

UNITED STATES DEPARTMENT OF TRANSPORTATION

Federal Transit Administration

[Special Directive No. 22-10, 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 Prioritization of Safety Management Information**

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

SUMMARY: FTA issues Special Directive 22-10 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 six findings requiring action that the MBTA must take to enhance and expedite implementation of the agency’s SMS, including the development of procedures, safety management training, safety risk assessment, and safety assurance activities to build the organization’s capability to identify safety concerns and to prioritize action to mitigate safety risk.

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 an 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 2 and is based on FTA's determination that MBTA has not implemented Safety Management System (SMS) practices in the field that support the identification, analysis, and prioritization of safety information. FTA found that MBTA has not developed the necessary tools and capabilities to support the management of safety risk. As a result, MBTA has been unable to prioritize safety concerns and, subsequently, resources to mitigate safety risk.

SMS Implementation

To assess the status of SMS implementation, FTA reviewed MBTA's SMS implementation plan. FTA found that the SMS implementation plan lacks basic project management principles, including actionable details. FTA found that the lack of detail in the plan makes it unlikely that MBTA executives and managers can determine the extent of the integration of SMS processes and activities within its operations. FTA found that MBTA leadership, from executives through managers to supervisors, did not have a clear understanding of their role in SMS. During field activities, when discussing SMS, MBTA officials' answers were general and lacking in detail and examples.

While recognizing that the implementation of SMS is a complex and multi-year progressive process, the evidence available to FTA indicates ineffective performance of the components of SMS already implemented. FTA found that the imbalance in the allocation of resources between operations and capital project oversight, discussed in Special Directive 22-9, also negatively impacted MBTA's SMS implementation planning and plan execution. For effective SMS implementation and operation, the Accountable Executive (MBTA's General Manager) must set specific expectations for SMS outcomes, as well as provide adequate resources for SMS implementation activities to ensure the integration of the management system into day-to-day operations. FTA did not find evidence that the Accountable Executive set expectations regarding how the SMS generates and prioritizes safety information and did not specify the type of safety information needed to support safety risk resource allocation decisions for MBTA's operations and maintenance.

Prioritized and Actionable Safety Information

FTA found that MBTA's executive leadership has yet to provide explicit direction regarding the type of safety information it requires and has not established the necessary organizational structures to support the movement of safety data from the field to the Board room. FTA determined from interviews and document reviews that, in the absence of direction, MBTA leadership and managers receive raw, unanalyzed safety data as opposed to prioritized information to support strategic decisions related to safety resource allocation.

FTA identified that MBTA primarily relies on corporate memory and management experience, rather than an analysis of safety information, as the means to support decision making related to safety concerns and safety risk. FTA appreciates the role that both corporate memory and experience play during safety risk management and safety assurance activities; however, MBTA was unable to provide evidence of safety analyses to support decisions made to assess and/or mitigate safety risk.

FTA also observed that limited accountability is placed on operating groups and the Safety Department to provide executive management with information that factually substantiates safety risk assessments and the development of safety risk mitigation strategies or provide executive leadership actionable information for safety resource allocation decision making. MBTA's organizational safety currency does not yet include data compiled, analyzed, and prioritized into information.

Collection and Analysis of Safety Information

FTA reviewed over 100 safety event investigation reports completed by MBTA from 2019 through July 2022 and found that MBTA has greatly improved its investigation fact finding process. FTA observed improvement in the level of detail, analysis, and identification of probable cause and contributing factors included in the investigation reports. While there have been improvements, FTA observed gaps that remain in the safety event data collection process and opportunities for additional data and fact finding beyond information provided by MBTA's Safety Department during interviews and document submissions.

FTA also found that operating departments do not routinely collect data to monitor safety concerns. Based on interviews and records reviews, FTA found this to be primarily a symptom of a lack of sufficient resources for operations and maintenance needs and a lack of consistent processes for determining safety priorities. As a result, MBTA relies on information from safety accidents, incidents, and occurrences to identify weaknesses or shortcomings in safety risk mitigations instead of aligning its safety monitoring, auditing, and compliance activities with data-driven safety management priorities.

FTA found that the Safety Department has limited direct access to operations and maintenance data and primarily relies on the receipt of Microsoft Excel workbooks. The lack of integration between data sets results in substantial manual entry of data such as CAP implementation and status, accident investigation activity and document tracking, and analysis and trending. During interviews, MBTA officials indicated that there is a lack of interaction between operations and safety departments to discuss strategies and

tactics for improving data accessibility.

Currently, the Safety Department maintains different logs designed to support hazard identification, employee safety reporting, safety risk assignment, and safety risk mitigation monitoring. FTA found that occasionally the logs contain information related to the same hazardous condition meaning that the Safety Department is manually entering singular data points into multiple sheets. FTA also found instances where the likelihood and severity ratings, as well as the safety risk indexing, did not correspond to MBTA's safety risk assessment Agency Safety Plan requirements. This could be due to the duplicate manual entry of similar data or a lack of sufficient internal training on the safety risk assessment process.

As previously discussed, MBTA currently lacks an integrated plan that defines outcomes for safety management activities and that includes utilization of safety data-related tools. The lack of necessary leadership direction and data integration negatively impacts the Safety Department's ability to analyze, prioritize, and report on safety data in a timely manner. The current suite of tools requires a level of manual entry and data manipulation beyond Safety Department resource capacity.

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 2: Prioritization of Safety Management Information

Findings		Tracking #	Required Actions
Finding 1	MBTA has not ensured that the necessary structures are in place to support effective implementation and operation of its SMS.	FTA-22-MBTA-CAT2-1.A	MBTA must conduct a critical and comprehensive review of its entire SMS planning, implementation, and operational processes and activities to address the gaps discussed in this finding.
		FTA-22-MBTA-CAT2-1.B	MBTA must update its SMS Implementation Plan to reflect the results of this review, including defined actions, timeframes, responsibilities, and expected outcomes.
Finding 2	MBTA executive leadership does not receive prioritized and actionable information related to safety risks or shortcomings in safety risk mitigations.	FTA-22-MBTA-CAT2-2	<p>MBTA leadership must:</p> <ol style="list-style-type: none"> 1. Work with safety and operating department leads (including maintenance and engineering departments) to define explicit criteria for prioritizing safety risks. 2. Include explicit safety risk acceptance criteria in its Agency Safety Plan and/or reference documents. 3. Work with MBTA's Safety Department and operating department leads (including maintenance and engineering departments) to define how safety information must be presented to MBTA leadership in a prioritized and actionable manner. 4. Require, and provide means for, operating department leads (including maintenance and engineering departments) to elevate proposed safety risk mitigations, including their status, that require MBTA leadership approval for resourcing. This must include safety risk mitigations deemed ineffective or inappropriate and that require executive level decision regarding the redirection of, or additional, resourcing.

Category 2: Prioritization of Safety Management Information

Findings		Tracking #	Required Actions
Finding 3	MBTA Executive Management does not consistently ensure its decisions related to safety risks are based on safety data analysis or documented facts.	FTA-22-MBTA-CAT2-3.A	MBTA must map its safety data flows and supporting processes.
		FTA-22-MBTA-CAT2-3.B	MBTA must establish explicit accountabilities and responsibilities for safety data flows as a component of safety information management (collection, analysis, communication, storage, and retrieval of safety data).
		FTA-22-MBTA-CAT2-3.C	MBTA must provide formal training in safety information management to relevant personnel.
		FTA-22-MBTA-CAT2-3.D	MBTA must demonstrate that its executive management uses and promotes the usage of safety data analysis and/or documented facts in decision-making related to safety risk.
Finding 4	MBTA's safety investigations and safety assurance activities do not consistently collect and analyze information on precursor factors.	FTA-22-MBTA-CAT2-4.A	MBTA must update its Safety Assurance process to include monitoring of safety risk mitigations with a) compliance-based activities to provide the baseline for monitoring implementation status and b) performance-based activities to monitor the actual effectiveness of safety risk mitigations.
		FTA-22-MBTA-CAT2-4.B	MBTA must prepare a monthly look-ahead schedule for prioritized safety risk monitoring activities that include safety risk mitigations and corrective actions in place to address MBTA's highest safety priorities.
		FTA-22-MBTA-CAT2-4.C	MBTA must develop and document guidance, and deliver training for safety investigators that ensure the consideration of precursor factors in the analysis of the chain of events leading to a safety event (accident, incident, or occurrence), including but not limited to, for example: <ul style="list-style-type: none"> Suitability of resources available to frontline

Category 2: Prioritization of Safety Management Information

Findings		Tracking #	Required Actions
			<p>personnel for operational and maintenance activities</p> <ul style="list-style-type: none"> • Deficiencies in policies, procedures, rulebooks • Outdated policies, procedures, and rulebooks • Deficiencies/inadequacies in training Shortcomings in supervision • Deviations from procedures and rules Reasons for lack of adherence to procedure and rules • The limited success of discipline to address safety issues
Finding 5	MBTA’s safety risk assessment guidance as part of its Safety Risk Management is ambiguous and has led to confusion among stakeholders regarding their responsibilities and authorities, which has created delays in carrying out safety risk assessments activities.	FTA-22-MBTA-CAT2-5.A	MBTA must develop and document criteria for conducting safety risk assessments consistent with the basic principles of safety management and the tenets of SMS as conveyed in FTA’s SMS guidance materials.
		FTA-22-MBTA-CAT2-5.B	MBTA must develop explicit direction for the ownership of safety risk assessments among the Safety Department and the operating departments. Documentation must include providing explicit roles, responsibilities, and thresholds of authority of each department involved.
		FTA-22-MBTA-CAT2-5.C	MBTA must include in the above criteria directives to ensure that operating departments including subject matter expertise, own safety risk assessments, while safety officials provide support for safety risk assessments and reports on results to Executive Leadership for safety resource allocation priorities.

Category 2: Prioritization of Safety Management Information

Findings		Tracking #	Required Actions
		FTA-22-MBTA-CAT2-5.D	MBTA must expand its policy of establishing a pre-defined schedule of safety risk assessment workshops and develop criteria attuned with the nature of hazard identification (I.e., as they are identified), to expedite safety risk assessments to support prioritization for resource allocation.
Finding 6	MBTA safety information management tools (hazard log, safety risk mitigation log, etc.) do not fully support prioritization of resources to address safety risk and safety performance monitoring.	FTA-22-MBTA-CAT2-6.A	MBTA must evaluate (and correct) the data contained in its hazard log and safety risk mitigation log for accuracy and relevancy to SMS.
		FTA-22-MBTA-CAT2-6.B	MBTA must expedite the build out of its safety risk and safety risk mitigation monitoring information tools.
		FTA-22-MBTA-CAT2-6.C	MBTA must demonstrate use of its safety information management tools to effectively prioritize its resources to address the results of: <ul style="list-style-type: none"> • Safety Risk Monitoring • Safety Performance Monitoring

Forty-five (45) 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.

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