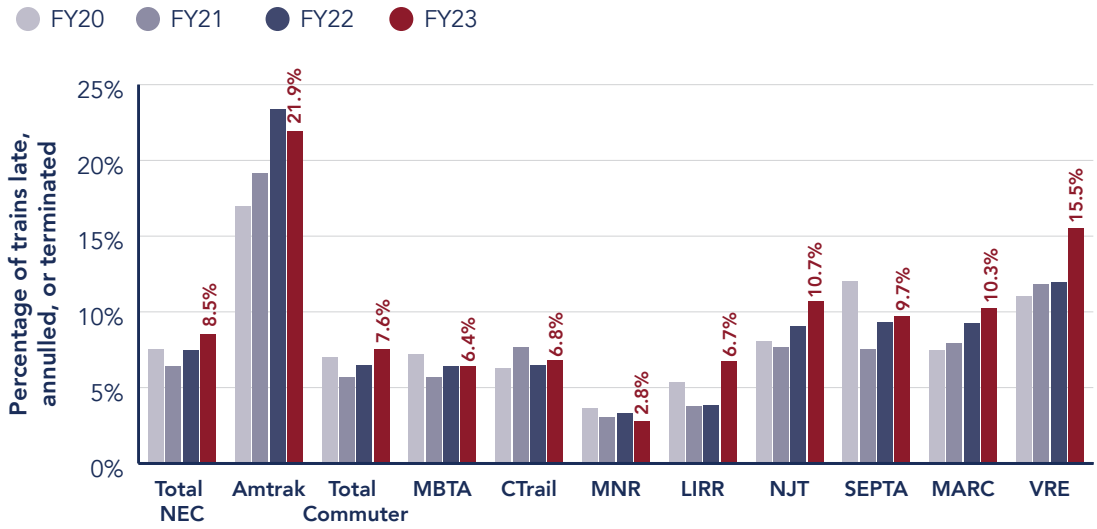
Train Performance

Increase in service brings back challenges to maintaining the relatively high levels of reliability experienced during the pandemic.

NEC train service has generally been more reliable since the start of the pandemic, largely due to lower service levels that create fewer opportunities for delays to occur. 8.5% of NEC trains were late, annulled, or terminated in FY23, an increase from 7.5% of trains in FY22 (see Figure 3-5). This increase is consistent with the fact that additional NEC trains returned to service in FY23 (an 8.0% increase over the same time period). Overall NEC train service remains more reliable than pre-pandemic services with 11.0% trains late, annulled, or terminated in FY19.

MBTA and CT*rail*'s performance was on par with that of prior years. LIRR, NJ TRANSIT, SEPTA, MARC, and VRE services experienced various levels of increased delays related to infrastructure, mechanical, transportation, and third party issues, compared to years prior, which was in part was due to the continued re-introduction of services. SEPTA in particular increased service by 24% compared to FY22. In contrast, Amtrak saw a reduction in delays from 23.4% in FY22 to 21.9% in FY23 despite increased ridership and service levels. Metro-North also experienced a reduction in delays from 3.3% to 2.8% with passenger numbers and services holding near steady.

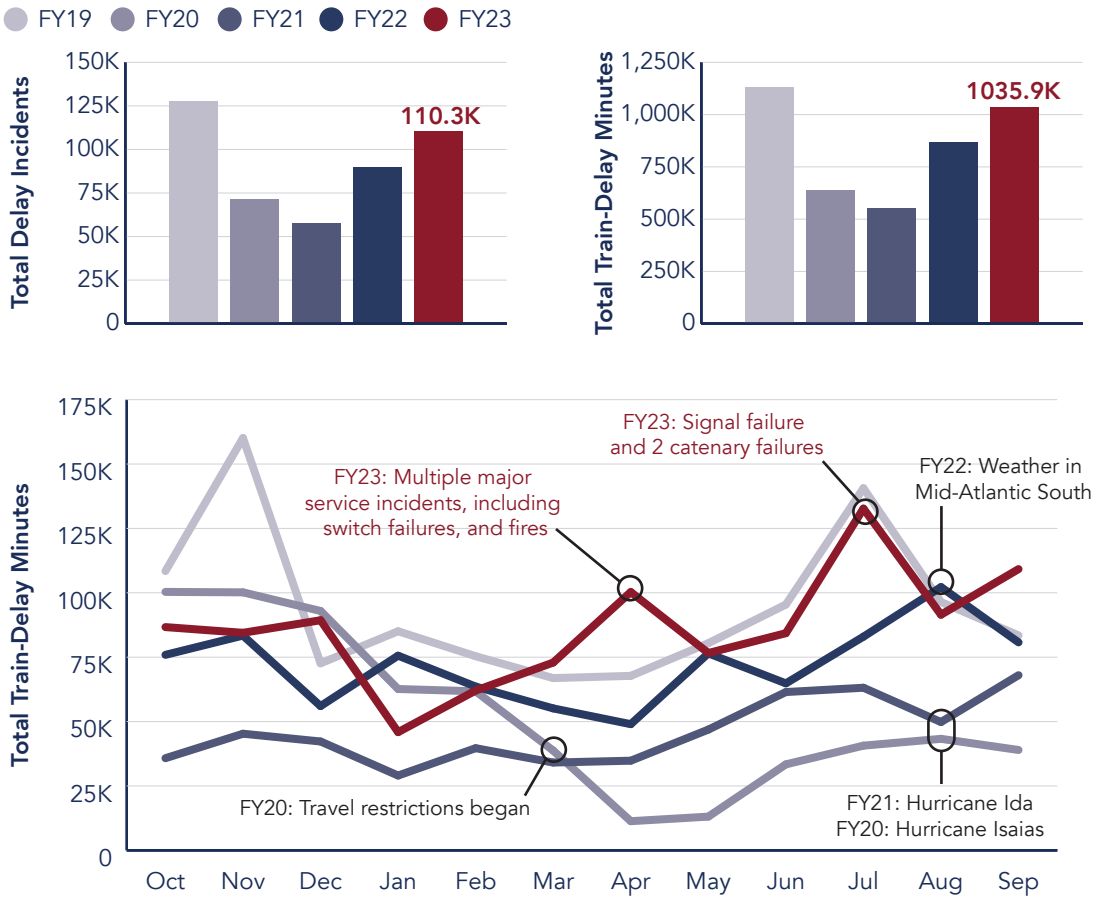
Figure 3-5. FY20-23 percent trains late, annulled, or terminated by operator



Train delays—both the total number of incidents and minutes—increased in FY23 with over 110,000 delay incidents and nearly 1,036,000 train-delay minutes, a 22.7% and 19.7% increase from FY22, respectively (see Figure 3-6). However, even after these increases, train delays remain below FY19 levels.

Delays in FY23 varied throughout the year with annual lows during Q2, and peaks in Q4 accounting for 32.2% of the year's total train delay minutes. Several major infrastructure failures involving catenary and signaling occurred throughout July, which were extremely disruptive and account for the annual peak in total train-delay minutes. Infrastructure delays were consistent with the previous year, whereas there was a significant increase in third party delays largly driven by lineside fires and trespassers. The number of weather incidents decreased during the year but the total delay minutes as a result of extreme weather events increased. See page 40 for more on major service incidents.

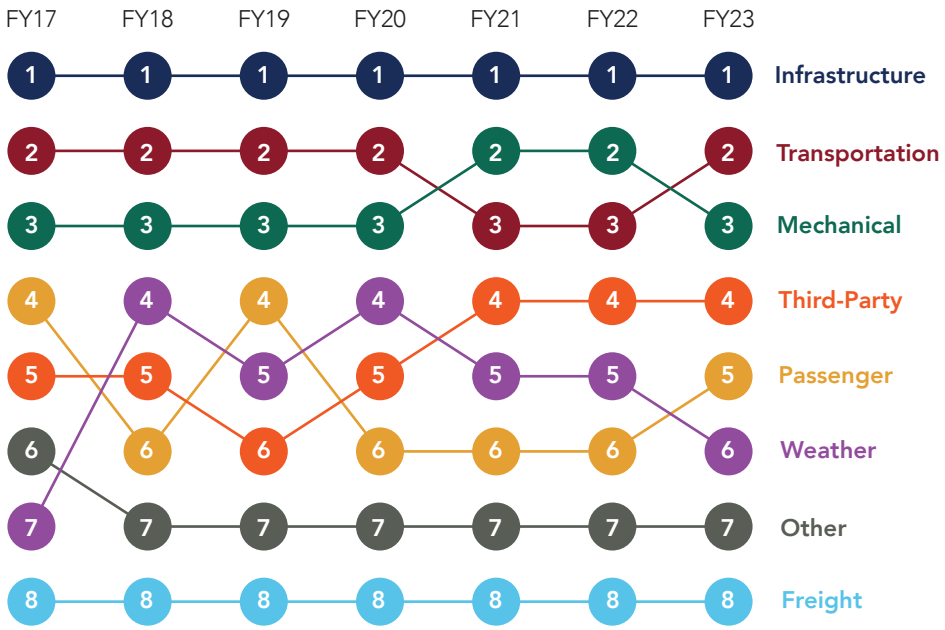
Figure 3-6. FY19-23 total train delays



Infrastructure remains as top cause of delays

Infrastructure, transportation, and mechanical remain the top three categories of delay (see Figure 3-7). The stability of the top three categories underscores that while train performance can improve with reduced service, capital investments that ensure reliable service for riders remain critically important, especially as service levels are restored and/or increased.

Figure 3-7. FY17-23 annual ranking of train-delay minutes by cause

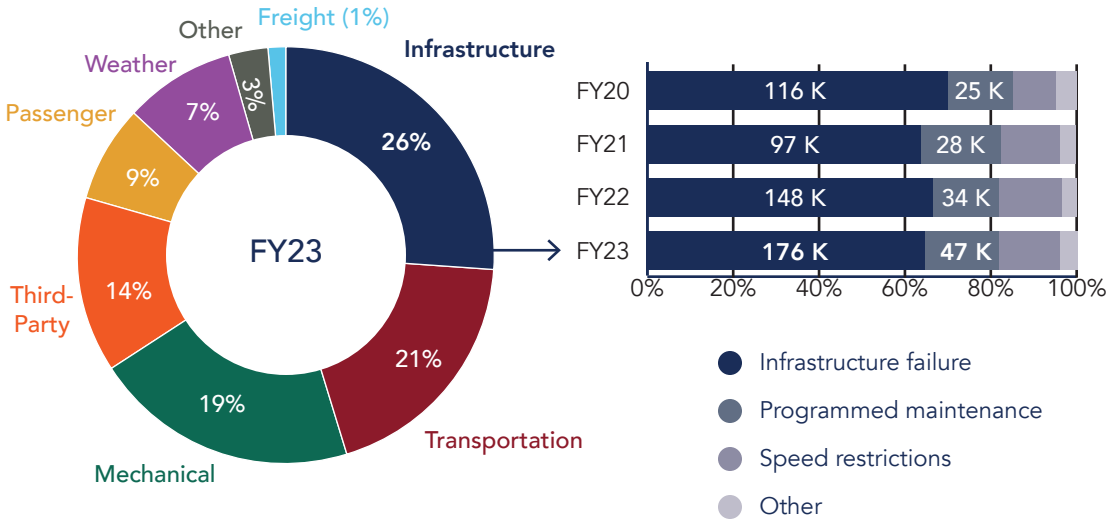


NEC Commission Cause of Delay Categories

Individual railroads maintain their own classification of delay causes. The Commission gathers, consolidates, and analyzes causes of delay from all NEC railroads to create a consistent framework that allows for a corridor-wide analysis. Under this approach, the Commission utilizes eight cause-of-delay categories defined below:

- **Infrastructure:** Failure of track, communications and signals, electric traction, and structure assets; programmed maintenance including any late clearings; and speed restrictions.
- **Mechanical:** Locomotive failure; coach failure; and disabled train ahead.
- **Transportation:** Train dispatching and routing; train interference; and crew availability.
- **Third-Party:** Trespassers; police action; bridge openings; debris on tracks; and utility failure.
- **Weather:** Precipitation; wind; excessive cold or heat; slippery rail; and weather-related infrastructure failures.
- **Passenger:** Passenger loading time; passenger behavior or injury; and holding for connections.
- **Other:** No report provided; delay cause unknown; and derailment.
- **Freight:** Freight train interference.

Figure 3-8. FY23 train-delay minutes by cause



Infrastructure delays accounted for 26% of all train-delay minutes in FY23, including delays from failures of specific assets, programmed maintenance, and speed restrictions. The majority of infrastructure delays resulted from infrastructure failures, primarily with communications and signals, track, and electric traction assets. Transportation (21%) and Mechanical (19%) were the second and third largest categories of delay in FY23 (see Figure 3-8).

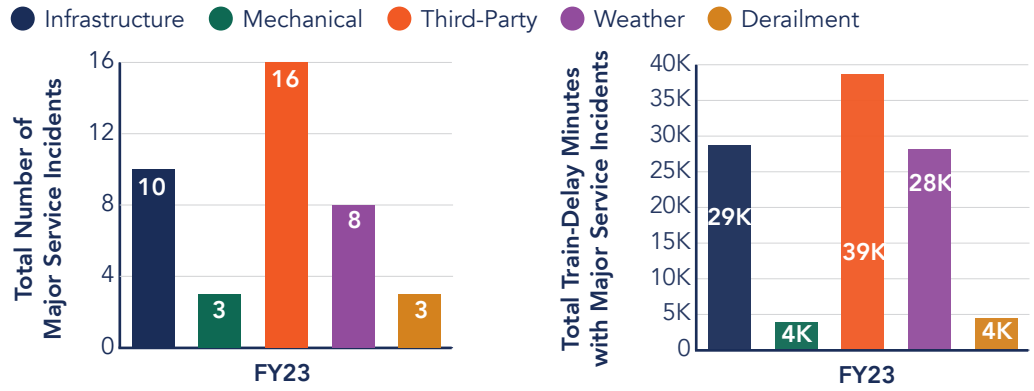
Mechanical delays are primarily attributed to mechanical issues, but may include some secondary infrastructure-related causes. For example, there were several major incidents in FY23 where trains reported intermittent power loss. These incidents were primarily attributed to a mechanical failure of a train's pantograph, but required crews to inspect the right-of-way and repair any potential issues with the overhead catenary.

The return of service also brings more major service incidents

Major service incidents are single events that generate multiple train delays. These incidents typically shut down operations over a stretch of the NEC and require an extended period of time to resolve. Major service incidents are identified by analyzing train performance data and cross-referencing the data with daily operations reports from NEC operators.

Major service incidents increased in FY23 largely due to the return of more trains into service. There were 40 major service incidents in FY23, an increase from 32 in FY22, and over 100,000 train-delay minutes caused by major incidents, an increase from 61,000 in FY22. A full list of major incidents is available in Figure A-5.

Figure 3-9. FY23 major service incidents



Over a quarter of FY23's major service incidents were infrastructure-related, four of which were due to signal failure, and three due to catenary failures. A major signal power failure in the New York metro area in July caused over 10% of FY23 major incident delay minutes alone. There were two very disruptive catenary failures on consecutive days in July 2023 around the New York City Metro region that involved downed wires and loss of power on NJ TRANSIT and Amtrak trains. These major service incidents required crews to be dispatched to identify, troubleshoot, and repair assets, while other trains in the area followed speed restrictions or were canceled. These incidents each affected hundreds of trains and caused nearly 29,000 train-delay minutes in total.

Portal Bridge continued to experience issues in FY23. In May, an electronics issue with rail locks required manual inspection after each train passed. It took three days to successfully resolve the issue, leading to service disruption affecting nearly 420 trains, and causing 3,800 train-delay minutes (see page 30 for a spotlight on the Portal North Bridge Project).

There was a significant increase in third party major delay incidents, with 16 incidents in FY23, an increase from eight in FY22. This led to third party delays being the most disruptive major service incidents in FY23—accounting for nearly 39,000 train-delay minutes. Half of these incidents were trespasser events which occurred throughout the year and in most regions. A quarter of third party incidents were lineside fire events concentrated around March and April.

Weather related major service delays increased from FY22, with over 28,000 train delay minutes in FY23. The most disruptive weather-related major service incident occurred in December 2022 affecting operators across the corridor. Rain, snow, and high wind speeds caused slow orders, signal failures, flooding, and downed trees systemwide.

4. Challenges and Recommendations

Commission members are starting to advance the investments made possible by the Bipartisan Infrastructure Law (BIL). (See Figure 2-1.) Though initial Fed-State Partnership grant awards were announced in early FY24, the promise of pre-award authority that reimburses eligible past expenditures enabled project sponsors to make progress on many key projects in FY23 that will now be funded by BIL.

However, as discussed in many of the Commission's past annual reports, the ability to deliver projects on-schedule and on-budget remains a challenge. The Commission and its members continued to advance initiatives in FY23 to understand and address the root causes driving these outcomes. This section of the report provides an update on those efforts and recommendations for moving forward.

Implementation Coordination Program (ICP)

The Commission established an Implementation Working Group in FY22 in light of the historic funding for the NEC made available in BIL with the goal of helping its members improve schedule and budget adherence. The Commission hired dedicated staff to identify an appropriate role for the Commission in project delivery and stand up an ongoing program.

As discussed in the FY22 Annual Report, the Commission started by drafting an initial ICP Plan, completed in FY23, to identify key interagency activities that are a frequent source of project schedule delay and establish best-practice guidelines for how agencies should communicate and collaborate to undertake those activities on-schedule. Example interagency activities included design management, agreement execution, workforce planning, and track outage planning. The FY22 Annual Report concluded by recommending active participation in the ICP, initially through participation in a pilot program.

The Commission initiated this pilot program in FY23 by monitoring six different projects of varying scales and locations, tracking their progress, and noting challenges.

The program yielded two key lessons:

1. Readily available project schedule data is generally not standardized within or across agencies or at a sufficient level of granularity to monitor identified interagency coordination activities.

2. While interagency communication breakdowns can occur, they are not the source of all delays. Some projects exhibited frequent interagency communication but insufficient resources to keep all projects on schedule.

These two early findings are interrelated. Without standardized project schedule data with details on activities that require each agency's workforce resources, it is not possible to fully understand the resource needs across the entire program to keep all projects on schedule. While shared resource needs for construction have long been recognized as a challenge and the focus of various planning and coordination efforts, the ICP pilot program shed light on the need to look at this issue for projects in development and design as well.

Commission member agencies should continue active involvement in the ICP in FY24 and beyond through the following commitments:

1. Generate standardized project schedule data for funded NEC projects at a level of granularity mutually determined by Commission member agencies to be sufficient to support effective planning for shared resources, both for pre-construction and construction activities.

2. Once an overall program schedule is in place, participate in analyses of shared resource needs versus availability and consider where individual project schedule adjustments might be necessary to make the overall program feasible from a resource perspective.

3. Increase the number of projects the Commission monitors for adherence to interagency milestones (e.g., design reviews, environmental reviews, cost sharing agreements, grant agreements).

4. Consider how to structure a dispute resolution process to mitigate disagreements between agencies that are blocking projects from moving forward.

While active participation in these activities will begin to address some project implementation barriers, it is important to acknowledge that to date the ICP has not fully explored every implementation coordination challenge. One example is the inherent tension between efficiently delivering projects and the associated service impacts required. Coordination and collaboration between owners, project sponsors, and operators regarding track outages and service cuts will be more important than ever to accommodate BIL-funded work while also serving NEC customers. In FY24, the Commission will continue to explore project implementation challenges like this, and where appropriate identify a potential role for the Commission in addressing these challenges.

Data Systems and Business Practices

Existing data systems and business practices within Commission member agencies do not currently generate all the information sought through the ICP and other Commission initiatives. Though ad hoc data gathering exercises can be useful in

the short term, it is imperative that internal data systems and business practices ultimately be adjusted to automatically generate such information. These reforms are important to reduce the administrative burden of providing such information to the Commission, but primarily because such data streams have been determined by the Commission to hold practical value within each member organization on top of their corridor-wide benefit.

Commission member agencies should review and revise data systems and business practices in FY24 and beyond through the following commitments:

1. Ensure data systems incorporate full life-of-project scope, schedule, and cost information, including the standardized project schedule data referenced above, and multi-year location, unit, and expenditure forecasts for programmatic capital renewal (e.g., rail and tie replacement) and ensure business practices require staff to review and refresh such data on a monthly or quarterly basis.

2. Continue to make progress, as has been demonstrated in this Annual Report (page 26), to increase the number of asset types for which asset population, location, install date, and/or condition data are reliable, regularly updated, and easily queried for assessing the state-of-good-repair backlog.

Workforce Development

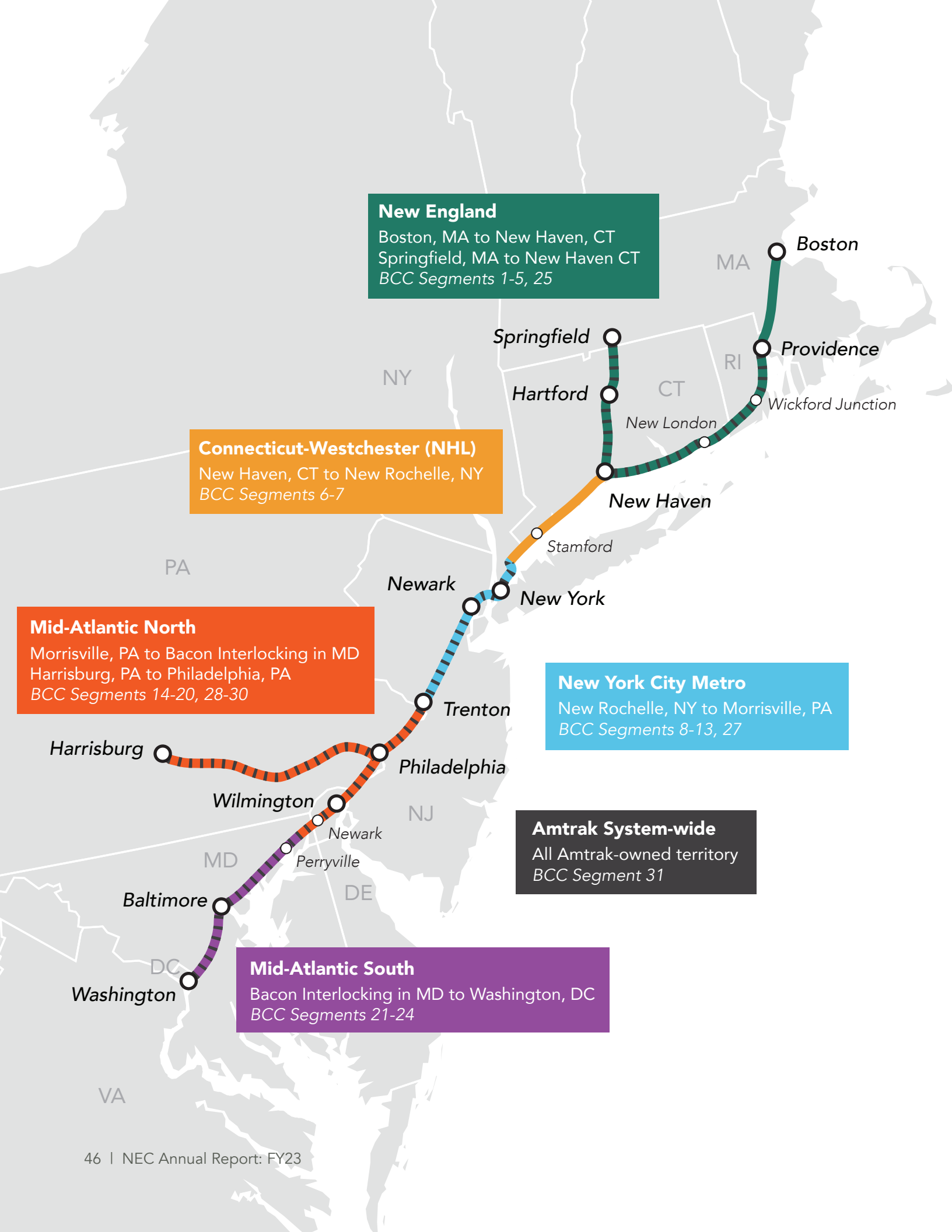
To deliver the CONNECT NEC plan and projects funded by BIL, the Commission's members are focused on increasing workforce availability (total personnel available to work), workforce predictability (personnel in the right place at the right time), and workforce efficiency (amount of executed work per person-hour). From a low of 3,466 maintenance-of-way (MOW) workers in FY21 due to a pandemic hiring freeze, Amtrak finished FY23 with 4,900 MOW workers and expects to hire another 1,500 in FY24. These new hires promise a less resource-constrained future; however, it will take significant time—years in the cases of some crafts and trades—for these employees to be fully trained and qualified to staff construction projects.

The challenge of having the right personnel in the right place at the right time requires additional steps beyond increasing the size of the workforce. High quality workforce need forecasts must be in place to hire the right trades in the right locations or, if need levels exceed feasible hiring and training timelines, to adjust construction schedules to align them with expectations of workforce availability. Multi-year resource-loaded schedules do not exist today for all desired pre-construction and construction activity. When resource-loaded schedules exist for only a portion of planned capital investment, all projects, both those with and without high quality workforce need forecasts, are subject to daily and weekly disputes over workforce assignments. The losers of those fights incur schedule delays and cost overruns.

Commission member agencies should continue workforce initiatives in FY24 and beyond through the following commitments:

1. Generate multi-year, resource-loaded schedules for all funded projects and production programs, as well as an annual workforce need forecast for each regional capital renewal program.

2. Participate in the process described above for the ICP to analyze resource needs versus availability and, in good faith, consider where individual project schedule adjustments might be necessary and ways to increase resources and maximize the efficient use of existing resources.


New England
Boston, MA to New Haven, CT
Springfield, MA to New Haven CT
BCC Segments 1-5, 25
Boston
MA
Springfield
Providence
RI
NY
Hartford
CT
Wickford Junction
New London
Connecticut-Westchester (NHL)
New Haven, CT to New Rochelle, NY
BCC Segments 6-7
New Haven
Stamford
PA
Newark
New York
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Harrisburg, PA to Philadelphia, PA
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All Amtrak-owned territory
BCC Segment 31
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Perryville
DE
Baltimore
DC
Mid-Atlantic South
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Washington
VA

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Appendix: Infrastructure Summary

Baseline Capital Charges (BCCs)

Figure A-1. BCC obligations by operator and owner territory, FY23 *(millions)*

Capital renewal investments can be funded with Baseline Capital Charges (BCCs) allocated to operators* based on methods described in the NEC Commuter and Intercity Rail Cost Allocation Policy. According to the Policy, right-of-way owners must invest operators' BCCs on eligible assets within the operators' service territories in the year the BCCs are contributed.^ Figure A-1 below shows the FY23 BCC obligations for each service operator by RoW owner territory.

		Right-of-Way Owner Territory				
Service Operator		**Amtrak**	**MBTA**	**Connecticut DOT**	**Metro-North**	**Total**
Amtrak		$334.8	$9.0	$25.2	$2.6	**$371.5**
MBTA		$2.2	$19.2			**$21.4**
Rhode Island DOT		$3.3				**$3.3**
Connecticut DOT	Shore Line East	$5.5		$0.6		**$6.2**
	Hartford Line	$8.3		$0.5		**$8.8**
	New Haven Line			$81.8		**$81.8**
MTA	Metro-North Railroad				$15.1	**$15.1**
	Long Island Rail Road [1]	$23.5				**$23.5**
NJ TRANSIT [2]		$104.4				**$104.4**
SEPTA		$39.9				**$39.9**
Delaware DOT		$4.0				**$4.0**
MDOT MTA / MARC		$23.7				**$23.7**
VRE		$1.5				**$1.5**
Total FY23 BCC Obligations		**$551.2**	**$28.2**	**$108.2**	**$17.6**	**$705.1**

Table notes: (1) LIRR's obligation is subject to revision based on actual expenditures per Amtrak-LIRR agreement. (2) NJ TRANSIT's BCC obligation reflects the NJ TRANSIT-Amtrak BCC variance for Portal North Bridge, approved by the Commission in August 2019.

* The Policy defines "operator" as an entity responsible for, or established to provide, commuter or intercity passenger rail transportation subject to the Policy. This includes Amtrak, the New York Metropolitan Transportation Authority, the Connecticut Department of Transportation, the Delaware Department of Transportation, the Maryland Department of Transportation, the Rhode Island Department of Transportation, the Southeastern Pennsylvania Transportation Authority, New Jersey Transit Corporation, the Massachusetts Bay Transportation Authority, Virginia Railway Express, any successor agencies, and any entity created to operate, or contract for the operation of, commuter or intercity passenger rail service.

^ The Policy (Appendix 1.6.2.1 and Section 3.4.2.2) allows owners, under certain conditions, to invest an operator's BCCs beyond the year they are contributed. The Policy also allows owners to apply operators' BCCs to system-wide projects (investments that span multiple BCC segments and/or are not physically located in their service territory) if certain criteria are met.

Figure A-2. Actual BCC-eligible expenditure by operator and owner territory, FY23 *(millions)*

RoW owners assign service operators' BCCs to fund eligible capital renewal investments. In some cases, RoW owners invest in their territory above the BCC obligated amount. Figure A-2 shows BCC-eligible expenditures by right-of-way owner territory as assigned to each service operator.

		Right-of-Way Owner Territory				
Service Operator		**Amtrak**	**MBTA**	**Connecticut DOT**	**Metro-North**	**Total**
Amtrak		$587.3	$4.3	$25.2	$2.4	**$619.2**
MBTA		$2.2	$9.1			**$11.3**
Rhode Island DOT		$3.3				**$3.3**
Connecticut DOT	Shore Line East	$5.5		$0.6		**$6.2**
	Hartford Line	$8.3		$0.5		**$8.8**
	New Haven Line			$85.5		**$85.5**
MTA	Metro-North Railroad				$14.3	**$14.3**
	Long Island Rail Road	$8.6				**$8.6**
NJ TRANSIT		$84.4				**$84.4**
SEPTA		$39.9				**$39.9**
Delaware DOT		$4.0				**$4.0**
MDOT MTA / MARC		$23.7				**$23.7**
VRE		$1.5				**$1.5**
Total FY23 Actual Expenditure		**$768.7**	**$13.4**	**$111.8**	**$16.7**	**$910.6**

Figure A-3. Comparison of actual BCC-eligible expenditure and BCC obligation, FY23 *(millions)*

Figure A-3 shows the difference between FY23 BCC-eligible expenditures as assigned to each service operator and the FY23 BCC obligation for each operator. Collectively, right-of-way owners spent an additional $181 million above BCC obligations on BCC-eligible work. However, only Amtrak met their FY23 BCC-obligation. MBTA, Connecticut DOT, and Metro-North each spent at levels below the service operators' BCCs in their territories.

		Right-of-Way Owner Territory				
Service Operator		**Amtrak**	**MBTA**	**Connecticut DOT**	**Metro-North**	**Total**
Amtrak		$252.5	-$4.7	$0	-$0.1	**$247.6**
MBTA		$0	-$10.1			**-$10.1**
Rhode Island DOT		$0				**$0**
Connecticut DOT	Shore Line East	$0		$0		**$0**
	Hartford Line	$0		$0		**$0**
	New Haven Line			$3.6		**$3.6**
MTA	Metro-North Railroad				-$0.8	**-$0.8**
	Long Island Rail Road [1]	-$14.9				**-$14.9**
NJ TRANSIT [2]		-$20.0				**-$20.0**
SEPTA		$0				**$0**
Delaware DOT		$0				**$0**
MDOT MTA / MARC		$0				**$0**
VRE		$0				**$0**
Total FY23 Difference		**$217.6**	**-$14.8**	**$3.6**	**-$0.9**	**$205.4**

Table notes: (1) LIRR's obligation is subject to revision based on actual expenditures per Amtrak-LIRR agreement. (2) NJ TRANSIT's BCC obligation reflects the NJ TRANSIT-Amtrak BCC variance for Portal North Bridge, approved by the Commission in August 2019.

Beyond Expenditures

Infrastructure delivery metrics used to assess plan adherence through FY23 and beyond

As outlined in the FY22 Annual Report, the Commission continues to work with all right-of-way infrastructure owners and project sponsors to expand the variety of metrics used to report on plan adherence. In addition to assessing plan adherence against expenditures, additional metrics related to units delivered through capital renewal production programs have been tracked throughout the fiscal year. The Commission will continue to advance these and other metrics as measures of plan adherence and infrastructure investment productivity.

Capital renewal production program units delivered

Units delivered by Amtrak capital renewal production program, FY23

Program	Unit Type	FY23 Units			FY23 Expenditure *(millions)*		
		Plan	Actual	% of Plan	Plan	Actual	% of Plan
Fence Upgrades Program. C.EN.101854	Install RoW Fencing (FT)	9,567	365	4%	$11.4	$3.6	32%
Production High Speed Surfacing Program. C.EN.101855	Surface Track (FT)	1,157,800	1,082,085	93%	$14.7	$26.6	181%
Production Wood Tie/ Timber Replacement Program. C.EN.101858	Install Ties	34,902	3,708	11%	$15.3	$8.2	54%
Rail Replacement Program. C.EN.101856	Install Rail (FT)	199,800	126,157	63%	$23.0	$25.8	112%
TLS Concrete Tie Replacement Program. C.EN.101652	Install Rail (FT)	0	230,472	N/A	$35.7	$65.1	182%
	Install Ties	47,389	60,342	127%			
Total Track Renewal Program. C.EN.101871	Install Block Ties	0	3,036	N/A	$6.5	$10.0	153%
Track Rehabilitation Program. C.EN.101859	Install Turnouts	1	0	0%	$2.9	$5.5	193%
Track Undercutting Program. C.EN.100269	Undercut Track (FT)	150,450	61,303	41%	$18.8	$22.4	119%
Turnout Renewal Program. C.EN.101860	Install Turnouts	56	44	79%	$77.9	$83.6	107%

Units delivered by MBTA capital renewal production program, FY23

Program	Measure	FY23 Units			FY23 Expenditure *(millions)*		
		Plan	Actual	% of Plan	Plan	Actual	% of Plan
Insulated Joint	Units	120	8	7%	$2.4	$0.1	3%
Interlocking Crossover Replacement	Units	1	1	100%	$0.8	$0.8	102%
Interlocking Steel Replacement	Units	5	1	20%	$0.4	$0.1	26%
Joint Elimination	Units	100	24	24%	$0.5	$0.2	45%
M3 Switch Machine	Units	5	0	0%	$0.2	$0.0	0%
Out of Face Surfacing	Feet	80,000′	0	0%	$2.3	$0.2	10%
RoW Fence Upgrades	Feet	2,800′	0	0%	$1.1	$0.0	0%
Spot Surfacing	Feet	120,000′	0	0%	$2.8	$0.9	34%
Spot Undercutting	Feet	10,000′	0	0%	$1.5	$0.1	7%
Tie/Timber	Units	4,500	158	4%	$2.6	$0.3	13%
Tree Cutting	Weeks	8	0	0%	$0.3	$0.0	0%
Turnout Replacement	Units	2	0	0%	$2.8	$0.0	0%


1125
1125

Appendix: Operations Summary

Major Service Incidents

Major service incidents are single events that can generate multiple train delays. Major service incidents on the NEC were identified by analyzing daily train performance data and cross-referencing that data with the contents of NEC operators' rail operations and incident reports. This approach may not capture all significant events in FY23 because it identifies major service incidents based on service impacts, which are dependent on the location and time of day of the incident, not necessarily the severity or significance of the event.

Figure A-5. Major service incidents by date, FY23

	Date	Cause of Delay Category	Location and description	Total trains affected	Total train-delay minutes	Total trains not completed
Quarter 1 (9 major service incidents)				**624**	**22,094**	**115**
1	10/29/2022	Infrastructure	**Location:** Paoli, PA, Mid-Atlantic North **Description:** At 10:36am a dispatcher reported wire down on track 1 at Paoli and insulators hanging in catenary of all tracks. By 9:14pm linemen repaired all defects and returned the catenary to normal service. Trains traveling through this area were canceled or heavily delayed.	22	1,115	6
2	11/02/2022	Third Party	**Location:** Holmes and Midway PA and NJ **Description:** At 4:29am catenary power was lost between Holmes and Midway in Pennsylvania and New Jersey. The outage was due to catenary damage that was caused by possible vandalism. At 7:58am tracks 1 and 2 at Morris were returned to service with no restrictions. At 9:33am track 4 at Morris was returned to service with no restrictions. By 5:15pm all repairs had been made to the signal line and transmission lines were re-energized. MARC cross-honored Amtrak passengers between Aberdeen and Washington due to annulled trains.	74	1,588	13
3	11/04/2022	Third Party	**Location:** Princeton Junction, NJ **Description:** At 6:38pm an NJT train struck a trespasser on track 4 at MP 46.6. At 6:59pm a hold was placed on all tracks. At 7:56pm the hold was released on tracks 1 and 2 between MP 45 and Princeton Junction station at reduced speeds. At 9:50pm all personnel were clear of tracks and service returned with no speed restrictions. Trains traveling through this area were canceled or heavily delayed.	44	2,289	6
4	11/09/2022	Other	**Location:** Elizabeth, NJ at Elmora Interlocking **Description:** At 5:15am an equipment car derailed at Elmora Interlocking just west of Elizabeth station on track 4. At 5:42am track 4 was out of service between Union and Elmora. By 7:49am track 4 returned to service. Trains traveling through this area were canceled or heavily delayed.	50	874	4
5	11/24/2022	Third Party	**Location:** Washington, DC (Off-Corridor) **Description:** At 2:20pm Control Center at K Tower in DC reported lost power. ET crews confirmed it was a loss of local commercial power. Pepco Power reported a vault fire impacting a large area. Power was restored to K Tower at 4:02pm by engineering placing two generators to supply the signal power.	12	888	0
6	12/16/2022	Third Party	**Location:** New York, NY North River Tunnel **Description:** At 6:28am an NJT train reported smoldering in the north tube of the North River Tunnel. At 7:08am the tube was taken out of service as the fire was extinguished. The north tube returned to service at 8:15am. Several trains traveling through this area were canceled or heavily delayed due to single tracking. Trains traveling through this area were canceled or heavily delayed.	71	3,101	14

Major NEC incidents by date, FY23 continued on the next page >>

	Date	Cause of Delay Category	Location and description	Total trains affected	Total train-delay minutes	Total trains not completed
7	12/19/2022	Third Party	**Location:** New York, Mt. Vernon East Station, New Haven Line (off-corridor) **Description:** At 12:33pm there were reports of an electrical fire near Metro-North's Mt. Vernon East Station on the New Haven Line. At 1:30pm the Metro-North chief requested a hold on all eastbound NEC trains at New York Penn Station. The signal line was killed as a precaution to the fire, but it was reported that the fire could not be contained and spread to the signal line. Trains were manually lined between Pelham Bay and CP 216. All on-corridor service returned with no restrictions by 5pm. Amtrak cross honored Metro-North passengers between New Haven and New York. Trains traveling through this area were canceled or heavily delayed.	88	2,109	19
8	12/23/2022	Weather	**Location:** Maryland to Massachusetts **Description:** Many trains were terminated or heavily delayed due to severe weather across most of the corridor. Rain, snow, and wind led to several issues including slow orders, slippery rail, signal failures, downed trees and other debris, broken rails, flooding, switch heater fires, and more. More specifically, there were several weather-related incidents in Maryland from Bridge to Grove. At 5:34pm an Amtrak train had broken pantograph alarms at MP 107 on track 1. At 5:53pm power was restored from Bridge to Grove. At 6:26pm an Amtrak train reports a broken rail on track 3 at MP 101. At 6:43pm an Amtrak train reported down wires on tracks 1 and 2 at MP 107. At 6:43pm MARC service was suspended. By 11:58am the next morning, service was restored.	252	8,550	48
9	12/26/2022	Weather	**Location:** New York, NY **Description:** At 10:12am PSCC reported track 2 on the Empire Connection was out of service due to a broken standpipe fouling the track. At 3:48pm the track foreman in charge was allowing 1 train to travel through. The foreman met the train at mouth of tunnel and walked the train though at walking speed. This process was repeated after every train traveled through the affected area until the ice was cleared and pipes were repaired. Trains traveling through this area were canceled or heavily delayed.	11	1,580	5
Quarter 2 (7 major service incidents)				**509**	**14,370**	**149**
10	1/20/2023	Mechanical	**Location:** Penn Line, MD **Description:** MARC morning service was suspended due to an ETMS problem that occurred after an overnight upload to the system. MARC trains were unable to initialize PTC at initial terminals or operate on the PW line or Penn Line until the issue was resolved at 9:53am. Once the system recovered, MARC operated on a reduced schedule for the remainder of the day. There were no issues or delays to Amtrak service during this outage, but MARC trains were canceled or heavily delayed.	82	456	70
11	1/27/2023	Third Party	**Location:** Harlem Line, NY (off-corridor) **Description:** At 5:31am, the engineer on a Metro-North train reported initiating the emergency brake on account of a possible trespasser strike on track 4 just north of Melrose Station on the Harlem Line. The crew and MTAPD canvassed the area with no evidence of a trespasser strike. While the incident occurred off-corridor it caused delays and cancellations for trains on the New Haven Line.	76	2,081	13
12	2/24/2023	Third Party	**Location:** Wynnewood, PA **Description:** At 4:50pm, a SEPTA train struck a trespasser in Wynnewood, PA at MP 7.5 on the Harrisburg Line. At 5:00pm, APD placed a hold on all tracks. At 5:12pm, tracks 1 and 2 were returned to service at restricted speeds. At 7:05pm, speed restrictions were released and normal operations resumed. Trains traveling through this area were heavily delayed.	25	1,520	4

Major NEC incidents by date, FY23 continued on the next page >>

	Date	Cause of Delay Category	Location and description	Total trains affected	Total train-delay minutes	Total trains not completed
13	2/28/2023	Third Party	**Location:** Princeton Junction, NJ **Description:** At 6:34pm, an Amtrak train reported a trespasser strike on track 2 at MP 44.3 a few miles east of Princeton Junction. At 6:50pm, a hold was put on tracks between Clark and Midway. Starting at 8:23pm, holds were gradually released and normal moves returned by 11:45pm. Trains traveling through this area were canceled or heavily delayed.	65	4,158	14
14	3/18/2023	Third Party	**Location:** Metuchen Station, NJ **Description:** At 11:00am, an NJT train reported seeing streamers in the catenary at Metuchen Station from a parade on the street below. Power director then put a hold on all tracks at Metuchen. ET responded to the scene with a catenary car and individually made repairs to each track. By 1:55pm, streamers were removed and all tracks returned to service. Trains traveling through this area were heavily delayed.	29	1,225	0
15	3/22/2023	Third Party	**Location:** Edison Interlocking, NJ **Description:** At 2:29pm, an NJT train reported a brush fire on track 4 at MP 27.7 near Edison Interlocking. Shortly thereafter the Edison fire department was on the scene extinguishing the fire. Reports of brush fire spread at County Interlocking, and in total there were reports of nine different locations with brush fires. By 6:44pm, holds on tracks 1, 2 and 4 were removed. Over the course of the night, speed restrictions were gradually removed until all tracks were back to normal service by 11:08pm. Trains traveling through this area were canceled or heavily delayed	162	4,957	58
16	3/27/2023	Mechanical	**Location:** New York, NY North River Tunnel **Description:** Starting at 6:05pm, NJT trains reported restricting in the cabs in the south tube with south tube operating west and north tube operating east, the opposite of normal operations. By 7:09pm the signaling issue was resolved, but trains traveling through this area were heavily delayed.	70	2,054	3
Quarter 3 (11 major service incidents)				**1,173**	**29,626**	**360**
17	4/05/2023	Mechanical	**Location:** Philadelphia, PA **Description:** A power outage at 2:30pm off corridor on SEPTA RoW in Philadelphia delayed or annulled several on corridor SEPTA trains. Single tracking near 30th Street Station led to significant congestion of SEPTA trains. The power was restored overnight and normal operations resumed.	75	1,927	6
18	4/05/2023	Infrastructure	**Location:** Newark, NJ **Description:** At 5:55pm a switch at Swift Interlocking failed. By 7:11pm C&S reported a broken lock rod and connecting rod. After the last westbound train passed at 1:35am, crews began to repair the switch. The switch was back in service by 3:41am.	51	1,222	2
19	4/11/2023	Third Party	**Location:** Odenton, MD **Description:** At 5:13pm a MARC train struck a trespasser at MP 113.6 at Odenton station. Amtrak police placed a hold on all tracks between Bowie and Grove. At 6:43pm tracks 1 and 2 were opened at restricted speeds. By 12:43pm all tracks were back in service. Multiple Amtrak and MARC trains incurred substantial delays.	42	3,875	12
20	4/12/2023	Third Party	**Location:** Baltimore, MD **Description:** At 3:05pm an Amtrak train reported a brush fire at MP 88 just northeast of Baltimore, MD. By 3:57pm Amtrak police placed a hold on all tracks between River and Gunpowder Interlockings. By 5:22pm the fire was extinguished and all tracked were returned to service.	32	2,107	4

Major NEC incidents by date, FY23 continued on the next page >>

	Date	Cause of Delay Category	Location and description	Total trains affected	Total train-delay minutes	Total trains not completed
21	4/13/2023	Mechanical	**Location:** Rahway, NJ **Description:** At 6:52pm an Amtrak train reported a broken pantograph on track 3 at Union Interlocking. E.T. forces arrived on the scene at 8:05pm. They climbed on top of the train to cut off two damaged pantographs. 259 passengers were transferred, power was removed, and E.T. was able to access the roof of the equipment to complete their work overnight. Service was restored to track 3 by 6:23am.	47	1,514	4
22	4/13/2023	Weather	**Location:** Harlem Line, NY (off-corridor) **Description:** Lines were reported down between CP 106 – CP 109 on Metro-North's Harlem Line due to inclement weather. Despite occurring off-corridor it led to several delays for on-corridor New Haven Line trains.	79	3,533	19
23	4/14/2023	Third Party	**Location:** Philadelphia, PA **Description:** At 5:30pm Amtrak police placed a hold on all tracks at between Zoo and Girard Interlockings due to a fire near the tracks. The fire department worked to extinguish the fire and by 7:32pm the hold was released and normal operations resumed.	41	1,781	10
24	4/18/2023	Infrastructure	**Location:** Bergen Interlocking, NJ **Description:** At 1:48am a dispatcher at "A" tower reported an inability to swap traffic east at Bergen Interlocking. C&S arrived at Bergen Interlocking at 2:30am to correct a switch which was stuck in the reverse position. Normal operations resumed at 7:47am. Several trains were delayed due to necessary single tracking in the north tube.	127	2,335	0
25	5/03/2023	Third Party	**Location:** Bergen Interlocking, NJ **Description:** At 4:06pm an Amtrak train reported a possible trespasser strike between MP 3.0 and Bergen Interlocking. NJT police requested hold on all tracks between Bergen and the North River Tunnel. At 5:23pm Amtrak police reported finding a witness who stated two young kids put a skateboard on the tracks and ran away, but no one was injured. At 6:04pm the hold was released on all tracks and nothing was found in the area.	141	3,959	58
26	5/08/2023	Infrastructure	**Location:** New York, NY **Description:** At 6:12am an NJT train reported a dip in the rail at MP 1.6 in the north tube. As a result trains were delayed departing and arriving in New York City due to single tracking in the south tube. Repairs were made and the track was returned with 30mph speed restrictions.	119	3,586	20
27	5/11/2023	Infrastructure	**Location:** Portal Bridge, NJ **Description:** At 9:51am signal issues were reported on Portal Bridge with rail lock indications appearing open on both tracks. C&S and B&B personnel were sent to inspect and okayed the rail locks and bridge, but then had to reinspect the bridge after each train. The issue was attributed to construction activity at the new Portal North Bridge affecting electrical systems at Kearny that control train movements on the existing bridge, but ultimately took three days to resolve. As a result, Amtrak and NJT service was either diverted, suspended, or heavily delayed in and out of Penn Station. All Amtrak Keystone trains were cancelled between Philadelphia and New York; and NJT service was reduced to eight trains an hour between New York and Newark. The issue was eventually resolved on Saturday, May 13 at 5:30pm, when all speed restrictions were removed from Portal and normal operations resumed.	418	3,787	225
Quarter 4 (13 major service incidents)				**1,315**	**35,741**	**625**

Major NEC incidents by date, FY23 continued on the next page >>

	Date	Cause of Delay Category	Location and description	Total trains affected	Total train-delay minutes	Total trains not completed
28	7/03/2023	Infrastructure	**Location:** Lincoln Interlocking, NJ **Description:** At 12:20pm, PSCC reported 100Hz power loss between Lincoln and Lane in New Jersey. C&S got 100Hz back, but signals were still out. By 9:57pm the cause was determined to be a feeder cable that fell and landed on the signal wire at Lincoln Interlocking. Due to the length of time to determine the problem, multiple crews reached the limits of their hours of service, which created a shortage of crews. Several NJT and Amtrak trains were delayed or canceled as a result.	198	10,263	105
29	7/06/2023	Infrastructure	**Location:** Union Interlocking, NJ **Description:** At 4:50am a Northeast Regional train lost power at Metropark, NJ. The ET Department reported wires down on tracks 2 and 3 between Lincoln and Union. While power directors restored service, most westbound trains were held at NYP and Amtrak eastbound trains were held at Philadelphia. All tracks were not returned to service until 6:29pm.	97	1,117	58
30	7/07/2023	Infrastructure	**Location:** Union Interlocking, NJ **Description:** At 5:28am, an NJT train reported wires down on track 2 at Union Interlocking. Minutes later, another NJT train reported damaged pantographs at the same location. Tracks 4 and 5 were not affected. At 6:15am, track 3 was inspected and okayed for restricted speed at 35mph. By 7:20am, tracks A, 1, and 2 were taken out of service from Union to Elmora. At 10:25am, power directors removed speed restrictions from track 3 and restored power to tracks A and 1. By 2:40pm, track 2 was returned to normal service. Amtrak Keystone trains originated and terminated in Philadelphia. Several NJT trains were annulled. This incident was a separate incident from the catenary incident at the same location the previous day.	153	1,374	106
31	7/16/2023	Weather	**Location:** Washington, DC **Description:** At 7:55am CSX reported switch issues at K Tower near Union Station. Investigation revealed a 60MHz power loss starting at 3am. It was later determined that there was a blown fuse from a power surge possibly caused by a lightning strike. Several Amtrak trains were delays due to congestion caused by the switch problem and crew shortages.	24	3,379	0
32	7/19/2023	Third Party	**Location:** Sharon Station, MA **Description:** At 1pm an Amtrak train fatally struck a trespasser at Sharon Station. Local authorities responded to the scene for an investigation. There were no injuries to any passengers or crew. Passengers were transferred to an MBTA train.	38	1,684	10
33	8/07/2023	Weather	**Location:** Washington, DC to Pennsylvania **Description:** A storm in the New York and CT-Westchester regions caused significant flooding on the corridor and significantly affected commuter and intercity trains. High water levels were seen on the Hell Gate Line, Sunnyside Yard, and the New Haven Line. There was additional flooding on off-corridor commuter lines leading to delay on corridor delays.	66	1,579	11
34	8/18/2023	Weather	**Location:** Mansfield, MA **Description:** A tornado caused a tree to fall on the corridor near Mansfield Station outside of Boston. The storm additionally caused signal problems and power outages which led to congestion, late equipment/crew swaps, and canceled trains.	37	2,190	9
35	9/07/2023	Other	**Location:** Queens, NY (off-corridor) **Description:** After 10am, an equipment train derailed on LIRR's Main Line off-corridor near Queens Village Station. Despite the derailment occurring off-corridor, several LIRR trains in and out of New York Penn Station were either late or canceled.	152	2,005	49

Major NEC incidents by date, FY23 continued on the next page >>

	Date	Cause of Delay Category	Location and description	Total trains affected	Total train-delay minutes	Total trains not completed
36	9/11/2023	Weather	**Location:** Providence, RI **Description:** At 7:55pm an Amtrak train lost power and became disabled after traveling through high water at Orms Interlocking just east of Providence. The train sat on track 2 for three hours while the flooding receded enough to transfer passengers. After the water receded and debris was cleared, service resumed on track. Several trains were delayed or canceled due to flash floods in the area.	14	2,147	5
37	9/12/2023	Other	**Location:** New York, NY **Description:** At 8:56am an NJT train reported that they derailed at A Interlocking in New York Penn Station just east of the south tube while approaching track 10. At 10:21am an NJT rescue train took the passengers to platform 1. By 10:25am all routes were restored with delays. At 1:39pm re-railing work began and was finished by 3:04pm. By 4:40pm C&S crews identified the broken switches which caused the derailment.	147	1,605	95
38	9/16/2023	Infrastructure	**Location:** Washington, DC **Description:** Due to programmed work, trains were planned to single track between CP Ave and Bowie at restricted speeds. During the programmed work, MoW crews were testing signals and switches and were unable to return the signals on all three tracks. Repairs to the signal system were not expected to be completed until later in the evening, due to employees expired hours of service. As a result, many MARC trains were canceled.	58	1,879	15
39	9/29/2023	Weather	**Location:** New Jersey to Connecticut **Description:** A large storm in the Mid-Atlantic region affected commuter and intercity trains on the Harrisburg line and the NEC Main line. Flash floods, high winds, and downed trees led to signal issues, power loss, reduced speeds, congestion, crew delays, and cancellations from DC to Harrisburg.	291	5,166	151
40	9/30/2023	Third Party	**Location:** North Elizabeth, NJ **Description:** At 4:20pm an NJT train struck a trespasser on track 1 just east of North Elizabeth Station. NJT Police put a hold on all tracks. At 4:53pm the holds were released on tracks 2-4 with restricted speeds. By 8:05pm all tracks were returned to normal service.	40	1,353	11
FY23 Total (40 major incidents)				**3,621**	**103,912**	**1,262**

Region: New England

Infrastructure and Operations Detail

Operators: Amtrak, MBTA, CT*rail*

RoW Owners: MBTA, Amtrak

BCC Segments

1: Boston South Station to MA/RI State Line

2: MA/RI State Line to Providence

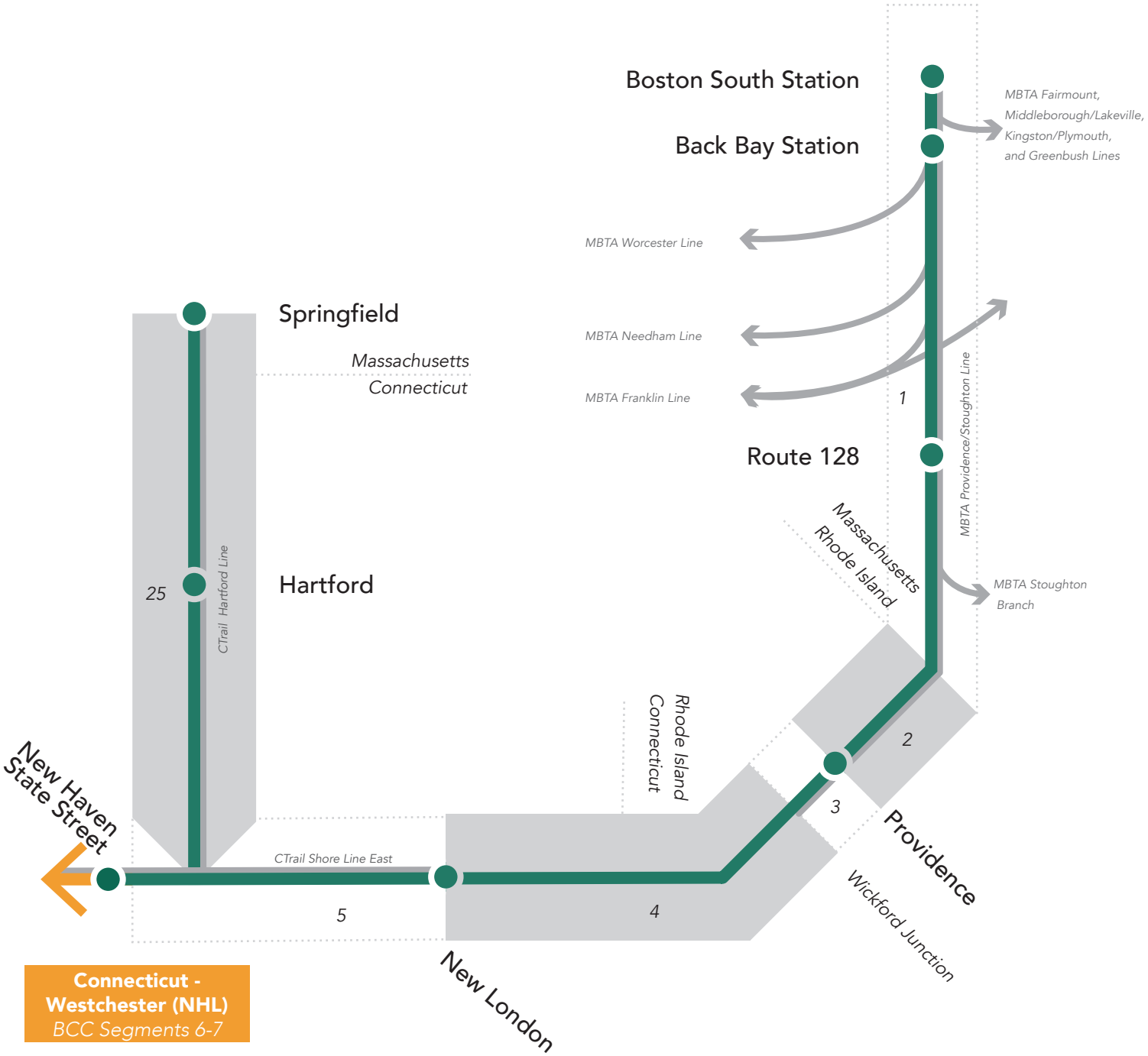
3: Providence to Wickford Junction

4: Wickford Junction to New London

5: New London to New Haven

25: Springfield to New Haven

New England
BCC Segments 1-5; 25



Not all intermediate stations shown.

Infrastructure

Amtrak, Massachusetts DOT, Rhode Island DOT, and Connecticut DOT coordinate on work throughout the New England region. In total, $170.3 million was invested in FY23 (101% of plan).

10 largest investments by FY23 planned expenditure, New England *(millions)*

1. Fitter Interlocking (Amtrak)		
FY23 Planned Expenditure & Scope	$35.7	FY23 scope includes completion of contractor construction with civil work, foundations, poles, drainage improvements, steel work and catenary installation being competed. Amtrak force account work to be completed includes all track work, installation of new crossovers, installation of signal huts and equipment, and start of FRA testing.
FY23 Actual Expenditure & Accomplishments	$33.0	FY23 accomplishments include contractor completion of drainage improvements, catenary pole foundation installation, fabrication of elevated steel platforms for signal huts, transfer of catenary on to new poles on tracks 1 and 2 in preparation for continuous outages starting 9/4/23. Installation of the track 2 turnouts by Amtrak forces.
Variance & Explanation	-$2.7	Scope was changed for FY23 due to Penn Access Project outage schedule changes. The start of major track outages was deferred from April to September, 2023.
2. Turnout Renewal Program		
FY23 Planned Expenditure & Scope	$17.0	The scope for FY23 is to start installation prep work and construction, and finish construction closeout.
FY23 Actual Expenditure & Accomplishments	$17.9	FY23 will continue maintaining the State of Good Repair (SOGR), efficient and safe operation for turnout and crossover assets to maintain compliance with current regulations and standards. This work includes the replacement of turnouts and crossovers that are approaching the end of their useful life and are susceptible to failure. Turnouts were installed throughout the Northeast Corridor.
Variance & Explanation	$0.9	Installs for Lincoln 91 T/O was pushed to FY24, material was not available. Install for C WUT INRL 436/434 DSS was pushed to FY24 because of lack of C&S support.
3. New England Track Program (Amtrak)		
FY23 Planned Expenditure & Scope	$13.2	The scope for FY23 is to start construction for insulated joint replacement, joint elimination, wood tie/timber replacement, concrete tie replacement, spot surfacing, spot undercutting, drainage improvements, and interlocking steel replacement; start procurement for slope stabilization MP 59.5 on the AS line; complete construction for insulated joint replacement, joint elimination, wood tie/timber replacement, concrete tie replacement, spot surfacing, spot undercutting, drainage improvements, and interlocking steel replacement.
FY23 Actual Expenditure & Accomplishments	$16.1	Average program scope completion in FY23 is 101%, which includes the following units: • Concrete ties replacement – 1,380 • Wood timbers replacement – 2,397 • Insulated joints replacement – 19 • Joint elimination – 171 welds • Interlocking steel replacement – 59 • Spot surfacing – 273,944 feet • Spot undercutting – 10,817 feet • Drainage improvement – 8,198 feet Procurement of the general contractor for slope stabilization project at MP 59.5 on the AS line has started.
Variance & Explanation	$3.0	Program FY23 was complete with minimum deviation from the approved scope. Changes in the actual units quantities are due to field conditions.

Investment detail including expenditures, accomplishments, and explanation of variances are published as submitted by agencies.

10 largest investments by FY23 planned expenditure, New England (*millions*, cont.)

4. Providence Station Improvements (Rhode Island DOT)		
FY23 Planned Expenditure & Scope	$8.0	Renovation of: Baggage Area, Café Area including extension, Amtrak Police, Gift Shop, and Family Restroom Begin Amtrak Offices, Ticket Windows and other Office Areas.
FY23 Actual Expenditure & Accomplishments	$0.4	Not available.
Variance & Explanation	-$7.6	As a result of the bid price coming in above budget, this project did not achieve construction notice-to-proceed. The project underwent a value engineering effort, creating the variance in the schedule. Further coordination with the FRA is required.
5. Ruggles Street Station Accessibility Improvements: Phase 2 (MBTA)		
FY23 Planned Expenditure & Scope	$7.9	NTP for construction.
FY23 Actual Expenditure & Accomplishments	$0.9	Although late, the project team finalized the design. It was delayed to value engineer the project and bring the estimate back to budget.
Variance & Explanation	-$7.0	Did not advertise the project in FY23 and therefore did not begin construction as originally anticipated at the beginning of the fiscal year.
6. Boston South Station: Tower 1 and Cove Interlockings Improvements (MBTA)		
FY23 Planned Expenditure & Scope	$6.8	Construction phase engineering services, bid receipt, review, award & administration, project start up, critical submittals for approval.
FY23 Actual Expenditure & Accomplishments	$9.8	Finished design, bid contract, awarded construction contract, mobilized, and began construction.
Variance & Explanation	$3.0	Awarded construction, mobilized and began test pits and submittals ahead of schedule.
7. New England Structures Program (Amtrak)		
FY23 Planned Expenditure & Scope	$5.3	The scope for FY23 includes construction completion of CT49.73 Connecticut River Bridge steel upgrades and bridge timber replacement, CT106.89 Connecticut River Bridge timber replacement, and CT0.70 Middletown Avenue Bridge timber replacement; complete replacement of the CT132.16 Mystic River Bridge Gearbox Replacement, complete replacement of lock actuator at CT124.09 Thames River Bridge, complete segmental girder upgrades at CT106.89 Connecticut River Bridge, complete replacement of CT122.65 Shaw's Cove wedge screw jack, and complete the replacement of the CT116.74 Niantic River Bridge drive motor; start and complete abutment upgrades at MA61.98 Dwight Avenue, and complete site improvements at the East Haven Tunnel at MP 76.34, complete design for Hart Tunnel drainage improvements MP 36.99, complete design for movable bridge mobile catenary units at CT132.16 Mystic River Bridge, start design for bridge deck replacement at RI153.93 Pawcatuck River Bridge, complete design for CT44.10 Windsor, CT, culvert replacement, start design for CT118.21 Waterford, CT Culvert Upgrades, start design CT123.80 CV Bridge bearing upgrades and bridge timber replacement, and start designs for CT19.20 and CT19.42 undergrade bridge replacements.
FY23 Actual Expenditure & Accomplishments	$7.1	Steel upgrades and bridge timber replacement at Connecticut River Bridge, CT49.73 was complete; timbers replacement at CT106.89 Connecticut River Bridge was complete; project for CT0.70 Middletown Avenue Bridge timber replacement was complete; segmental girder upgrades at CT106.89 Connecticut River Bridge was completed 30%, replacement of CT122.65 Shaw's Cove wedge screw jack and 1 gear box was complete; procurement of material for the replacement of the CT116.74 Niantic River Bridge drive motor was complete; procurement for CT106.89 bridge gear boxes replacement has started, as well as procurement for CT122.65 bridge reducer upgrade; installation of the strike beam at BGMS CT106.89 Hull Street Bridge was complete; site improvements at the East Haven Tunnel at MP 76.34 was complete; design for CT44.10 Windsor, CT, culvert replacement progress to 100%, design for Hart Tunnel drainage improvements MP36.99 progressed to 60%; design for CT118.21 Waterford, CT Culvert Upgrades has started; installation of the retaining wall at Packard Interlocking, MP 175, AB line has started.

Investment detail including expenditures, accomplishments, and explanation of variances are published as submitted by agencies.

10 largest investments by FY23 planned expenditure, New England (cont.)

Variance & Explanation	$1.8	Program FY23 was complete with minimum deviation from the approved scope. Scope for segmental girder upgrades at CT106.89 Connecticut River Bridge was reduced due to labor forces availability, project is planned to be complete in FY25; installation of the retaining wall at Packard Interlocking, MP 175, AB line has started but was postponed due to unforeseen site conditions, this project was removed from NED Portfolio and will continue under System Production Portfolio; rehabilitation of the culvert CT 98.70, AB line did not start due to environmental constrains, this project also was removed from NED Portfolio and will continue under System Production Portfolio; design for Hart Tunnel drainage improvements MP 36.99 progressed to 60% due to extensive coordination with city of Hartford, design is planned to be complete in FY25.
8. Rail Replacement Program (Amtrak)		
FY23 Planned Expenditure & Scope	$5.1	The scope for FY23 includes start construction and finish construction closeout in New York, New England, Mid-Atlantic and Empire Lines.
FY23 Actual Expenditure & Accomplishments	$12.9	FY23 Wayside Transponder upgrade (design/implementation) work was completed in multiple locations.
Variance & Explanation	$7.8	Delays related to ptting Acela fleet in service will have the On Board Computer Software work drag into FY24.
9. Pawtucket/Central Falls Station (Rhode Island DOT)		
FY23 Planned Expenditure & Scope	$5.0	• Platform Installation and Finishings • Final Utility work as needed • Final Finishings on train and bus elements including the Transit Emphasis Corridor • Commissioning and Testing of all train and bus systems
FY23 Actual Expenditure & Accomplishments	$6.7	Not available.
Variance & Explanation	$1.7	Not available.
10. Airo Facilties: Southampton Street Yard		
FY23 Planned Expenditure & Scope	$4.5	In the fiscal year 2023, scope includes the 15% design and continuing with stakeholder outreach. The second part of this project includes 30% bridging design, RWP design support, and further engaging stakeholders in the design process through stakeholder meetings with subject matter experts.
FY23 Actual Expenditure & Accomplishments	$3.2	In the year FY23, this project was able to complete and submit for review the 15% design document, 30% prefinal bridging design document and perform stakeholder outreach. Additionally, the design team was able to initiate the NEPA/Section 106 process, with support through ongoing stakeholder engagement and RWP support.
Variance & Explanation	-$1.3	No notable variances.

Investment detail including expenditures, accomplishments, and explanation of variances are published as submitted by agencies.

All New England investments by submitting agency *(millions)*

Investment Name	FY23 Planned Expenditure	FY23 Actual Expenditure	Variance
Amtrak			
Airo Facilities: Southampton Street Yard	$4.5	$3.2	-$1.3
Amtrak NEC Nortrak Operating Rods Replacement Project	$0.0	$0.1	$0.1
Amtrak Station Signage Upgrades	$0.0	$0.0	$0.0
Bridges & Tunnels Security Enhancements	$0.0	$0.2	$0.2
Cedar Hill Remediation	$0.2	$0.1	-$0.1
Connecticut River Bridge Replacement Project	$4.5	$7.0	$2.6
ET Linear Assets Research and Development Program	$0.0	$0.0	$0.0
Fence Upgrades Program	$2.8	$1.0	-$1.8
Fitter Interlocking	$35.7	$33.0	-$2.7
Guilford Interlocking Renewal	$0.3	$0.0	-$0.2
Maintenance Facility Security Enhancements	$0.0	$0.1	$0.1
New England Catenary Program	$0.5	$0.6	$0.0
New England Communications Program	$1.4	$0.7	-$0.7
New England Facilities Program	$2.1	$6.7	$4.6
New England Signals Program	$2.4	$2.7	$0.2
New England Structures Program	$5.3	$7.1	$1.8
New England Substations Program	$0.3	$0.8	$0.5
New England Track Program	$13.2	$16.1	$2.9
New Haven, CT - Customer Now Station Refresh Program	$0.0	$0.0	$0.0
New London CT Lighting and Canopy Upgrades	$0.3	$0.0	-$0.3
Next Generation Acela Infrastructure Upgrades: Southampton Yard	$0.0	-$0.1	-$0.1 M
Passenger Information Display Systems Program (PIDS)	$0.0	$0.0	$0.0 M
Pawcatuck River RI Bridge Replacement Project	$1.1	$0.6	-$0.5 M
Production High Speed Surfacing Program	$4.2	$3.7	-$0.5 M
Production Wood Tie/Timber Replacement Program	$0.0	$1.8	$1.8 M
Rail Grinding Program (Amtrak)	$0.8	$0.5	-$0.3 M
Rail Replacement Program	$5.1	$12.9	$7.8 M
Spring (Springfield, MA) Interlocking Renewal Project	$0.6	$0.6	$0.1 M
Springfield MA Canopy Upgrades	$0.0	$0.1	$0.0 M
Springfield MA Demolition of Freight Elevator	$0.1	$0.0	-$0.1
Springfield MA New High Level Platforms	$0.5	$0.0	-$0.5
STA STATIONS CUSTOMER FACING IMPROVEMENTS	$0.0	$0.2	$0.2
State Street Crossing Improvement Project	$0.0	$0.0	$0.0
Static Sign Standard Manual Upgrades	$0.0	$0.0	$0.0
Track Rehabilitation Program	$1.1	$0.9	-$0.2
Track Undercutting Program	$0.0	$0.0	$0.0

All New England investments by submitting agency (*millions*, cont.)

Investment Name	FY23 Planned Expenditure	FY23 Actual Expenditure	Variance
Turnout Renewal Program	$17.0	$17.9	$0.9
Veltri Interlocking	$1.9	$1.8	$0.0
West Class Yard Access Improvements	$0.5	$0.0	-$0.5
MBTA			
Attleboro Line Track 3 OCS Installation	$2.8	$0.0	-$2.8
Attleboro Station Improvements	$2.3	$0.4	-$1.9
Back Bay Station: Platform Ventilation (Phase 3)	$1.8	$2.2	$0.5
Battery Bank Replacement Program	$0.2	$0.0	-$0.1
Boston - Providence Capacity Study & Implementation: NEC & Fairmount Line	$0.0	$0.0	$0.0
Boston South Station: Tower 1 and Cove Interlockings Improvements	$6.8	$9.8	$3.0
CWR Replacement Program	$0.0	$0.0	$0.0
Grade Crossing Replacement Program	$0.0	$0.0	$0.0
Hawk Hot Box / Dragging Equipment Detector Upgrade Project	$0.8	$0.5	-$0.3
Insulated Joint Program	$2.4	$0.1	-$2.3
Interlocking Crossover Replacement Program	$0.8	$0.8	$0.0
Interlocking Steel Replacement Program	$0.4	$0.1	-$0.3
Joint Elimination Program	$0.5	$0.2	-$0.3
Junction Interlocking Drainage Improvements	$0.5	$0.0	-$0.4
M3 Switch Machine Program	$0.2	$0.0	-$0.2
Massachusetts Third Track: Readville to Canton	$0.0	$0.0	$0.0
MBTA Pawtucket Layover Facility Improvements: Phase 3	$1.0	$0.8	-$0.2
Out Of Face Surfacing Program	$2.3	$0.2	-$2.0
RoW Fence Upgrades Program	$1.1	$0.0	-$1.1
RTU Upgrades Project	$0.4	$0.0	-$0.4
Ruggles Street Station Accessibility Improvements: Phase 2	$7.9	$0.9	-$7.0
South Attleboro Station Accessibility Improvements	$2.1	$0.3	-$1.8
Southampton Street and South Bay I/L Upgrades Project	$2.0	$0.2	-$1.8
Spot Surfacing Program	$2.8	$0.9	-$1.9
Spot Undercutting Program	$1.5	$0.1	-$1.4
Switch Heater Cabinet / Control Program	$0.2	$0.0	-$0.2
Tie/Timber Program	$2.6	$0.3	-$2.3
Track Lead Replacement Program	$0.2	$0.0	-$0.2
Tree Cutting Program	$0.3	$0.0	-$0.3
Turnout Replacement Program	$2.8	$0.0	-$2.7

All New England investments by submitting agency (*millions*, cont.)

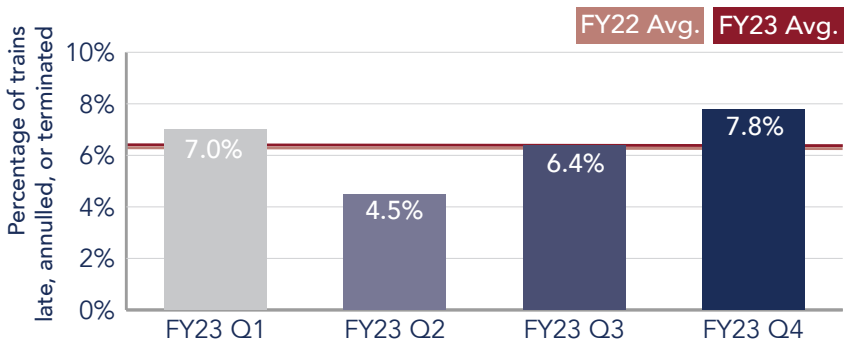
Investment Name	FY23 Planned Expenditure	FY23 Actual Expenditure	Variance
Rhode Island DOT			
Pawtucket/Central Falls Station	$5.0	$6.7	$1.7
Providence Station Improvements	$8.0	$0.4	-$7.6
Regional Rail Plan (RI-MA)	$0.8	$0.0	-$0.8
Warwick/T.F. Green Airport Station Expansion	$2.5	$1.8	-$0.6
Connecticut DOT			
Enfield Station	$0.0	$0.0	$0.0
Hartford Line Rail Program: Double Track (Phase 3B-Contracts 1 thru 3)	$0.0	$3.0	$3.0
Hartford Line Station Program (Design)	$0.0	$4.6	$4.6
North Haven Station	$0.0	$0.0	$0.0
Shore Line East Track & Catenary Improvements (FY22)	$0.0	$5.2	$5.2
West Hartford Station	$0.0	$0.0	$0.0
Windsor Locks Station and Interlocking Improvements	$0.0	$10.3	$10.3

Operations: MBTA

MBTA's train service is comprised of 12 service lines, eight of which access the corridor. The Franklin/Foxboro, Needham, and Providence/Stoughton lines all operate on the NEC spine for a significant portion of their route. The Fairmount, Greenbush, Kingston, Middleborough/Lakeville, and Framingham/Worcester lines all tie into the corridor near Boston's South Station.

Train performance profile

Metric	FY22 Avg.	FY23 Avg.
Percent NEC trains late, annulled, or terminated	6.4%	6.4%
Percent NEC trains not completed	0.5%	0.6%
Avg min late per NEC train	14.2	13.5

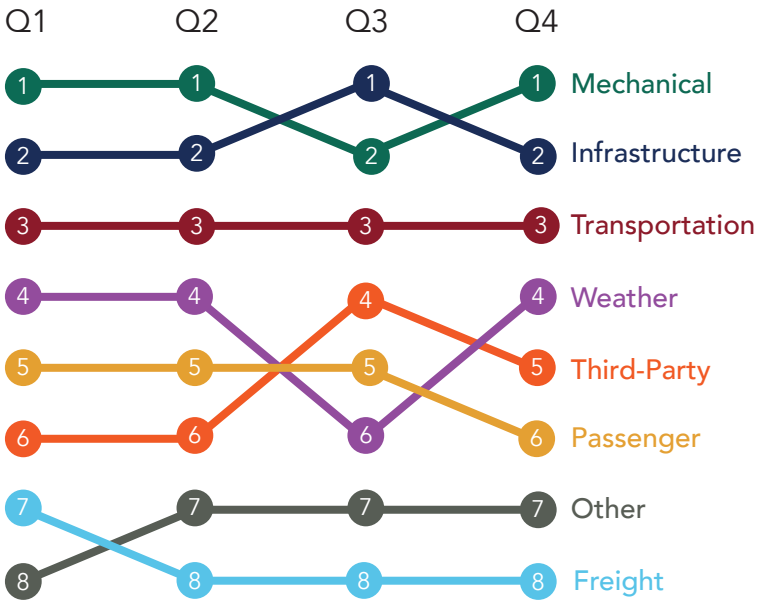


Train-delay minutes by cause

Total and percent change, FY22-23

Cause	FY22	FY23	Change
Infrastructure	21,058	23,968	+13.8%
Mechanical	32,081	26,612	-17.0%
Transportation	17,110	19,203	+12.2%
Passenger	2,920	5,119	+75.3%
Weather	13,158	6,959	-47.1%
Third-Party	6,437	5,924	-8.0%
Freight	264	425	+61.0%
Other	959	868	-9.5%
Total	**93,987**	**89,078**	**-5.2%**

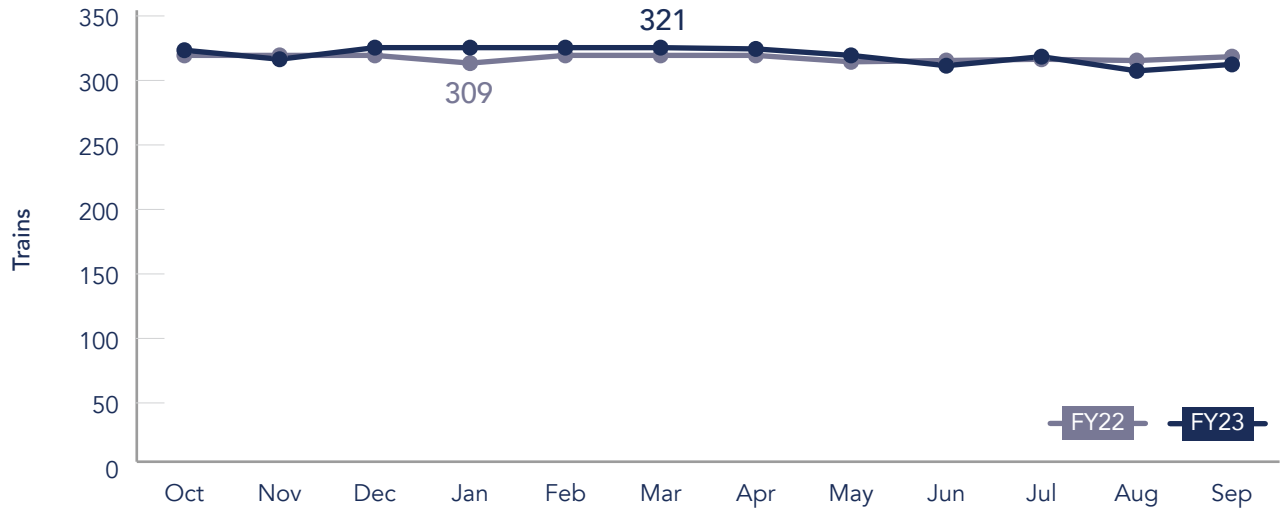
Rank by category, FY23



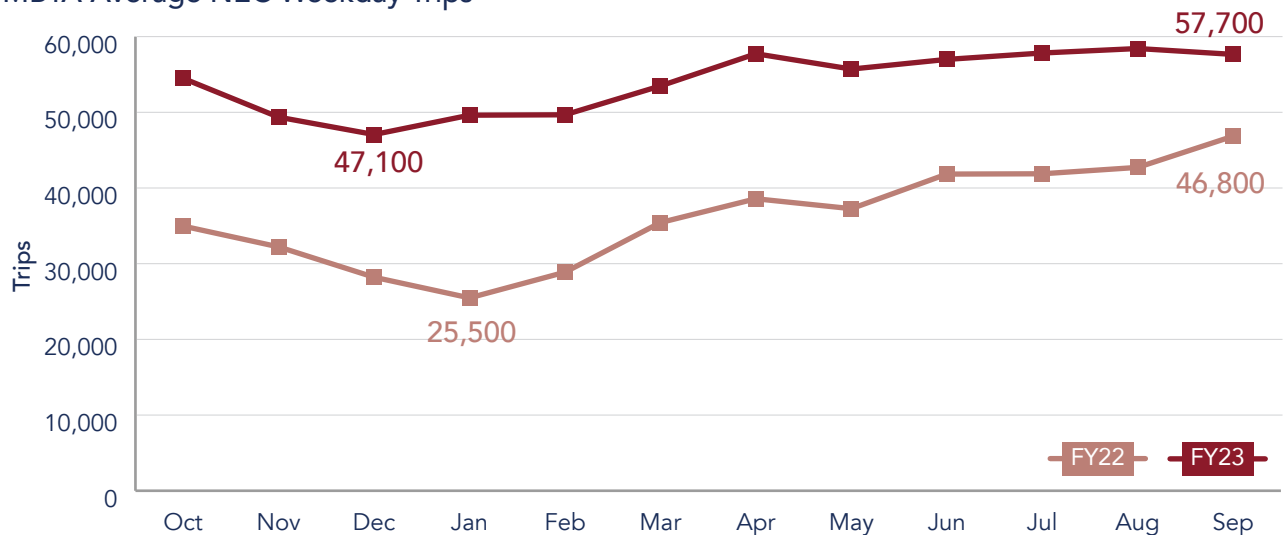
MBTA NEC Service and Ridership

Period	Average NEC weekday trains			Average NEC weekday trips		
	FY22	FY23	Change from FY22	FY22	FY23	Change from FY22
Q1 (Oct - Dec)	315	318	+0.8% ↑	31,798	50,301	+58.2% ↑
Q2 (Jan - Mar)	313	321	+2.5% ↑	29,930	50,925	+70.1% ↑
Q3 (Apr - Jun)	312	315	0.5% ↑	39,227	56,811	+44.8% ↑
Q4 (Jul - Sep)	312	309	-1.2% ↓	43,815	57,970	+32.3% ↑
FY Average (Oct - Sep)	**313**	**315**	**+0.7% ↑**	**36,193**	**54,002**	**+49.2% ↑**

MBTA Average NEC Weekday Trains



MBTA Average NEC Weekday Trips

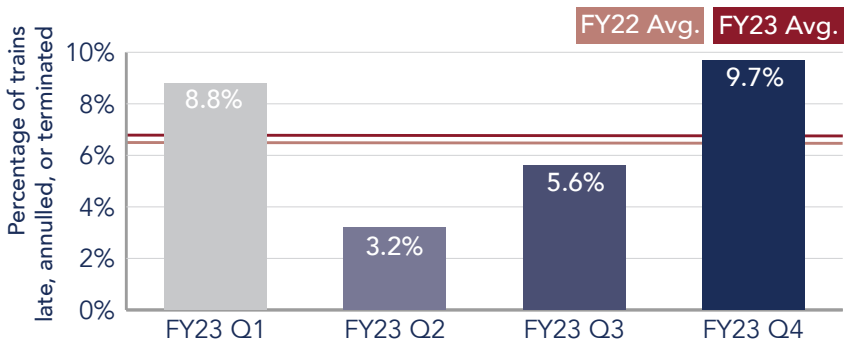


Operations: CTrail

CT*rail*'s train service operates on two lines, both of which use the NEC. Shore Line East trains operate between New London and New Haven, CT. Hartford Line trains operate between Hartford, CT or Springfield, MA and New Haven.

Train performance profile

Metric	FY22 Avg.	FY23 Avg.
Percent NEC trains late, annulled, or terminated	6.5%	6.8%
Percent NEC trains not completed	0.2%	0.1%
Avg min late per NEC train	15.2	16.9

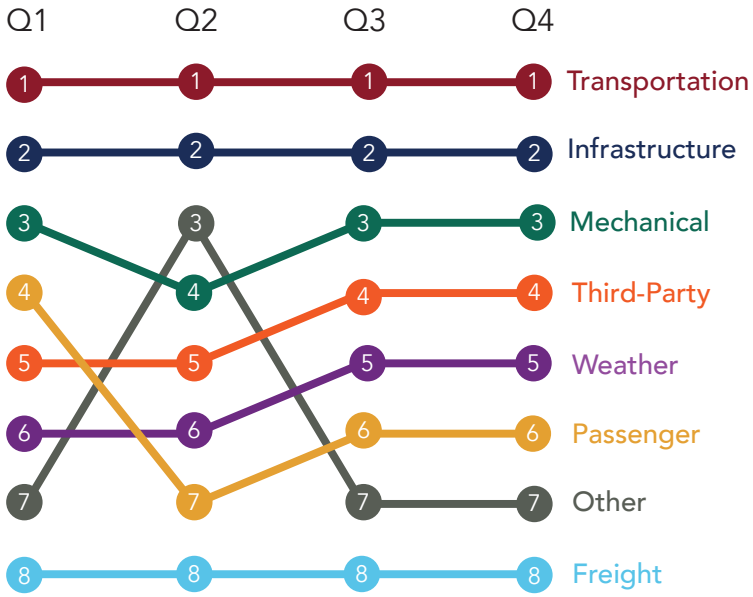


Train-delay minutes by cause

Total and percent change, FY22-23

Cause	FY22	FY23	Change
Infrastructure	2,347	3,353	+42.9%
Mechanical	2,465	1,784	-27.6%
Transportation	5,595	7,289	+30.3%
Passenger	416	533	+28.1%
Weather	664	850	+28.0%
Third-Party	1,233	1,259	+2.1%
Freight	27	36	+33.3%
Other	113	313	+177.0%
Total	**12,859**	**15,417**	**19.9%**

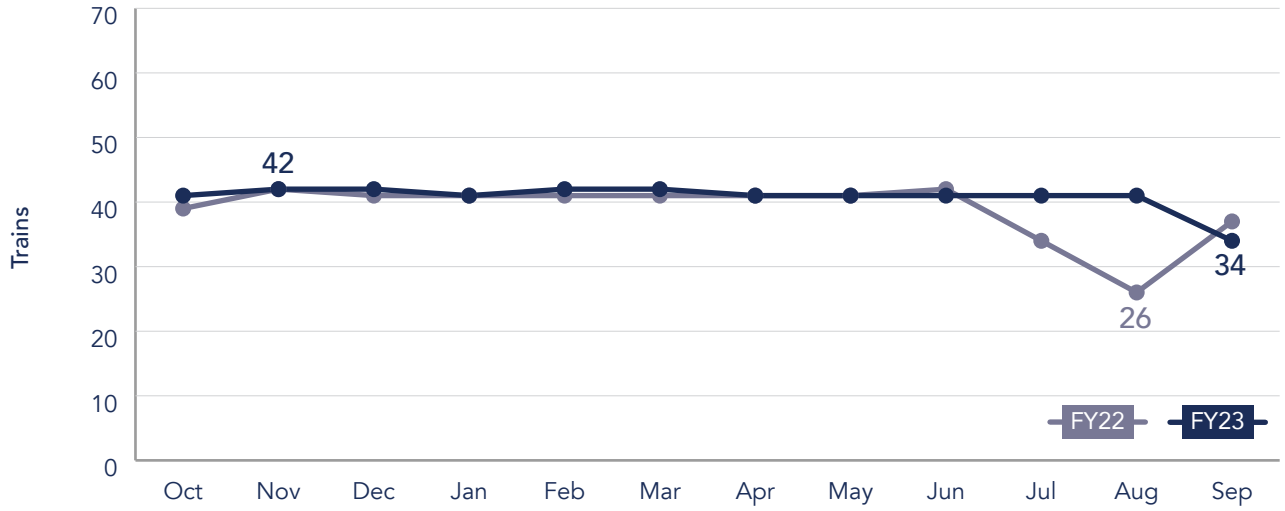
Rank by category, FY23



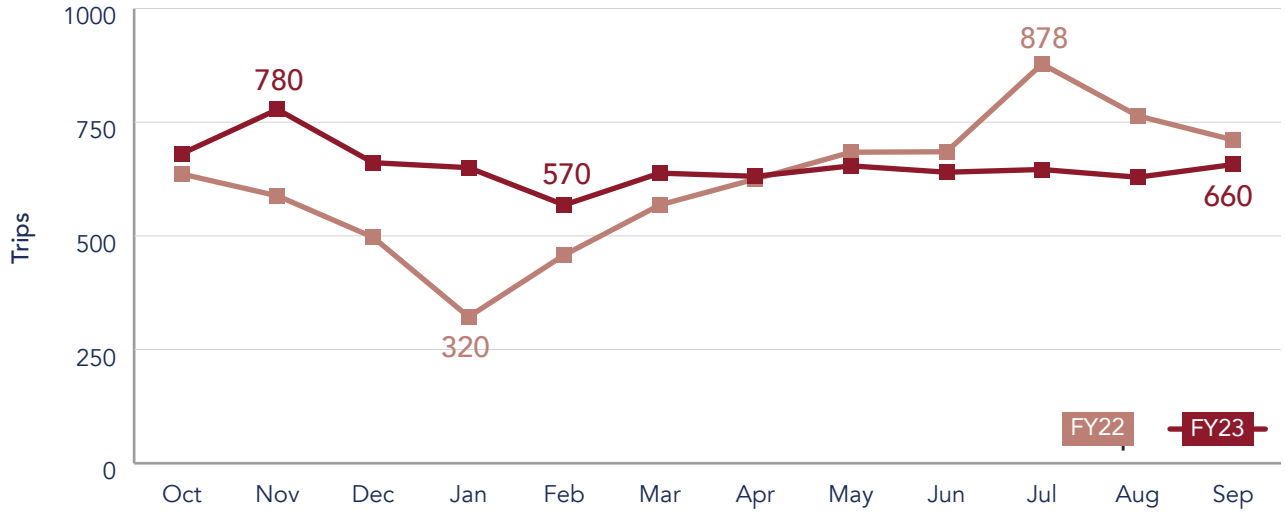
CT*rail* NEC Service and ridership

Period	Average NEC weekday trains			Average NEC weekday trips		
	FY22	FY23	Change from FY22	FY22	FY23	Change from FY22
Q1 (Oct - Dec)	41	42	+2.9% ↑	574	707	+23.1% ↑
Q2 (Jan - Mar)	41	42	+1.3% ↑	449	619	+37.8% ↑
Q3 (Apr - Jun)	41	41	0.0% ↑	665	642	-3.5% ↑
Q4 (Jul - Sep)	32	39	+19.9% ↑	682	644	-5.6% ↑
FY Average (Oct - Sep)	**39**	**41**	**+5.2% ↑**	**593**	**653**	**+10.2% ↑**

CT*rail* Average NEC Weekday Trains



CT*rail* Average NEC Weekday Trips



Region: Connecticut-Westchester (NHL)

Infrastructure and Operations Detail

Operators: Amtrak, MTA Metro-North Railroad

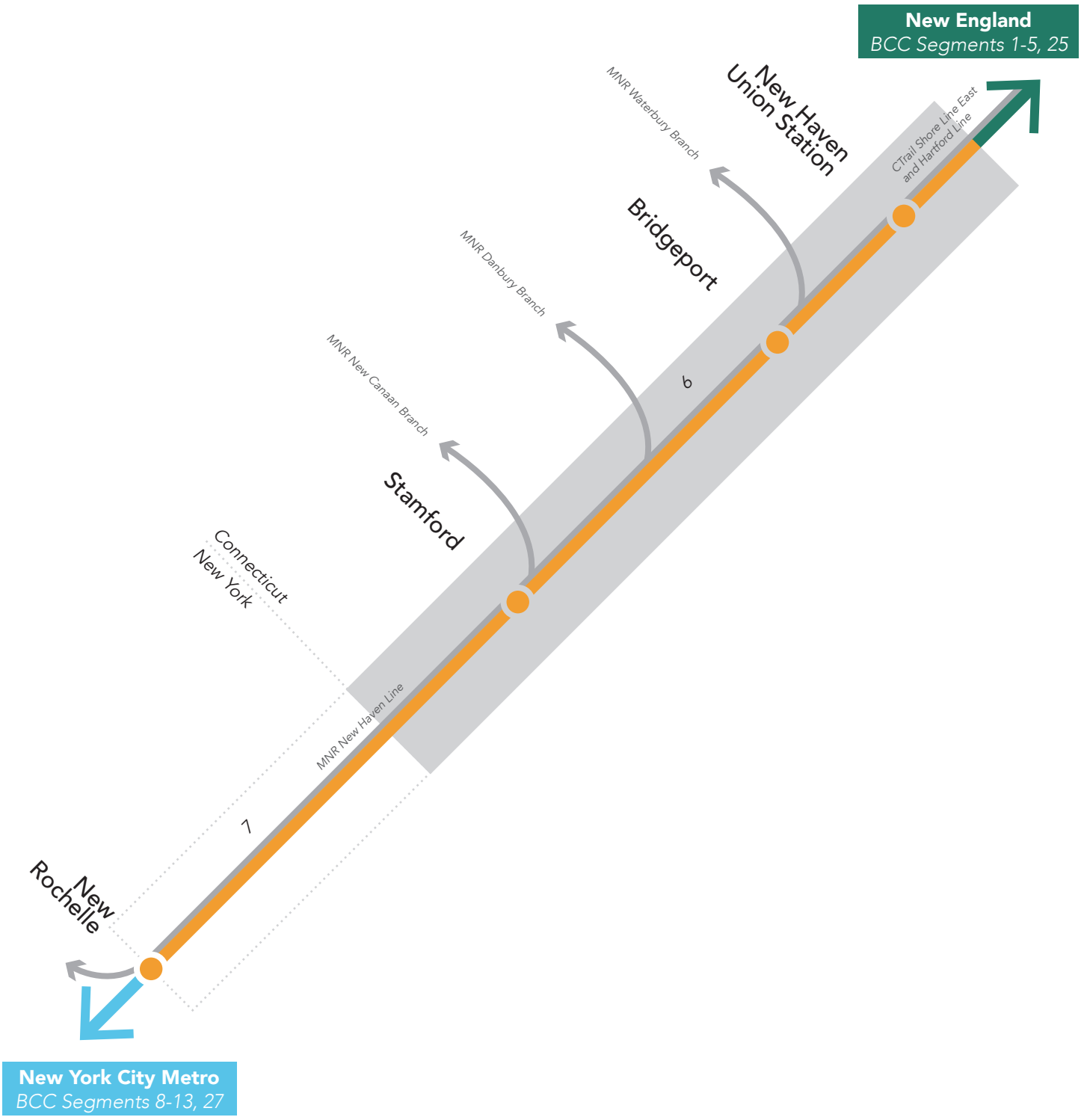
RoW Owners: Connecticut DOT, MTA Metro-North Railroad

BCC Segments

6: New Haven to CT/NY State Line

7: CT/NY State Line to New Rochelle

Connecticut-Westchester (NHL)
BCC Segments 6-7



Not all intermediate stations shown.

Infrastructure

Connecticut DOT and MTA coordinate on work throughout the Connecticut-Westchester (NHL) region. In total, $248 million was invested in FY23 (169% of plan).

10 largest investments by FY23 planned expenditure, Connecticut-Westchester (NHL) (*millions*)

1. Positive Train Control Program (Connecticut DOT)		
FY23 Planned Expenditure & Scope	$20.0	Not available.
FY23 Actual Expenditure & Accomplishments	$8.8	MNR Capital & CTDOT closed out 19 compl. Work Orders, July 24 & August 3.
Variance & Explanation	-$11.2	Not available.
2. Track (C) Program (Connecticut DOT)		
FY23 Planned Expenditure & Scope	$18.0	Not available.
FY23 Actual Expenditure & Accomplishments	$39.4	CP234/Stamford Yard Switch Rehabilitation: The following switches were completed: 3032W, 3032E, 4240, 2826, L224, 2422. Tie Installaton: Rail Tie Installation was performed at the following locations: 2,386 ties on Track 4 between CP257 & CP261; 1,029 ties on Track 4 between CP255 & CP257, 11,039 ties on Track 5/1 between CP235 and New Caanan Station. Surfacing: 15.52 miles of surfacing of tie installation with ballast including tempering, stabilizing, plus 13.35 miles of Out Of Face Surfacing at various locations. Rail Installation: 40,783 lf of rail installed on Track 3 between CP235 & CP240, plus 3,190 lf installed on Track 2 and Track 1 between Division Post and CP232. Rail, switch and other track material procurement ongoing.
Variance & Explanation	$21.4	Due to lack of track availability and resources, additional main line/yard tie installation and main line curve rail rehabilitation/installation could not be completed. Completion of these areas will be attempted next year based upon the same conditions.
3. Atlantic Street Bridge Project (Connecticut DOT)		
FY23 Planned Expenditure & Scope	$15.0	Not available.
FY23 Actual Expenditure & Accomplishments	$3.4	Traffic signal installation was completed. Working through the C&S cable relocation and the stair canopy anchorage with the contractor and resolving work plan discrepancies
Variance & Explanation	-$11.6	Still working through work plans with the contractor which is a prerequisite for other construction activities.
4. New Haven Line Signal System Replacement: Sections 2 & 3 - Norwalk to New Haven (Connecticut DOT)		
FY23 Planned Expenditure & Scope	$14.0	Not provided for FY23-27 CIP.
FY23 Actual Expenditure & Accomplishments	$0.0	MTA design consultant Gannett Fleming executes supplemental agreement. NHL Signal Section 2+3 design plans progress to 60% design.
Variance & Explanation	-$14.0	Not available.

Investment detail including expenditures, accomplishments, and explanation of variances are published as submitted by agencies.

10 largest investments by FY23 planned expenditure, Connecticut-Westchester (NHL) (*millions*, cont.)

5. Stamford Station Improvements: Parking Garage (Connecticut DOT)		
FY23 Planned Expenditure & Scope	$12.5	Not provided for FY23-27 CIP.
FY23 Actual Expenditure & Accomplishments	$36.1	The pedestrian bridge, vehicle chargers, exterior baskets and lighting, PARCS and other critical systems for the garage operation were completed or near complete in pursuit of a temporary certificate of occupancy.
Variance & Explanation	$23.6	The planned expenditure was incorrect, as the original completion date for the project was May of 2023. The actual expenditure was in line with the progress of work performed for both original and extra work.
6. DEVON Bridge Replacement (Connecticut DOT)		
FY23 Planned Expenditure & Scope	$10.0	Complete preliminary engineering phase.
FY23 Actual Expenditure & Accomplishments	$0.6	Final structure alignment determination completed. Advanced pursuing a full replacement of the structure instead of major rehabilitation. Preliminary development of the 30% scope.
Variance & Explanation	-$9.4	Time required for determination of scope related to full replacement vs. major rehabilitation resulted in expediture variance.
7. Substation 128 and 178 Replacement (MTA)		
FY23 Planned Expenditure & Scope	$10.0	Begin design-build project for the replacement of 2 substations on the New Haven Line.
FY23 Actual Expenditure & Accomplishments	$4.8	Design-build contract commenced with consultant onboard, who has created an Alternative Technical concept for one site and has provided 60% design (under review) for both substations.
Variance & Explanation	-$5.2	Design-Build consultant was selected in December 2022 but project start was delayed until March 2023.
8. TIME-1 (Connecticut DOT)		
FY23 Planned Expenditure & Scope	$8.0	Not provided for FY23-27 CIP.
FY23 Actual Expenditure & Accomplishments	$5.5	The design is progressing and advancing NEPA.
Variance & Explanation	-$2.5	Additional design tasks assigned to consultant.
9. COS COB Bridge Interim Repairs (Connecticut DOT)		
FY23 Planned Expenditure & Scope	$5.0	Not provided for FY23-27 CIP.
FY23 Actual Expenditure & Accomplishments	$1.8	Metro-North continues to perform structural repairs. The M&E contract will be in 2025.
Variance & Explanation	-$3.2	The project has structural (performed by Metro-North under FA) and M&E reapirs (by contractor). The design will progress for M&E contract and additional structural repairs will be added based on the latest inspection.

Investment detail including expenditures, accomplishments, and explanation of variances are published as submitted by agencies.

10 largest investments by FY23 planned expenditure, Connecticut-Westchester (NHL) (*millions*, cont.)

10. Saga Bridge Interim Repairs (Connecticut DOT)		
FY23 Planned Expenditure & Scope	$5.0	Not provided for FY23-27 CIP.
FY23 Actual Expenditure & Accomplishments	$1.9	Metro-North continues to perform structural repairs. The M&E contract will be in 2025.
Variance & Explanation	-$3.1	The project has structural (performed by Metro-North under FA) and M&E reapirs (by contractor). The design will progress for M&E contract and additional structural repairs will be added based on the latest inspection.

All Connecticut-Westchester (NHL) investments by submitting agency (*millions*)

Investment Name	FY23 Planned Expenditure	FY23 Actual Expenditure	Variance
Connecticut DOT			
Atlantic Street Bridge Project	$15.0	$3.4	-$11.6
Auto-Tension Catenary Replacement Project: Segments C1A, C2	$4.0	$0.2	-$3.8
Bridge Design Program	$2.0	$4.2	$2.2
Bridge Replacement/Repair Program	$2.5	$2.0	-$0.5
COS COB Bridge Interim Repairs	$5.0	$1.8	-$3.2
DEVON Bridge Interim Repairs	$0.0	$0.0	$0.0
DEVON Bridge Replacement	$10.0	$0.6	-$9.4
New Haven Line Network Infrastructure Upgrade Phase 2	$2.0	$7.3	$5.3
New Haven Line Signal System Replacement: Section 1 - Greenwich to Norwalk	$0.0	$11.4	$11.4
New Haven Line Signal System Replacement: Sections 2 & 3 - Norwalk to New Haven	$14.0	$0.0	-$14.0
New Haven Line Station Platform Replacement Program (Darien)	$0.0	$0.4	$0.4
New Haven Line Station Platform Replacement Program (New Haven)	$0.0	$1.9	$1.9
New Haven Line Yard and Facility Program	$0.0	$17.2	$17.2
New Haven Union Station Improvements	$0.0	$0.0	$0.0
NHL Power Improvement Program	$0.0	$1.0	$1.0
Positive Train Control Program	$20.0	$8.8	-$11.2
Retaining Wall 27 Replacement Project	$0.0	$0.0	$0.0
Saga Bridge Interim Repairs	$5.0	$1.9	-$3.1
SAUGATUCK River Bridge Replacement (TIME-4)	$0.3	$0.0	-$0.3
Stamford Station Improvements: Elevators and Escalators Improvements	$0.0	$15.0	$15.0
Stamford Station Improvements: Parking Garage	$12.5	$36.1	$23.6
Structures (S) Program	$2.0	$0.0	-$2.0
Substation Repairs/Improvements	$3.0	$2.6	-$0.4

Investment detail including expenditures, accomplishments, and explanation of variances are published as submitted by agencies.

All Connecticut-Westchester (NHL) investments by submitting agency (*millions*, cont.)

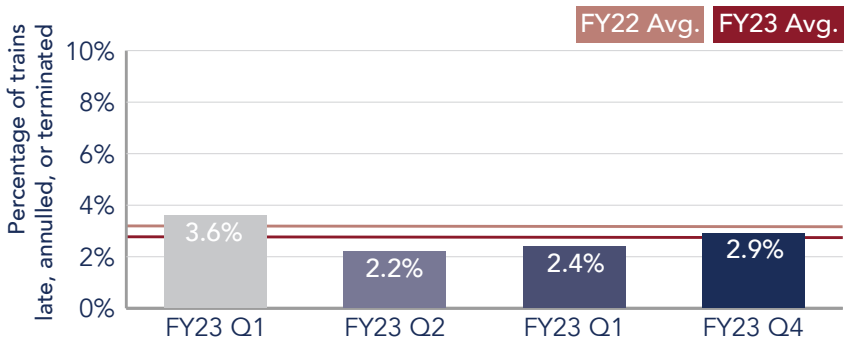
Investment Name	FY23 Planned Expenditure	FY23 Actual Expenditure	Variance
TIME-1	$8.0	$5.5	-$2.5
TIME-2	$5.0	$5.2	$0.2
TIME-3	$0.0	$0.0	$0.0
TIME-5	$0.0	$0.0	$0.0
Track (C) Program	$18.0	$39.4	$21.4
WALK Bridge Replacement	$0.0	$26.1	$26.1
WALK Bridge: Enabling Components (Advanced Utilities)	$0.0	$4.5	$4.5
WALK Bridge: Enabling Components (CP243, Danbury Dockyard, East Catenary)	$0.0	$33.6	$33.6
MTA			
Comms & Signal Program	$1.3	$0.0	-$1.3
Overhead Bridge Rehabilitation Program	$0.7	$0.3	-$0.4
Structures Program	$2.1	$0.0	-$2.1
Substation 128 and 178 Replacement	$10.0	$4.8	-$5.2
Systemwide Support Programs	$0.5	$0.1	-$0.3
Track Programs	$2.3	$10.5	$8.2
Undergrade Bridge Rehabilitation Program	$1.0	$1.0	$0.0

Operations: MTA Metro-North Railroad

MTA Metro-North Railroad (Metro-North) operates on the NEC Main Line, south from New Haven, CT into New York through New Rochelle, NY where trains leave the corridor to proceed to Grand Central Station. Branch lines from New Canaan, Danbury, and Waterbury connect with the New Haven Line at Stamford, South Norwalk, and Devon. Metro-North service outside of the state of New York is operated on behalf of Connecticut DOT.

Train performance profile

Metric	FY22	FY23
Percent NEC trains late, annulled, or terminated	3.3%	2.8%
Percent NEC trains not completed	0.2%	0.3%
Avg min late per NEC train	18.3	20.3

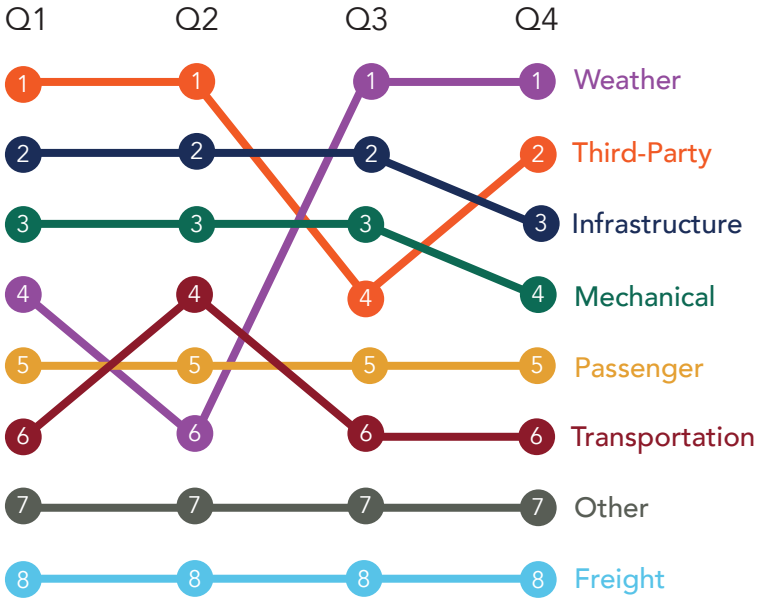


Train-delay minutes by cause

Total and percent change, FY22-23

Cause	FY22	FY23	Change
Infrastructure	10,682	8,121	-24.0%
Mechanical	9,497	5,687	-40.1%
Transportation	1,862	1,528	-17.9%
Passenger	2,901	2,984	+2.9%
Weather	5,341	9,309	+74.3%
Third-Party	13,099	12,258	-6.4%
Freight	6	2	-66.7%
Other	745	186	-75.0%
Total	**44,133**	**40,075**	**-9.2%**

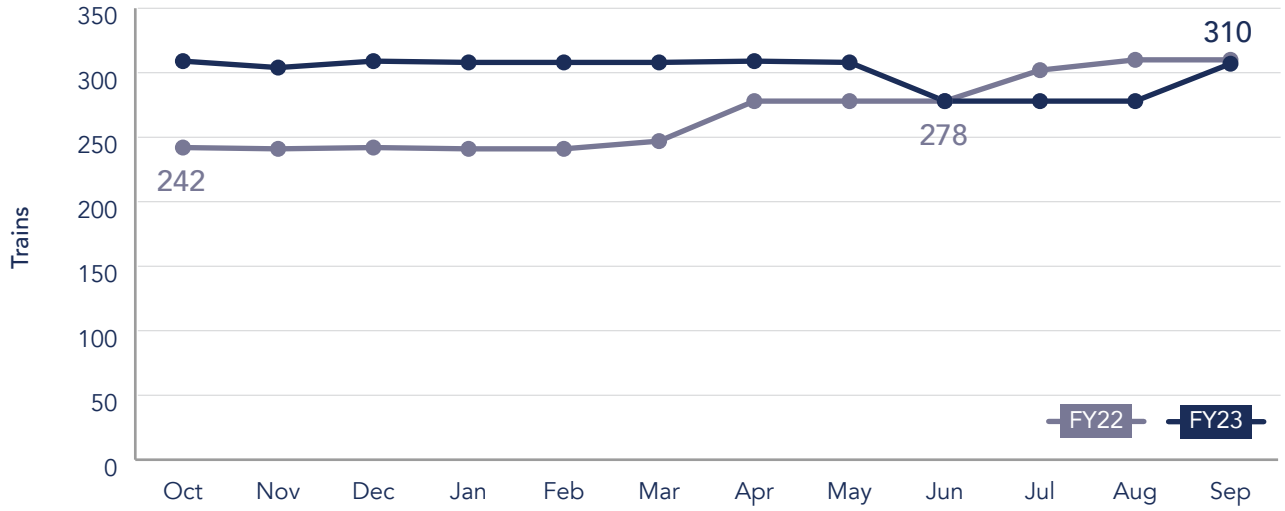
Rank by category, FY23



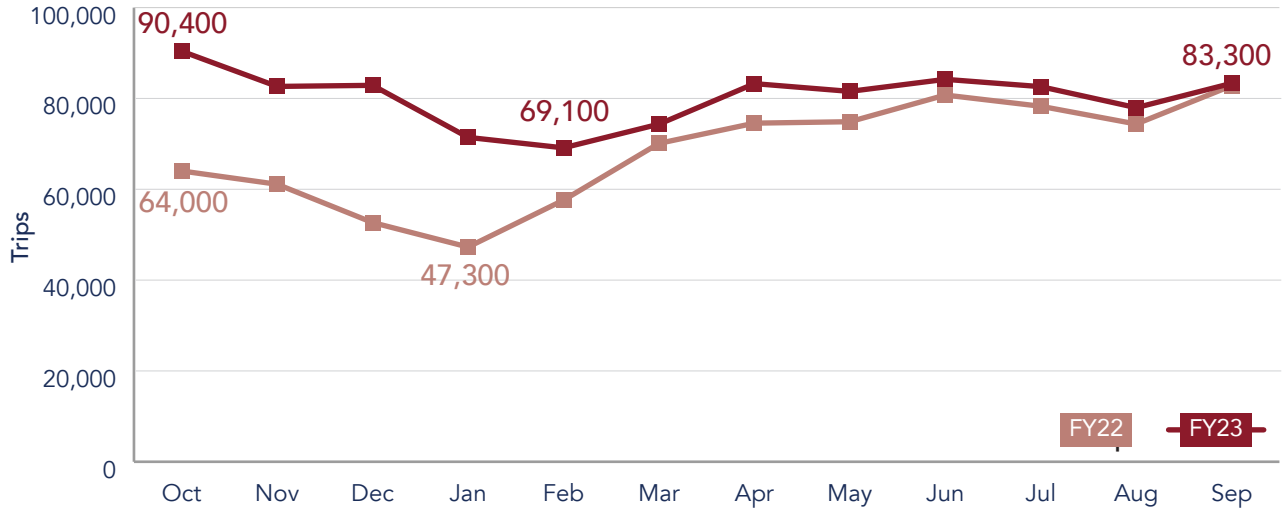
MTA Metro-North NEC Service and ridership

Period	Average Weekday NEC Trains			Average Weekday NEC Trips		
	FY22	FY23	Change from FY22	FY22	FY23	Change from FY22
Q1 (Oct - Dec)	241	307	+27.3% ↑	59,269	85,312	+43.9% ↑
Q2 (Jan - Mar)	243	308	+26.7% ↑	58,331	71,629	+22.8% ↑
Q3 (Apr - Jun)	278	298	+7.3% ↑	76,728	83,007	+8.2% ↑
Q4 (Jul - Sep)	307	287	-6.5% ↓	78,486	81,299	+3.6% ↑
FY Average (Oct - Sep)	**267**	**300**	**+12.3% ↑**	**68,203**	**80,312**	**+17.8% ↑**

MTA Metro-North Average NEC Weekday Trains



MTA Metro-North Average NEC Weekday Trips



Region: New York City Metro

Infrastructure and Operations Detail

Operators: Amtrak, MTA Long Island Rail Road, NJ TRANSIT, SEPTA

RoW Owners: Amtrak

BCC Segments

8: New Rochelle to Harold

9: Harold to F Interlocking

10: F Interlocking to Penn Station New York

11: Penn Terminal

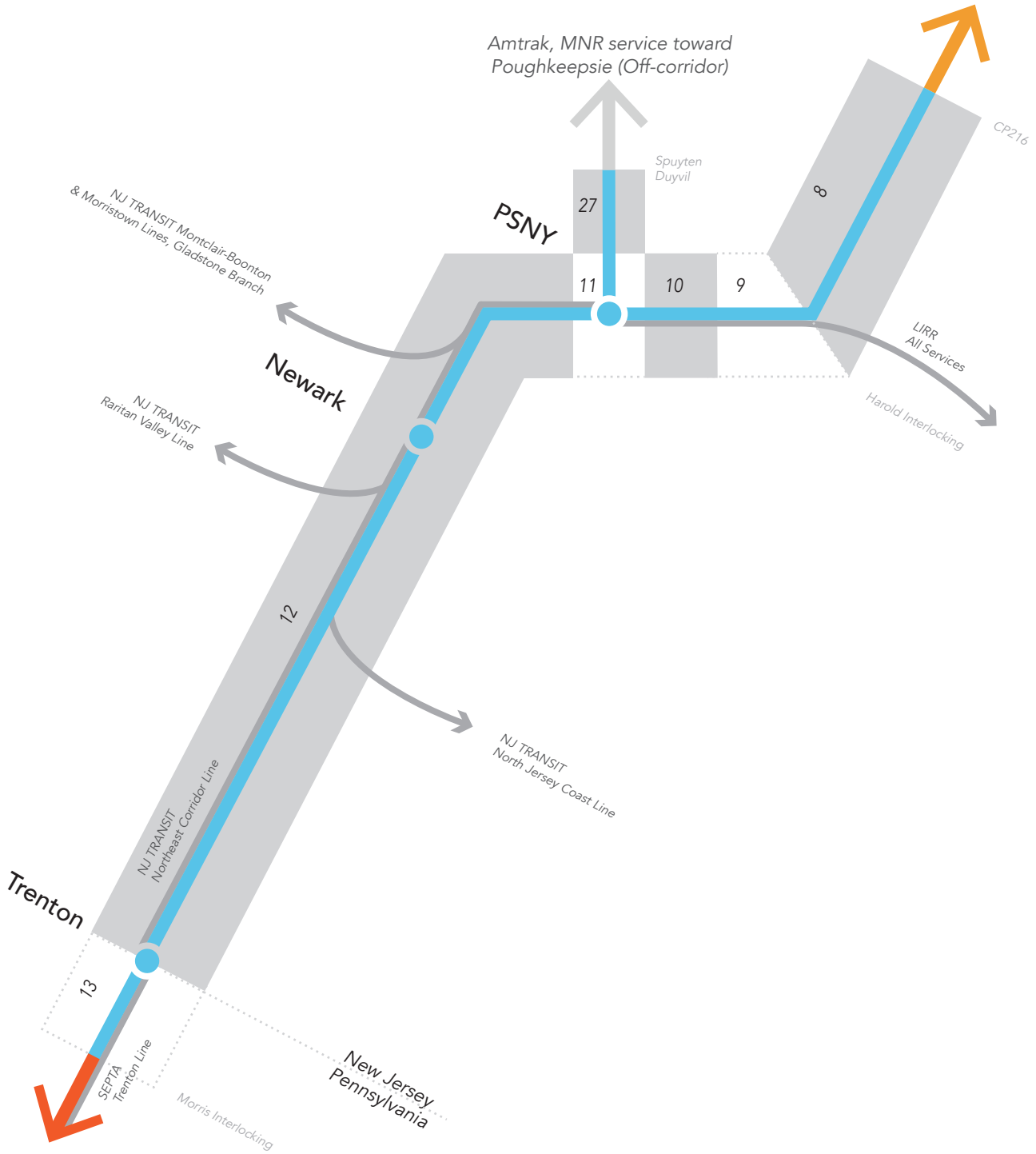
12: Penn Station New York to Trenton

13: Trenton to Morris

27: Spuyten Duyvil to Penn Station New York

New York City Metro
BCC Segments 8-13, 27

Connecticut - Westchester (NHL)
BCC Segments 6-7



Mid-Atlantic North
BCC Segments 14-20, 28-30

Not all intermediate stations shown.

Infrastructure

Amtrak, MTA, and NJ TRANSIT coordinate on work throughout the New York City Metro region. In total, $1,490 million was invested in FY23 (66% of plan).

10 largest investments by FY23 planned expenditure, New York City Metro *(millions)*

1. Gateway: Portal North Bridge (NJ TRANSIT)		
FY23 Planned Expenditure & Scope	$532.2	Stage 1 construction, including fiber optic line re-route, utilities relocation, soil erosion and sediment control, access roads, construction access platforms, Cayuga Dike bridge, retaining walls, Newark-Jersey City Turnpike, West Lagoon Structure, North West Approach Structure, Duck Under Structure, North River Bridge, NE Approach Structure and Catenary and Transmission.
FY23 Actual Expenditure & Accomplishments	$481.7	Paid Skanska payments #6 thru #17.
Variance & Explanation	-$50.4	Planned amount included unspent contingency and contractor retainage fees contributing to the variance, but the difference is anticipated to be spent over future fiscal years.
2. Penn Station Access (MTA)		
FY23 Planned Expenditure & Scope	$496.0	Advance construction.
FY23 Actual Expenditure & Accomplishments	$242.9	Completed Track 1 of Leggett Interlocking and made progress on OCS foundations/columns and drainage work.
Variance & Explanation	-$253.1	Limited working time related to Amtrak workforce support and track access, as well as design delays resulted in fewer activities and expenditures.
3. New York Penn Station LIRR Concourse (MTA)		
FY23 Planned Expenditure & Scope	$275.3	Work to complete the widening of the LIRR Concourse at 33rd Street, a new ADA elevator from the street, staircase renewal/replacement, replacement elevators, upgrading customer service facilities, installing new HVAC equipment, improving lighting.
FY23 Actual Expenditure & Accomplishments	$140.3	Substantial completion of the project was achieved in March 2023.
Variance & Explanation	-$135.0	The FY23 Planned Expenditure amount did not accurately reflect expected costs, however, the project achieved substantial completion on schedule in March 2023.
4. Harold Interlocking (MTA)		
FY23 Planned Expenditure & Scope	$200.0	• Complete HSR Project portion of Harold Catenary Contract • Continue to advance Eastbound Reroute construction. • Prepare and advertise West Bound Bypass completion contract.
FY23 Actual Expenditure & Accomplishments	$150.2	Construction of the Eastbound Reroute and Harold Catenary work progressed.
Variance & Explanation	-$49.8	Limited working time related to Amtrak workforce support and track access resulted in fewer activities and expenditures.

Investment detail including expenditures, accomplishments, and explanation of variances are published as submitted by agencies.

10 largest investments by FY23 planned expenditure, New York City Metro (*millions*, cont.)

5. Gateway: Hudson Tunnel Project (Amtrak)		
FY23 Planned Expenditure & Scope	$178.1	Completion of HYCC-3 Early Work and commencement of HYCC-3 full construction. Ongoing property acquisition activities in New York and New Jersey. Completion of final design package for Tonnelle Avenue Bridge; Progression of Final Design of Tunnel Systems; Support HTP risk assessment.
FY23 Actual Expenditure & Accomplishments	$83.5	Achieved 100% design on Palisades Tunnel; continued work on Hudson River Tunnel Systems Fit Out and other Project packages; received $6.88B commitment in federal funding for construction.
Variance & Explanation	-$94.6	At the CIP, this project initially included the scope of the Hudson Yard Casing Concrete work, which has since been separated into its own project. Further, one of the tunnel contracts was not executed until the end of FY23, so the work was delayed to FY24, also contributing to the underspend.
6. New York Penn Station Reconstruction (MTA)		
FY23 Planned Expenditure & Scope	$115.0	Advance NEPA and Preliminary Engineering.
FY23 Actual Expenditure & Accomplishments	$8.3	Preliminary engineering is underway and the Project Team is working with federal partners towards NEPA initiation.
Variance & Explanation	-$106.7	NEPA initiation has been delayed.
7. Next Generation Acela Infrastructure Upgrades: Sunnyside Yard (Amtrak)		
FY23 Planned Expenditure & Scope	$47.6	Amtrak's third-party engineering firm to continue and complete design for yard track improvements (Ready Tracks Package 'C'). Amtrak's third-party construction contractor to continue the installation of the Ready Tracks (Packages 'A' & 'B' and Phase 1 watermain improvements). Honeywell Street Ramp demolition and staircase installation. Queens Blvd. staircase demolition and staircase installation. Installation of the new water main and platforms related to Package A & B.
FY23 Actual Expenditure & Accomplishments	$28.7	The project team re-phased work to allow for the delivery of the Ready Track platforms and can be completed prior to the release of the New Acela Trainsets. The EOR developed the Sunnyside Yard HSR Facility Modifications needed for Mechanical's acceptance and provided bid documents for FY24 construction for the mods.
Variance & Explanation	-$18.9	As a result of NYSDEC requirements for Sunnyside Yard which is identified as a Superfund site due to its extremely high levels of contamination the current work plan was to be revised and prevented the third-party contractor from doing work within certain areas that impacted the schedule. NYC DOT also required updated plans to address their concerns of Amtrak's Honeywell Bridge staircase tie-in with the bridge construction joint. Amtrak's third-party contractor also did not have approved SSSWP's and was shut down until Amtrak officially approved each SSSWP. The project also experienced delays as a result of limited protection by Track along with the slippage of CAPD #1 project to #54 which prioritizes which projects receive protection.
8. Gateway: New York Penn Station Expansion (Amtrak)		
FY23 Planned Expenditure & Scope	$39.8	Initiate design of Station Expansion, project requirements and alternatives analysis.
FY23 Actual Expenditure & Accomplishments	$26.5	Project progressed through feasibility assessment and began 10% design process; coordination began with project partners and Penn Reconstruction teams.
Variance & Explanation	-$13.3	Project team realized increased efficiencies that allowed them to maintain schedule for design deliverables at a lower cost to the project.

Investment detail including expenditures, accomplishments, and explanation of variances are published as submitted by agencies.

10 largest investments by FY23 planned expenditure, New York City Metro (*millions*, cont.)

9. New York Track Program (Amtrak)		
FY23 Planned Expenditure & Scope	$32.3	The scope for FY23 scope includes track improvements on lines the AG, AE, and AN and other locations in the New York Division. Work to be performed includes the following; surfacing, insulated joint replacements, joint eliminations, interlocking steel replacements, spot rail replacements, tie/timber replacement at Grundy and the AE, AG, and AN lines, concrete ties replacement, concrete timbers replacement at Iselin, drainage upgrades at Lincoln and the AE, AG, and AN lines, surfacing, vac train, rail replacement at Menlo, starting construction on layover equipment, rail lubrication upgrades, track panel replacement at North Tube, bridge timber/ties replacement at Dock and Portal Bridge, body track replacement at SSYD, paving at Adams, and F and Q Interlocking Renewal.
FY23 Actual Expenditure & Accomplishments	$60.8	Major highlights include replacement of panels in the North Tube, F&Q Interlocking renewal, and SSYD Track 16 body track replacement.
Variance & Explanation	$28.5	No notable variances.
10. NJ TRANSITGRID (NJ TRANSIT)		
FY23 Planned Expenditure & Scope	$27.9	Advance design of the distributed grid sites, begin construction on the distributed grid sites, advance procurement of the microgrid facility.
FY23 Actual Expenditure & Accomplishments	$11.0	• Microgrid Central Facility Project: Reissued amended RFP. • Distributed Generation Project: The six site DG IFB contract awarded to DYNAMIC US. Construction Assistance for the six site DG contract has been authorized and the Construction Services contract also for the six site DG IFB was awarded to Burns Engineering.
Variance & Explanation	-$16.9	Delays in reissuing and awarding the MCF Contract have led to lower than expected expenditures.

Investment detail including expenditures, accomplishments, and explanation of variances are published as submitted by agencies.

All New York City Metro investments by submitting agency *(millions)*

Investment Name	FY23 Planned Expenditure	FY23 Actual Expenditure	Variance
Amtrak			
1st Avenue Ventilation Fan Attenuator Upgrade	$6.1	$5.9	-$0.2
AEI Tag Reader Wayside Defect Detection	$0.0	$0.2	$0.2
Airo Facilities: Sunnyside Yard	$4.7	$3.2	-$1.5
Amtrak NEC Nortrak Operating Rods Replacement Project	$0.5	$0.4	-$0.1
Bridge Replacement South St. Station, Newark NJ AN MP 9.65	$0.6	$0.0	-$0.5
Bridges & Tunnels Security Enhancements	$0.0	$0.0	$0.0
Clark to Ham Constant Tension Upgrade Project	$22.2	$7.4	-$14.8
Communications System Upgrades Program	$1.7	$1.8	$0.2
East River Tunnel Rehabilitation Project	$15.6	$10.0	-$5.6
Empire Line Lighting Upgrade Project	$11.1	$10.0	-$1.0
Fair Interlocking Renewal Project	$0.0	$0.0	$0.0
Fence Upgrades Program	$1.6	$0.1	-$1.5
Gateway: Harrison Fourth Track	$3.6	$3.0	-$0.6
Gateway: Highline Renewal and State of Good Repair: Dock Bridge	$5.5	$4.9	-$0.6
Gateway: Hudson Tunnel Project	$178.1	$83.5	-$94.6
Gateway: New York Penn Station Expansion	$39.8	$26.5	-$13.3
Gateway: Sawtooth Bridges Replacement	$18.5	$10.9	-$7.6
Ham Interlocking Renewal Project	$5.1	$5.3	$0.2
Hellgate Substation 45-47 Upgrade Project	$0.0	$0.1	$0.1
Kearny Sub 41 Relocation Design and Construction	$1.2	$1.1	-$0.2
Kearny to Waverly Transmission Tower Upgrade Project	$21.3	$13.4	-$7.8
Maintenance Facility Security Enhancements	$0.0	$2.4	$2.4
MOFE NEW YORK PSCC - BUILDING RENOVATIONS	$0.0	$0.3	$0.3
MOY Ticketing Area Update	$0.0	$0.0	$0.0
Moynihan Station	$0.0	$0.0	$0.0
Moynihan Station Infrastructure Improvement	$0.1	$0.0	-$0.1
NEC Trip Time Reduction	$0.0	$0.0	$0.0
New Brunswick Commuter Yard Remediation	$0.0	$0.1	$0.0
New Hackensack Substation 42 Control House Project	$7.8	$3.7	-$4.1
New Jersey Bridge Replacement - Main Street, Inman Ave, Lehigh Valley RR	$0.3	$0.0	-$0.3
New York Catenary Program	$2.1	$2.1	-$0.1
New York Facilities Program	$4.6	$6.3	$1.7
New York Metro Signal System Upgrades to 562 Program Phase 1: County to Elmora	$0.2	-$0.5	-$0.6
New York Penn Station Crew Base Renovations	$4.6	$2.7	-$1.9
New York Penn Station Escalator Replacement	$1.9	$0.0	-$1.8
New York Penn Station Refresh Program	$0.4	$0.4	$0.1

All New York City Metro investments by submitting agency (*millions*, cont.)

Investment Name	FY23 Planned Expenditure	FY23 Actual Expenditure	Variance
New York Penn Station Taxi/8th Ave Entrance Renovations	$0.1	$0.1	$0.0
New York Penn Station Track Remediation	$1.4	$0.7	-$0.7
New York Signals Program	$2.6	$3.0	$0.4
New York Structures Program	$10.4	$10.6	$0.2
New York Substations Program	$3.9	$5.2	$1.3
New York Track Program	$32.3	$60.8	$28.5
Newark Penn Station: Platform Rehabilitation (A, B, C)	$0.2	$0.2	$0.0
Next Generation Acela Infrastructure Upgrades: Sunnyside Yard	$47.6	$28.7	-$18.9
NY Portfolio Planning & Development	$0.0	$0.0	$0.0
NYP 7th and 32nd Entrance Renovation	$0.0	$23.1	$23.1
NYP Reconstruction	$0.0	$0.0	$0.0
NYP to Moynihan Station Wayfinding Upgrades	$0.0	$0.0	$0.0
Passenger Information Display Systems Program (PIDS)	$0.0	$0.0	$0.0
Pelham Bay Bridge Replacement Project	$1.0	$1.1	$0.1
Penn Station NY - Infrastructure Renewal	$27.9	$37.1	$9.2
Production High Speed Surfacing Program	$0.8	$3.1	$2.4
Production Wood Tie/Timber Replacement Program	$2.6	$0.0	-$2.6
PSCC NY 400 Building Backup Generator Replacement	$0.5	$0.5	$0.0
Q Interlocking C&S Equipment Replacement Project	$4.4	$5.6	$1.2
Rail Grinding Program (Amtrak)	$1.5	$1.2	-$0.3
Rail Replacement Program	$3.9	$3.6	-$0.3
River-to-River Rail (R4) Resiliency: ERT Tunnel Power Upgrades & Flood Mitigation	$1.8	$0.1	-$1.6
Spuyten Duyvil Submarine Cable Replacement Project	$11.7	$10.6	-$1.1
Station Security Enhancements	$0.0	$0.1	$0.1
Sunnyside Yard Frequency Converter Upgrade Project	$2.5	$2.6	$0.1
Sunnyside Yard Oil & PCB Remdiation	$0.1	$0.1	-$0.1
Sunnyside Yard Service Platform Upgrades	$0.1	$0.2	$0.0
Sunnyside Yard Watermain Upgrades	$1.0	$0.1	-$1.0
TLS Concrete Tie Replacement Program	$16.0	$16.0	$0.1
Track Rehabilitation Program	$0.6	$2.9	$2.3
Track Undercutting Program	$0.0	$0.0	$0.0
Trenton NJ Commuter Yard Remediation	$3.1	$2.1	-$1.0
Turnout Renewal Program	$8.4	$10.5	$2.1
Washington St Bridge Replacement	$2.3	$0.6	-$1.7

All New York City Metro investments by submitting agency (*millions*, cont.)

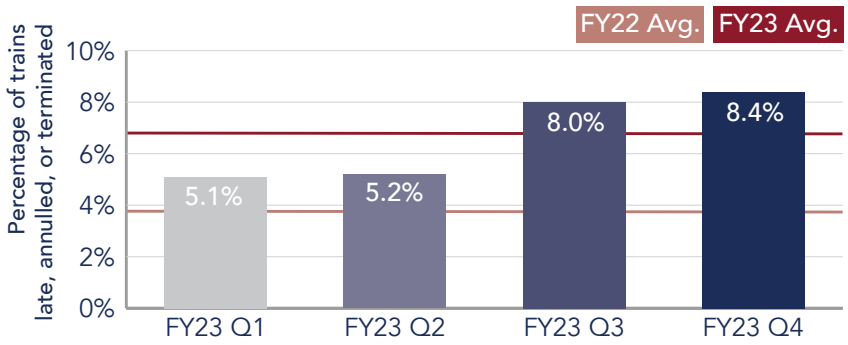
Investment Name	FY23 Planned Expenditure	FY23 Actual Expenditure	Variance
MTA			
Harold Interlocking	$200.0	$150.2	-$49.8
New York Penn Station LIRR Concourse	$275.3	$140.3	-$135.0
New York Penn Station Reconstruction	$115.0	$8.3	-$106.7
New York Penn Station: Platforms 7 & 8 Refurbishment	$9.5	$0.2	-$9.3
Penn Station Access	$496.0	$242.9	-$253.1
River-to-River Rail (R4) Resiliency: West Side Yard	$23.0	$0.2	-$22.8
NJ TRANSIT			
Choke Point Relief: Westbound Waterfront Connection	$0.5	$0.0	-$0.5
Delco Lead	$12.0	$2.0	-$10.0
Elizabeth Station Improvements	$0.0	$10.2	$10.2
Gateway: NJ TRANSIT Gateway Storage Yard	$0.0	$0.4	$0.4
Gateway: Portal North Bridge	$532.2	$481.7	-$50.4
Gateway: Portal South Bridge	$0.2	$0.0	-$0.2
Hunter Flyover	$1.0	$0.0	-$1.0
Jersey Avenue Station Improvements	$0.0	$0.0	$0.0
Metuchen Station Improvements	$0.0	$0.0	$0.0
Midline Loop	$0.0	$0.0	$0.0
New Brunswick Station Improvements	$0.0	$0.5	$0.5
New York Penn Station: Central Concourse	$0.0	$0.0	$0.0
New York Penn Station: NJ TRANSIT Near-Term Improvements	$0.0	$0.0	$0.0
Newark Penn Station: Master Plan and Reimagined Icon	$9.5	$3.0	-$6.5
Newark Penn Station: Platform Rehabilitation	$0.6	$0.4	-$0.3
Newark Penn Station: State of Good Repair Rehabilitation	$0.0	$1.5	$1.5
NJ TRANSITGRID	$27.9	$11.0	-$16.9
North Brunswick Station	$5.0	$1.6	-$3.4
North Elizabeth Station Improvements	$0.6	$0.0	-$0.6
Trenton Transit Center: State of Good Repair Program	$1.5	$0.1	-$1.4

Operations: MTA Long Island Rail Road

MTA Long Island Rail Road (LIRR) operates eleven branch lines, ten of which connect to the NEC at Harold Interlocking in Queens to serve either New York Penn Station or Grand Central Madison. Passengers on the Oyster Bay branch heading to Penn Station must transfer at Jamaica Station. Passengers on the Far Rockaway, Hempstead, and West Hempstead branches must frequently make this transfer as well. Trains to and from the newly-opened Grand Central Madison terminal also breifely operate on the NEC while traversing Harold Interlocking.

Train performance profile

Metric	FY22	FY23
Percent NEC trains late, annulled, or terminated	3.8%	6.7%
Percent NEC trains not completed	0.3%	0.4%
Avg min late per NEC train	10.6	10.1

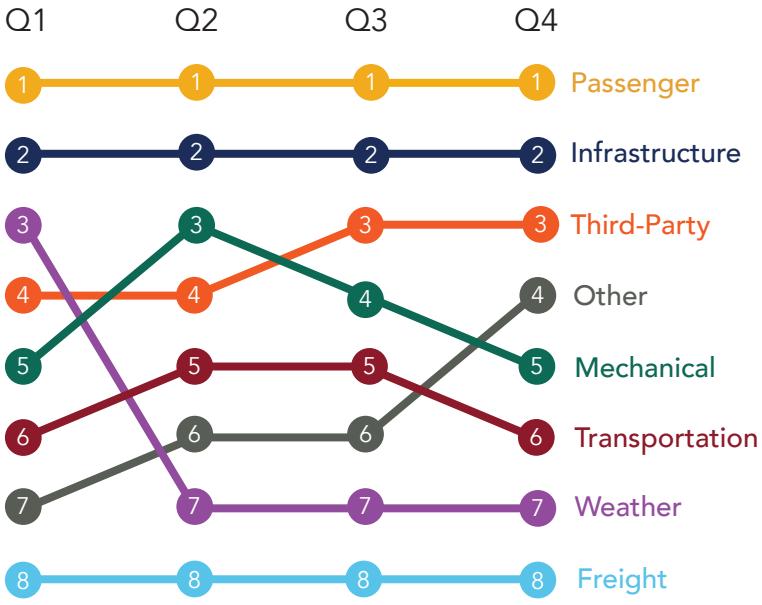


Train-delay minutes by cause

Total and percent change, FY22-23

Cause	FY22	FY23	Change
Infrastructure	15,566	22,995	+47.7%
Mechanical	5,414	11,239	+107.6%
Transportation	1,841	7,256	+294.1%
Passenger	16,422	34,332	+109.1%
Weather	5,911	4,445	-24.8%
Third-Party	8,630	12,404	+43.7%
Freight	411	222	-46.0%
Other	2,901	6,763	+133.1%
Total	**57,096**	**99,656**	**+74.5%**

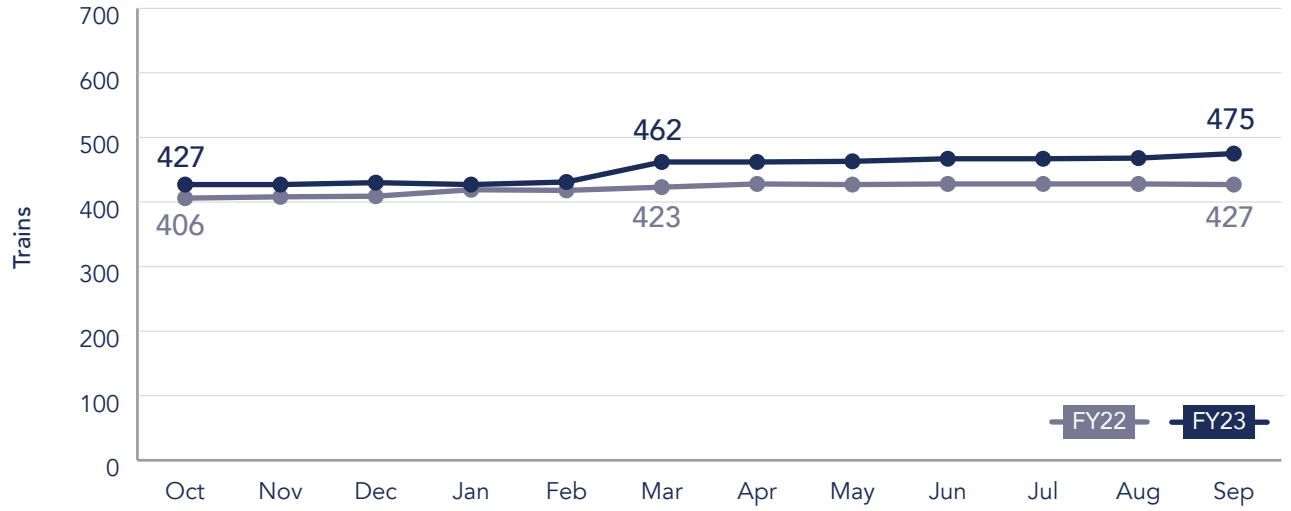
Rank by category, FY23



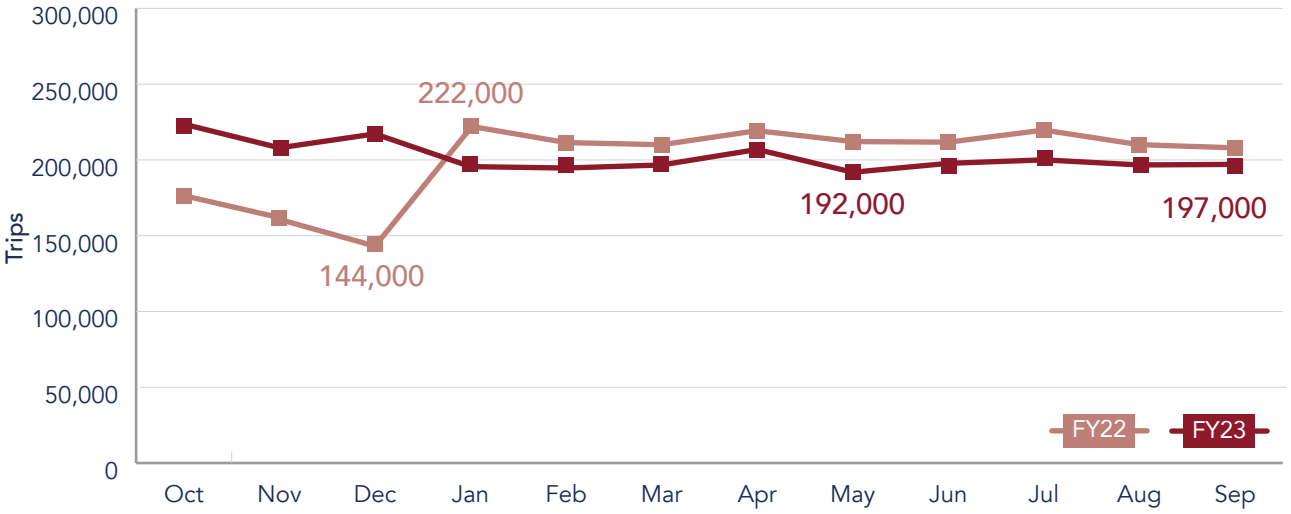
LIRR NEC Service and Ridership

Period	Average Weekday NEC Trains			Average Weekday NEC Trips		
	FY22	FY23	Change from FY22	FY22	FY23	Change from FY22
Q1 (Oct - Dec)	408	428	+4.9% ↑	160,892	216,266	+34.4% ↑
Q2 (Jan - Mar)	420	440	+4.8% ↑	214,576	195,641	-8.8% ↓
Q3 (Apr - Jun)	428	464	+8.5% ↑	214,376	198,844	-7.2% ↓
Q4 (Jul - Sep)	428	470	+10.0% ↑	212,580	197,931	-6.9% ↓
FY Average (Oct - Sep)	**421**	**450**	**+7.1% ↑**	**200,606**	**202,170**	**+0.8% ↑**

LIRR Average NEC Weekday Trains



LIRR Average NEC Weekday Trips

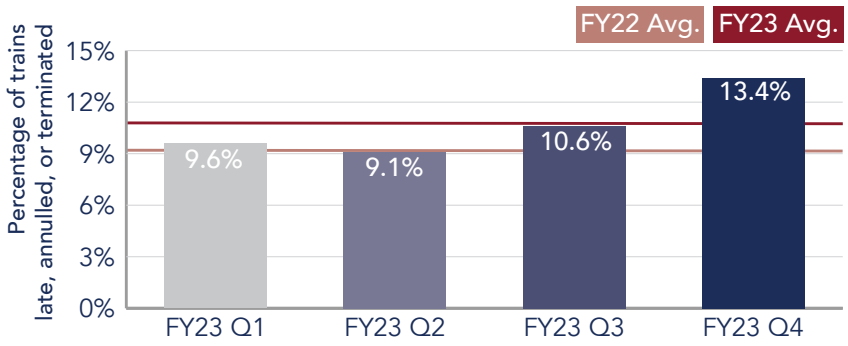


Operations: New Jersey Transit

New Jersey Transit (NJ TRANSIT/NJT) operates its Northeast Corridor Line service on the NEC Main Line between New York Penn Station and Trenton, NJ. The North Jersey Coast, Midtown Direct, and Raritan Valley Lines to/from New York Penn Station also operate partially on the NEC. The Atlantic City Line operates between Philadelphia 30th Street Station and Atlantic City, NJ, partially on the NEC.

Train performance profile

Metric	FY22	FY23
Percent NEC trains late, annulled, or terminated	9.1%	10.7%
Percent NEC trains not completed	2.0%	1.8%
Avg min late per NEC train	14.8	14.7

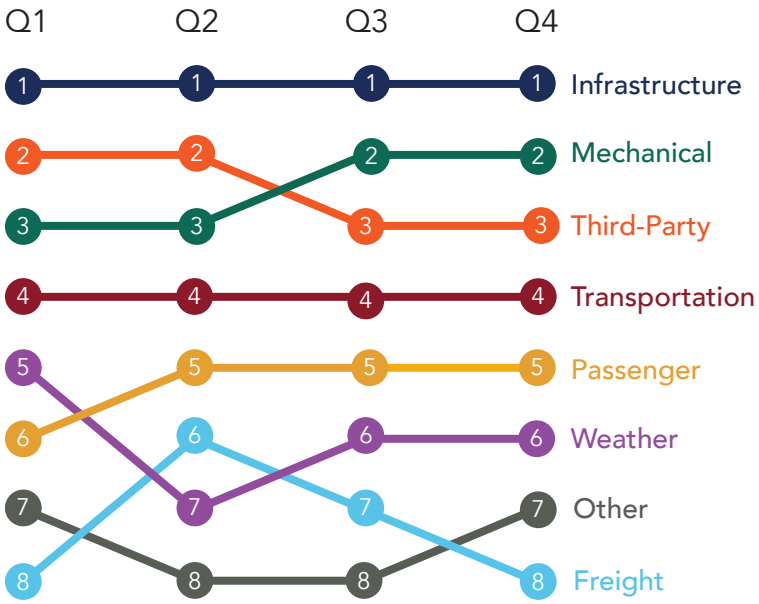


Train-delay minutes by cause

Total and percent change, FY22-23

Cause	FY22	FY23	Change
Infrastructure	58,655	69,230	+18.0%
Mechanical	40,725	43,007	+5.6%
Transportation	14,246	18,217	+27.9%
Passenger	9,857	11,166	+13.3%
Weather	9,038	5,811	-35.7%
Third-Party	33,365	46,392	+39.0%
Freight	1,387	1,652	+19.1%
Other	476	2,312	+385.7%
Total	**167,749**	**197,787**	**+17.9%**

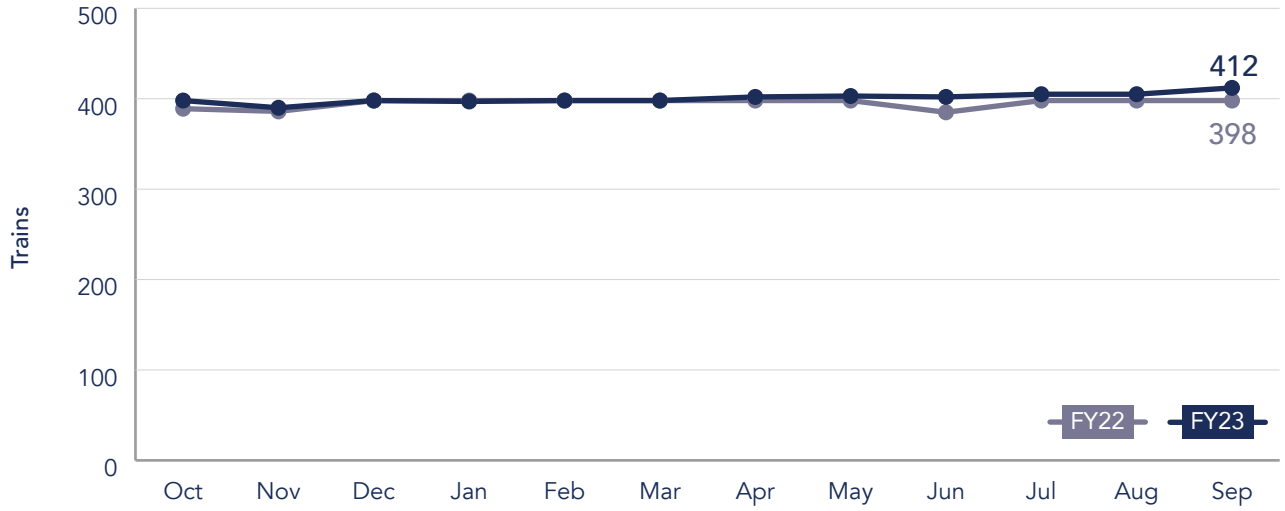
Rank by category, FY23



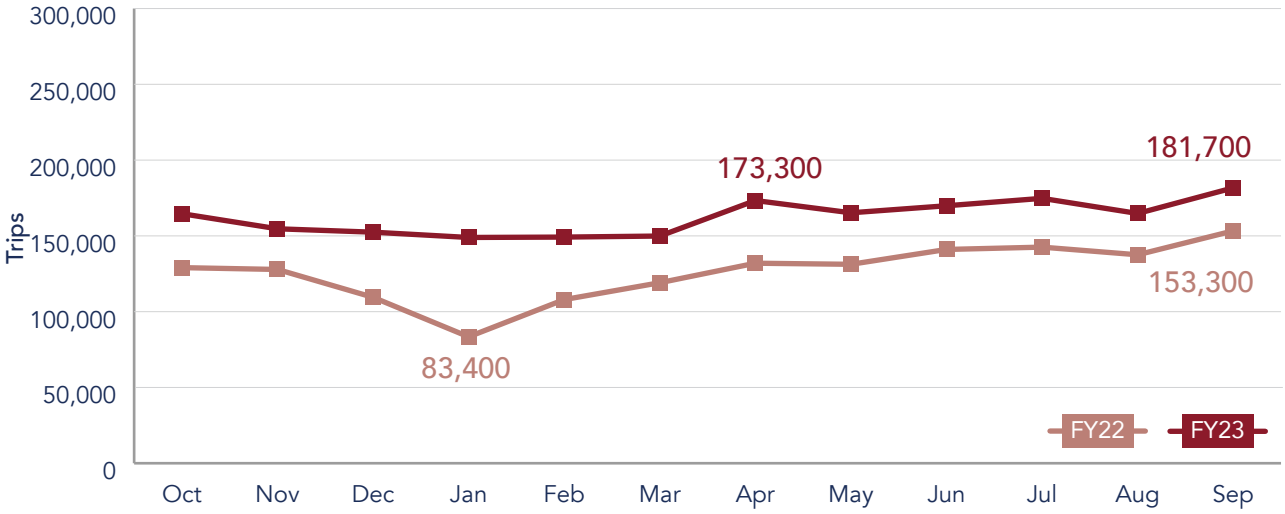
NJ TRANSIT NEC Service and ridership

Period	Average Weekday NEC Trains			Average Weekday NEC Trips		
	FY22	FY23	Change from FY22	FY22	FY23	Change from FY22
Q1 (Oct - Dec)	391	395	+1.2% ↑	122,122	157,254	+28.8% ↑
Q2 (Jan - Mar)	398	398	0.0%	103,495	149,355	+44.3% ↑
Q3 (Apr - Jun)	393	402	+2.2% ↑	134,754	169,481	+25.8% ↑
Q4 (Jul - Sep)	398	407	+2.3% ↑	144,474	173,749	+20.3% ↑
FY Average (Oct - Sep)	**395**	**401**	**+1.4% ↑**	**126,211**	**162,460**	**+28.7% ↑**

NJ TRANSIT Average NEC Weekday Trains



NJ TRANSIT Average NEC Weekday Trips



Region: Mid-Atlantic North

Infrastructure and Operations Detail

Operators: Amtrak, NJ TRANSIT, SEPTA

RoW Owner: Amtrak

BCC Segments

14: Morris to Holmes

15: Holmes to Shore

16: Shore to Girard

17: Girard to Philadelphia 30th Street

18: Philadelphia 30th Street to Arsenal

19: Arsenal to Marcus Hook

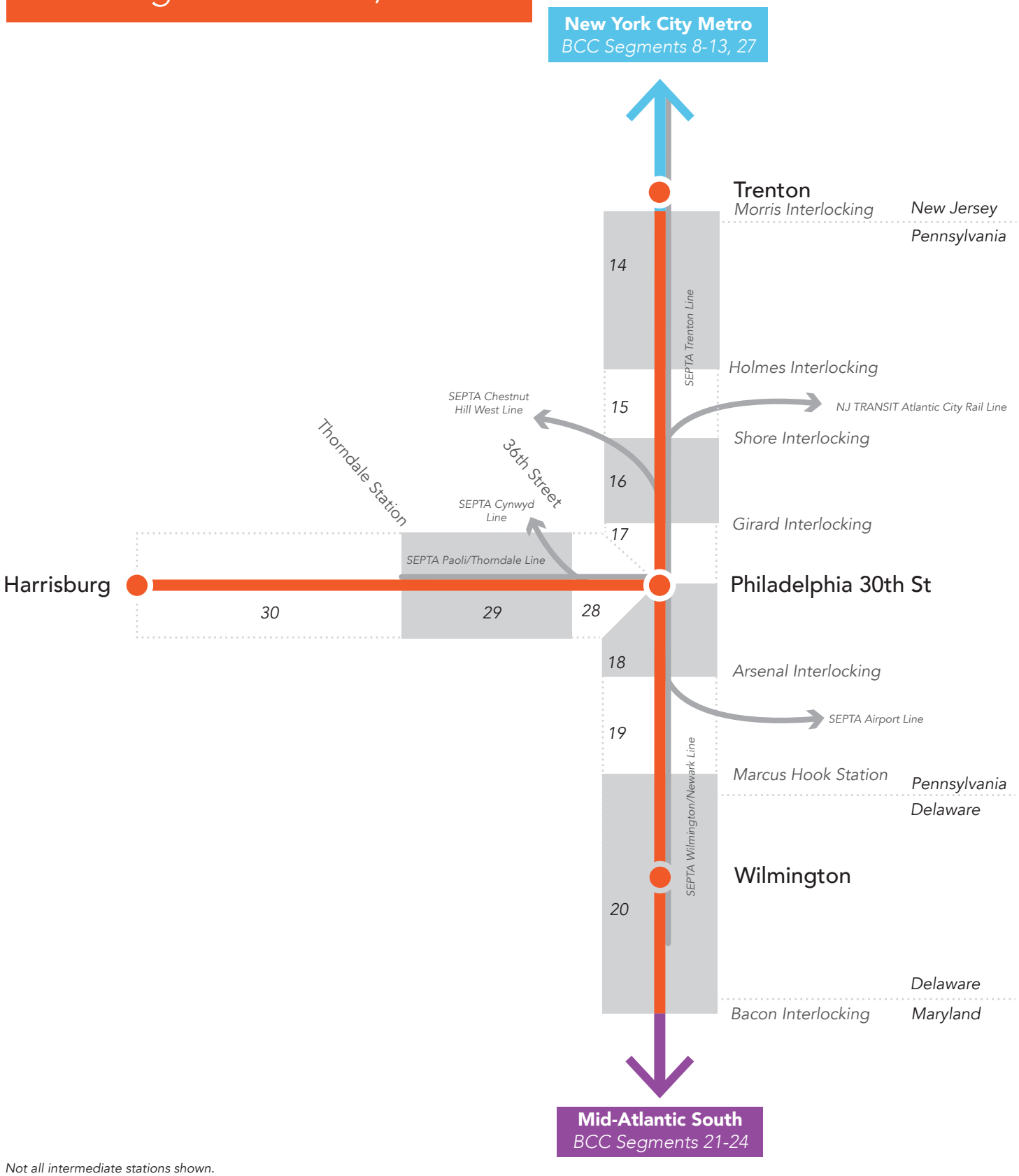
20: Marcus Hook to Bacon

28: Philadelphia 30th Street to 36th St

29: 36th Street to Thorndale

30: Thorndale to Harrisburg

Mid-Atlantic North
BCC Segments 14-20, 28-30



Not all intermediate stations shown.

Infrastructure

Amtrak, SEPTA, Pennsylvania DOT, and Delaware DOT coordinate on work throughout the Mid-Atlantic North region. In total, $355 million was invested in FY23 (97% of plan).

10 largest investments by FY23 planned expenditure, Mid-Atlantic North *(millions)*

1. Philadelphia 30th Street District Plan (Amtrak)		
FY23 Planned Expenditure & Scope	$91.3	Complete design work on District Plan Phase 1, station renovation and begin work.
FY23 Actual Expenditure & Accomplishments	$50.5	Completed construction of offsite office space and relocation of staff. Progress building infrastructure and station spaces design to draft 100%.
Variance & Explanation	-$40.8	Project incurred a change order that delayed start of construction. Because the project did not start on time, funds were not spent as expected.
2. Mid-Atlantic Track Program (Amtrak)		
FY23 Planned Expenditure & Scope	$37.2	Continue various track asset improvements; AP Line MP 103.9 drainage improvements; AH Line MP 47.9 rock and spring remediation; AH Line MP 80.2 flood remediation; AP Line MP 52.7 slope stabilization; AP Line MP 57.0-58.5 drainage improvements; AP Line MP 81.8 subgrade stabilization; AP Line MP 105.5 slope stabilization.
FY23 Actual Expenditure & Accomplishments	$49.2	FY23: Build Track Panels: 6,986 Ft., Ditching and Grading: 3,289 Ft., FROG Welding: 223 Ea., Joint Eliminations: 775 Ea., FROG Install: 45 Ea., Install IJ: 428 Ea., Switch Timber Install: 1,727 Ea., Concrete Tie Install: 1,042 Ea., Wood Tie Install: 10,285 Ea., Wood Turnouts: 10 Ea., Spot Surfacing: 529,986 Ft., Spot Surface Turnouts: 6,873 Ft., Vat Train Spot Undercut: 10,994 Ft. Completed the construction and drainage upgrade at AP Line MP 103.9.
Variance & Explanation	$12.0	A portion of the Mid-Atlantic Track Program budget was used to hire new employees in the fiscal year leading to schedule changes.
3. Turnout Renewal Program (Amtrak)		
FY23 Planned Expenditure & Scope	$27.4	The scope for FY23 is to start installation prep work and construction, and finish construction closeout.
FY23 Actual Expenditure & Accomplishments	$32.3	FY23 will continue maintaining the State of Good Repair (SOGR), efficient and safe operation for turnout and crossover assets to maintain compliance with current regulations and standards. This work includes the replacement of turnouts and crossovers that are approaching the end of their useful life and are susceptible to failure. Turnouts were installed throughout the Northeast Corridor.
Variance & Explanation	$4.8	Installs for Lincoln 91 turnout were pushed to FY24 as material was not available. Install for C WUT INRL 436/434 DSS was pushed to FY24 because of lack of C&S support.
4. Claymont Transportation Center (Delaware DOT)		
FY23 Planned Expenditure & Scope	$24.3	Construction of platforms. Erection of Pedestrian Bridge. Construction of parking lots and roadways. Installation of HVAC and utility equipment. Completion of garage fit-out.
FY23 Actual Expenditure & Accomplishments	$26.1	Platform was completed to the 90% mark. Garage was also brought to 90% completion including the security office and operating systems. HVAC, electrical, emergency generator, elevator, CCTV systems reached 90% completion by the end of Q3. The pedestrian bridge spanning the NEC reached 85% completion. A grand opening of the station is scheduled for FY24Q1 as well as the commencement of regional rail service.
Variance & Explanation	$1.8	No variances were required.

Investment detail including expenditures, accomplishments, and explanation of variances are published as submitted by agencies.

10 largest investments by FY23 planned expenditure, Mid-Atlantic North (*millions*, cont.)

5. TLS Concrete Tie Replacement Program (Amtrak)		
FY23 Planned Expenditure & Scope	$18.0	The scope for FY23 is to start and finish tie installation Cork to Rheems Track 1, start tie installation at Rheems to Roy Track 1, and finish tie installation Elmora to Union.
FY23 Actual Expenditure & Accomplishments	$43.7	Locations addressed as part of the FY23 include Elmora (AN Line MP 15.1) to Union (AN Line MP 19.4) Track B, Cork (AH Line MP 68.6) to Rheems (AH Line MP 83.4) Track 1, and Roy (AH Line MP 94.4) to State (AH Line MP 104.0) Track 1. The Roy to State block starts in September 2023 and the balance of the total block will be replaced in Q1 FY24. Additionally in FY23, the TLS work group began a multi-year project to upgrade Thorn Yard. Over winter months, the team rehabbed an existing OOS yard track, installed 2 new storage tracks, and installed two switches. Aside from wood ties, all material utilized to complete these yard upgrades was "fit" material (previously used), which came to the project at zero procurement cost.
Variance & Explanation	$25.7	No notable variance. All scope was completed and the schedule was maintained.
6. Airo Facilities: Penn Coach Yard (Amtrak)		
FY23 Planned Expenditure & Scope	$14.2	In FY23 the project will start the Design/Build effort, this will include finalizing design and initiating construction. Additionally, it includes the existing yard facility relocation requiring RWP and Force Account support.
FY23 Actual Expenditure & Accomplishments	$1.3	In FY23, this project was able to finalize the 30% bridging design document, execute a Design/Build RFP, engaged in RFI and addendum response to contract, negotiated with vendors for best value, and selected a vendor to construction.
Variance & Explanation	-$12.9	The project in FY23 was unable to award NTP and start construction for the Design/Build contractor due to unachieved funding obligation under the IIJA funding source. An award requisition has been uploaded in ARIBA and will be approved concurrently with finalizing funding obligation requirements. An NTP is anticipated to be issued in Q1 FY24.
7. Track Undercutting Program (Amtrak)		
FY23 Planned Expenditure & Scope	$12.1	The scope for FY23 includes start and finish of construction at the following locations: Ragan to Davis Track 1, Cork to Rheems Track 1, Davis to Bacon Track 1, start construction at the following locations: Rheems to Roy Track 1 and Gunpow to River Track 1.
FY23 Actual Expenditure & Accomplishments	$10.9	FY23 Accomplishments: Undercutter #1 completed it work at: • Cork to Rheems TK #1. (AH Line.) • Roy to State TK #1. (AH Line.)
Variance & Explanation	-$1.2	FY23 Variance: Some of the funds were reallocated to support the start of Undercutter #2. Due to a series of maintenance issues, It was decided that UC#2 would not join Undercutter #1 of the HAR Line, until these maintenance issues were fully resolved. Undercutter #1 always remained on schedule even through it had to deal with issues such as: • It was short staffed in FY23. • It hit some extremely fouled ballast locations on the HAR Line. • It also had some maintenance issues.
8. Coatesville Station Improvements (Pennsylvania DOT)		
FY23 Planned Expenditure & Scope	$11.1	Construction on South Side of RoW including the retaining wall, station tower, and platform. Construction in the 4th Avenue Tunnel including installation of a tunnel liner.
FY23 Actual Expenditure & Accomplishments	$9.4	South side support of excavation was completed. Retaining wall and foundation construction progressed. Third track construction was mostly completed.
Variance & Explanation	-$1.7	Construction progress was less productive than anticipated.

Investment detail including expenditures, accomplishments, and explanation of variances are published as submitted by agencies.

10 largest investments by FY23 planned expenditure, Mid-Atlantic North (*millions*, cont.)

9. Production Wood Tie/Timber Replacement (Amtrak)		
FY23 Planned Expenditure & Scope	$10.2	The scope for FY23 is to start and finish construction at Michigan MP 145.5 to 238, Washington Union Station, New Holland secondary, CRC Northside Industrial AH Line MP 68, Elmora 43, Phil Interlocking, Roy to State Track 2 and Cork to Rheems Track 2.
FY23 Actual Expenditure & Accomplishments	$4.2	FY23: Completed a total of 4400 spot tie replacements on the AH line between Cork to Rheems.
Variance & Explanation	-$6.0	Fiscal year scope was reduced and the program budget was cut mid-year to prioritize concrete tie replacement on the Harrisburg Line.
10. Lancaster Station Improvements (Pennsylvania DOT)		
FY23 Planned Expenditure & Scope	$8.9	Construction of Keller Avenue parking lot, final design of tower and pedestrian bridge.
FY23 Actual Expenditure & Accomplishments	$2.6	The Keller Ave parking lot construction was started and nearly completed. 100% design for the Ped Bridge was completed. The construction agreement with Amtrak was negotiated and is in the execution process.
Variance & Explanation	-$6.3	Delays in the construction agreement and aerial easement pushed the start of Ped Bridge construction into FY24.

Investment detail including expenditures, accomplishments, and explanation of variances are published as submitted by agencies.

All Mid-Atlantic North investments by submitting agency *(millions)*

Investment Name	FY23 Planned Expenditure	FY23 Actual Expenditure	Variance
Amtrak			
30th Street Station - UPS Replacement	$0.0	$0.0	$0.0
52nd Street PA Undergrade Bridge Upgrades	$0.3	$0.0	-$0.3
AEI Tag Reader Wayside Defect Detection	$0.3	$0.2	-$0.1
Airo Facilities: Penn Coach Yard	$14.2	$1.3	-$12.9
Amtrak NEC Nortrak Operating Rods Replacement Project	$0.2	$0.1	-$0.1
Amtrak Station Signage Upgrades	$0.0	$0.0	$0.0
Amtrak System - Ride Quality Improvement Program	$4.3	$4.6	$0.3
Asbestos, Lead Paint, and Mold Removal	$0.0	$0.0	$0.0
Conestoga Substation Improvements Project	$1.2	$0.1	-$1.1
Fence Upgrades Program	$0.5	$0.3	-$0.3
Harrisburg Line Signal Upgrade: Park to Zoo	$2.1	$2.1	$0.0
Harrisburg Line: Conestoga to Royalton ET Supply Transmission Line Replacement	$1.8	$1.9	$0.2
Harrisburg Station Train Shed Imrovements	$0.3	$0.2	$0.0
HDSW PHL 30TH STREET 8TH FLOOR IT BACKUP SYSTEM RELOCATION	$0.0	$0.0	$0.0
HDSW PHL 30TH STREET IT NETWORK DATA HUB BUILD/CONSOLIDATION	$0.0	$0.0	$0.0
Lancaster PA Platform & Roof Replacement	$0.5	$1.6	$1.2
Maintenance Facility Security Enhancements	$0.0	$0.8	$0.8
Mid-Atlantic Catenary Program	$5.3	$5.1	-$0.2
Mid-Atlantic Facilities Program	$1.6	$1.0	-$0.7
Mid-Atlantic OCS Replacement Program Phase 1: Zoo to Paoli	$3.3	$1.0	-$2.3
Mid-Atlantic OCS Replacement Program Phase 3: Paoli to Thorn	$0.0	$0.0	$0.0
Mid-Atlantic Signals Program	$3.2	$2.6	-$0.5
Mid-Atlantic Structures Program	$8.6	$8.1	-$0.6
Mid-Atlantic Substations Program	$7.2	$8.1	$0.9
Mid-Atlantic Track Program	$37.2	$49.2	$12.0
New York Facilities Program	$0.1	$0.3	$0.2
New York Signals Program	$0.3	$0.0	-$0.3
New York Structures Program	$0.3	$1.5	$1.2
New York Substations Program	$0.4	$0.5	$0.1
New York Track Program	$1.9	$3.0	$1.1
Passenger Information Display Systems Program (PIDS)	$0.0	$0.0	$0.0
Penn Coach Yard & Ivy City Track Pan Upgrades	$0.1	$0.2	$0.1
Penn Coach Yard Paving Improvements Project	$0.2	$0.0	-$0.1
Penn Coach Yard Water Main Replacement Project	$0.8	$0.0	-$0.8
Philadelphia 30th Street District Plan	$91.3	$50.5	-$40.8

All Mid-Atlantic North investments by submitting agency (*millions*, cont.)

Investment Name	FY23 Planned Expenditure	FY23 Actual Expenditure	Variance
Philadelphia 30th Street Station Platform PCB Remediation	$0.8	$0.9 M	$0.1
Philadelphia 30th Street Station Platform Refresh	$0.0	$0.0 M	$0.0
Philadelphia Platform Lighting Upgrades	$0.7	$0.4 M	-$0.3
PHILADELPHIA WASTEWATER TREATMENT SYSTEM	$0.1	$0.6 M	$0.5
Production High Speed Surfacing Program	$6.0	$15.5 M	$9.5
Production Wood Tie/Timber Replacement Program	$10.2	$4.2 M	-$6.0
Rail Grinding Program (Amtrak)	$1.8	$1.0 M	-$0.7
Rail Replacement Program	$8.5	$8.6 M	$0.1
Static Sign Standard Manual Upgrades	$0.0	$0.1 M	$0.1
TLS Concrete Tie Replacement Program	$18.0	$43.7 M	$25.7
Total Track Renewal Program	$6.5	$9.9 M	$3.4
Track Rehabilitation Program	$0.6	$1.4 M	$0.8
Track Undercutting Program	$12.1	$10.9 M	-$1.2
Turnout Renewal Program	$27.4	$32.3 M	$4.8
Wilmington DE Maintenance Facility Stormwater Program	$0.3	$0.1 M	-$0.1
Wilmington DE MOFE Facility PCB Remediation	$2.1	$0.9 M	-$1.2
Wilmington DE Platform Lighting Upgrades FY22	$0.0	$0.0 M	$0.0
Wilmington DE Vertical Transportation Program	$4.6	$8.5 M	$4.0
Wilmington DE West Yard Remediation	$0.1	$0.1 M	$0.0
Wilmington Platform Upgrades	$0.5	$0.0 M	-$0.5
Wilmington Station Refresh Program	$0.8	$0.1 M	-$0.6
Wilmington Training Center Parking Access Improvements Project	$0.1	$0.1 M	$0.0
SEPTA			
30th Street West Catenary Replacement	$1.1	$0.2 M	-$0.9
Ardmore Transportation Center: Phase 1 ADA Improvements	$4.7	$12.5 M	$7.8
Bristol Station Improvements	$0.8	$0.5 M	-$0.3
Frazer Rail Shop and Yard Upgrade	$1.3	$10.3 M	$9.0
Harrisburg Line Signal Upgrade: Paoli to Overbrook	$1.5	$0.0 M	-$1.5
Harrisburg Line Track 2 Upgrade: Glen to Thorn (MP 25.3 to 35.0)	$3.5	$0.0 M	-$3.5
Malvern Station Improvements	$0.5	$0.0 M	-$0.4
Marcus Hook Station Improvements	$0.5	$0.0 M	-$0.5
Southwest Connection Improvement Project	$7.3	$6.8 M	-$0.5

All Mid-Atlantic North investments by submitting agency (*millions*, cont.)

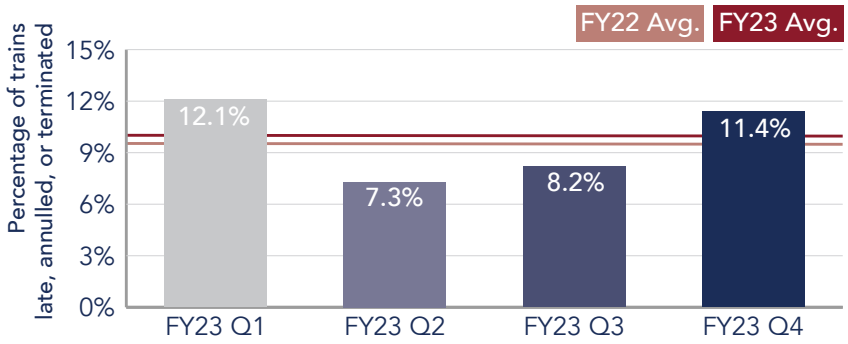
Investment Name	FY23 Planned Expenditure	FY23 Actual Expenditure	Variance
Pennsylvania DOT			
Coatesville Station Improvements	$11.1	$9.4 M	-$1.7
Downingtown Station Improvements	$5.8	$2.2 M	-$3.6
Harrisburg Line Interlocking Improvements: Zoo - Phase 1 (Early Action)	$6.0	$0.1 M	-$5.9
Lancaster Station Improvements	$8.9	$2.6 M	-$6.3
Parkesburg Station Improvements	$0.8	$0.3	-$0.4
Parkesburg Station Improvements	$0.3	$0.0 M	-$0.3
Delaware DOT			
Claymont Transportation Center	$24.3	$26.1	$1.8
Newark (DE) Regional Transportation Center	$0.0	$0.2	$0.2

Operations: SEPTA

SEPTA operates on the NEC Main Line between Trenton, NJ and Newark, DE and on an NEC Branch Line between Philadelphia 30th Street Station and Thorndale, PA. Three additional SEPTA lines operate partially on the NEC and all SEPTA lines are accessible via Philadelphia 30th Street. SEPTA service in Delaware is operated on behalf of Delaware DOT.

Train performance profile

Metric	FY22	FY23
Percent NEC trains late, annulled, or terminated	9.3%	9.7%
Percent NEC trains not completed	0.6%	0.5%
Avg min late per NEC train	11.3	11.6

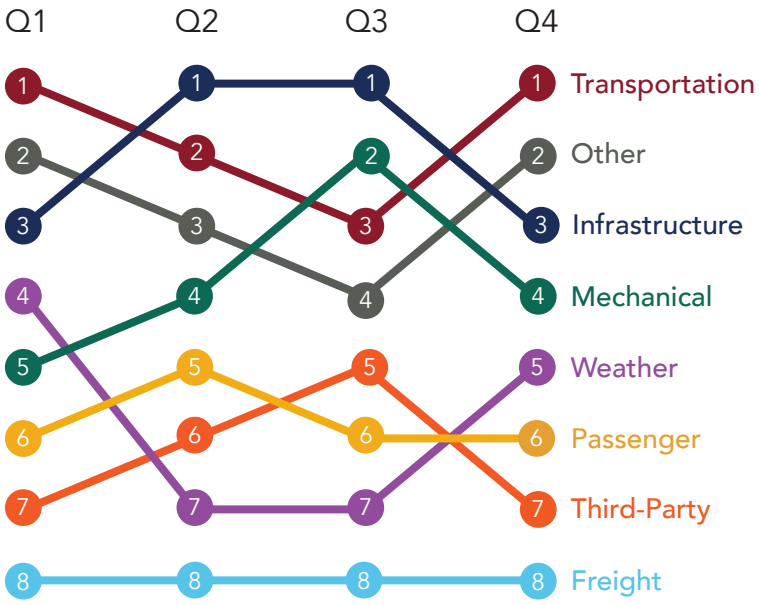


Train-delay minutes by cause

Total and percent change, FY22-23

Cause	FY22	FY23	Change
Infrastructure	21,361	20,715	-3.0%
Mechanical	11,248	14,893	+32.4%
Transportation	23,234	22,893	-1.5%
Passenger	2,572	5,355	+108.2%
Weather	8,196	8,334	+1.7%
Third-Party	2,327	4,252	+82.7%
Freight	478	171	-64.2%
Other	15,774	17,489	+10.9%
Total	**85,190**	**94,102**	**+10.5%**

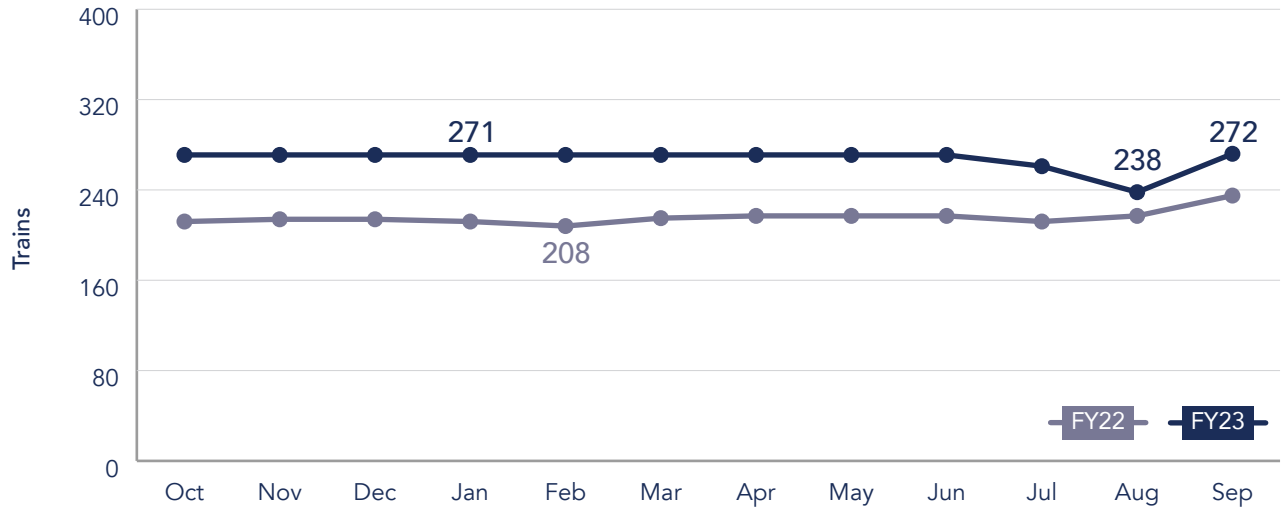
Rank by category, FY23



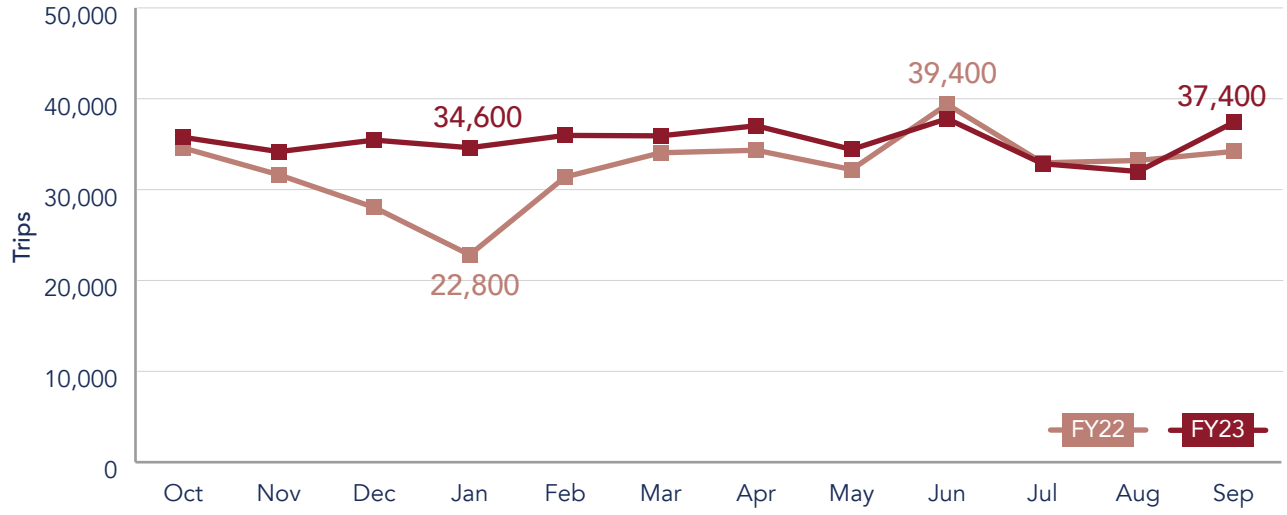
SEPTA NEC Service and Ridership

Period	Average Weekday NEC Trains			Average Weekday NEC Trips		
	FY22	FY23	Change from FY22	FY22	FY23	Change from FY22
Q1 (Oct - Dec)	213	271	+27.0% ↑	31,419	35,127	+11.8% ↑
Q2 (Jan - Mar)	212	271	+28.0% ↑	29,421	35,497	+20.7% ↑
Q3 (Apr - Jun)	217	271	+24.9% ↑	35,303	36,415	+3.1% ↑
Q4 (Jul - Sep)	221	257	+16.0% ↑	33,452	34,076	+1.9% ↑
FY Average (Oct - Sep)	**216**	**267**	**+23.9% ↑**	**32,399**	**35,279**	**+8.9% ↑**

SEPTA Average NEC Weekday Trains



SEPTA Average NEC Weekday Trips



Region: Mid-Atlantic South

Infrastructure and Operations Detail

Operators: Amtrak, MARC, VRE

RoW Owner: Amtrak

BCC Segments

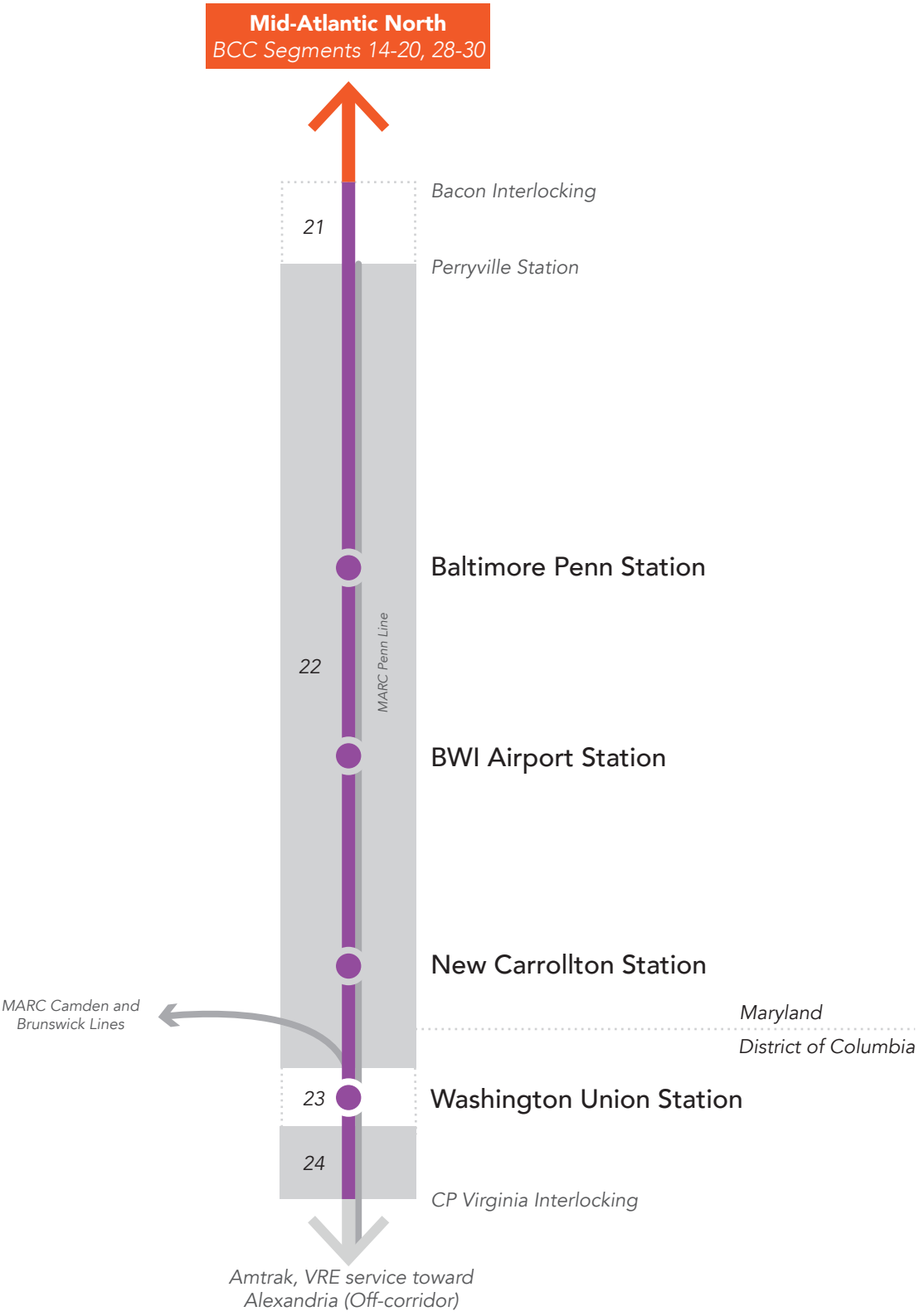
21: Bacon to Perryville

22: Perryville to Washington Union Station

23: Washington Union Terminal

24: Washington Union Station to CP Virginia

Mid-Atlantic South
BCC Segments 21-24



Not all intermediate stations shown.

Infrastructure

Amtrak, MDOT MTA / MARC, and VRE coordinate on work throughout the Mid-Atlantic South region. In total, $320.7 million was invested in FY23 (78% of plan).

10 largest investments by FY23 planned expenditure, Mid-Atlantic South (*millions*)

1. Frederick Douglass Tunnel Program (Amtrak)		
FY23 Planned Exenditure & Scope	$125.2	• Tunnel: Finalize contracting/delivery strategy and DOR for tunnel work contract packages. Building and completing demolition at the intermediate ventilation facility and the south approach should begin during FY23. • PM: The FY23 scope includes continued update of the program management components (including updates to the baseline scope, integrated master schedule and cost estimate for Southern Approach and Tunnel), continuing stakeholder engagement components including coordination with Baltimore City DOT, advancing and completing critical third party agreements including historic salvage. DESIGN – The FY23 scope is the continuing advancement of Program final design. This includes select revisions to preliminary engineering as required by project phasing and advancement of final design pursuant to the ongoing definition of program elements, including the delivery of the Final Design of Warwick Bridge Replacement, Developer's Agreement at the south portal, U structure and ventilation facilities. • Property Acquisition: This year's scope includes the continuation of ongoing property acquisitions of both the Southern Approach properties north & south of Lafayette and relocations as well as the initiation of new acquisitions that are necessary for the B&P Tunnel Replacement. Also, the review of offers made for subsurface rights priority zones. • Approaches: The FY23 scope includes award of contracts and start of Warwick Bridge construction, building demolition and early utility relocation. Also anticipate selection of Southern Approach contractor. • Track A: The FY23 scope is to complete final design of the Track A upgrade and provide construction phase services in support of the Force Account construction work. Initial work associated with the track upgrades will also begin in FY23. • Wilkens: The FY23 scope is the continued support of long lead special trackwork procurement for Wilkens Interlocking. The scope also includes coordination of force account labor resources and outage requirements.
FY23 Actual Expenditure & Accomplishments	$89.6	Approaches: Awarded three (3) major contracts: CMAR Package B Contractor, Demolition and Construction Management Services. Track A: Commencement of Track A upgrade work.
Variance & Explanation	-$35.6	Underspending can be attributed to delays in the construction contractor procurement for Package B and fewer properties being acquired than planned for FY23.
2. Next Generation Acela Infrastructure Upgrades: Baltimore Penn Station (Amtrak)		
FY23 Planned Exenditure & Scope	$34.2	To continue with the progression of the construction activities. Installation of foundations for platforms 2 and 5. Continue to make repairs to the structural canopy supports. Install catenary pole and foundation.
FY23 Actual Expenditure & Accomplishments	$24.9	The project delivered the completion of the C&S signals for Track F once it is in service. Foundations for platforms 2 and 5 were completed. Pedestrian bridge was lifted and installed to allow for connection from existing station building to platform 5.
Variance & Explanation	-$9.3 M	The project had delays due to the unforeseen field conditions to install foundations and other proposed subsurface features that delayed the scheduled completion date. SHPO/FRA approval for the canopy steel replacement was submitted but not approved until October 2023 which created a delay in the completion of the project and platform work. The escalator and elevators to be installed took more engineering than originally thought, so to be on the side of caution when aerial lifting these components this work was delayed until Amtrak was confident the contractor was prepared for the installation.

Investment detail including expenditures, accomplishments, and explanation of variances are published as submitted by agencies.

10 largest investments by FY23 planned expenditure, Mid-Atlantic South (*millions*, cont.)

3. Next Generation Acela Infrastructure Upgrades; New Carrollton Station (Amtrak)		
FY23 Planned Exenditure & Scope	$33.4	The FY23 plan is to focus on continuing Construction Phase 1 - Advance Foundation Construction. During Phase 1: 1. The contractor will build temporary access to the platform and station to reduce Amtrak RWP support requirements. Installing the temporary stairs allows the contractor for accessing construction site without fouling any live tracks. This reduces the RWP manpower requirements. (Matches Milestone 4) 2. The contractor will install foundation installation for the new Overhead Catenary System (OCS) for Tracks 1 and 3. The contractor will order material for new foundations for the proposed platform, provide the temporary shoring and bracing over the existing station, start installing platform foundation, construct the platform cap beams, and install the new platform planks. The contractor will also install track sub-grade drainage. (Matches Milestone 1) 3. Amtrak ET will install 6 new catenary poles, 3 new k-beams, and transfer trolley and Amtrak transmission lines. Amtrak ET will remove the old catenary poles and k-beams. Pepco will transfer their power distribution lines to the new catenary poles. The Pepco power lines will have the required electrical clearance above the new headhouse and canopy. (Matches Milestone 2) 4. The contractor will construct a temporary ticket office, employee office, computer room and storage room. This will allow for the existing ticket office area to be demolished to build the vertical access to the new platform headhouse. (Matches Milestone 3)
FY23 Actual Expenditure & Accomplishments	$5.3	FY23 accomplishments include installation of Track Monitoring system on Tracks 1, 2, and 3; installation of inter-track fencing between Tracks 2 and 3 for RWP barrier; general contractor completed elevator and escalator submittal; general contractor received all of the structural steel for catenary and platforms foundations; and general contractor started catenary foundation work.
Variance & Explanation	-$28.1	The Norfolk Southern (NS) Ardwick siding lease agreement had been negotiated however, NS decided to move forward. NS is concerned about the new platform impacting wide load freight Landover to Carroll. The project team is investigating other options for staging material and work equipment.
4. Susquehanna River Bridge Replacement Bridge Program (Amtrak)		
FY23 Planned Exenditure & Scope	$29.8	Advance the overall design effort from Preliminary Design to 60% of the main structure, track and rail systems, and approach structures and municipal civil works, including, but not limited to, under grade bridges, retaining walls, roadways, utilities, and drainage. Early Construction Item work - Pier Removal and Station Tunnel Fill. Complete Geotechnical Boring.
FY23 Actual Expenditure & Accomplishments	$27.0	Award for PE/CM, 60% design milestone achieved, submittal of the JPA application, approval of the NEPA re-eval, satisfactorily closing out of FRA review comments, permit obtained for pier removal.
Variance & Explanation	-$2.8	Delay of Remnant Pier removal due to environmental permits.
5. Baltimore Penn Station: Master Plan (Amtrak)		
FY23 Planned Exenditure & Scope	$26.7	Continued Design. Continued Exterior Envelope Construction. Historic Headhouse Core & Shell Construction.
FY23 Actual Expenditure & Accomplishments	$14.0	Draft 100% design completed for Headhouse Core and Shell. 60% final design completed for Lanvale expansion. Catenary design progressed to draft 100%. Construction has signifiicantly progressed on the exterior envelope. North scaffolding design is resolved and approved.
Variance & Explanation	-$12.7	Variance is due to delay in the start of next phase of construction due to NEPA, Section 106 approval. Also, the north scaffolding design delayed a lot of activities on the exterior envelope pushing them to FY24.
6. Turnout Renewal Program (Amtrak)		
FY23 Planned Expenditure & Scope	$24.1	The scope for FY23 is to start installation prep work and construction, and finish construction closeout.
FY23 Actual Expenditure & Accomplishments	$20.0	FY23 will continue maintaining the State of Good Repair (SOGR), efficient and safe operation for turnout and crossover assets to maintain compliance with current regulations and standards. This work includes the replacement of turnouts and crossovers that are approaching the end of their useful life and are susceptible to failure. Turnouts were installed throughout the Northeast Corridor.
Variance & Explanation	-$4.1	Installs for Lincoln 91 turnout was pushed to FY24, material was not available. Install for C WUT INRL 436/434 DSS was pushed to FY24 because of lack of C&S support.

Investment detail including expenditures, accomplishments, and explanation of variances are published as submitted by agencies.

10 largest investments by FY23 planned expenditure, Mid-Atlantic South (*millions*, cont.)

7. Mid-Atlantic Track Program (Amtrak)		
FY23 Planned Expenditure & Scope	$22.6	Continue various track asset improvements; AP Line MP 103.9 drainage improvements; AH Line MP 47.9 rock and spring remediation; AH Line MP 80.2 flood remediation; AP Line MP 52.7 slope stabilization; AP Line MP 57.0-58.5 drainage improvements; AP Line MP 81.8 subgrade stabilization; AP Line MP 105.5 slope stabilization.
FY23 Actual Expenditure & Accomplishments	$43.5	FY23: Build Track Panels: 6,986 Ft., Ditching and Grading: 3,289 Ft., FROG Welding: 223 Ea., Joint Eliminations: 775 Ea., FROG Install: 45 Ea., Install IJ: 428 Ea., Switch Timber Install: 1,727 Ea., Concrete Tie Install: 1,042 Ea., Wood Tie Install: 10,285 Ea., Wood Turnouts: 10 Ea., Spot Surfacing: 529,986 Ft., Spot Surface Turnouts: 6,873 Ft., Vat Train Spot Undercut: 10,994 Ft. Completed the construction and drainage upgrade at AP Line MP 103.9.
Variance & Explanation	$20.9	A portion of the Mid-Atlantic Track Program budget was used to hire new employees in the fiscal year leading to schedule changes.
8. Washington Union Station: Subbasement Program (Amtrak)		
FY23 Planned Expenditure & Scope	$12.4	Track 22 construction is to be completed. This will include completion of the walkway enclosures, platform, canopy, elevator, escalators, staircases, signage, and digital technology to complete the platform work. The railroad will be reinstated at Track 22, including the track, signaling and overhead traction power. The USI Back of House Relocation is to be progressed through design with initial phases potentially starting construction. In parallel, design of the USRC Utility Relocation work will be progressed. Design of the Subbasement Structural Replacement will be refined including work with transportation counterparts to optimize the project phasing and outage plan.
FY23 Actual Expenditure & Accomplishments	$20.7	Progressed project to 90% completion with the exception of fire life safety elements, final punch list, and FRA required inspections. Main Items completed in FY23 with FY24 being schedule for fire life safety, final punch list, and inspections of these items. • Elevator and Escalator • Interior Walkway • Exterior Walkway • Platform • Track and OCS • Digital Technology • Static Signage
Variance & Explanation	$8.3	Progressed project to 90% completion with the exception of fire life safety elements, final punch list, and FRA required inspections. Main Items completed in FY23 that affected variance: • Elevator and Escalator issues during commissioning • (Track and OCS) Force Account unforeseen adjustments due to field conditions • Digital Technology unforeseen adjustments due to field conditions • Fire Life Safety adjustments due to positive agreements with building management of Union Station • FRA AHJ inspections, unforeseen adjustments due to field conditions
9. VRE Midday Storage Facility (VRE)		
FY23 Planned Expenditure & Scope	$12.0	Complete preliminary engineering phase.
FY23 Actual Expenditure & Accomplishments	<$0.1	Nearing completion of MOU with Amtrak.
Variance & Explanation	-$11.9	Ongoing negotiations delaying completion of Preliminary Engineering.

Investment detail including expenditures, accomplishments, and explanation of variances are published as submitted by agencies.

10 largest investments by FY23 planned expenditure, Mid-Atlantic South (*millions*, cont.)

10. Riverside Yard Heavy Maintenance Building (MDOT MTA / MARC)		
FY23 Planned Expenditure & Scope	$11.4	1. Complete Wheel True Machine Installation. 2. Complete BGE Gas Main work along Webster Street and Fort Ave. 3. Complete Westside Waterline Abandonment. 4. Complete Stormwater System and new (eastside) Waterline Installation 5. Complete Internal Building Work (painting, plumbing, CMU construction, electrical and fire protection), and Roof Skin Installation. 6. Complete Roof Insulation Installation. 7. Complete Insulated Metal Wall Panel Installation. 8. Translucent panels are being installed in the Skylights of the high roof with the north wall to begin soon.
FY23 Actual Expenditure & Accomplishments	$18.7	1. Completed Wheel True Machine Installation. 2. Completed BGE Gas Main work along Webster Street and Fort Ave. 3. Completed Westside Waterline Abandonment. 4. Completed Stormwater System and new (eastside) Waterline Installation. 5. Completed Internal Building Work (painting, plumbing, CMU construction, electrical and fire protection), and Roof Skin Installation. 6. Completed Roof Insulation Installation. 7. Completed Insulated Metal Wall Panel Installation. 8. Completed Translucent panels in the skylights of the high roof and the north wall. 9. Completed punch list work, and post-occupancy/temperature-sensitive testing/commissioning/training. 10. Submitted SWM as-builts to to MDE. 11. Completed Drop Table (DT) testing and commissioning and Wheel True Machine (WTM) testing and commissioning. 12. Completed demobilization from site.
Variance & Explanation	$7.3	Although project is currently on schedule and under budget, the variance is the result of late contractor billing submissions and adjustments.

Investment detail including expenditures, accomplishments, and explanation of variances are published as submitted by agencies.

All Mid-Atlantic South investments by submitting agency (*millions*)

Investment Name	FY23 Planned Expenditure	FY23 Actual Expenditure	Variance
Amtrak			
1st Street Tunnel Ventilation Upgrades	$1.1	$0.0	-$1.1
Aberdeen Station State of Good Repair Project	$0.2	$0.0	-$0.2
Aberdeen, MD High Level Platforms Project	$0.8	$0.7	$0.0
AEI Tag Reader Wayside Defect Detection	$0.7	$0.0	-$0.7
Airo Facilities: Ivy City Yard	$4.1	$3.3	-$0.9
Amtrak NEC Nortrak Operating Rods Replacement Project	$0.3	$0.3	$0.1
Amtrak Station Signage Upgrades	$0.0	$0.0	$0.0
Anacostia Area Capacity and Resiliency Study	$0.0	$0.0	$0.0
Asbestos, Lead Paint, and Mold Removal	$0.0	$0.0	$0.0
Baltimore Penn Station: Master Plan	$26.7	$14.0	-$12.7
Baltimore Station Improvements	$0.0	$0.1	$0.1
Burgos Interlocking	$8.6	$10.9	$2.3
BWI 4th Track Phase 1	$1.4	$0.0	-$1.3
Communications System Upgrades Program	$0.0	$0.0	$0.0
ET Linear Assets Research and Development Program	$0.6	$0.0	-$0.6
Fence Upgrades Program	$0.3	$0.0	-$0.3
Frederick Douglass Tunnel Program	$125.2	$89.6	-$35.6
Gunpow Substation 18 New Prefabricated Control House	$0.8	$0.3	-$0.5
Ivy City Potable Water System Replacement Project	$1.6	$0.1	-$1.5
Ivy City Remediation	$0.1	$0.0	$0.0
Jericho Park Frequency Converter Replacement	$1.1	$0.9	-$0.3
Maintenance Facility Security Enhancements	$0.0	$0.2	$0.2
MARC Martin's Yard: Power-Operated Switch	$0.6	$0.0	-$0.6
Mid-Atlantic Catenary Program	$3.5	$4.9	$1.4
Mid-Atlantic Facilities Program	$1.5	$0.9	-$0.6
Mid-Atlantic Signals Program	$1.1	$1.0	-$0.1
Mid-Atlantic South Signal System Upgrades to 562 Project	$2.7	$0.4	-$2.3
Mid-Atlantic Structures Program	$4.9	$3.9	-$1.0
Mid-Atlantic Substations Program	$3.8	$3.0	-$0.8
Mid-Atlantic Track Program	$22.6	$43.5	$20.9
NEC Trip Time Reduction	$0.5	$0.1	-$0.4
New Carrollton Station: State of Good Repair Improvements	$0.4	$1.9	$1.5
Next Generation Acela Infrastructure Upgrades: Baltimore Penn Station	$34.2	$24.9	-$9.3
Next Generation Acela Infrastructure Upgrades: Ivy City Yard	$0.0	$0.5	$0.5
Next Generation Acela Infrastructure Upgrades: New Carrollton Station	$33.4	$5.3	-$28.1
Passenger Information Display Systems Program (PIDS)	$0.0	$0.0	$0.0

All Mid-Atlantic South investments by submitting agency (*millions*, cont.)

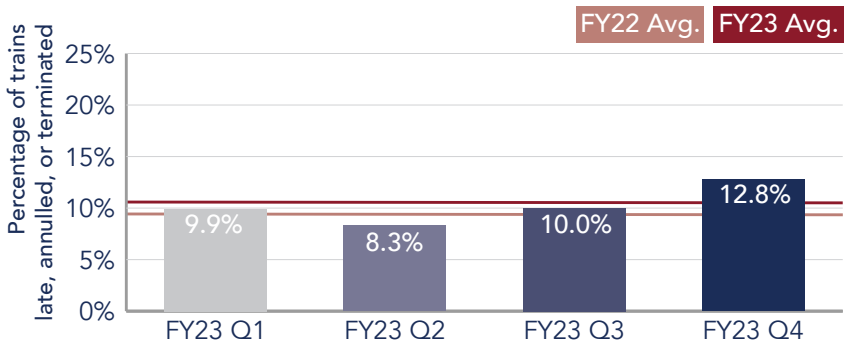
Investment Name	FY23 Planned Expenditure	FY23 Actual Expenditure	Variance
Production High Speed Surfacing Program	$1.9	$2.2	$0.2
Production Wood Tie/Timber Replacement Program	$2.0	$0.5	-$1.4
Rail Grinding Program (Amtrak)	$0.4	$1.8	$1.4
Rail Replacement Program	$4.0	$0.0	-$4.0
STA NEW CARROLLTON MD - ELEVATOR/ESCALATORS REPLACEMENT	$0.0	$0.0	$0.0
STA STATIONS CUSTOMER FACING IMPROVEMENTS	$0.0	$0.1	$0.1
Static Sign Standard Manual Upgrades	$0.0	$0.0	$0.0
Susquehanna River Bridge Replacement Program	$29.8	$27.0	-$2.8
TLS Concrete Tie Replacement Program	$0.0	-$0.3	-$0.3
Track Rehabilitation Program	$0.5	$0.2	-$0.3
Track Undercutting Program	$4.3	$5.8	$1.5
Turnout Renewal Program	$24.1	$20.0	-$4.1
Washington DC Canopy Improvements	$0.4	$0.8	$0.4
Washington DC Escalator Enclosures North Hangar	$0.1	$0.0	-$0.1
Washington DC Handrail and Stair Improvements	$0.3	$0.4	$0.0
Washington DC Metropolitan Lounge Refresh	$0.1	$0.4	$0.3
Washington DC Platform 16/17 Refresh	$0.4	$0.0	-$0.4
Washington DC Platform 17/18 Structural Improvements	$0.2	$0.0	-$0.2
Washington DC Platform Emergency Lighting	$0.4	$1.2	$0.8
Washington DC Refresh Program	$2.0	$0.9	-$1.2
Washington Terminal & Ivy City Facility Electrical Upgrades Project	$0.5	$0.0	-$0.5
Washington Terminal Complex Train Control System Renewal	$0.5	$0.1	-$0.5
Washington Union Station Hi-Level Platform Refresh	$0.0	$0.0	$0.0
Washington Union Station: Claytor Concourse Modernization Program	$2.4	$3.1	$0.7
Washington Union Station: Long Term Station Expansion	$6.3	$4.5	-$1.8
Washington Union Station: Near Term Rail Program	$1.6	$0.5	-$1.2
Washington Union Station: Subbasement Program	$12.4	$20.7	$8.3
MDOT MTA / MARC			
BWI Thurgood Marshall Airport Station: Interim Improvements	$0.0	$0.2	$0.2
MARC Martin's Yard: Storage Improvements	$2.3	$0.7	-$1.6
MARC Station: Bayview	$0.0	$0.3	$0.3
MARC Station: Elkton	$0.0	$0.2	$0.2
Martin Airport Station Accessibility Improvements	$8.8	$0.0	-$8.8
Penn-Camden Connector	$0.2	$0.1	-$0.1
Riverside Yard Heavy Maintenance Building	$11.4	$18.7	$7.3
VRE			
VRE Midday Storage Facility	$12.0	$0.0	-$12.0

Operations: MARC

MARC's Penn Line service operates entirely on the NEC Main Line between Perryville, MD and Washington Union Station, while the Camden and Brunswick Line services operate on CSX lines that connect to the NEC at "C" Interlocking, just north of Washington Union Station.

Train performance profile

Metric	FY22	FY23
Percent NEC trains late, annulled, or terminated	9.3%	10.3%
Percent NEC trains not completed	1.3%	1.6%
Avg min late per NEC train	18.2	24.3

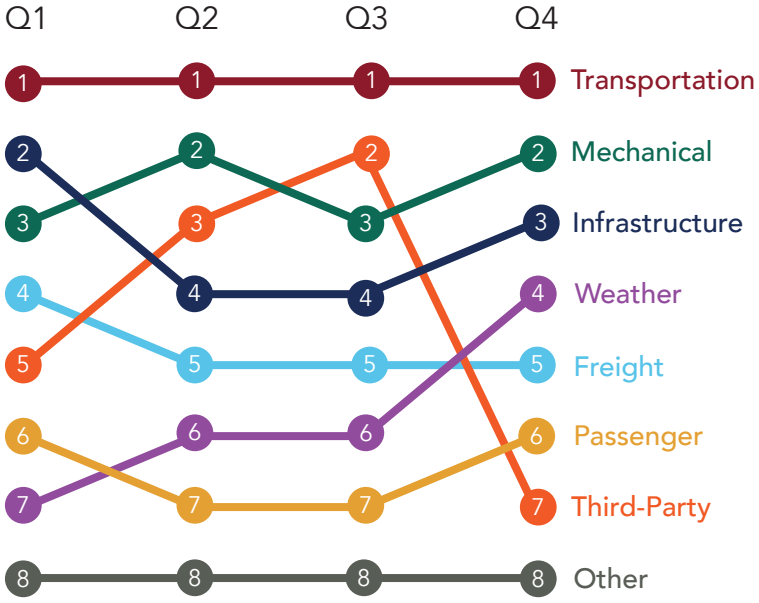


Train-delay minutes by cause

Total and percent change, FY22-23

Cause	FY22	FY23	Change
Infrastructure	12,297	9,405	-23.5%
Mechanical	8,076	13,519	+67.4%
Transportation	28,562	35,176	+23.2%
Passenger	929	1,380	+48.5%
Weather	3,419	3,370	-1.4%
Third-Party	5,744	7,093	+23.5%
Freight	7,489	4,715	-37.0%
Other	-	-	-
Total	**66,516**	**74,658**	**+12.2%**

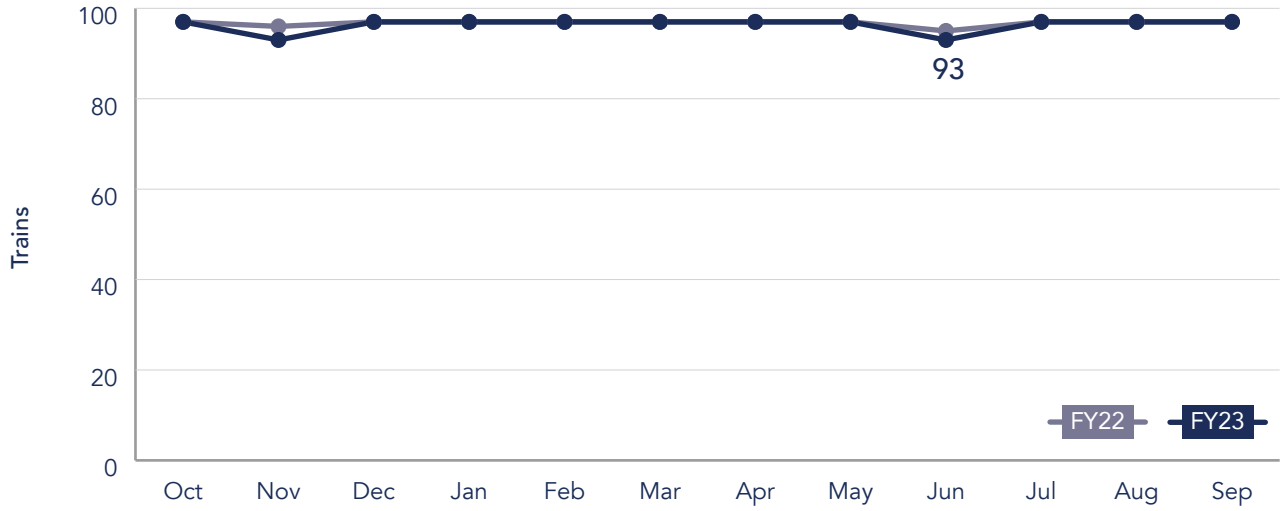
Rank by category, FY23



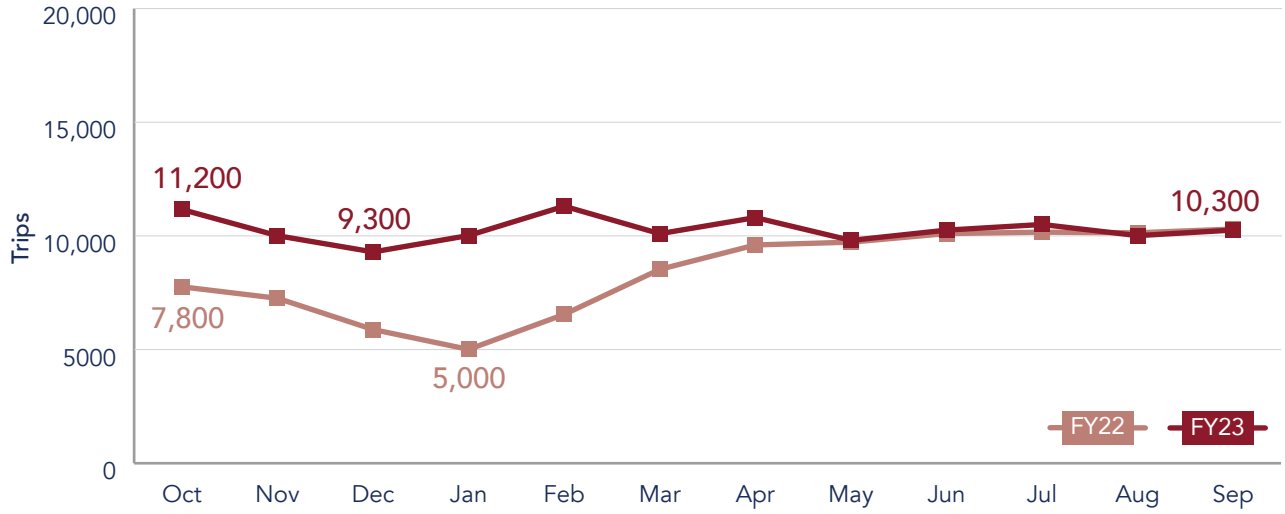
MARC NEC Service and Ridership

Period	Average Weekday NEC Trains			Average Weekday NEC Trips		
	FY22	FY23	Change from FY22	FY22	FY23	Change from FY22
Q1 (Oct - Dec)	97	96	-1.1% ↓	6,966	10,154	+45.8% ↑
Q2 (Jan - Mar)	97	97	0%	6,694	10,473	+56.5% ↑
Q3 (Apr - Jun)	96	96	-0.6%	9,809	10,287	+4.9% ↑
Q4 (Jul - Sep)	97	97	0.2%	10,201	10,256	+0.5% ↑
FY Average (Oct - Sep)	**97**	**97**	**0.4%**	**8,417**	**10,292**	**+22.3%** ↑

MARC Average NEC Weekday Trains



MARC Average NEC Weekday Trips

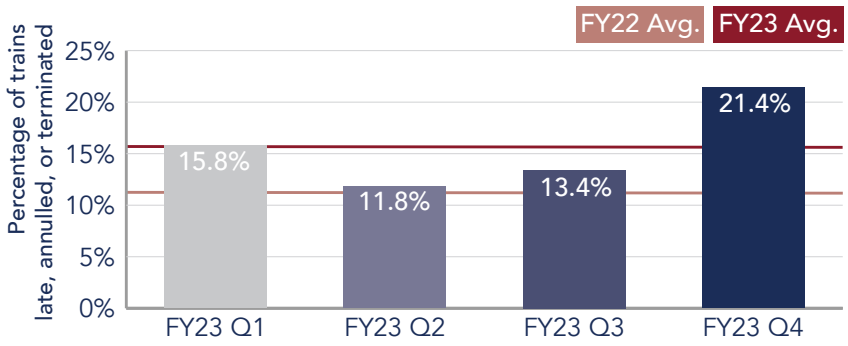


Operations: VRE

VRE operates two commuter lines out of Washington Union Station: the Manassas line over NS track and the Fredericksburg line over CSX track. Both lines operate on a segment of the NEC Main Line just south of Washington Union Station.

Train performance profile

Metric	FY22	FY23
Percent NEC trains late, annulled, or terminated	11.9%	15.5%
Percent NEC trains not completed	0.0%	0.0%
Avg min late per NEC train	19.3	16.3

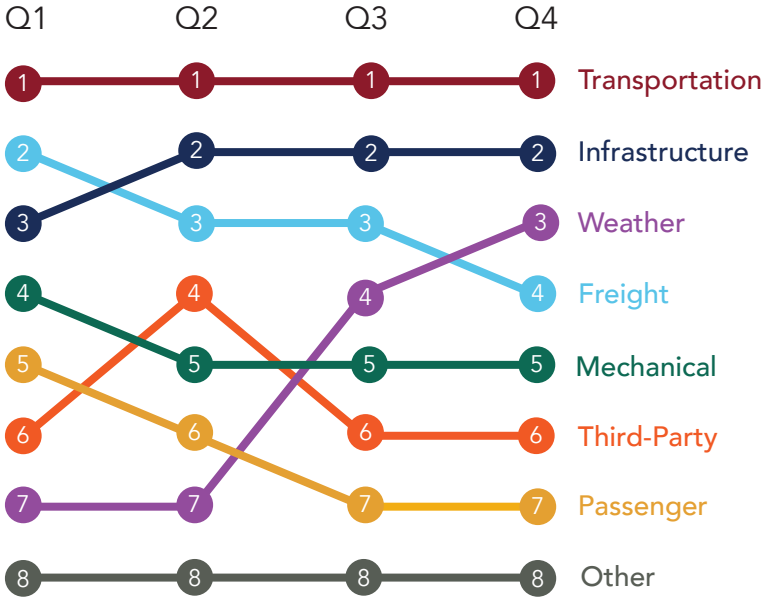


Train-delay minutes by cause

Total and percent change, FY22-23

Cause	FY22	FY23	Change
Infrastructure	4,891	6,908	+41.2%
Mechanical	1,135	1,352	+19.1%
Transportation	7,325	14,383	+96.4%
Passenger	38	277	+628.9%
Weather	1,975	1,303	-34.0%
Third-Party	325	781	+140.3%
Freight	4,190	4,334	-3.4%
Other	140	86	-38.6%
Total	**20,019**	**29,424**	**+47.0%**

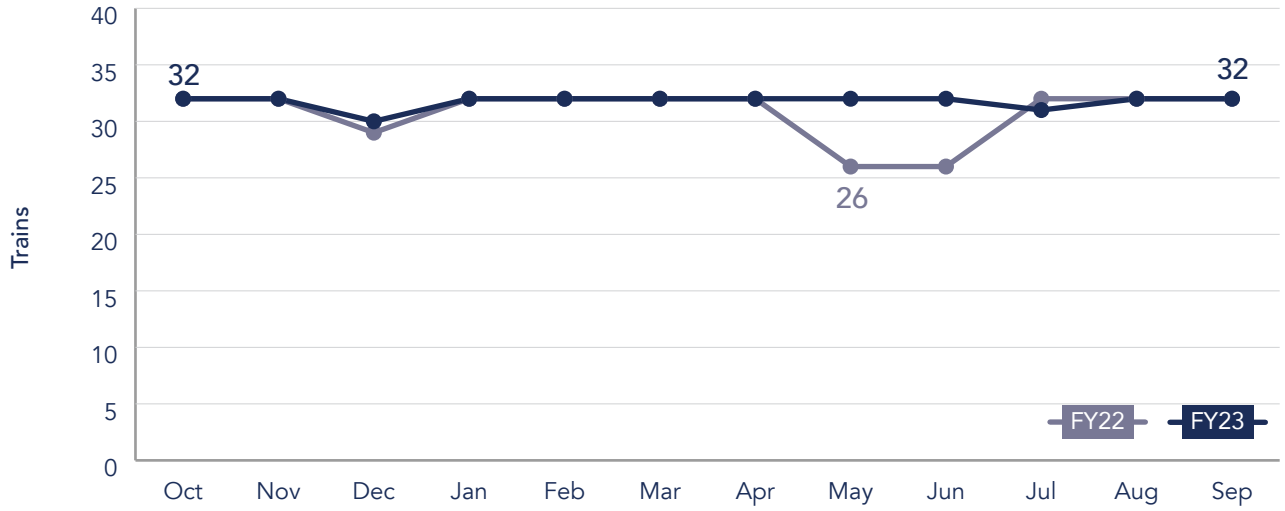
Rank by category, FY23



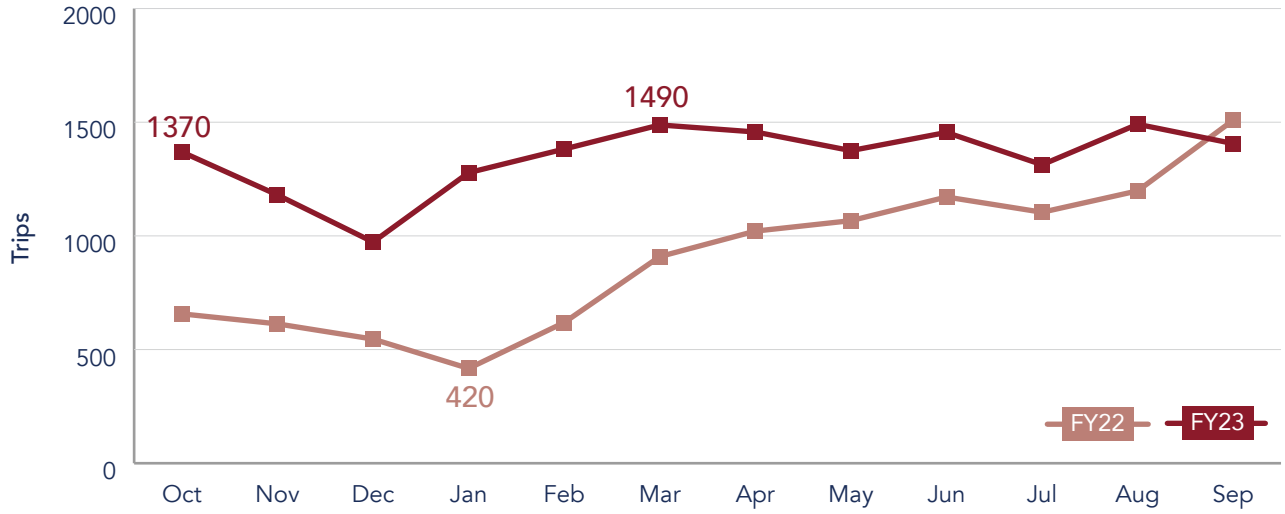
VRE NEC Service and Ridership

Period	Average Weekday NEC Trains			Average Weekday NEC Trips		
	FY22	FY23	Change from FY22	FY22	FY23	Change from FY22
Q1 (Oct - Dec)	31	30	-2.5% ↓	605	1174	+94.0% ↑
Q2 (Jan - Mar)	32	32	0%	648	1382	+113.2% ↑
Q3 (Apr - Jun)	28	32	+13.4% ↑	1086	1429	+31.6% ↑
Q4 (Jul - Sep)	32	32	-0.8% ↓	1270	1403	+10.5% ↑
FY Average (Oct - Sep)	**31**	**31**	**+2.2% ↑**	**903**	**1,347**	**+49.3% ↑**

VRE Average NEC Weekday Trains



VRE Average NEC Weekday Trips



Region: Amtrak System-wide

Infrastructure and Operations Detail

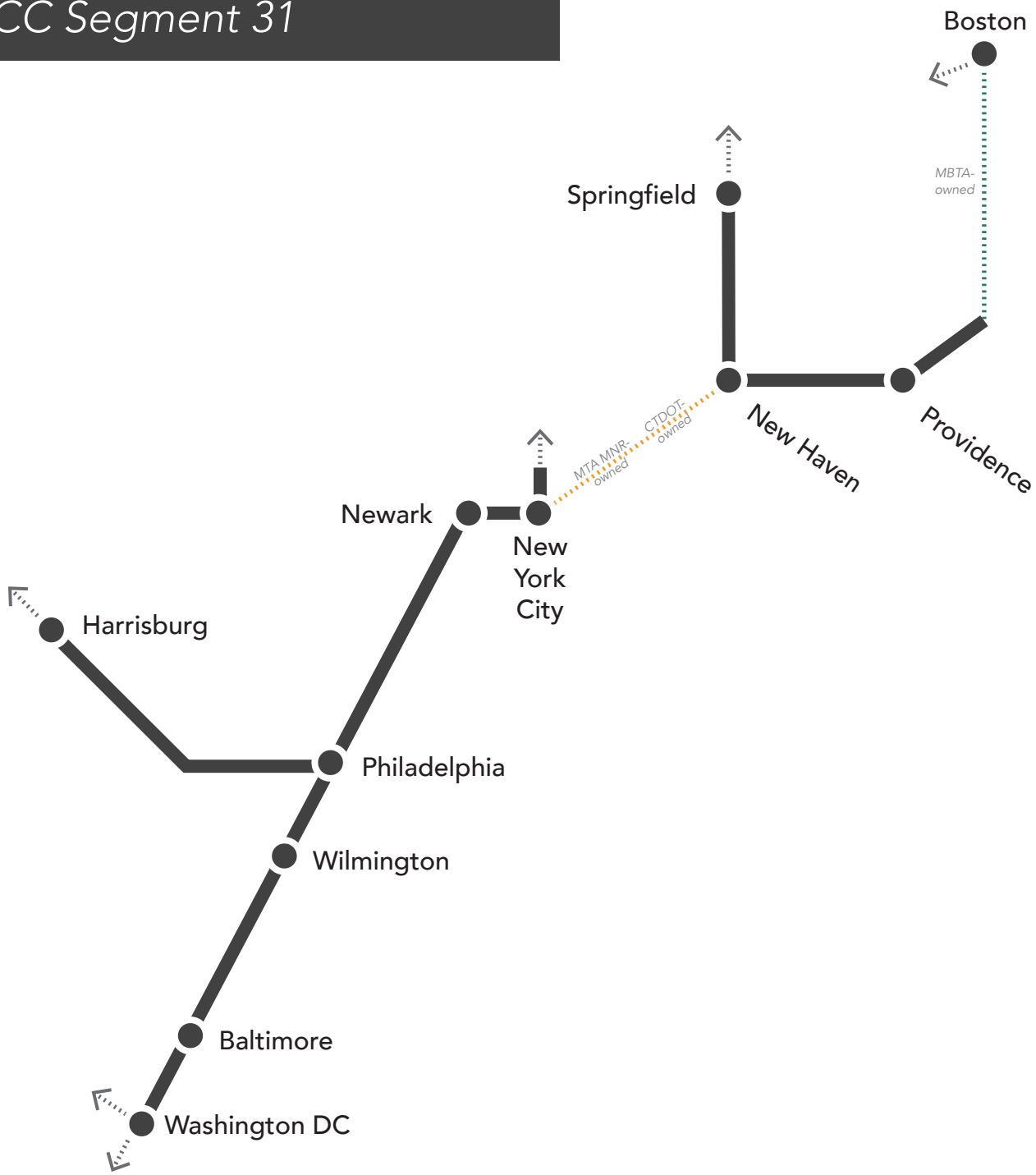
Operators: Amtrak

RoW Owner: Amtrak

BCC Segments

31: Amtrak System-wide

Amtrak System-wide
BCC Segment 31



Not all intermediate stations shown.

Segment 31 comprises of capital renewal investments that cannot be tied to a specific location and have benefits throughout the Amtrak-owned portion of the NEC.

Amtrak-owned
Non Amtrak-owned
Non-NEC Connecting Corridors

Infrastructure

Some Amtrak investments are span multiple regions or are non-geographically specific. These investments are represented in this Amtrak System-wide region. In total, $130.1 million was invested in these investments in FY23 (104% of plan).

10 largest investments by FY23 planned expenditure, Amtrak System-wide (*millions*)

1. Next Generation Acela Infrastructure Upgrades: Safety Mitigation (Amtrak)		
FY23 Planned Expenditure & Scope	$28.6	RRIF Funding Scope: PTSO: The Positive Train stop release project will complete the back office design and testing and the Installation of all hardware components on the New Acela fleet as they receive conditional acceptance for fleet deployment as the Secure PTSR hardware will enhance safety for our Amtrak employees. FED Funding Scope: MoW LCCAS: The FY23 scope will include the completion of the LCCAS installation of all On-track MoW equipment and also retrofitting the MoW on track Rubber Tire fleet with the LCCAS system, adding 65 portable kits with a 24-hour battery life to support MoW work groups, There will be surveying and design of the Ultra-Wideband (UWB) radios on the wayside at tunnels and overbuilds for redundant navigation will be performed and the back office integration for the Limits compliance for all MoW Employees. The project will also provide training for Train Dispatchers and Engineering Field employees and Equipment mechanics as the project begins deployment of the MoW LCCAS system, The LCCAS project will deploy the ultra-wide band transmission radios in the Amtrak tunnel system that will enable work equipment to determine location and direction of travel. There will also be track spline surveys of all of the NEC to insure accuracy of all field wayside locations that will improve the safety of our MoW employees when using the MoW equipment.
FY23 Actual Expenditure & Accomplishments	$25.1	RRIF Funding Scope: PTSO: The Positive Train stop release project completed the back office design of all hardware components on the new Acela fleet. Installation and testing is underway as they receive conditional acceptance for fleet deployment as the Secure PTSR hardware will enhance safety for our Amtrak employees. FED Funding Scope: MoW LCCAS: The LCCAS installation of all 460 on-track MoW equipment was completed. The design began for the MoW on track rubber tire fleet with the LCCAS system. Additional 65 portable kits with a 24-hour battery life to support MoW work groups has begun fabrication. All tunnels have been surveyed and design for the Ultra-Wideband (UWB) radios on the wayside at tunnels and overbuilds for redundant navigation has begun. Three locations have been mechanically installed, with the first (30th Street Station) has begun electrical installation. A 'soft roll out' beta test has been started with two crews to test the software, interface, and training. The track spline survey has been completed along the entire NEC to insure accuracy of all field wayside locations to best improve the safety of our MoW employees when using the MoW equipment.
Variance & Explanation	-$3.5	Funding was awarded with the expectation of contract being signed at onset of FY23. Contract negotiations took several months longer than anticipated with award being done in January 2023. Third-party contractor (Piper) worked to recover the schedule with some success. This delayed scope will be shifted and completed in FY24.
2. Next Generation Acela Infrastructure Upgrades: Tier III Waiver Gates (Amtrak)		
FY23 Planned Expenditure & Scope	$20.3	Not provided for FY23-27 CIP.
FY23 Actual Expenditure & Accomplishments	$8.3	FY23 accomplishments include statements of work for Phase 1a and Phase 2 fencing and gates developed and issued; fencing and gate installation awarded for Phase 1a and Phase 2; Phase 1a fencing and gate installation completed; all GL1 locks replaced due to false positive "gate forced" alerts (design modification); brackets strengthened on gates in all three divisions; grounding work of solar/cellular solution completed in all three divisions; access control completed for all Phase 1a gates; statements of work developed and awarded for all Phase 2 gates; operations and maintenance implemented for the technology solution; Phase 2 fencing and gate materials procured; technology kits for access control ordered, manufactured and being delivered (staged delivery); Cradlepoint (for cellular communications) migrated to a cloud solution to improve information security and availability (zero trust model); and Phase 2 installations started.
Variance & Explanation	-$12.0	Severe delays in the installation of fencing, gates, and solar solutions due to not receiving SHPO/NEPA, Section 106 approvals impacted the spending of the project.

Investment detail including expenditures, accomplishments, and explanation of variances are published as submitted by agencies.

10 largest investments by FY23 planned expenditure, Amtrak System-wide (*millions*, cont.)

3. Engineering Asset Management System (Amtrak)		
FY23 Planned Expenditure & Scope	$15.2	The current fiscal year scope includes: enhancements to the infrastructure asset inventory and expanded collection of asset attributes; defining and implementing condition assessments Engineering disciplines in conjunction with the IT Mainline Rail Maximo implementation under the Engineering Asset Management (EAM) Planning & Analytics ongoing workstream; implementation of a linear referencing system to overlay the enterprise geospatial platform; support for Engineering's asset management applications (desktop and mobile) for asset inspections, maintenance, timekeeping, and capital construction; industrial engineering studies to increase productivity and reduce costs; and implementation support for IT's continued rollout of Mainline Rail Maximo to Engineering disciplines.
FY23 Actual Expenditure & Accomplishments	$12.0	Significant work was completed during FY23 that supported projects and business process improvements that furthered the IMCS asset management practice. Accomplishments include: • IALP and Condition Assessment Frameworks include: Biennial submission to FRA and Congress, Key improvement actions identified to close gap from existing process to industry leading asset management • IALP Data Model Automation/SOGR Dashboards to show SOGR, Steady State, and Backlog Financials for infrastructure assets • Updates to Enterprise Asset Management Program: Maximo 7.6 MLR Implementation in PHL Subdivision, Internal readiness activities, GIS database creation and LRS implementation, Condition assessment frameworks by asset class, Data cleansing and consolidation/mapping of data structures, Updated asset hierarchy encompassing all IMCS Engineering disciplines • Support for DT-led EAM Phase 2 • Support for inspections, testing, maintenance, and reporting of infrastructure assets through a combination of system/data updates, addressing of help desk tickets, field visits for training, and coordination with DT on system functionality. • Production – End-to-End Reporting • Production – Process Changes & Performance Metrics • Maintenance – Rail Grinding Representative Profiles: Algorithm identifies representative profiles for each rail segment, Optimizes the placement of a template profile to minimize the amount of metal removed • Maintenance – Analysis of Preemptive Heat Restrictions : Analysis showed unnecessary delay minutes are approximately halved when the policy changes to 95 degrees (3659 to 1743 minutes), Revised CWR plan to change the threshold for General Speed Restrictions Due to High Heat from 92 to 95 ambient degrees is pending FRA approval
Variance & Explanation	-$3.1	The Enterprise Asset Management Program underspent because a consultant contract was terminated early
4. Amtrak Owned Positive Train CTRL (PTC) Installation Program (Amtrak)		
FY23 Planned Expenditure & Scope	$8.5	The FY23 scope is to begin the Positive Train Control (PTC) annual cycle, complete PTC ASCE Siemens training, and complete the annual cycle.
FY23 Actual Expenditure & Accomplishments	$7.7	FY23 Wayside Transponder upgrade (design/implementation) work was completed--examples of this work include but are not limited to: [Line 1 (Hud-Zoo): Rev36; Rev 38; Rev39; Girard WIU; Grundy;] [Line 2 (Zoo-Was): Rev34; Rev35; Rev39; Rev40;] [Line 3 (Shore): Rev58; Rev1; Rev59; Rev61;] [Line 4 (Zoo-Har): Rev24; Rev26; Rev27;] [Line7 (NTP): Rev16; Rev17; Rev02; Rev03;]
Variance & Explanation	-$0.8	Delays related to putting Acela fleet in service will have the on-board computer software work drag into FY24.
5. Communications System Upgrades Program (Amtrak)		
FY23 Planned Expenditure & Scope	$7.4	The scope for FY23 is to start and finish fiber replacement, communication shelter replacement, New York to Washington fiber transport upgrades.
FY23 Actual Expenditure & Accomplishments	$6.2	Fiber Optic Transport System (FOTS) Project was initiated with bulk of material delivered. Communication Shelter was procured and setup in New York but not put into service. Radio and Fiber cables along the Empire Line were installed.
Variance & Explanation	-$1.2	FOTS supply chain delays mean this project is concluding in Q2 of FY24. CIH in New York will have a dedicated power source established in FY24 and then it can be put into service.

Investment detail including expenditures, accomplishments, and explanation of variances are published as submitted by agencies.

10 largest investments by FY23 actual expenditure, Amtrak System-wide (*millions*, cont.)

6. Fence Upgrades Program (Amtrak)		
FY23 Planned Expenditure & Scope	$6.1	The scope for FY23 is to start fence surveys, start construction, and finish construction closeout.
FY23 Actual Expenditure & Accomplishments	$2.2	Fence installs completed at Enfield, CT; NEC Survey project and NEC NEPA programmatic projects were initiated.
Variance & Explanation	-$3.9	Budget was cut for all fence installations in Q2 so all planned fence installs were pushed to FY24.
7. Next Generation Acela Infrastructure Upgrades: Ride Quality Improvements (Amtrak)		
FY23 Planned Expenditure & Scope	$3.3	Amtrak to continue with the delivery of the Northeast Corridor LiDAR data extraction contract with a third-party vendor. Amtrak to receive the Five Amberg Trolley tool systems. Amtrak Track Department to establish referencing designs plans and data files from three test locations.
FY23 Actual Expenditure & Accomplishments	$3.7	FY23 accomplishments include getting LIDAR data extraction underway along the NEC by RailPros (third-party vendor). All Amberg Trolley systems have been received and training performed. Two test locations were completed and designed.
Variance & Explanation	$0.3	It was decided that doing a third test was not necessary.
8. Engineering Advanced Technology Track Inspection Program (Amtrak)		
FY23 Planned Expenditure & Scope	$2.9	The FY23 Scope is to begin construction of the Track Geometry Measuring System, complete field testing and operation of visual system, and complete construction of the Track Geometry System.
FY23 Actual Expenditure & Accomplishments	$3.9	In FY23, the design consultant substantially completed drawings for the 10006 TGC. The construction contractor progressed the rebuild of the 10006 to roughly 53% complete. Underfloor work is now 100%, HVAC work is now 80% complete, Plumbing is now 60% complete, Electrical is now 45% complete, interior finishing is 40% complete, and exterior finishing is now 30% complete. Also in FY23, the visual track inspection system was purchased and mounted to the pilot vehicle. Vehicle testing will resume in FY24. Lastly the Cordelle Clearance Database service was initiated within the fiscal year to support the large datasets coming from the TGC and ATIV.
Variance & Explanation	$0.9	The completion of the planned scope continues to progress at a rate slower than expected due to procurement delays and the constructability of design. Scope remains intact, but some scheduled activities have slipped into FY24. The project team is working with procurement and making routine visits to the contractor's facility to continuously improve. Funding requested in FY24 submission to fund the completion of 10006 TGC. Updated schedule for the completion of the 10006 TGC requested and received from assigned vendor.
9. Mid-Atlantic OCS Replacement Program Phase 2: Brill to Landlith (Amtrak)		
FY23 Planned Expenditure & Scope	$2.7	Complete, review and finish 90% and 100% of the Brill to Landlith Total Catenary design.
FY23 Actual Expenditure & Accomplishments	$3.0	60% design submittal was received and reviewed by Amtrak. Consultant continued working towards 90% submittal
Variance & Explanation	$0.3	Did not review and finish 90% and 100% of the Brill to Landlith Total Catenary Design. Delayed schedule for design submittals associated with Amtrak's required resubmission of 60% design and other impacts of consultant's level of design at previously received submissions. Additional review time required by Amtrak due to size and complexity of the design package.
10. Electric Traction System Aerial System Assessment Projects (Amtrak)		
FY23 Planned Expenditure & Scope	$2.5	The scope for FY23 is for the Contractor to start the collection of Amtrak electrified railway assets, log the assets, complete the collection of assets and for the contractor work to be substantially completed.
FY23 Actual Expenditure & Accomplishments	$3.5	FY23 accomplishments include 8,165 structures were captured along the Northeast Corridor.
Variance & Explanation	$0.9	No notable variances.

Investment detail including expenditures, accomplishments, and explanation of variances are published as submitted by agencies.


EVER UPWARD
ETCHWORTH STATE PARK
Ticketed Waiting Room

All Amtrak System-wide investments (*millions*)

Investment Name	FY23 Planned Expenditure	FY23 Actual Expenditure	Variance
Amtrak			
AEI Tag Reader Wayside Defect Detection	$0.2	$0.0	-$0.2
Amtrak NEC Nortrak Operating Rods Replacement Project	$0.1	$0.0	$0.0
Amtrak Owned Positive Train CTRL (PTC) Installation Program	$8.5	$7.7	-$0.8
Amtrak Station Signage Upgrades	$0.8	$0.1	-$0.7
Amtrak System - Ride Quality Improvement Program	$0.2	$0.2	$0.1
Asbestos, Lead Paint, and Mold Removal	$0.3	$0.0	-$0.3
Communications System Upgrades Program	$7.4	$6.2	-$1.2
Electric Traction System Aerial System Assessment Project	$2.5	$3.5	$0.9
Engineering Advanced Technology Track Inspection Program	$2.9	$3.9	$0.9
Engineering Asset Management System	$15.2	$12.0	-$3.1
ET Linear Assets Research and Development Program	$2.4	$2.9	$0.5
Fence Upgrades Program	$6.1	$2.2	-$3.9
High Speed Adjacent Track Signage	$1.4	$0.0	-$1.4
Infrastructure Renewal and Speed Improvement Program	$0.0	$0.5	$0.5
Mid-Atlantic AMTEC Upgrades	$0.9	$2.9	$2.0
Mid-Atlantic Catenary Program	$0.1	$0.2	$0.2
Mid-Atlantic Facilities Program	$0.2	$0.2	-$0.1
Mid-Atlantic OCS Replacement Program Phase 2: Brill to Landlith	$2.7	$3.0	$0.3
Mid-Atlantic Signals Program	$0.1	$0.1	$0.1
Mid-Atlantic Structures Program	$0.1	$0.2	$0.1
Mid-Atlantic Substations Program	$1.3	$0.2	-$1.1
Mid-Atlantic Track Program	$0.0	$4.4	$4.4
NEC Trip Time Reduction	$0.8	$1.2	$0.4
NEPA/106 Programmatic Solutions	$0.1	$0.0	-$0.1
New England Catenary Program	$0.1	$0.1	$0.0
New England Communications Program	$0.1	$0.5	$0.4
New England Facilities Program	$0.1	$0.3	$0.2
New England Signals Program	$0.0	$0.1	$0.0
New England Structures Program	$0.2	$0.3	$0.1
New England Substations Program	$0.2	$0.5	$0.3
New England Track Program	$0.1	$0.8	$0.7
New Haven - Providence Capacity Planning Study	$0.0	$0.0	$0.0
New York Catenary Program	$0.0	$0.0	$0.0
New York Facilities Program	$0.3	$0.1	-$0.2
New York Signals Program	$0.1	$0.2	$0.0
New York Structures Program	$0.4	$0.2	-$0.2

All Amtrak System-wide investments (*millions*, cont.)

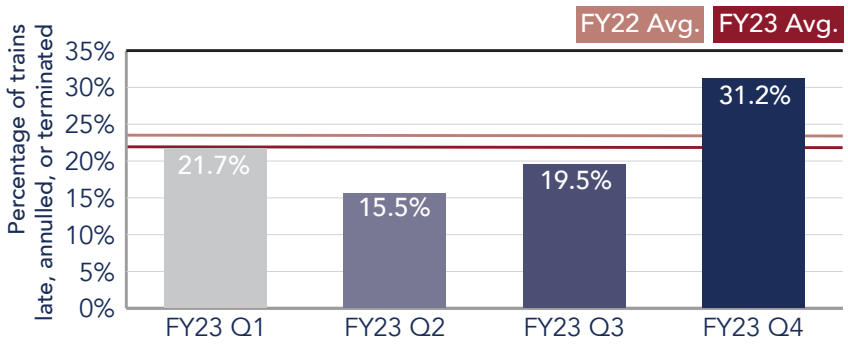
Investment Name	FY23 Planned Expenditure	FY23 Actual Expenditure	Variance
New York Substations Program	$0.2	$0.1	-$0.1
New York Track Program	$2.3	$1.3	-$0.9
Next Generation Acela Infrastructure Upgrades: Ride Quality Improvement	$3.3	$3.7	$0.3
Next Generation Acela Infrastructure Upgrades: Safety Mitigation	$28.6	$25.1	-$3.5
Next Generation Acela Infrastructure Upgrades: Tier III Waiver Gates	$20.3	$8.3	-$12.0
Penn Station NY Scada Phase II	$0.0	$1.3	$1.3
Production High Speed Surfacing Program	$1.8	$2.1	$0.3
Production Wood Tie/Timber Replacement Program	$0.5	$1.7	$1.2
Radio Infrastructure Upgrades Project	$2.2	$16.5	$14.3
Rail Grinding Program (Amtrak)	$0.1	$0.1	$0.0
Rail Replacement Program	$1.5	$0.7	-$0.8
Route 128 Station HVAC Upgrades	$0.5	$0.1	-$0.4
Static Sign Standard Manual Upgrades	$2.2	$0.0	-$2.2
TLS Concrete Tie Replacement Program	$1.7	$5.6	$4.0
Total Track Renewal Program	$0.0	$0.0	$0.0
Track Rehabilitation Program	$0.1	$0.2	$0.1
Track Undercutting Program	$2.5	$5.7	$3.2
Turnout Renewal Program	$1.0	$3.0	$2.0
West Class Yard Access Improvements	$0.0	$0.2	$0.2

Operations: Amtrak

Amtrak operates intercity service on along the NEC Main Line between Boston, MA and Washington, DC and on the three NEC Branch Lines to Springfield, MA, Spuyten Duyvil, NY, and Harrisburg, PA. Amtrak's Northeast Regional, Acela, Hartford Line, and Keystone Services routes operate entirely on the NEC main and branch lines and several state-supported and long distance routes operate on sections of the NEC.

Train performance profile

Metric	FY22	FY23
Percent NEC trains late, annulled, or terminated	23.4%	21.9%
Percent NEC trains not completed	0.2%	0.3%
Avg min late per NEC train	62.8	57.9



Train-delay minutes by cause

Total and percent change, FY22-23

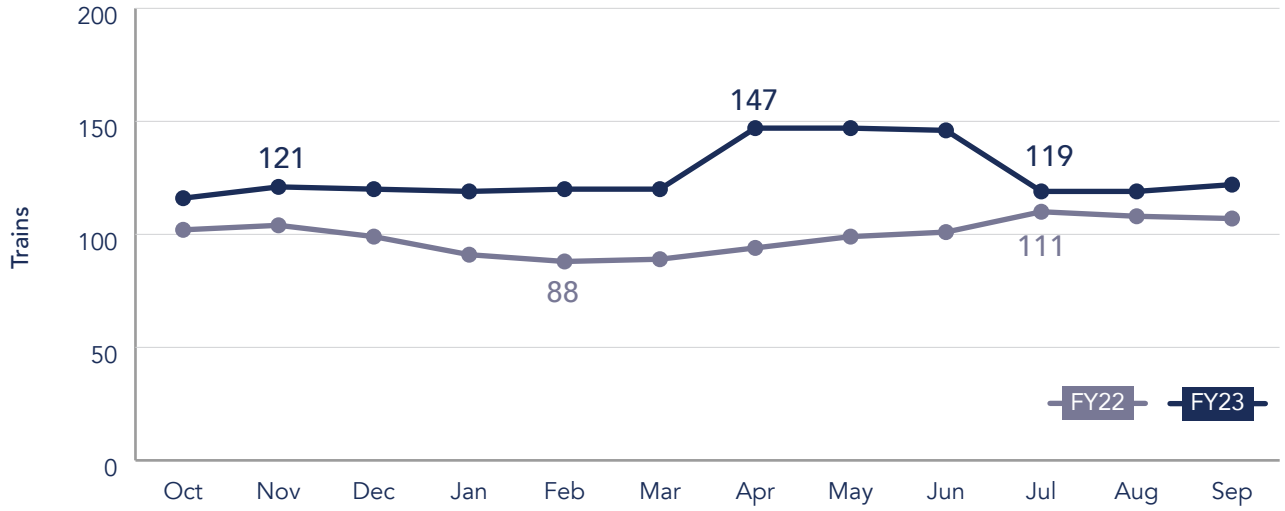
Cause	FY22	FY23	Change
Infrastructure	75,886	108,332	+42.8%
Mechanical	72,623	78,703	+8.4%
Transportation	60,984	86,543	+41.9%
Passenger	24,354	29,070	+19.4%
Weather	33,277	37,632	+13.1%
Third-Party	41,433	50,688	+22.3%
Freight	5,419	2,447	-54.8%
Other	3,247	2,380	-26.7%
Total	**317,223**	**395,795**	**+24.8%**

Rank by category, FY23

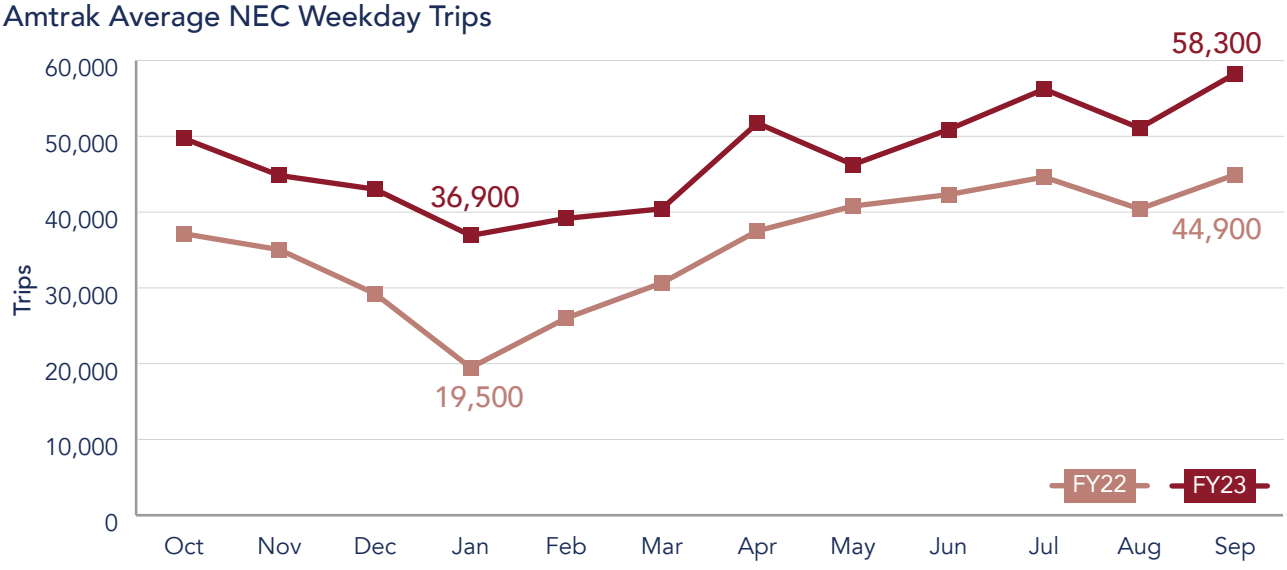
Amtrak NEC Service and Ridership

Period	Average Weekday NEC Trains			Average Weekday NEC Trips		
	FY22	FY23	Change from FY22	FY22	FY23	Change from FY22
Q1 (Oct - Dec)	101	119	+17.2% ↑	33,804	45,856	+35.6% ↑
Q2 (Jan - Mar)	89	120	+34.0% ↑	25,374	38,839	+53.1% ↑
Q3 (Apr - Jun)	98	147	+49.3% ↑	40,208	49,633	+23.4% ↑
Q4 (Jul - Sep)	109	120	+10.1% ↑	43,324	55,192	+27.4% ↑
FY Average (Oct - Sep)	**99**	**126**	**+26.9% ↑**	**35,678**	**47,380**	**+32.8% ↑**

Amtrak Average NEC Weekday Trains



Amtrak Average NEC Weekday Trips



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Page 31 middle: Portal North Bridge Construction, courtesy of NJ TRANSIT, 2024.

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