



The Massachusetts Bay Transportation Authority

Corrective Action Plan (CAP)

FTA-TRA-22-006

BACKGROUND

Overview: The FTA issued Special Directive 22-4 that required the Massachusetts Bay Transportation Authority (MBTA) to address ongoing safety concerns at MBTA and interim findings uncovered during FTA's Safety Management Inspection (SMI) that was initiated in April 2022.

This Special Directive mandated that MBTA take nine required actions in three distinct categories related to maintenance of way (MOW). These required actions are to address deficiencies in personal protective equipment (PPE) and right of way (ROW) safety; to correct defective track conditions; and to address management practices that negatively impact track repair.

PURPOSE

This Corrective Action Plan has been developed to address **Special Directive 22-4 Category 3: Management Practices** and its Required Action **FTA-TRA-22-006**.

FTA Finding

Management Practices

- MBTA's data on MOW defects and work order status is insufficient to guide management planning.

FTA Required Action

FTA-TRA-22-006: MBTA must expedite and sufficiently resource the transition to its new Enterprise Asset Management (EAM) system. In the meantime, data on MOW defects and work order status is insufficient to guide management planning.

ANALYSIS AND RECOMMENDATIONS

Analysis

- The Reliability Engineering team worked with MOW leadership to develop a system wide overview of track conditions that will be used to aid with Capital Investment planning, and long-range maintenance planning.
- MOW actively collects all safety critical asset inspection, preventative maintenance, and corrective maintenance in the Enterprise Asset Management (EAM) system and will work with the Asset Management team to accelerate adoption of EAM work management process and other track analytics tools to increase transparency of system needs.

Recommendations

- MBTA must expedite and sufficiently resource the transition to its Enterprise Asset Management (EAM) system while improving data management to include all MOW managed assets and work. This work is in conjunction with Corrective Actions FTA-TRA-22-007.
- MOW work management activities will be expanded to include defects that are not yet affecting service (move the threshold for defects to be programmed for repair). This work is in conjunction with Corrective Actions FTA-TRA-22-005.
- The MBTA will sufficiently resource maintenance planning resources to manage the preventative and corrective maintenance backlog work orders. This work is in conjunction with Corrective Actions FTA-TRA-22-005.
- The MBTA shall sufficiently resource the maintenance workforce to implement an increased workload of corrective and preventative maintenance. This work is in conjunction with Corrective Actions FTA-TRA-22-003, 004, 005, and 008.



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ACTION PLAN

Description: The MBTA will expedite and sufficiently resource the transition to a new Enterprise Asset Management (EAM) systems as well as resources to increase maintenance planning to improve preventative and corrective maintenance practices while developing and implementing plans and schedules to better managing data on MOW defects and work order status in conjunction with Corrective Action Plans FTA-TRA-22-003, 004, 005, and 008.

PLAN STRUCTURE

#	Actionable Items	Description	Responsible Party ¹	Est Start ²	Est End ³
1	Assess EAM adoption schedule	The MBTA E&M and OCE Departments will review the existing EAM implementation schedule and the adoption status of other existing software solutions to determine what corrective actions are needed to provide digital tools to effectively support work planning and defect management practices while developing processes and resource needs to better manage data on MOW defects and work order status.	OCE: Valdivia E&M: Chann	8/1/22	9/1/22
2	Resource Gap Assessment to enhance EAM adoption schedule	The MBTA E&M and OCE Departments will determine what additional resources in the form of personnel, budget (Capital and Operating) and contracts are needed and where they will apply them in the process to complete the transition to its Enterprise Asset Management (EAM) system and implement robust maintenance planning.	OCE: Valdivia E&M: Chann	9/2/22	10/1/22
3	Resource Acquisition to enhance EAM adoption schedule	The MBTA E&M and OCE Departments along with HR and Budget will secure the resources needed to accelerate EAM adoption.	E&M: Chann OCE: Valdivia	10/2/22	12/1/22
5	Resource Allocation to enhance EAM adoption schedule	The MBTA E&M and OCE Departments along with HR and Budget will incorporate those resources into the department budgets and hiring plans to meet the plan.	E&M: Chann OCE: Valdivia	12/2/22	6/30/23
6	Revise schedule for EAM adoption	Develop a revised schedule based on the addition of planned resources.	OCE: Valdivia E&M: Chann	9/2/22	11/1/22
7	Verification of Implementation Schedule	MBTA will verify that HR, Budget, OCE and E&M have all appropriately resourced their operating and capital budgets as well as built hiring plans and support contracts to achieve the EAM adoption acceleration plan.	OCE: Boyce E&M: Cheever	8/1/22	6/30/23
8	Enhance work planning	MBTA MOW will enhance its work management planning to incorporate a strategy expanding to track defects that are not yet affecting service through operating restrictions.	MOW: Martin E&M: Chann	8/1/23	7/1/23
9	Enhance maintenance management and execution capabilities	MBTA MOW will develop a hiring plan to increase the staff size to carry out the internally resourced maintenance activities	MOW: Martin	8/1/22	12/31/22

¹ In the event of personnel or departmental changes, responsibilities for actionable items shall transfer to the new leadership.

² Est Start – Estimated Start Date

³ Est End Estimated Completion Date



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PLAN STRUCTURE

#	Actionable Items	Description	Responsible Party ¹	Est Start ²	Est End ³
10	Enhance capital renewal planning	MBTA OCE will work with MOW Capital Programs to develop a strategy for contracted capital renewal plan.	OCE: P. Hadley	8/1/22	12/31/22
11	CAP Verification	MBTA departments will evaluate actionable items/deliverables before submission to FTA to confirm there is evidence that the findings and this required action have been resolved, taking into account the scope and performance measures.	OCE: P. Hadley	Ongoing	

COMPLETION DOCUMENTATION

Performance Metrics

Expected Completion: The MBTA will develop over FY23 a strategy to fully resource an accelerated adoption of EAM into maintenance planning by June 30, 2023. EAM track maintenance planning will be sufficiently resourced and on-track for significant maturity no later than FY24.

Verification

Overview:

- Compare current expected completion date to revised schedule date.
- Comprehensive and auditable tracking lists will capture data on all outstanding MOW defects and work order statuses on these defects.

BUDGET/COST ESTIMATE

Overview: E&M and OCE will require additional resources in the form of Operating Budget, Capital Budget, headcount, and IT equipment to facilitate this CAP. The budget values below are estimates that will require further refinement as the work associated with this CAP is implemented. Estimates include 30% contingency.

Segment Code	Cost Estimate
E&M will require a minimum of two project managers/maintenance planners per department.	\$1,560,000
E&M will require a minimum of two analysts per department	\$1,040,000
OCE will require a minimum of an additional \$10M annual capital budget to accelerate EAM integration of all preventative maintenance and corrective maintenance activities for each discipline in subsequent years beginning in FY24. (This funding has been included in past Capital Investment Plan (CIP) proposals)	\$13,000,000
OCE will require one to two additional Subject Matter Experts in the areas of track, power, signals, facility engineering and maintenance to support Reliability Engineering activities	\$1,300,000
E&M will require additional computers and tablets to accelerate the promulgation of EAM to all workforce	\$325,000
Consulting engineering/planning resources	\$6,500,000
Total	\$23,725,000



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CORRECTIVE ACTION PLAN COMMITMENT

Responsible Parties

Department ⁴	Name	email	Signature
E&M	Joseph Cheever	[Redacted]	Joseph Cheever DocuSigned by: 16762C0149954F7...
Capital Programs	James Neider	[Redacted]	James Neider DocuSigned by: 6F5073951C9443...
Rail Transportation	Andrea Gordon	[Redacted]	Andrea Gordon DocuSigned by: 7E864CA05187467...
Bus Transportation	Karen Burns	[Redacted]	Karen Burns DocuSigned by: 169D3B8B8A7400...
OCC & Training	Aisheea Isidor	[Redacted]	Aisheea Isidor DocuSigned by: 4344C97EF26A4DA...
Office of Chief Engineer	Erik Stoothoff	[Redacted]	Erik Stoothoff DocuSigned by: 7A1D471D38D47B...
Reliability Engineering	William Boyce	[Redacted]	William Boyce DocuSigned by: ED7C8C1AB0C94CB...
Human Resources	Thomas Wayne	[Redacted]	Thomas Wayne DocuSigned by: 06923AF9E3B5E462...
Budget	Mary Anne O'Hara	[Redacted]	Mary Anne O'Hara DocuSigned by: 3F02AE4AC6284B1...
Labor Relations	Ahmad Barnes	[Redacted]	Ahmad Barnes DocuSigned by: C905D7066924D6...
Procurement	Jeffrey Cook	[Redacted]	Raymond F. Wise DocuSigned by: BE75973940ED4D2...
Safety	Ronald Ester	[Redacted]	

Executive Leadership of Responsible Parties

DocuSigned by:

 3BE486B7125C441
Jeffrey D. Gonville
 MBTA Deputy General Manager
 Date: 7/15/2022

DocuSigned by:

 4316C6AFC622457
David Panagore
 MBTA Chief Administrative Officer
 Date: 7/15/2022

⁴ Offices designated as supporting roles provide subject matter expertise to responsible parties during action development and are not directly responsible for delivery of actionable items listed above.



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Executive Leadership of Responsible Parties

DocuSigned by:

Ronald Ester

7/15/2022

30C25B06E237430

Ronald Ester

MBTA Chief Safety Officer

Date

DocuSigned by:

Steve Poftak

7/15/2022

88BCDDC4491D4D5

Steve Poftak

MBTA General Manager

Date