Amtrak – NJ TRANSIT Joint Update

Reporting Period: July 6, 2024 – October 4, 2024

Summary

- Amtrak and NJ TRANSIT 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.

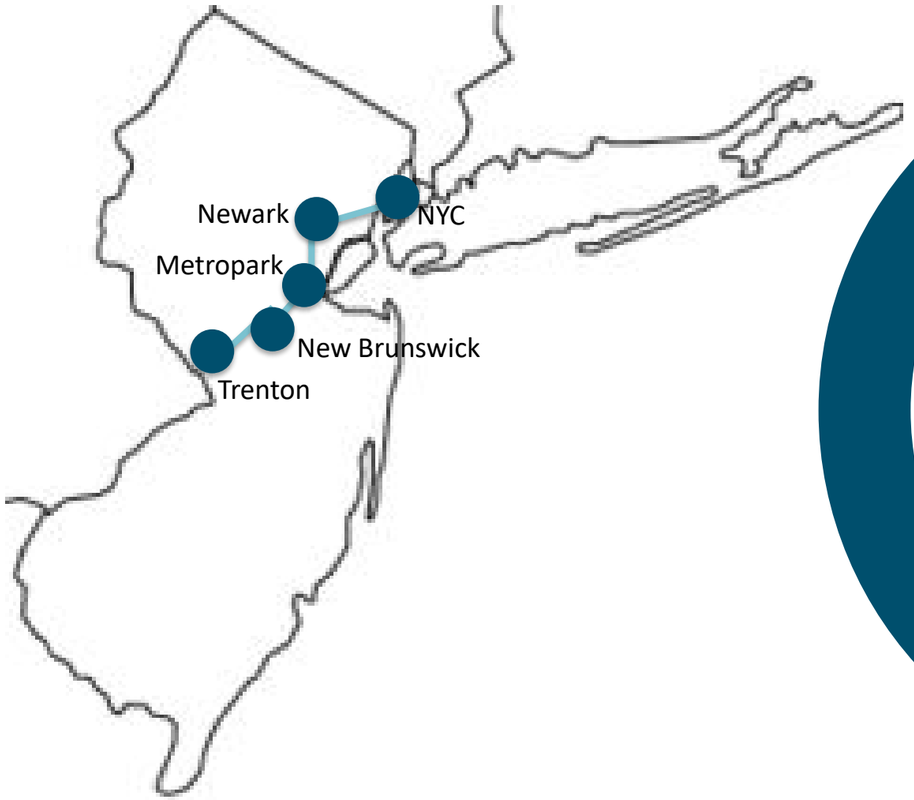
- This is a holistic effort focused on:
  - Amtrak infrastructure, including the catenary, signals, power substations, and track
  - Amtrak and NJ TRANSIT rolling stock, including the pantograph which rides along the catenary and draws power to move trains, and infrastructure with connections to Amtrak's NEC.

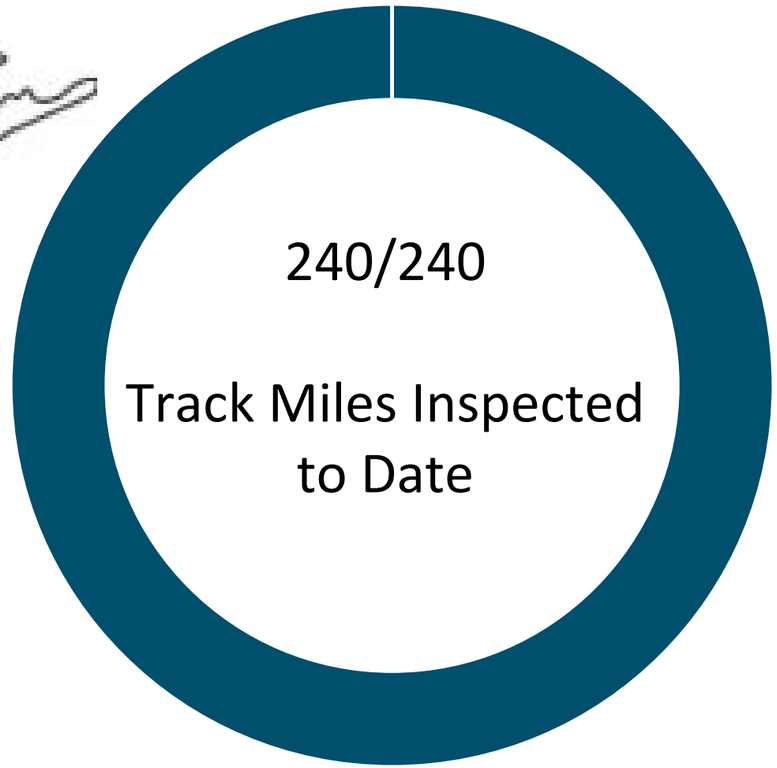
- Amtrak and NJ TRANSIT are evaluating potential root causes and solutions in partnership with the Federal Railroad Administration and our vendors.

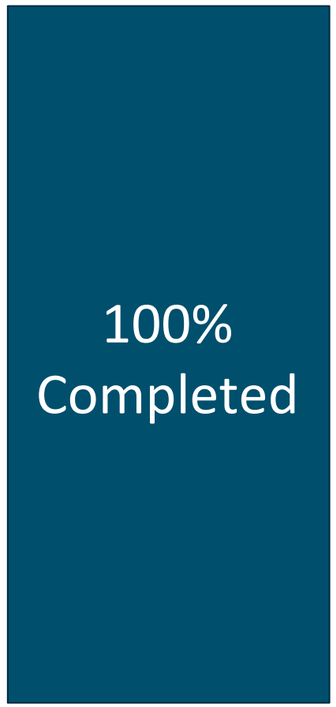
- This report summarizes our joint efforts, findings, and improvements.

Amtrak Catenary Inspection Update

- Amtrak performed 240 Track Miles of catenary inspection and renewed approximately 2,000+ hardware components over the entire 240 track miles of the Northeast Corridor's catenary system between Trenton and NYC.







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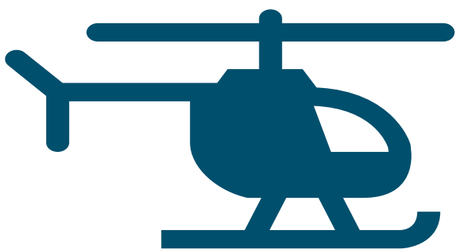
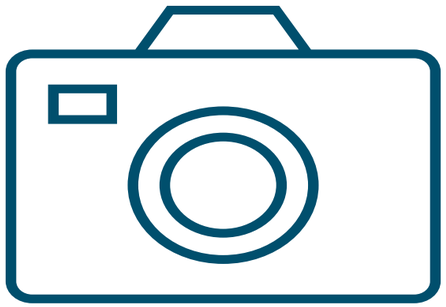
Amtrak Catenary: Aerial and Tunnel Inspection Update

- Amtrak completed its helicopter catenary inspection program between the North (Hudson) River Tunnels and Trenton. Amtrak made necessary repairs.
- Amtrak crews also completed Hudson River Tunnel catenary inspections.
- Amtrak inspection results are reviewed in real-time by Amtrak.
- Required maintenance or repairs identified by these inspections have either been completed and are scheduled or underway.



52 Route Miles Photographed from Helicopter



1,000+ Catenary Structures Captured

839 Hardware Replacements from the Helicopter Defects List Were Made

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NJ TRANSIT Catenary Inspection Update

- In the interest of being as comprehensive as possible, NJ TRANSIT completed visual and hands-on inspections of approximately **82 route-miles of overhead catenary system on its territory**, including four electrified rail lines, three rail yards, and a key connection point between Amtrak and NJ TRANSIT located in Rahway, New Jersey.

- NJ TRANSIT forces used a **Catenary Inspection Car to perform the visual inspections** of wire, insulators, hangers, crossovers, nearby vegetation, and other physical characteristics of NJ TRANSIT's electrified territory.

- NJ TRANSIT also used **special trucks, which can drive on railroad tracks, to perform the hands-on inspections.** Crews took measurements of wire, inspected sectionalizing switches, and inspected and replaced supporting hardware as needed at rail yards, interlockings, and phase gaps on NJ TRANSIT's electrified territory.

- **No major issues were uncovered during these inspections.** As part of the normal inspection process, crews replaced some components, such as clips, hangers, and insulators; identified future tree trimming needs; and evaluated minor curve alignment and leveling adjustments.

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Amtrak & NJ TRANSIT Inspection Update

- As part of its response to May and June's incidents, NJ TRANSIT will continue implementing its enhanced inspection of catenary and pantographs.

- Amtrak made technical updates to its high-speed catenary inspection car and restored it to active service.

- Amtrak increased inspections of its pantographs in response to incidents that occurred both inside and outside the segment of the Northeast Corridor used by NJ TRANSIT.

- NJ TRANSIT and Amtrak increased equipment inspections and used high-definition video on top of locomotives to document the interaction of NJ TRANSIT equipment with Amtrak wires.

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External Technical Review Update

- Amtrak and NJ TRANSIT are evaluating potential root causes and solutions in partnership with the Federal Railroad Administration and our vendors.

- Amtrak and NJ TRANSIT held a joint technical review with our shared pantograph manufacturer, TransTECH. There have been additional discussions with Amtrak's carbon strip manufacturer, Morgan, to further understand the interaction between the pantograph and the catenary wire.

- No systemic pantograph or Amtrak's catenary systems failures have been identified. NJ TRANSIT and Amtrak continue investigating interactions between the catenary and pantograph.

- Amtrak and NJ TRANSIT have also utilized third-party consultants to aid with the investigation of the previous incidents.

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Amtrak Power Substation Inspection Update

- Amtrak will continue to perform supplemental inspections and execute resiliency efforts on its 13 substations between Trenton and New York City. Replacement components for the damaged parts from the previous incident at Substation 42 have been acquired and installation is being scheduled. The transformer at this substation was tested by Amtrak and their third-party vendor, and no deficiencies were found.

- There was an additional significant power outage event in September that was triggered by a combination of conditions in the traction power system. The root causes of this event have been identified and corrective actions have been undertaken to protective devices in the substation along with the restoration of a power cable that needed to be taken offline for state-of-good repair track work in New York Penn Station.

- Amtrak is in the process of soliciting additional resources to identify further improvements to Amtrak substation maintenance practices.

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Amtrak Signal and Track Inspection Update

- Amtrak will continue to inspect and maintain track and signal systems to industry standards 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 (January 1 to Oct. 4)			
	2022	2023	2024	3-Year Avg.
Communications & Signals	3.21	2.85	3.17	3.08
Track	0.67	0.57	0.73	0.66

  - 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**

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Future Investment Opportunities

- With NJ TRANSIT's support, Amtrak secured ~$300 million in federal grants from the Federal Railroad Administration's Fed-State Partnership for Intercity Passenger Rail Program for the following projects:
  - 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 include catenary renewal of 13.8 track miles in those project areas.

- Projects currently in design, including Sawtooth Bridges, Harrison 4th Track and New Brunswick to Newark, will also include catenary renewal of 93.7 track miles in those project areas.

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Additional Future Actions

- NJ TRANSIT management will continue to undertake daily reviews of all NJ TRANSIT delays of six minutes or more and meet with Amtrak weekly to review joint operations and advance potential solutions.

- Amtrak will execute 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 collaborating to expand overnight and weekend work windows using service adjustments to accelerate infrastructure renewal and repairs.

- NJ TRANSIT is installing fiberglass protectors and examining an automatic drop system on its pantographs to provide resiliency against both impact damage to and from the catenary, which will also reduce the severity of future incidents.

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Thank You