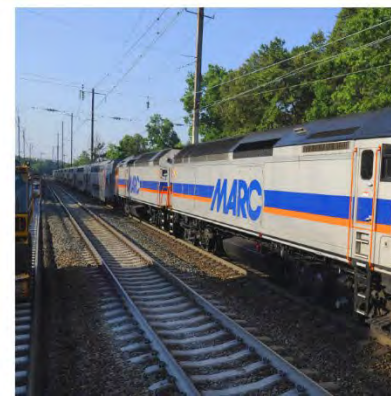


MARC Reliability

Riders Advisory Council
July 2025





Recurring Issues

- Mechanical/Equipment Issues
- Track & Signal Issues
- Weather Delays
- Dispatcher Interference
- PTC & Communications Delays
- Accident/Incident
- Crew



Causes of Delay

<u>System Total</u>	% By Minut es	% By Delays	# of Minutes	# of Delays
Delays within MTA's control	32.9%	22.3%	4376	140
Delays within Host RR control	38.8%	63.5%	5153	399
Acts of God/outside forces	17.0%	6.5%	2255	41
Other (incl. PTC)	11.3%	7.6%	1498	48

*Adjusted to categorize secondary delays that are a result of MTA Failures



Mechanical Delays – **Aging Equipment**

- **Root Cause:** Insufficient financial investment over the years has prevented the replacement of older equipment or delayed the overhaul of the equipment to extend its life.
- **Mitigations:** Pursuing options for new equipment purchases & accelerating overhauls. No further detail can be provided at this time due to State Procurement Regulations and best practices.



Mechanical Delays – **Unreliable Equipment**

- **Root Cause:** Lack of mechanical human resources, lack of space or easy transfer for spare equipment (in route), aging equipment, and outdated maintenance programs.
- **Mitigations:** New Chief Mechanical Officer at Alstom, New MARC Locomotive Reliability Program (RIP), Staffing to implement the RIP, Weekly Executive Maintenance/OPS Meeting, Contractual Remedies & Changes



Mechanical Delays – **Unreliable Equipment**

Summary of the new MARC Reliability
Improvement Program



Mechanical Delays – **HVAC Equipment Failures**

- **Root Cause:** The MARC IIs were manufactured in the late 80s/Early 90s. The HVAC units, while regularly maintained are old and designed for older Freon and older climates.
- **Mitigations:** Increased Maintenance Intervals, Hired two additional FT HVAC contractors to be on-site at Riverside and Brunswick, exploring a fall/winter replacement or overhaul of the units.



1.2 System Rating Data The system is rated 14800 BTU/Hr.
(12.3 tons refrigeration effect) under the following conditions:

Ambient Air to the Condenser	105°F DB
Outside Air to the Evaporator	95°F DB and 78°F. WB
Recirculated Air to the Evaporator	77°F DB and 60% RH
Air Flow (Two Evaporators)	3600 CFM @ .4" wg ESP
Outside Air	1200 CFM
Recirculated Air	2400 CFM
Power (Nominal)	480/3/60 & 512/3/64
Maximum Permissible Frequency	67 hz
Control Voltage (Nominal)	120/1/60 & 128/1/64
Refrigerant	R-22



Delays – Track & Signal

- **Root Cause:** Varied
- **Mitigations:** Continued investment in state of good repair in partnership with the host railroads, close coordination on new and potential issues, and increased oversight and advocacy.



Delays – **Weather**

- **Root Cause:** Increased prevalence of severe weather and climate change; Host Railroad Operating Rules
- **Mitigations:** Work with CSX to remove dead trees and obstructing branches, work with the host railroads to identify areas prone to flooding for remediation, seek grant funding to accelerate remediation projects, identify critical infrastructure for climate resilience projects, and continue to prioritize safety above all else



Delays – **Weather (CSX)**

High Wind Warning:

Wind Speeds 55-60 MPH trains will reduce speed to 40 MPH

Greater than 60 MPH trains will reduce speed to 20 MPH

Flash Flood Warning:

Trains will not exceed 40 MPH and approach bridges, culverts and other points likely to be affected at restricted speed (15mph or half the range of vision to stop)

Tornado Warning:

All train movements within the warning area must stop until the warning has expired. If safe to do so, trains will avoid stopping on bridges and grade crossing



Delays – **Heat Orders (CSX)**

Reduces the maximum speed of passenger trains by 20mph (but not under 40mph) under one or both of the following conditions:

Consistent ambient temperatures of 85 degrees or greater

A 25-degree swing in temperatures either warmer or colder in a 24-hour period.



Delays – Heat Orders (Amtrak)

Amtrak issues heat orders on the Penn Line , but they do not take effect until temperatures reach 90-100 degrees, and these restrictions relate primarily to the overhead electric wires. MARC does not run its HHP8 Electric Locomotives due to reliability concerns and catenary concerns.

Amtrak's NEC is engineered for high-speed service and thus has less curves. This reduces the likelihood of heat-related rail kinks.



Down Trees (6/23)





Down Trees (6/23)





Down Trees (6/23)





Down Trees (6/23)





Delays – Dispatcher Interference

- **Root Cause:** Late MARC Trains and/or Late CSX/Amtrak trains cause conflicts in the schedule and force one train to be prioritized over another.
- **Mitigations:** Work closely with host railroads to ensure fair and equitable prioritization, work with rail dispatch and scheduling to recalibrate the schedules to eliminate frequent conflicts, advocacy and contractual remedies. Infrastructure investment to create more opportunities to alleviate conflicts.



Delays – PTC & Communications Delays

- **Root Cause:** Software updates, operating practices changes, server issues, etc.
- **Mitigations:** Work with the PTC vendors and host railroads to exhaustively test all updates/changes, advocate for changes to the federal PTC regulations, stand-up additional redundancies and mitigate failures quickly.



Delays – **Accident/Incident**

- **Root Cause:** Trespassers, Mental Health Crisis, Disorderly Passenger Behavior
- **Mitigations:** Increased rail safety outreach, improved coordination with law enforcement partners, rider code of conduct, intentional station design & intertrack fencing, signage improvements



Delays – **Accident/Incident**

In Maryland, in 2024, there were 24 trespasser rail strikes resulting in 13 deaths.

These incidents cause trauma for local families, communities, and railway workers.



Delays – Accident/Incident









Delays – Crew

- **Root Cause:** Staffing Shortage due to Hours of Service or Sick/Leave
- **Mitigations:** Close management of hours of service and early intervention to avoid precluding crew for the next day's service, contractual remedies, proactive management by our contract partners



What happens during a delay?



Outreach & Customer Service

- Meet the Management – 3 Complete – 4 More Scheduled
- Improved and More Timely Service Alerts
- Customer Correspondence
- Riders Advisory Council



We are committed to restoring and maintaining reliability, as quickly as possible.