

UNITED STATES DEPARTMENT OF TRANSPORTATION

Federal Transit Administration

[Special Directive No. 22-9, 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 Managing the Impact of Operations, Maintenance, and Capital Project Requirements on the Existing Workforce

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

SUMMARY: FTA issues Special Directive 22-9 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 four findings requiring action that the MBTA must take to address FTA’s findings. The findings and required actions outlined in this Special Directive will assist the MBTA in focusing its attention on balancing demands from operations and capital projects with workforce capacity and capability to inform resource prioritization.

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 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 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 1 and is based on FTA's determination that the MBTA is not effectively balancing safety-critical operations and maintenance activities with its efforts to deliver capital projects. This lack of balance is at the center of many of the MBTA's safety challenges.

FTA found that an organizational focus on capital projects has diverted management attention and resources away from the agency's operations and maintenance, allowing the agency to operate a level of service that is not adequately staffed, trained, supervised, or maintained. In addition, existing staffing levels and capabilities do not provide adequate safety oversight for the design, construction, and testing of new capital projects and do not support widespread safety certification of these projects, which is an industry standard practice. MBTA also has experienced a series of construction safety events due to the lack of oversight of worksites.

Resources for Operations and Maintenance

Over the last four years, the MBTA's capital budget has more than doubled, from approximately \$875 million in fiscal year 2018 to over \$2 billion in fiscal year 2022. At the same time, the MBTA is still recovering from the long-standing impact of funding cuts made in 2015-2019 to the MBTA's operations and maintenance budget, which resulted in a reduction in hundreds of millions of dollars and hundreds of positions.

Since 2020, MBTA's transit organization has averaged a 10-percent vacancy rate from budgeted positions with key technical and supervisory positions averaging 20 to 35 percent vacancy rates. For example, MBTA's Transit Workforce Staffing Report by Department (budgeted vs actual) for fiscal year 2022 (beginning July 1, 2021) shows 5,554 active employees for 6,349 budgeted positions - a staffing gap of 795 positions or 12.5 percent. For fiscal year 2021 (beginning July 1, 2020), there were 5,537 active employees for 6,279 budgeted positions – a staffing gap of 742 position or 11.8 percent. So far in fiscal year 2023 (beginning July 1, 2022), there are 5,781 active employees for 6,679 budgeted positions, or a

staffing gap of 898 positions or 13.4 percent.

In addition, specifically for MBTA's rail transit system, over the last two years, some key technical and supervisory positions have averaged 20 to 35 percent vacancy rates, including Operations Control Center dispatchers and supervisors, signal technicians, vehicles repairers, and traction power technicians.

Interviews with MBTA personnel at all levels of the agency indicate that budgeted positions, which have increased under MBTA's current leadership team, do not reflect the true measure of required staff levels because they do not consider the additional responsibilities associated with capital project delivery. In some instances, required staff levels are calculated to rely on overtime to cover staff vacations and training. Interviews with a range of personnel throughout the MBTA's organization indicate that the overall MBTA transit system may be between 1,500 and 2,000 active positions short in managing its current level of activity.

For the last five years, the MBTA's budgeted positions have exceeded its actual active workforce by approximately 7 to 10 percent.¹ The agency also is experiencing significant attrition and retirement of seasoned personnel, with a large cohort of MBTA's technical and supervisory personnel now eligible for retirement. Vacancies in technical positions affect the safety of MBTA's operations, maintenance, and capital project delivery.

FTA notes that MBTA's leadership team has established a strategic hiring plan for fiscal year 2023. This plan sets a goal of hiring over 2,000 workers, including 330 workers funded by the capital budget and 1,759 workers funded by the operating budget in fiscal year 2023. The MBTA's fiscal year 2023 strategic hiring plan may offset some of these challenges, but only if it is successfully executed with a focus on filling positions with safety impact for the agency.

FTA's SMI found that MBTA's leadership is focused on using longer-term capital projects to "build the agency" out of many of the challenges of a legacy system. However, as discussed in FTA's Special Directive 22-4, key elements of this approach are significantly impacting preventive maintenance inspections and repairs for the aging system, exacerbating the deterioration of aging infrastructure and assets that are not the focus of the capital program.

MBTA reported that, due to the challenges and uncertainties of the COVID-19 public health emergency, they have not completed action to address previous findings regarding the need to assess staffing needs for operations and maintenance. Nevertheless, during this same period, MBTA aggressively moved forward with its \$2 billion-per-year capital program, supported largely by existing and overtime resources from the agency's operations and maintenance departments and contractors. In January 2022, MBTA's leadership team and Board of Directors took the unprecedented step of transferring an additional \$500 million from the MBTA's operating budget to its capital budget.

FTA also found that MBTA lacks resources to adequately manage its \$2 billion capital program and complete capital projects on time and without need for retrofits and workarounds. This situation has

¹ Budgeted positions from FY 2019 through FY 2023 totaled 31,099 (across 5 years) with 28,197 active positions during this same time, for an approximately 9 percent vacancy rate over the five-year period.

resulted in deteriorated assets, whether rail transit vehicles, track, switches, stations, facilities, or other elements, remaining in service longer than intended with additional maintenance needs. These assets are vulnerable to failure in new and potentially unexpected ways, such as the September 28, 2021 safety event, when a piece of a restraining rail assembly came loose on the track outside of Broadway station and derailed a train; the April 22, 2022 event when an aging door assembly malfunctioned and a train took power with a passenger trapped between its door panels, resulting in a fatality; or the July 21, 2022 train fire on the transit bridge over the Mystic River, where a rusty sill panel fell off a rail transit train and contacted the third rail.

Emphasizing capital project demands above passenger operations and preventive maintenance can negatively impact the safety culture of the agency. FTA found that unwritten norms have emerged that emphasize a “get it done and go” mentality over following safety rules or ensuring compliance with minimum safety standards, particularly when staff are working 12 to 16-hour days, six days a week.

Resources for Safety Certification

MBTA’s Agency Safety Plan defines safety certification as “a process used to verify safety-related requirements are incorporated into a project, thereby demonstrating that it is operationally ready for revenue service and safe and secure for passengers, employees, public safety agencies, and the general public.” MBTA’s Agency Safety Plan also incorporates by reference MBTA’s Safety Certification Program (SAFE 1.09.00), as the guiding document outlining MBTA’s safety certification process.

The MBTA’s safety certification program requires MBTA’s Safety Department to review all facilities and system designs for safety input. For most capital projects, MBTA’s Engineering and Maintenance (E&M) functions are responsible for safety engineering including project design, compliance with safety and security certification, workplace safety, and supervision of E&M projects.

Documents and records shared by the MBTA reveal a minimal safety certification process for most capital projects. The MBTA was unable to provide safety certification plans as requested for the Green Line Wayside Signal, Green Line B Branch Consolidation, and Green Line D Branch Track and Signal capital projects, among others. In addition, even though the Safety Department is a final signatory on capital project and vehicle certifications, the MBTA was unable to produce any records showing the results of review made by the Safety Department on the certification packages for these vehicles beyond the signature for concurrence.

Interviews also indicated that there is a shortage of Safety Department and other MBTA personnel to support project engineering, start-up, and testing activities. The lack of available personnel can also impact testing and acceptance schedules as well as the activities that can be performed. For example, interviews with MBTA’s Capital Transformation team revealed that Green Line D Branch track and signal contractor had consistently been denied access for several scheduled work outages due to a lack of MBTA personnel necessary to support access. This results in needless delays and can place pressure on the completion of safety critical tests and verification activities.

Resources to Oversee Contractor Safety

The MBTA conducts a range of capital projects to replace, upgrade and expand infrastructure elements on its rail transit system. Many of these projects include active worksites on MBTA property and many

of these contractor managed worksites are accessed by MBTA employees and vehicles as part of normal operations (e.g., the MBTA will continue to use yards that are under construction to house or repair out of service vehicles). Therefore, during the SMI, FTA reviewed several safety events that occurred at contractor worksites on MBTA property, including derailments of work vehicles, electrocutions, fire and smoke events, burns, and falls and found instances of noncompliance with MBTA safety rules. As a result of these reviews, FTA finds that additional supervision at MBTA's contractor work sites is necessary to ensure compliance with MBTA's safety requirements.

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 1: Managing the Impact of Operations, Maintenance, and Capital Project Requirements on the Existing Workforce

Findings		Tracking #	Required Actions
Finding 1	MBTA’s staffing levels are not commensurate with the demand for human resources required to carry out current rail transit operations and maintenance in addition to expanding capital program activities.	FTA-22-MBTA-CAT1-1	<p>MBTA must conduct and submit to FTA a workforce analysis and associated workforce planning to include:</p> <ol style="list-style-type: none"> 1. <i>Required activities that must be performed for rail transit operations, maintenance, and capital projects delivery:</i> A description of present and projected day-to-day requirements for rail transit operations, preventive and corrective maintenance, and capital delivery through the next five fiscal years. 2. <i>Required resources to perform mission-critical activities:</i> A description of the assignment of the necessary human resources to support present and projected day-to-day requirements for rail transit operations, preventive and corrective maintenance, and capital delivery through the next five fiscal years per the description above. 3. <i>Current staffing capabilities for mission-critical activities:</i> The results of an assessment of MBTA’s ability to safely operate, maintain, and complete capital project delivery for its rail transit system at current service levels of workforce. 4. <i>Safety case for mission-critical activities that can be performed within current and projected resources over the next five fiscal years:</i> The identification of safety risk associated with current staffing shortages and how they are or will be mitigated and any needed changes or reductions in activities.

Category 1: Managing the Impact of Operations, Maintenance, and Capital Project Requirements on the Existing Workforce

Findings		Tracking #	Required Actions
Finding 2	MBTA has not demonstrated the organizational capacity to recruit and hire personnel to meet authorized staffing levels.	FTA-22-MBTA-CAT1-2	MBTA must develop and implement a recruitment and hiring plan to address findings from its workforce analysis and associated workforce planning for at least a five-year period, including how it will expand its capabilities for recruiting and hiring personnel to fill operations, maintenance, and capital project delivery positions.
Finding 3	Additional resources are needed to support MBTA’s safety engineering and safety certification process for capital projects.	FTA-22-MBTA-CAT1-3	MBTA must modify safety engineering and certification requirements for its capital projects and vehicle procurements and ensure they are addressed through additional E&M and Safety Department staffing, contractor resources, or a combination of approaches. This may be done as part of the workforce analysis in Finding 1, or as part of a separate initiative.
Finding 4	MBTA requires additional oversight of contractor work sites.	FTA-22-MBTA-CAT1-4	FTA recommends that MBTA review the inspection and resident engineering resources needed to ensure compliance with MBTA safety rules related to the Right of Way to ensure the safety of personnel while in active work zones through additional staffing, contractor resources, or a combination of approaches.

Thirty (30) 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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Veronica Vanterpool

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