



# **Amtrak – NJ TRANSIT Joint Update**

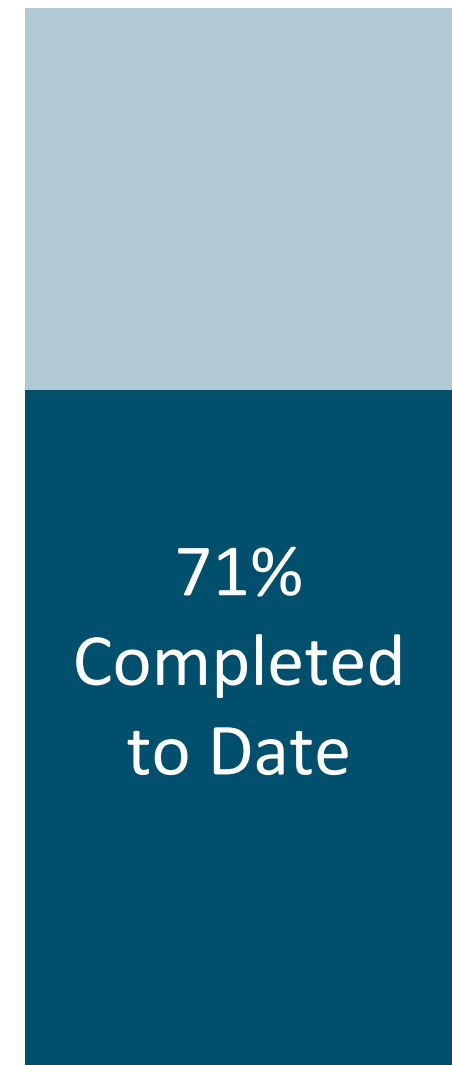
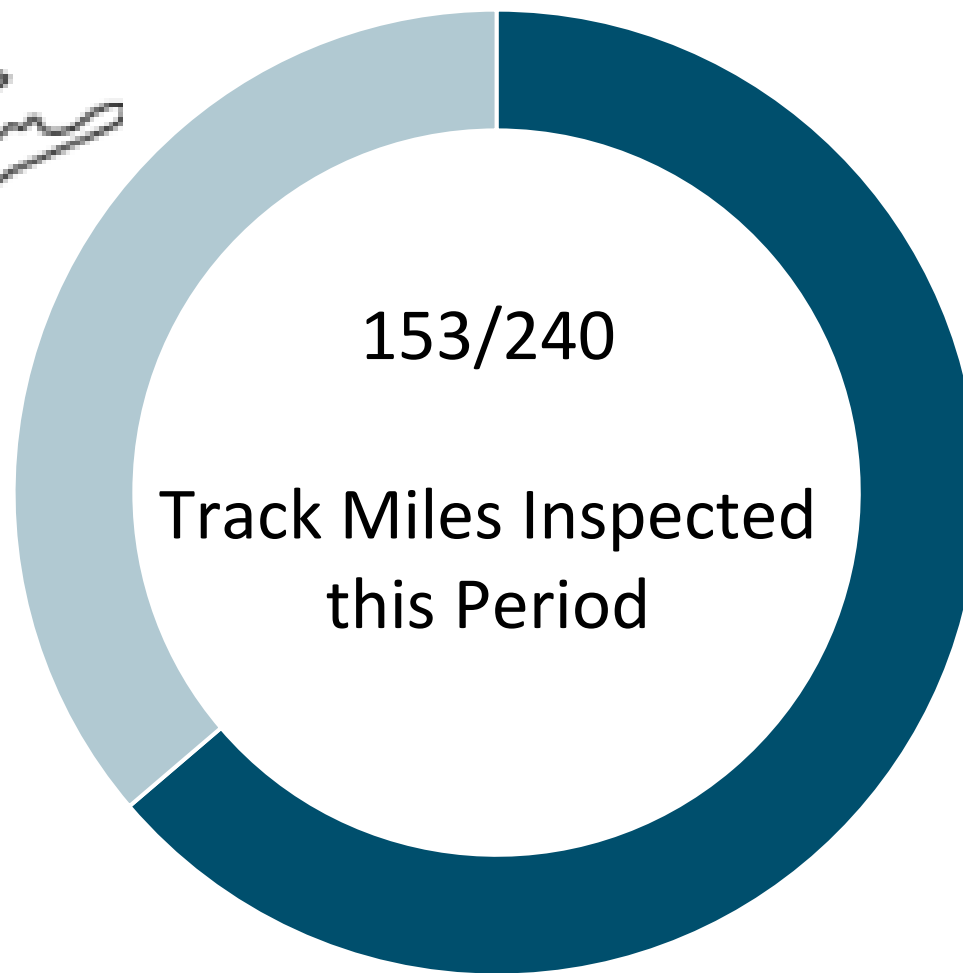
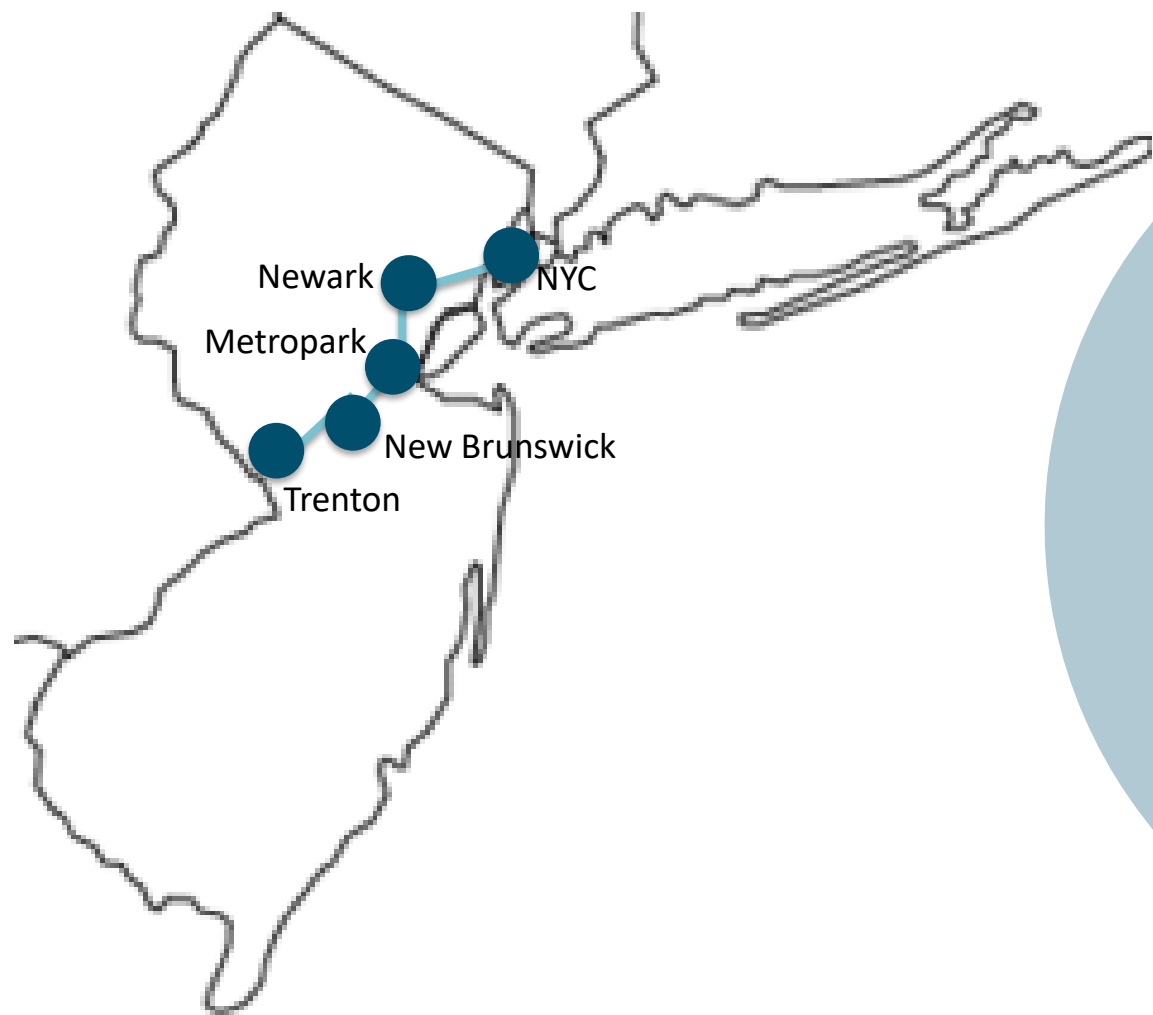
**Reporting Period: July 6, 2024 – August 9, 2024**

# Summary

- Amtrak and NJ TRANSIT have increased examination, inspection, maintenance, and improvement activities involving various infrastructure and fleet systems following a spike in Northeast Corridor (NEC) disruptions in New Jersey and at New York Penn Station during May and June 2024.
- This is a holistic effort focused on:
  - Amtrak infrastructure, including the catenary, signals, power substations, and track;
  - NJ TRANSIT rolling stock, including the pantograph which rides along the catenary and draws power to move trains, and infrastructure with connections to Amtrak's NEC.
- Amtrak and NJ TRANSIT continue to evaluate potential root causes and solutions in partnership with the Federal Railroad Administration and our vendors.
- This report summarizes our joint efforts, findings, and improvements to date.

# Catenary Inspection Update

- Performed 153 Track Miles of catenary inspection and renewed 255 hardware components within the 240 track miles of Amtrak's catenary system between Trenton and NYC.



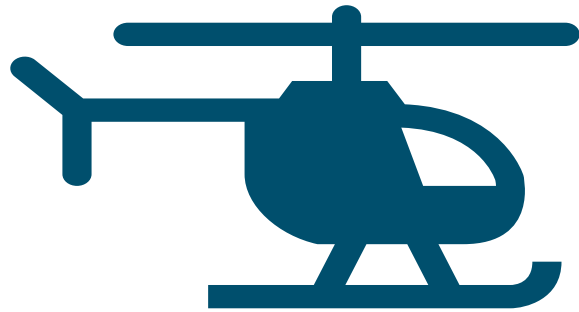
# NJ TRANSIT Catenary Inspection Update

- NJ TRANSIT is performing catenary inspections on all NJ TRANSIT-owned electrified territory.
- NJ TRANSIT will provide an expanded catenary inspection update in the next joint report.

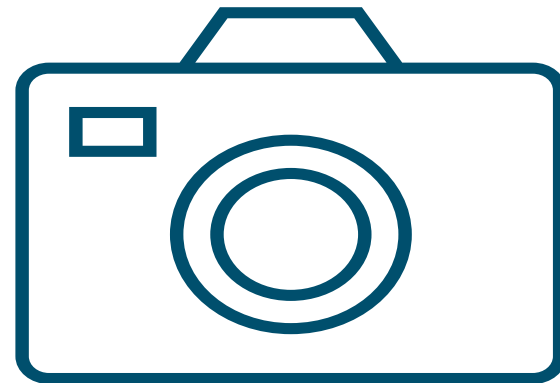


# Amtrak Catenary: Aerial and Tunnel Inspection Update

- Amtrak completed its helicopter catenary inspection program between the North (Hudson) River Tunnels and Trenton. Amtrak made repairs in response as needed.
- Amtrak crews completed Hudson River Tunnel catenary inspections.
- All Amtrak inspection results are shared with NJ TRANSIT and reviewed in real-time by Amtrak.
- Required maintenance or repairs have been completed or underway.



52 Route Miles  
Photographed  
from Helicopter



1,000+ Catenary  
Structures Captured



Photoshoots Completed: 7/27  
Analysis to be Completed: 8/31

# Amtrak & NJ TRANSIT Catenary & Pantograph Inspection Update

- As part of its response to May and June's incidents, NJ TRANSIT added additional layers of pantograph inspection to its existing policies, protocols, and procedures:
  - NJ TRANSIT installed camera systems on an ALP-46 locomotive and an Arrow III railcar to gather video footage of the interaction between Amtrak catenary systems and NJ TRANSIT pantographs.
  - NJ TRANSIT forces are undertaking heightened pantograph inspections at New York Penn Station and all outlying terminals.
  - NJ TRANSIT personnel are also deployed at key stations along the NEC and on NJ TRANSIT-maintained rail lines to perform additional visual inspections of pantographs.
- Amtrak has supported NJ TRANSIT pantograph inspections and undertaken additional inspections of Amtrak pantographs.
- Amtrak made technical updates to its high-speed catenary inspection car and restored it to active service.
- FRA Administrator Bose, FTA Regional Administrator Culotta, NJ TRANSIT & Amtrak senior leadership completed an inspection of Amtrak catenary & power systems at Morrisville Yard, Substation 34 in Morrisville, and Trenton Transit Center.

# External Technical Review Update

- Amtrak and NJ TRANSIT continue to evaluate potential root causes and solutions in partnership with the Federal Railroad Administration and our vendors.
- Amtrak and NJ TRANSIT also held a joint technical review with our shared pantograph manufacturer, TransTECH:
  - Pantographs are devices which bring power from the catenary system onto electric locomotives or multiple unit railcars to power electric trains.
  - Our joint review did not identify any systemic failures with Amtrak or NJ TRANSIT pantographs. The review included an inspection of the carbon strip and adhesive that secures it in place on the pantograph. A carbon strip is the contact point between the pantograph and catenary that collects and delivers power to the train.
  - In the US, TransTech uses the same adhesive as they do in Europe, with no issues to date.
  - US Railroads using TransTech carbon strips include Metro-North, Metra, DART, & LA Metro.
  - The manufacturer has indicated there are no current recalls on the pantographs or carbon strips.
- While no systemic pantograph failures have been identified, NJ TRANSIT and Amtrak are investigating conditions between the catenary and pantograph which could impact pantograph carbon strip adhesive integrity.

# Amtrak Power Substation Inspection Update

- There are 13 Substations between Trenton and NYC.
- Amtrak has performed supplemental inspection on 5 of these 13 substations looking for items that could lead to similar events as that experienced at the Hackensack substation in June.
- No critical repairs have been necessary, but inspections at the first 5 substations identified the following improvements to harden the existing infrastructure:
  - Installation of redundant equipment grounds
  - Updating DC control to latest Amtrak standard (with exception of Hackensack and Kearny)
  - Converting varmint guards on all breakers to latest version for more effective protection.
- Amtrak is in the process of soliciting additional resources to identify further improvements to Amtrak substation maintenance practices.

# Amtrak Signal and Track Inspection Update

- Amtrak continues to inspect and maintain track and signal systems to standard and to meet regulatory requirements.
- These systems continue to perform consistent with historic norms.
  - Three-year performance trends over same time-period (January to June):

Asset Type	Incidents per Mile of Track			
	2022	2023	2024	3-Year Avg.
Communications & Signals	2.30	1.77	2.10	2.06
Track	0.46	0.36	0.50	0.44

- Amtrak continues to strive to decrease these numbers through State of Good Repair Programs.
- Total Communications & Signals and Track FY 2024 Investments in New Jersey: **\$62.2M**

# Additional Actions

- NJ TRANSIT management continues to undertake daily reviews of all NJ TRANSIT delays of six minutes or more and meets with Amtrak at least twice per week to review joint operations and advance potential solutions.
- Amtrak identified numerous short-term projects to improve its catenary system without impacting service. These include immediate structural repairs and redesigning catenary components to minimize issues on adjacent tracks.
- Amtrak and NJ TRANSIT are evaluating methods to expand overnight work windows using service adjustments to accelerate infrastructure renewal and repairs.
- Amtrak and NJ TRANSIT are also jointly enhancing inspections of NJ TRANSIT infrastructure at interchange locations.
- NJ TRANSIT is installing a fiberglass protector on its pantographs. NJ TRANSIT is also evaluating whether to modify its pantographs to reduce the potential for damage from catenary on Amtrak territory.

# Future Investment Opportunities

- With NJ TRANSIT's support, Amtrak submitted grant applications for the following projects to the Federal Railroad Administration's Fed-State Partnership for Intercity Passenger Rail Program:
  - Amtrak signal system upgrades between New Brunswick and Elizabeth;
  - Amtrak catenary upgrades from New Brunswick to Newark;
  - The Amtrak Sawtooth Bridges Replacement Project, which includes updated track, signals, catenary, and other infrastructure in that territory; and
  - The Amtrak Substation 41 Renewal Project, which will update a key point on Amtrak's electric traction system.
- Ongoing major capital projects, such as Portal North Bridge, the Hudson Tunnel Project and Dock Bridge Rehabilitation, will also include catenary renewal of 13.8 track miles in those project areas.
- Pending future grants for projects currently in design, including Sawtooth Bridges, Harrison 4<sup>th</sup> Track and New Brunswick to Newark, will also include catenary renewal of 93.7 track miles in those project areas.



**Thank You**