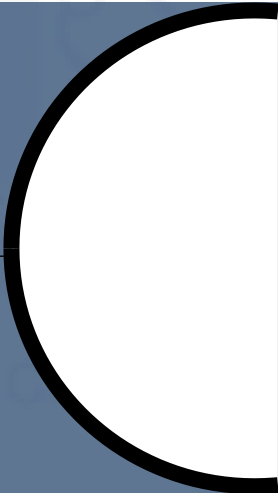




**Commonwealth of Massachusetts
Department of Public Utilities
Rail Transit Safety Division**

**DPU State Safety Oversight Triennial Audit Report
MBTA Safety, Health & Environment Subcommittee
April 11, 2024**



- Introduction
- Triennial Audit Overview
- Audit Results
- Key Findings
- MBTA Response
- Discussion / Q&A



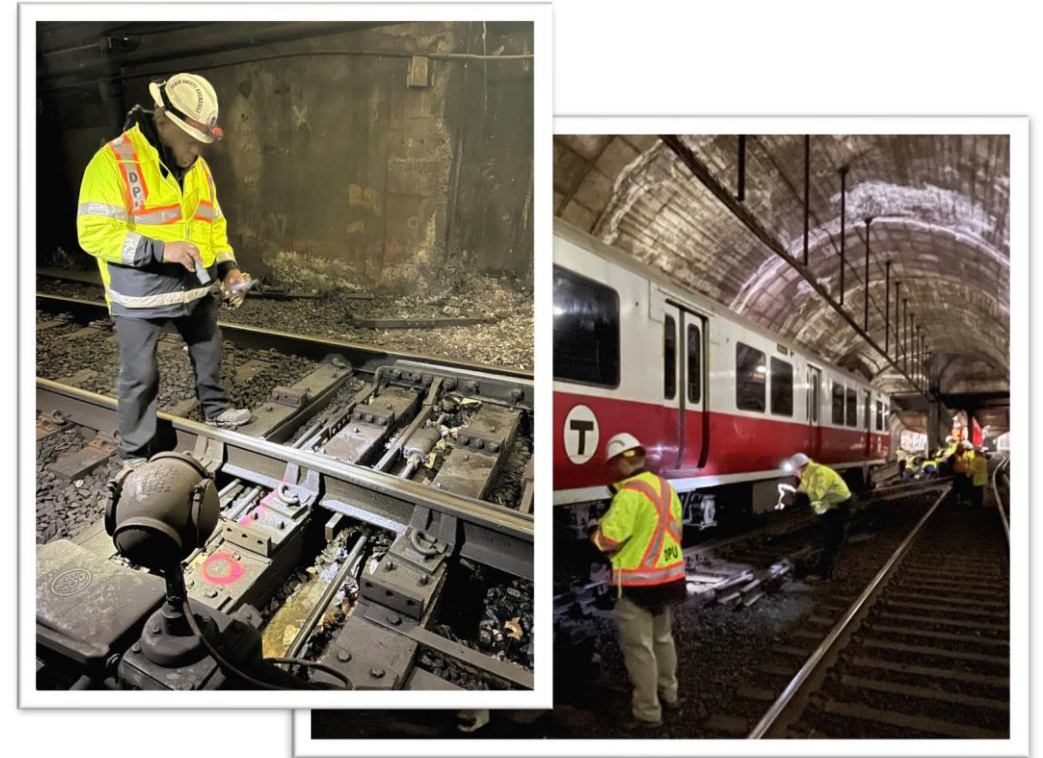
DPU Rail Transit Safety is located above the South Station rail terminal in downtown Boston.

Photo credit: MBTA

Federal law requires a State Safety Oversight Program (“SSOP”) and Agency for rail transit systems. DPU is the State Safety Oversight Agency for Massachusetts.

DPU is responsible for overseeing the safety of equipment and operations of the MBTA subway lines. Examples of this oversight include on-scene response to rail safety events, field inspections, monitoring investigation and Corrective Action Plan (“CAP”) progress, and evaluating MBTA’s hazard tracking process.

DPU’s Rail Transit Safety Division has grown considerably since the Federal Transit Administration’s (“FTA”) 2022 Safety Management Inspection. The Rail Transit Safety Division currently has 18 designated personnel – including experts in track, signaling, electrical power, and vehicles – plus contractor support.



DPU Rail Transit Safety personnel in the field.

Photo credit: DPU



DPU is required by federal law and Commonwealth regulation to conduct a triennial audit (“Triennial”) of the MBTA.

The scope of the Triennial is the MBTA’s Transit Safety Plan and MBTA’s implementation of it. The Triennial differs from DPU's day-to-day oversight activities which address real-time accidents and hazards.

The DPU last conducted a Triennial of the MBTA in 2020, covering 2018 through 2020. The 2020 Triennial Report was issued to MBTA in November 2021, with five findings.



Triennial Audit Overview (cont.)



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The 2023 Triennial covers the period from the 2020 Triennial through December 2023, inclusive of all audits, investigations, hazards, and corrective actions taken during this time.

The 2023 Triennial is broken up into 12 groupings.

DPU conducted field observations, document reviews, and interviewed a variety of MBTA personnel, up to and including the MBTA General Manager, in Sept.-Dec. 2023.

DPU then drafted a report with its Positive Observations, Findings, and Recommendations for MBTA. MBTA was provided a draft to review and comment. DPU reviewed MBTA's comments and issued the final Triennial report.





The results of the 2023 Triennial included 43 positive observations, 22 findings, and 62 recommendations.

Notable Areas of Improvement

MBTA demonstrated successes in defining and gaining FTA approval of numerous CAPs. These successes include CAPs related to personal protective equipment, OCC staffing, maintenance budgeting and resource needs, and rulebook updates.

DPU also observed a significant organizational change towards the end of the three years. MBTA leadership has demonstrated increased commitment to ensuring all management and employees are individually accountable for the delivery of effective safety performance in accordance with the 2023 Transit Safety Plan.

Groupings	Findings	Recommendations	Positive Observations
1. ASP Updates and SMS Implementation	2	5	2
2. Safety Management Policy	0	1	3
3. Safety Risk Management	1	4	4
4. Safety Assurance (SA) – Performance Measures	0	6	4
5. SA – Notifications and Investigations	5	9	5
6. SA – Compliance with Rules/Procedures	4	5	1

Table continues on next slide.



Areas Needing Improvement

Areas needing improvement fall into many categories. A few themes include Green Line trolley speed and separation, and change management implementation of the Safety Certification Program for new projects.

The audit identified other areas where the MBTA is implementing new processes that require additional activities to further enhance the safety programs.

Next Steps

Findings: MBTA is required to develop a CAP.

Recommendations: MBTA is required to provide a response addressing it or, at MBTA's discretion, a CAP. If DPU determines that MBTA's response is not sufficient, DPU may require a CAP.

Groupings	Findings	Recommendations	Positive Observations
7. SA – Compliance with I&M Requirements	3	6	4
8. SA – Compliance with Federal, State, and Local Requirements	1	5	3
9. SA – Management of Change	3	3	3
10. Continuous Improvement	0	4	5
11. Safety Promotion – Competency and Training	3	8	4
12. Safety Promotion – Safety Communication	0	6	5

Grouping 1:

- Ensuring DPU is notified of changes to minimum standards for safety.
- The MBTA completed drills and exercises without formal sharing of After-Action reports and the Corrective Actions developed in response to those drills and exercises.

Grouping 3:

- Additional assessments shall be conducted systemwide to determine additional locations where motorperson visibility to other rail equipment and signals increases the risk of train bunching, signal violations and train on train collisions.

Grouping 5:

- MBTA Safety's procedure for notifications and investigations includes a requirement that all departments responding to an accident (required safety event) use a checklist. These checklists are not always completed and available with the investigation documentation.
- Approximately 82% of the reported speeding notifications are false positives. MBTA shall investigate how and why a high percentage of the reported speeding notifications are false positives and evaluate how best to control speeding and more accurately track speeds on the Green Line.

Grouping 6:

- On several occasions, the DPU has expressed significant concerns with MBTA's Rules Compliance program.

Grouping 7

- The MBTA should account for all Power-related infrastructure and determine where vulnerabilities are (splices, old equipment, etc.) to better determine where resources should be allocated within the Power Department and where potential safety issues will arise.
- Based on observations over the last few years, there have been maintenance issues out on the rail system that were not being tracked in the maintenance management system or scheduled for corrective maintenance.

Grouping 9

- The MBTA must formalize and ensure transparency and effective communication of changes and safety hazards across its divisions/groups prior to introducing new capital projects into revenue service.

Grouping 11

- MBTA shall develop a technical training plan for the investigations team that includes key competencies, training schedules, and opportunities for continued education.

Vehicle Speed:

- Evaluate how best to control speeding on the Green Line and more accurately track speeds (until a capital project resolves the issue) (Grouping 6);
- Consider whether MBTA's management and control of Green Line speed is sufficient or if more MBTA enforcement is required (Grouping 6); and
- Re-evaluate the posted/scheduled trips to determine if they are achievable under the current speed limits and restrictions in place and how to best manage the speed limits and restrictions going forward (Grouping 6).

Vehicle Separation:

- Ensure that train separation through the system is compliant with MBTA standards and addresses the NTSB recommendation (Grouping 6); and
- Submit a CAP that adequately describes short-term mitigation that addresses and ensures required separation of Green Line trains while the GLTPS project (or alternative, if any) is being developed and implemented (Grouping 9).



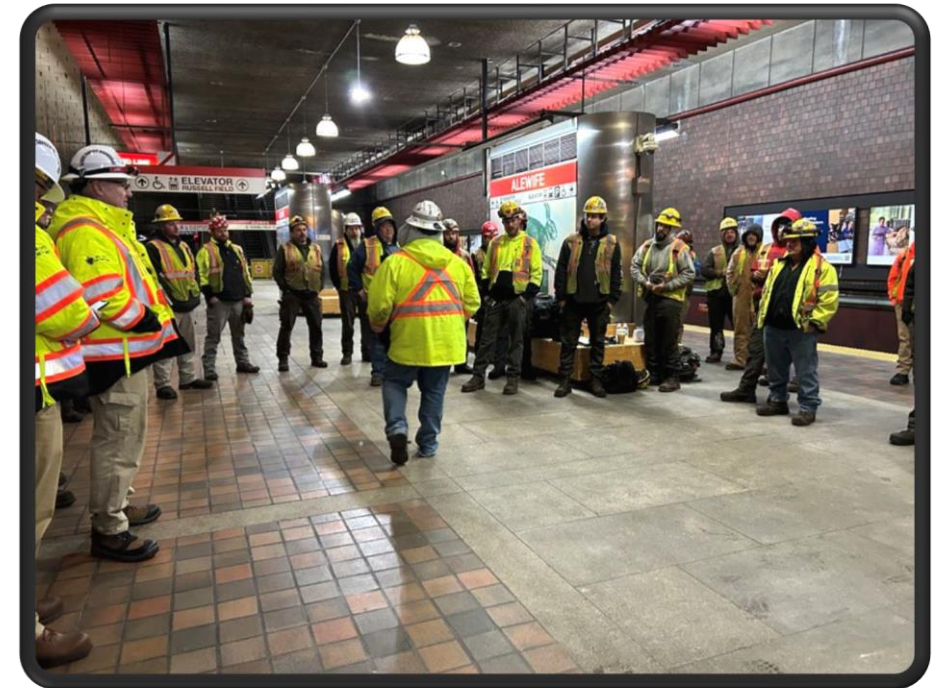
Green Line Trolley

Photo credit: MBTA

MBTA submitted a total of 74 comments, questions, and clarifications on the 2023 Triennial draft to the DPU on April 1, 2024.

48 of the 74 MBTA comments, questions, and clarifications – roughly 65% – reference FTA special directives and/or CAPs overlapping with the findings and recommendations made by DPU.

For some groupings, such as Grouping 9 – Management of Change, 100% of MBTA's comments, questions, and clarifications cited DPU's findings and recommendations as "being covered" by FTA CAPs.



DPU Conducting Oversight at Diversion Briefing



Thank you!

DPU can be found online at <https://www.mass.gov/dpu-oversight-of-rail-transit>