Massachusetts Bay Transportation Authority

Rail Modernization Update

MBTA Board of Directors Meeting

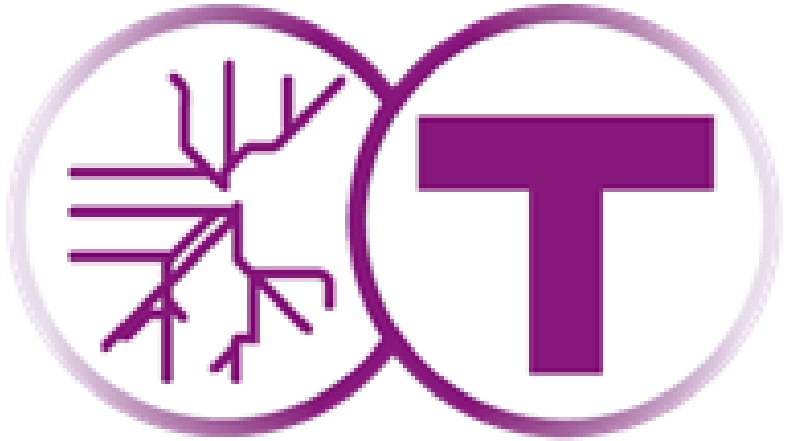
Michael Muller, Executive Director of Commuter Rail

Lynsey Heffernan, Chief of Policy and Strategic Planning

February 26, 2026

Summary and Purpose

- Announcement of a rail locomotive procurement
- Update on Rail Modernization strategy and implementation
- Background and context for key rolling stock investments, including the new locomotive procurement
- Preview of upcoming public engagement opportunities in the Rail Modernization planning process.



RegionalRAIL

Rail Modernization Strategy

Planning efforts are focused on four key areas of Regional Rail service:

Frequency

- "Regional Rail" model of all-day frequent service schedules
- Strategic elimination of legacy bottlenecks in our single-track, at-grade system

Reliability

- Modernized locomotive fleet
- Upgrades to key infrastructure which impact service quality today.

Accessibility

- Provide level boarding platforms to enhance accessibility.
- Minimize pedestrian grade crossings at stations

Decarbonization

- Electrification of lines can provide for quieter, fasters and cleaner travel in the future.
- Significant grid infrastructure is needed for decarbonized rail

We've been advancing all aspects of the vision

In each area, the MBTA has been strategically investing in the modernization of our system.

Frequency

- Turn tracks to allow greater operational flexibility
- Interlockings on Worcester Line
- Passing tracks
- Removing pedestrian grade crossings

Reliability

- North Station Draw One replacement
- Diesel locomotive overhauls
- Procurement of the Widett parcel for future layover and electrification support

Accessibility

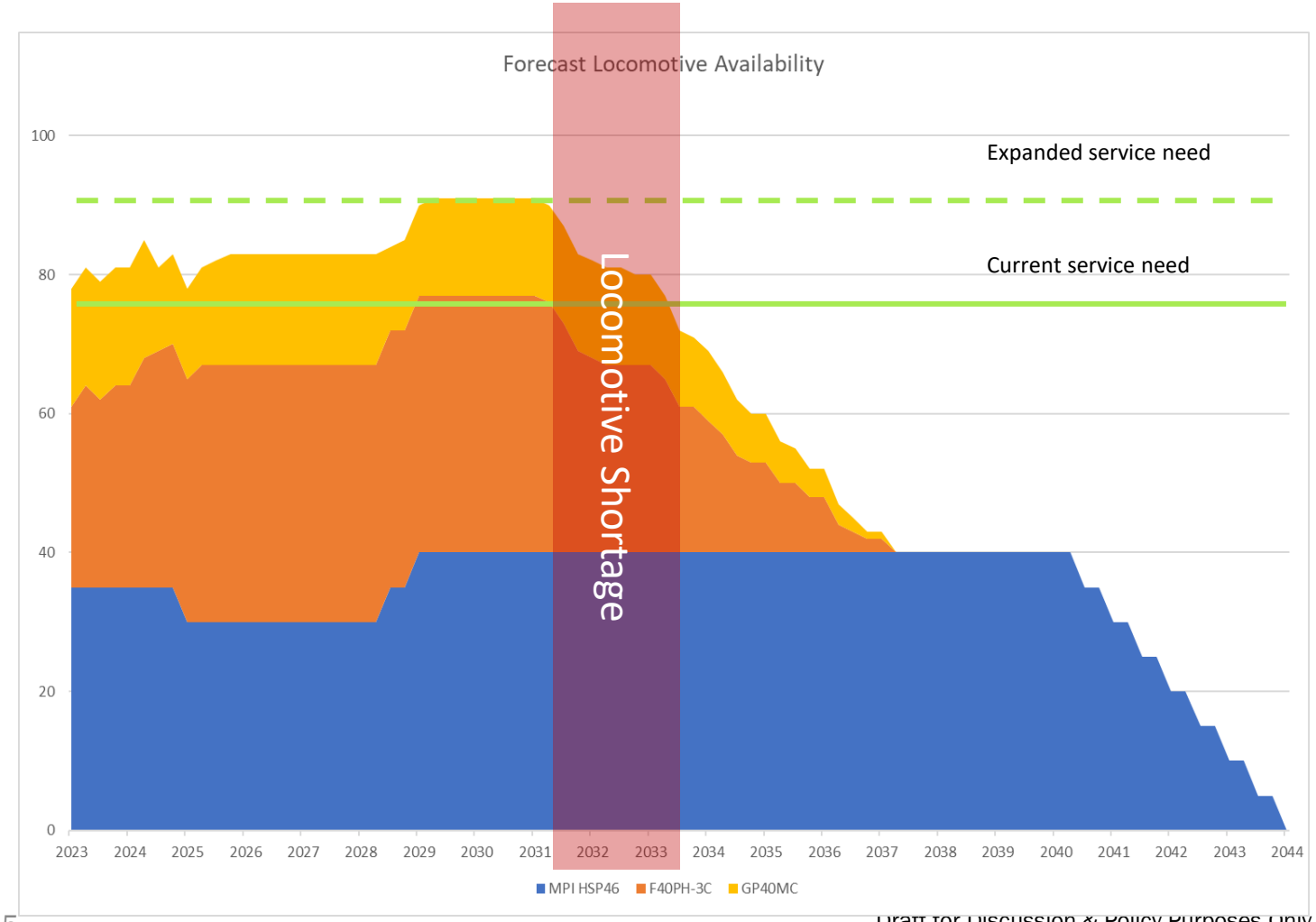
- Accessibility upgrades to eight stations.
- Fully accessible stations recently underway or completed at Worcester Union Station, Winchester Center, North Wilmington

Decarbonization

- Fairmount Line BEMU service as first electrified service in the MBTA network
- Investing in power upgrade throughout the system.

Now Approaching a Locomotive Fleet Cliff

Just to maintain today's service new trains will need to be in revenue service by 2033 in large quantities



- Oldest half of locomotive fleet (1970s/80s) will reach end of life in 2030s
- Newest locomotives due for mid-life overhaul
- MBTA procured new bilevel coaches, will retire single-level fleet
- New bilevels can be pulled by diesel, electric, battery, or multi-mode locomotives
- Phased approach to fleet replacement, exploring different vehicle types

Locomotive SGR and Modernization

- Half (50+) of the MBTA's existing diesel locomotives are approaching the end of their useable life
- In December 2025, the Board authorized critical investments to overhaul 40 locomotives in our current fleet
- That investment will extend the life of the legacy fleet and improve reliability until new, modernized locomotives can enter service
- Today we're making a critical investment in the future fleet

Starting the switch to next generation locomotives

- MBTA leading a multi-agency locomotive procurement with peer transit systems
- The T is procuring 20 locomotives:
  - **10 battery-electric locomotives** for near term use on the Providence Line, which has electric power infrastructure
  - **10 tier-4, low-emissions diesel locomotives** for use on other lines without existing power infrastructure
  - **Options for up to 50 additional battery-electric or tier-4 diesel locomotives** for future expansion of Regional Rail Modernization, as more funding becomes available in future years and as enabling infrastructure is expanded.
- Both the battery-electric locomotives and the tier-4 diesel locomotives will significantly reduce emissions, noise, and vibrations for passengers and abutters.
- Partial funding is available in the current CIP and will be prioritized in the next CIP.
- The RFP was issued on February 25, 2026, with an awarded contract planned for summer 2026.

The Advantages of Battery-Electric Trains

- Discontinuous electrification strategy: battery-electric trains using some overhead catenary wires at key locations
- The use of batteries drastically reduces infrastructure costs by not requiring catenary wires for the entire route
- Locomotives will recharge using the overhead wires where they exist, and operate on battery power on sections without overhead wires
- Battery-electric locomotives provide a quieter, faster service with significantly reduced noise and vibration for passengers and residents near tracks and facilities

Strategic Investments

Why Tier 4 Diesels?

- MBTA does not have the infrastructure to electrify the system today.
- These locomotives provide significant improvements in emissions of particulate matter and nitrogen oxides, therefore improving air quality in our service area.
- Vehicle design will result in quieter operations.

Why use Battery-Electric locomotives on the Providence Line first?

- MBTA commuter rail service to Providence utilizes the same track infrastructure as Amtrak along the Northeast Corridor (NEC).
- This line already has electrification infrastructure, including overhead catenary allowing for the immediate use of battery electric locomotives.

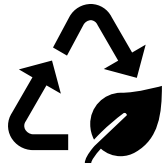
Envisioning the Region's Future: *Rail Modernization Plan*

- MBTA is developing an updated strategy for regional rail, known as the *Rail Modernization Plan.*
- The plan will identify nearer-term investments and longer-term needs to transform the system.
- The plan will consider how MBTA can enhance frequency, reliability, and accessibility across the communities served by rail, while we advance decarbonization strategies.
- Our enhancements to the rail network will increase service to the public while supporting the Commonwealth in achieving its broader goals

Achieving the Commonwealth's Goals:

Housing

Economic development



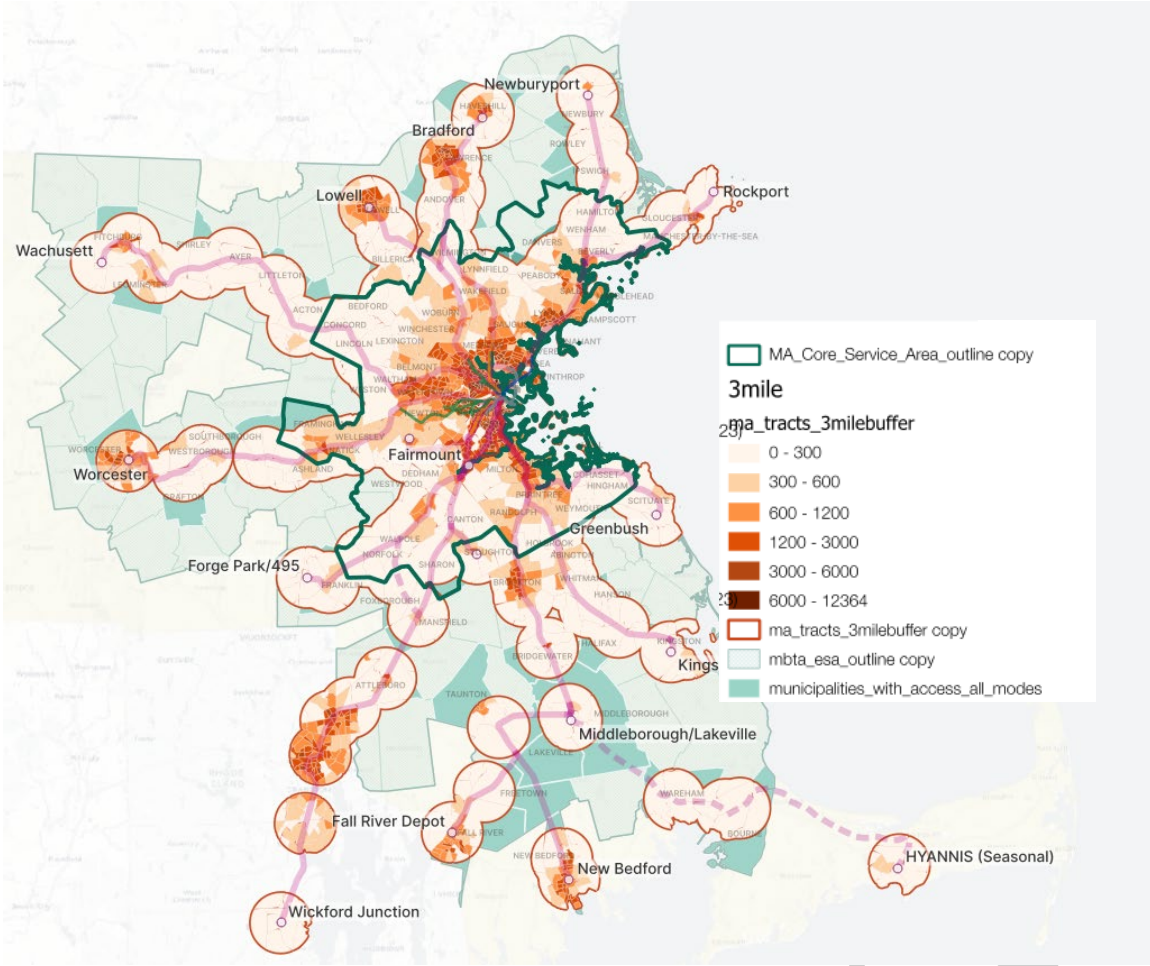
Sustainability & resilience

Mobility

Regional Rail: Supporting Local Communities

- MBTA Regional Rail is a significant driver of regional mobility and economic development.
- Investments in Regional Rail support many Massachusetts and Rhode Island residents.
  - Three-quarters of Massachusetts residents live within the MBTA's service area.
  - Nearly 65 percent of Massachusetts residents live within 3 miles of an MBTA regional rail station.
  - Similarly, nearly 40 percent of Rhode Island residents live within the same distance of a regional rail station.

Population Density Near MBTA Stations



What's Next: Rail Modernization Strategy & Planning

Frequency

- Strategic elimination of legacy bottlenecks in our single-track, at-grade system
- Removal of grade crossings to increase safety and system performance

Reliability

- Modernizing layover and maintenance needs for current and future fleets
- Upgrades to key infrastructure to allow local/express service optimization

Accessibility

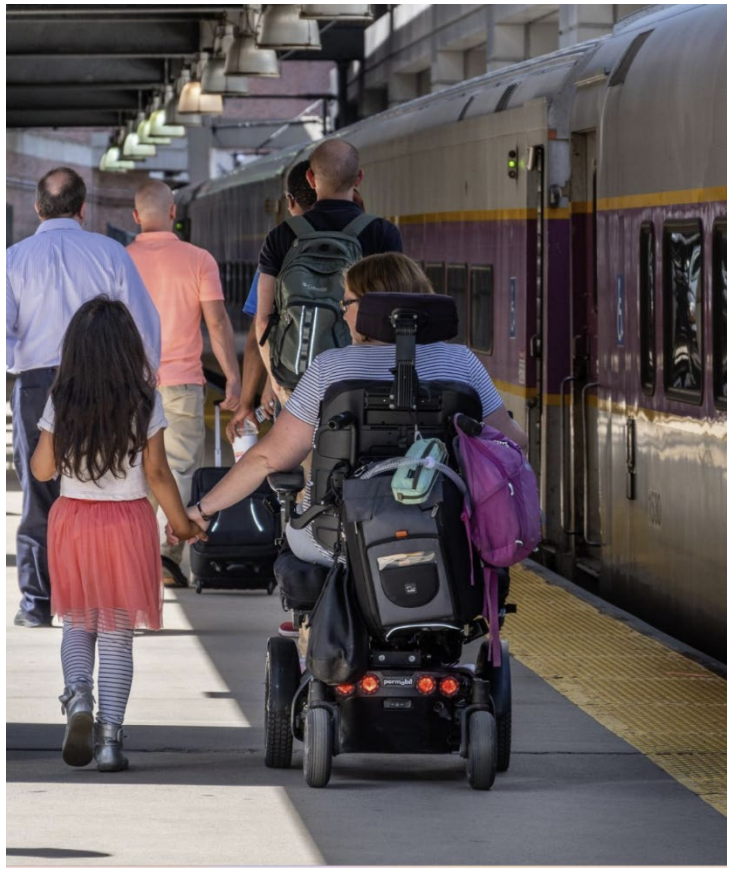
- Addressing inaccessible stations by introducing level boarding platforms
- Enhanced pedestrian grade crossings at stations

Decarbonization

- Developing an electrification plan for the North Side of the system
- Strategic installation of discontinuous catenary, charging and transmission infrastructure

As funding becomes available, what goals are most important, and how do we prioritize investments?

Rail Modernization: Opportunities for Input



- This plan will inform the next decade of rail modernization investments, identify ideas for longer-term investments to transform the system, and will lay out decision-making criteria and data that will inform our future investments.
- MBTA will be holding a series of events to gather feedback about our *Rail Modernization Plan* this spring.
- Opportunities will include:
  - Tabling events at MBTA stations
  - Targeted conversations with municipalities, RPAs, RTAs, and other stakeholders
  - 2-3 public meetings (spring/summer)
  - Virtual engagement methods
  - Follow at: mbta.com/RailModernization
  - Email at: mbta_rr@mbta.com
- The final plan will be released this summer.