

**UNITED STATES DEPARTMENT OF TRANSPORTATION**

**Federal Transit Administration**

**[Special Directive No. 22-12, Notice No. 1]**

**Special Directive Under 49 U.S.C. § 5329 and 49 CFR Part 670  
Required Actions to Address Findings from the Federal Transit Administration Safety  
Management Inspection Conducted at the Massachusetts Bay Transportation Authority  
Related to Operating Conditions and Policies, Procedures, and Training**

**AGENCY:** Federal Transit Administration (FTA), U.S. Department of Transportation (DOT).

**SUMMARY:** FTA issues Special Directive 22-12 to require the Massachusetts Bay Transportation Authority (MBTA) to address findings documented in FTA’s Safety Management Inspection (SMI) report released on August 31, 2022. Conducted between April 14 and June 30, 2022, FTA’s SMI reviewed the MBTA rail transit system management, operations, and maintenance programs. This Special Directive identifies seven (7) findings requiring action that the MBTA must take to improve MBTA’s management of its operating and maintenance policies, monitoring of rail transit operations, Quality Assurance/Quality Control capabilities, and training and procedures.

**FOR FURTHER INFORMATION CONTACT:** For program matters, Mr. Joseph DeLorenzo, Associate Administrator for Transit Safety and Oversight and Chief Safety Officer, telephone (202)-366-1783 or joseph.delorenzo@dot.gov; for legal matters, Ms. Emily Jessup, Attorney Advisor, FTA, telephone 202-366-8907 or emily.jessup@dot.gov.

**SUPPLEMENTARY INFORMATION:**

MBTA is a division of the Massachusetts Department of Transportation (MassDOT), providing heavy rail (subway), light rail, bus, commuter rail, ferry, and paratransit service to eastern Massachusetts and parts of Rhode Island. While MBTA has recently embarked on a significant program of capital improvements, the agency faces systemic challenges in maintaining its aging infrastructure in a state of good repair and managing the ongoing operations of its complex equipment and systems. These challenges require greater focus, assessment, and resource prioritization, at all levels of the organization, to ensure that the system remains safe for both passengers and workers. Under FTA’s State Safety Oversight (SSO) Rule, the Massachusetts Department of Public Utilities (DPU) was certified in 2018 as the State Safety Oversight Agency charged with providing Federally required safety oversight of the MBTA rail transit system.

FTA conducted a Safety Management Inspection (SMI) of the MBTA rail transit system management, operations, and maintenance programs, between April 14 and June 30, 2022. MBTA’s rail transit system includes the Red, Orange, Blue, and Green Lines and the Mattapan Trolley. FTA’s SMI did not include the commuter rail system, which is under the jurisdiction of the Federal Railroad Administration, or MBTA’s bus transit system.

FTA performed this SMI to address an escalating pattern of safety incidents and concerns on the MBTA's rail transit system, including rates and numbers of derailments, collisions, and passenger and employee injury events significantly exceeding industry average and peer-based assessments. FTA's SMI also addressed deficiencies FTA identified in the SSO program administered by the DPU, which limit its ability to provide effective safety oversight for the MBTA.

FTA published the SMI report on 08/31/2022. In the report, FTA issued a total of 20 findings to the MBTA across the following four (4) categories:

1. Category 1 – Managing the impact of operations, maintenance, and capital project requirements on the existing workforce
2. Category 2 – Prioritization of safety management information
3. Category 3 – Effectiveness of safety communication
4. Category 4 – Operating conditions and policies, procedures, and training

This Special Directive addresses Category 4 and is based on FTA's determination there are numerous inconsistencies between MBTA operating conditions and practices and the agency's written policies, procedures, practices, and training.

### **Compliance with Rules and Procedures**

FTA observed instances where employees were not complying with required safety, operations, and maintenance rules and procedures. FTA's Special Directives 22-4, 22-5, 22-6, and 22-7 document instances of non-compliance. For example, FTA noted violations in right of way safety rules and vehicle operating rules, preventive maintenance inspections that were not completed as required, inappropriate storage of chemicals in rail yards, an unlocked signal on the right of way, incomplete repairs, and rule violations in readying trains for moves in the rail yard. FTA also observed a rail transit vehicle speeding through a work zone.

FTA also found instances where procedures are well-documented and available but are not followed or enforced, and where workers were required to perform specific activities but were not given the resources or guidance necessary to complete the work. Conversely, FTA found outdated procedures and a lack of operational assessments to ensure revisions accurately capture changes in the system and required work practices.

FTA reviewed over 100 final investigation reports completed for major safety events experienced at the MBTA between January 1, 2019, and April 29, 2022. In over 85 percent of these reports MBTA identified non-compliance with at least one safety, operating, or maintenance rule as a primary or contributing cause of the accident. Review of these reports also reveals the frequent use of unvetted and ad hoc shortcuts in work practices, outdated procedures that have not kept paces with changes in work environments, violations of safety rules to meet deadlines or vehicle counts, and lack of time and resources to review and update rules and procedures to align them with system changes. Finally, FTA found that MBTA does not use many tools, including checklists, to support implementation of key operating and maintenance procedures in the Operations Control Center (OCC) and rail yards.

## **Monitoring Operations**

MBTA's current activities to monitor compliance with operating and maintenance rules include requirements that supervisors monitor daily job duties for operations and maintenance employees, though most departments do not require formal documentation of this monitoring activity. FTA found that supervisors have a range of responsibilities at the MBTA and do not always have time to complete this monitoring or to follow-up with employees regarding their performance. In interviews across operations and maintenance departments, MBTA staff and supervisors indicated that due to a lack of supervisory personnel and officials, it was challenging to provide frontline personnel, particularly new MBTA hires, with additional support and oversight that they may need to understand and comply with all rules, given the complexity of MBTA's operating environment.

MBTA conducts a Safety Rules Compliance Program or SRCP, but FTA finds that more can be done to identify safety-critical rules and procedures, to support MBTA personnel in understanding these requirements and how to comply with them, and to monitor the overall performance of the agency in complying with these procedures. FTA also finds a lack of consistency in how compliance with operating and maintenance rules is monitored across departments.

## **QA/QC Program**

The MBTA uses a QA/QC program to support oversight of vehicle maintenance and engineering activities. These inspections provide findings, but the inspections are limited to one vehicle per month from each of the four lines. FTA noted that the tracking log provided with these monthly inspection reports did not include any re-inspection dates or activities to address the findings. This process for quality control auditing is almost entirely performed by personnel reporting to rail vehicle maintenance management, thus lacking the independence necessary for an effective QA/QC program.

MBTA also delegates the rail car acquisition program QA/QC to the rail car manufacturer and the MBTA's program management consultant. A QA/QC Plan for MBTA's oversight of these processes was not provided to FTA (QA/QC manuals from the rail car manufacturer and contractor were provided). Not unlike the preventive maintenance policy, the rail car acquisition process lacks an MBTA-specific documented QA/QC program with procedures and roles and responsibilities for an independent internal group to report directly to the highest levels of MBTA management.

## **Technical Training**

Technical training for maintenance personnel is embedded within each technical department (vehicle engineering, maintenance of way, signal and train control, communications, facilities, traction power, etc.). MBTA's OCC and Training Department trains all operations personnel and provides right of way (ROW) safety training. MBTA's Human Resources and Labor Relations Department also provide or support other administrative training and orientation for new employees.

FTA generally found that while strong technical courses have been developed in many areas, there are

insufficient resources available to provide enough offerings to adequately train and refresh personnel. Operations personnel face significant challenges in establishing professional service standards, utilizing different adult learning strategies, and taking advantage of technology to bring the field into the classroom. As a result, there is a great reliance on informal, on-the-job training which is not standardized or overseen.

Based on interviews, records reviews, and field observations conducted across several technical disciplines, FTA also found that MBTA has no agency-wide strategy for technical training to ensure the proficiency of MBTA personnel and that many gaps in training exist for operations and maintenance departments. FTA found that training is under-resourced and fractured and that MBTA relies heavily on on-the-job training.

FTA's SMI found outdated emergency procedures and training. Review of over 100 safety event investigation reports dating back to January 1, 2019, indicates inconsistencies in emergency response and the way that the agency is managing emergencies.

MBTA is in the process of hiring hundreds of new motorpersons to replace those who are retiring or leaving through attrition and to support the promotion of veteran motorpersons to other positions within the rail transit system. In interviews, MBTA's rail transit leadership acknowledges that some new operators seem to be struggling in maintaining a balance between learning MBTA heavy rail operations and preserving a focus on safety. In addressing these challenges, numerous MBTA personnel at all levels of the agency noted that MBTA's bus operations has a mentorship program that many new bus operators find beneficial.

### **Performance of Radio System**

Finally, interviews with frontline operations, maintenance, and OCC personnel highlighted several key locations where radio quality does not consistently support effective radio communications. Radio communications are critical to the safety of the MBTA's rail transit service and FTA finds that more must be done to improve radio quality in these locations.

### **DIRECTIVE AND REQUIRED ACTIONS:**

In accordance with 49 U.S.C. § 5329 and 49 CFR Part 670, FTA directs MBTA to take the following actions:

**Category 4: Operating Conditions and Policies, Procedures, and Training**

<b>Findings</b>		<b>Tracking #</b>	<b>Required Actions</b>
Finding 1	Documented operating and maintenance rules and procedures are not implemented as required.	FTA-22-MBTA-CAT4-1.A	Each operating and maintenance department must establish a group to review department-wide information on levels of non-compliance with key rules and procedures critical to the safety of activities performed by the department.
		FTA-22-MBTA-CAT4-1.B	Each department must establish and act on a prioritized list of most frequently violated rules and procedures with the most significant potential safety consequences.
		FTA-22-MBTA-CAT4-1.C	Each department must develop and implement approaches, which could include audits, use of checklists and guides, campaigns, and training, to improve compliance.
		FTA-22-MBTA-CAT4-1.D	Each department must report to the Safety Department monthly on its compliance with identified key rules and procedures critical to the safety of activities performed by the department.
		FTA-22-MBTA-CAT4-1.E	The Safety Department must review and audit these reports and compile a monthly compliance report for MBTA's executive leadership team.
		FTA-22-MBTA-CAT4-1.F	Each department must continue to review safety data to assess effectiveness of actions and to improve compliance with safety rules and procedures.
Finding 2	MBTA does not monitor operations, including the conditions of the operating environment, to identify the reasons for deviations between formal, established standards, rules and	FTA-22-MBTA-CAT4-2	MBTA must develop, document, and communicate a mechanism to monitor operations, and provide training to stakeholder safety and operating personnel on this mechanism, to enable the analysis and understanding of situations of non-compliance.

**Category 4: Operating Conditions and Policies, Procedures, and Training**

Findings		Tracking #	Required Actions
	procedures, and actual operations and maintenance practices.		
Finding 3	MBTA's QA/QC program is not sufficiently independent from the activities it oversees.	FTA-22-MBTA-CAT4-3.A	MBTA must develop and administer a QA/QC program to independently oversee of ongoing QA/QC activities.
		FTA-22-MBTA-CAT4-3.B	MBTA must ensure that the QA/QC functions are independent of the functions of the Safety department and report directly to the GM.
		FTA-22-MBTA-CAT4-3.C	MBTA must develop a formal QA/QC procedure that details the oversight of and accountability and roles and responsibilities for QA/QC programs provided by railcar manufacturers and MBTA consultants related to quality control of its railcars and subcomponents.
		FTA-22- MBTA-CAT4-3.D	MBTA must ensure that the MBTA QA/QC independent group is staffed with a sufficient SMEs in necessary disciplines to ensure a complete and thorough understanding of the responsibilities under the purview of railcar maintenance and engineering.
Finding 4	Technical training for operations and maintenance departments is under-resourced and decentralized, without sufficient resources and direction, and relies significantly on on-the-job-training (OJT) which is informal and lacks oversight. Emergency response training is poorly integrated into overall training program.	FTA-22-MBTA-CAT4-4.A	MBTA must conduct a training needs assessment for rail transit operations and maintenance departments, to include emergency response training. This assessment should identify training that needs to be updated, developed, and supported with additional resources.
		FTA-22-MBTA-CAT4-4.B	MBTA must implement the results of the training needs assessment.
		FTA-22-MBTA-CAT4-4.C	MBTA must consider opportunities and adopt technology and other resources to support training development and

**Category 4: Operating Conditions and Policies, Procedures, and Training**

<b>Findings</b>		<b>Tracking #</b>	<b>Required Actions</b>
			training management and record-keeping.
Finding 5	MBTA lacks formal resource manuals in key maintenance areas and does not currently provide employees with checklists or other tools to support training and implementation of maintenance rules and procedures.	FTA-22-MBTA-CAT4-5.A	In coordination with required actions already underway to address FTA’s Special Directive 22-7, the MBTA must review its existing maintenance rules and procedures; identify opportunities for tools and checklists to support employees in carrying out maintenance rules and procedures; and develop, distribute, maintain, and update these materials.
		FTA-22-MBTA-CAT4-5.B	MBTA must include frontline maintenance personnel in the development evaluation of these tools and checklists.
Finding 6	Due to workforce turnover, MBTA’s new motorpersons and officials no longer have access to mentoring from experienced motorpersons and officials (inspectors, chief inspectors, and supervisors).	FTA-22-MBTA-CAT4-6	MBTA must evaluate expanding its existing mentoring program from Bus Transit Operations to include new part-time and full-time rail transit operators or consider establishing a mentoring program specific to rail transit operations. In its evaluation, MBTA should consider opportunities and resources to support the professional development of rail transit operations personnel.
Finding 7	Radio quality is deficient in several key locations and does not support adequate communications between OCC and field employees to ensure the safety of MBTA operations and maintenance.	FTA-22-MBTA-CAT4-7.A	MBTA must confirm radio dead spots with frontline motorpersons and maintenance workers.
		FTA-22-MBTA-CAT4-7.B	MBTA must improve the performance of its radio system in these dead spots.

Thirty-five (35) calendar days after the date of this Special Directive, MBTA must submit a corrective action plan(s) to FTA that identifies the specific actions that will be performed to address required action specified in this Special Directive; the milestone schedule for completing corrective action; the responsible parties for action and their contact information; and the verification strategy for ensuring the completion of required work.

FTA, in consultation with DPU, will review and approve (with revisions as necessary) MBTA's corrective action plan(s) and will monitor the agency's progress in resolving each finding and required action.

FTA will continue to meet with MBTA and DPU to review progress until such time as FTA determines that these meetings are no longer needed or may be conducted with less frequency.

### **PETITIONS FOR RELIEF OR RECONSIDERATION**

As set forth in 49 CFR § 670.27(d), the MBTA has thirty (30) calendar days from the date of this Special Directive to petition for reconsideration with the FTA Administrator. The petition must be in writing and signed by the Chair of the MBTA and must include a brief explanation of why the MBTA believes the Special Directive should not apply to it or why compliance with the Special Directive is not possible, is not practicable, is unreasonable, or is not in the public interest. In addition, the petition must include relevant information regarding the factual basis upon which the Special Directive was issued, information in response to any alleged violation or in mitigation thereof, recommend alternative means of compliance for consideration, and any other information deemed appropriate. Unless explicitly stayed or modified by the Administrator, this Special Directive will remain in effect and must be observed pending review of a petition for reconsideration.

Within ninety (90) days of receipt of the petition, the Administrator will provide a written response. In reviewing the petition, the Administrator shall grant relief only where the MBTA has clearly articulated an alternative action that will provide, in the Administrator's judgment, a level of safety equivalent to that provided by compliance with this Special Directive. In reviewing any petition for reconsideration, the Administrator shall grant petitions only where the MBTA has clearly articulated legal or material facts not in evidence at the time of this Special Directive.

### **ENFORCEMENT**

FTA may take enforcement action for any violation of this Special Directive or the terms of any written plan adopted pursuant to this Special Directive in accordance with FTA's authorities under 49 U.S.C. § 5329, including but not limited to (1) directing MBTA to use Federal financial assistance to correct safety deficiencies; (2) withholding up to 25 percent of financial assistance to MBTA under 49 U.S.C. § 5307; and (3) issuing restrictions or prohibitions (*e.g.*, mandatory speed restrictions, shutdown of a rail line, or complete system shutdown) as necessary and appropriate to address unsafe conditions or practices that present a substantial risk of death or personal injury.

Issued on: August 31, 2022





**Veronica Vanterpool**

Deputy Administrator  
Federal Transit Administration  
U.S. Department of Transportation