



The Massachusetts Bay Transportation Authority

Corrective Action Plan (CAP)

FTA-22-12-MBTA-
CAT4-7

BACKGROUND

Overview: 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.

PURPOSE

This Corrective Action Plan has been developed to address **Special Directive No. 22-12, Category 4: Operating Conditions and Policies, Procedures, and Training**

FTA Finding

- **Operating Conditions and Policies, Procedures, and Training**
 - 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 Required Action

- 7.A: MBTA must confirm radio dead spots with frontline motorpersons and maintenance workers.
- 7.B: MBTA must improve the performance of its radio system in these dead spots.

ANALYSIS AND RECOMMENDATIONS

Analysis

- Perform bi-monthly meetings with OCC to review all safety concerns (reported weak signals etc.), report progress on previously reported safety issues, review and resolve previously identified roadblocks, and report any new or additional safety concerns.
- In addition, (17) of the identified Weak Spots are currently being resolved by Systemwide Radio and the coverage has improved. Only (1) Weak Spot task remains, and the target objective for the task is to be completed by September 30, 2022.
- There is a new project underway
 - The scope of work involves the start of a Design/Build Project for a new P25 radio system.
 - The notice to proceed for this concern, C90CN01, is anticipated to start, November-2022.
 - Over the next 3 years, the MBTA plans to migrate to a new radio system that provides broader coverage above-ground and below-ground in subways and portals and for portable radios, and mobile radios.
 - This will positively impact Transit Police, Buses, Rail Cars, EMS Services, Public Safety and other non-Revenue vehicles and related equipment, including the radio simulcast sites, RNC's, the BDA system, and dispatcher consoles.
 - Also, there will be required personnel growth within the project teams and within the radio department in order to manage weak spots within the system and infrastructure.
 - Upon completion of this P25 project, the MBTA IT-Radio department shall seek accreditation with the Massachusetts State Interoperability Committee and National Interoperability/Emergency Plan Accreditation, DHS-NIST/CISA.

Recommendations



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- The MBTA will improve communications between Bus, Rail, OCC, Safety and SWR teams with information sharing by reported radio trouble.
- The SWR team and Work Group will review the existing "Weak Spots" task list and keep the information updated.
- The SWR team and Work Group will provide any missing after-action reports past and future.
- The SWR team and Work Group will conduct regular meetings with the OCC, and Safety to ensure that all safety concerns have been addressed and resolved or given additional plans to resolve.
- The MBTA will increase staffing with additional managers, foremen and technicians who have been trained in safety procedures, and ongoing training throughout the radio project.

ACTION PLAN

Description: After finding communication issues that impact safety, plans for biweekly meetings were scheduled with the OCC, Safety and System Wide Radio (SWR). In these meetings, new issues are reported, and plans are implemented to inspect and address safety issues, older reported issues are reviewed with the team and the spreadsheet is updated to show progress and any roadblocks that need to be addressed to ensure work is completed in a timely manner. Teams will share documentation in the form of after-action reports and shared spread sheets.

PLAN STRUCTURE

#	Actionable Items	Description	Responsible Party ¹	Est Start ²	Est End ³
1	Establish Radio Advisory Group	Radio Advisory Group will develop and compile a plan of action.	QCOO: Katie Choe IT: Larry Thomas	10/6/22	11/4/22
2	Establish biweekly meetings	Establish a regular meeting between SWR, the OCC and MCC	IT: Larry Thomas	6/13/22	ongoing
3	Address "Weak Spots"	Review the list of (18) Weak Spots reported, with the Radio Work Group discuss and assign personnel for site survey. Required Action 7.a	IT: Larry Thomas	10/6/22	11/4/22
4	Site survey of the (18) Weak Spots	All 18 Weak Spots to be surveyed by assigned staff and report needed equipment to complete repair.	IT: Larry Thomas	6/13/22	11/4/22
5	Repair Identified Weak Spots	Assigned Radio Staff will make the needed repairs after clearance of ROW.	IT: Larry Thomas	6/16/22	11/4/22
6	Verification – Testing the Weak Spots	Prepare an after-action report (AAR), Technicians are to complete the AAR, complete with a description of work, and completed testing results from Spectrum Analyzer and photos of repairs as required.	IT: Larry Thomas	6/17/22	11/4/22
7	Prepare an After-Action Report (AAR)	An AAR will establish a baseline record. These results will be compiled from the field by the Systemwide Radio Techs. Reports are to be forwarded to Safety, OCC Operations, and Sr. Staff. Required Action 7.b	IT: Larry Thomas	6/17/22	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
8	Develop a Master Standard Operating Procedure (SOP)	Compile all previous MBTA Radio SOP documentation and update procedures as warranted.	IT: Larry Thomas	10/6/22	11/1/23
9	Re-Test of (18) sites and Verification of Weak Spots	Radio Technicians will re-test and verify the noted weak spot areas on a Quarterly basis and Annually during the SWR Preventive Maintenance program (PM), scheduled for April-2023. An after-action report (AAR) will be completed and will be forwarded to Safety, OCC Operations and Sr. Staff.	IT: Larry Thomas	10/6/22	10/30/24
10	CAP Verification	MBTA departments will evaluate actionable items/deliverables before submission to FTA to confirm there is reasonable evidence that the findings and this required action have been resolved, taking into account the scope and performance measures.	QCOO: Katie Choe Safety: Ron Ester	Ongoing	

COMPLETION DOCUMENTATION
Performance Metrics

- Signal strength

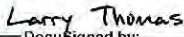
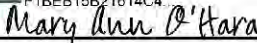
Verification

- Dead spot tracking spreadsheet used by the OCC and MCC to report new deficiencies which are addressed ASAP
- Final after-action report for dead spots repair with signal strength readings
- Quarterly after-action report with summary of repairs and signal strength readings

BUDGET/COST ESTIMATE

Segment Code	Cost Estimate
Additional 8 Technician, Communication Radio + 60.6% fringe	\$1,475,413
SOP Technical writing & Quarterly reports (over 5 years)	\$1,224,000
High Rail Vehicle	\$300,000
30% Contingency	\$899,824
Total	\$3,899,237


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CORRECTIVE ACTION PLAN COMMITMENT
Responsible Parties

<i>Department⁴</i>	<i>Name</i>	<i>email</i>	<i>Signature</i>
Information Technology	Larry Thomas	[REDACTED]	<small>DocuSigned by:</small>  <small>DocuSigned by:</small> F1BEB15B21814C4...
Finance	Mary Ann O'Hara	[REDACTED]	<small>DocuSigned by:</small>  <small>DocuSigned by:</small> 3F02AECAC6884B1...

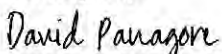
Executive Leadership of Responsible Parties

DocuSigned by:

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Jeffrey D. Gonneville
MBTA Deputy General Manager

12/29/2022

Date

DocuSigned by:

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David Panagore
MBTA Chief Administrative Officer

December 21, 2022

Date

DocuSigned by:

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Katie Choe
MBTA Chief of Quality, Compliance, and Oversight

December 22, 2022

Date

DocuSigned by:

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Ronald Ester
MBTA Chief Safety Officer

12/30/2022

Date

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:

Steve Poftak

December 19, 2022

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Steve Poftak

MBTA General Manager

Date