



Department of Public Utilities
Rail Transit Safety Division

DIVERSION REPORT

2023 Green Line D Branch Surge



FTA-DPU-23-004, Action Item 3

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Background

DEPARTMENT OF PUBLIC UTILITIES (“DPU”) STATE SAFETY OVERSIGHT (“SSO”)

As part of the DPU enhanced oversight activities, the DPU monitors and tracks the work scheduled to be completed for any diversion through field observations and monitoring of meetings associated with the diversion. Ultimately, the DPU provides oversight of the safe execution of work, safety rules and procedures, as well as the safe return to service.

DPU’s FTA Special Directive 22-8, FTA-DPU-23-004 (Finding 4), Corrective Action Plan (“CAP”) states the DPU will develop and submit a report of field observations associated with diversions. The purpose of this report is to not only fulfill the requirements for the CAP, but to demonstrate DPU’s improved abilities and enhanced oversight activities of MBTA’s rules compliance procedures for track maintenance safety rules and procedures.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY (“MBTA”)

In November 2023, the MBTA announced the launch of its Track Improvement Program, a major initiative to eliminate all existing speed restrictions and bring tracks closer to a State of Good Repair by the end of next year. Additionally, the MBTA plans to schedule Track Improvement Program work during nights, weekends, and shutdown periods to minimize service, time, and cost impacts.

The purpose of this surge was to provide the required time and access for crews to replace rail, ties, and ballast, to address speed restrictions and bring these areas closer to a State of Good Repair.

Overview of Scope of Work

DPU SCOPE OF WORK SUMMARY

The DPU develops an inspection and verification plan to oversee each diversion comprised of the following steps:

1. Information request for all related project documents;
2. Various document reviews;
3. Establish internal schedules for work zone observations and safety briefings observations;
4. Field observations of MBTA safety briefings;
5. Field observations at high priority locations and work zones;
6. Tracking of MBTA’s progress of work to be completed;
7. Attend all relative meetings (e.g., Capital Transformation construction and senior management meetings as scheduled); and
8. Issue directives as needed.

MBTA SCOPE OF WORK SUMMARY

Between December 11 to December 20, 2023, the MBTA suspended Green Line service on the D Branch between Kenmore and Riverside Stations for 10 days of critical track work. The Surge comprises one main project focused on trackwork intended to remove 20 speed restrictions along three work sections.

Work Section 1 | Riverside Yard

Work Section 2 | Riverside to Reservoir

Work Section 3 | Reservoir to Beacon Junction (just past Fenway)



Figure 1. Green Line D Branch with work sections¹

No.	Project Name/Location	Work Section(s)
1.	Track Replacement / Riverside Yard to Beacon Junction	1, 2
2.	Track Maintenance / Riverside Yard to Beacon Junction	1, 3
3.	Operator's Lobby Roof Replacement/ Riverside Yard	1
4.	Switch Certification and Heater Repairs / Riverside to Reservoir	2, 3
5.	OCS Replacement / Beacon Junction to Fenway	3
6.	Station Lighting Replacement / Riverside to Chestnut Hill	2
7.	Station Maintenance / Riverside to Reservoir	2
8.	Station Repairs / Woodland	2
9.	Station Maintenance / Reservoir to Fenway	3

¹ MBTA Surge Management Plan, Green Line D Branch, Dec. 11-20, 2023

No.	Project Name/Location	Work Section(s)
10.	Station Cleaning / Reservoir to Fenway	3

Table 1. Projects, Locations and Work Sections

Summary of Observations

The table summarizes the total number of observations/tasks the DPU conducted during the 10-day surge period:

Task	Total	Notable Observations
On Call Duty	3	One near miss incident and two maintenance vehicle derailments: <ul style="list-style-type: none"> 12/11/23 Riverside Yard: Near Miss - While implementing Special Order 23-252 and 23-253, while power was being opened, not all sections were opened. The work began even while not all power sections were open. No injuries. 12/13/23 Riverside Yard: Derailment – maintenance vehicle (Gradall) 12/13/23 Riverside Yard Derailment - maintenance vehicle (hi-rail)
Field Observations (Work zone and Safety briefings)	23	<ul style="list-style-type: none"> All positive observations.
Coordination Meetings	12	<ul style="list-style-type: none"> All positive observations.
Request for Information (“RFI”)	1	<ul style="list-style-type: none"> All positive observations.
GRAND TOTAL		39

WORK ZONE OBSERVATIONS

Every week during the DPU’s Rail Staff Meetings, DPU created schedules for its staff for the current and following week, to ensure oversight of all areas of the surge. DPU prioritized any projects labeled as “Priority Project” and conducted additional observations on “Opportunity Projects” as time and resources allowed. The DPU planned to observe a work zone at least two times a week.

Observations included, but were not limited to:

- Coordination of moving work vehicles between work zones
- Use of required PPE
- ROW License on person
- Construction areas are clear, no tripping hazards or tools left behind
- Third rail energized within work zone and status properly communicated to employees and contractors
- Document relevant checklists or special orders used by MBTA or contractors

SAFETY BRIEFING OBSERVATIONS

Toolbox Safety Briefings were available at Riverside 24/7 for all work sections throughout the Surge, with a secondary Toolbox Safety Briefing location at Fenway from 6AM to 10AM and 6PM to 10PM. DPU attended between two to four safety briefings a week throughout the Surge.

COORDINATION MEETINGS

Coordination Meetings were held daily at 8AM beginning December 9, 2023. The DPU's goal was to attend a minimum of four per week.

DOCUMENT REVIEWS

Documents reviews included any work plans, the Surge Management Plan ("SMP") and any relative special orders.

Immediate Actions

As a result of the near miss incident on December 11, 2023, the DPU requested additional information:

- TAR-23-008 (Appendix C)

As a result of the two maintenance vehicle derailments that occurred on December 13, 2023, the DPU requested additional information:

- TAR-23-009 (Appendix C)

Longer Term Actions

DPU CAP #C23-034, MBTA #9841:

Due to the near miss incident on December 11, 2023, at Riverside Yard where MBTA failed to implement Special Order 23-252 and 23-253 (required lock out tag out with people/equipment on the Right-of-Way (ROW) during diversions), a CAP was developed and submitted by MBTA to the DPU. The CAP consisted of the following six corrective actions:

- 1) Formalize the Construction Logistics document on Special Order Implementation into a check list format to include the steps for executing and verifying power procedures and establishing a safe work site.
- 2) Formalize written scripts for Construction Logistics, OCC Dispatchers, and Power Dispatchers with details such as Special-Order Numbers and Power Procedures numbers with clear verbatim instructions and repeat backs.

- 3) Provide a daily copy of all power dispatcher logs for periods of time of diversion activity to the DPU.
- 4) Actively engage contractors during safety briefings.
- 5) Add screamers or similar detection devices to the catenary or third rail in diversion areas where work that could have unintended contact with the power system (catenary or third rail) to alert everyone if power is unexpectedly restored.
- 6) Require that grounding be installed following testing for power dead (open) in diversions requiring lock out tag out.

Conclusion

The MBTA completed all scheduled critical track work during the 10-day surge between December 11 to December 20, 2023 on the Green Line D Branch.

As part of DPU's role during the surge, several safety oversight tasks were conducted including attending coordination meetings and monitoring the progression of work, conducting field observations of safety briefings and track work, and requested and reviewed any relevant surge documents, including the SMP and Safety Operating Procedures. At the conclusion of the surge, the DPU conducted 39 total oversight activities.

While the work was completed, and there were mostly positive observations noted, there were three safety events that occurred along the diversion:

One near miss incident and two maintenance vehicle derailments:

- On December 11, 2023, while implementing Special Order 23-252 and 23-253, when power was being opened, not all sections were opened. The work began even while not all power sections were open. There were no injuries.
- On December 13, 2023 at Riverside Yard a Gradall maintenance vehicle derailed. There were no injuries.
- On December 13, 2023 at Riverside Yard a hi-rail vehicle derailed. There were no injuries.

As a result of the near miss incident, the DPU requested additional information and directed the MBTA to develop a CAP. The successful completion of the work improves the overall safety and reliability of service along the Green Line D Branch.