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-22-007.

FTA Finding

Management Practices

- MBTA’s MOW department is not providing prioritized and actionable information to Executive Leadership regarding the condition of MBTA’s assets and infrastructure.

FTA Required Action

- FTA-TRA-22-007: MBTA must develop and implement a process and reporting procedure that accurately communicates the number, severity, and significance of MOW defects to Executive Leadership.

ANALYSIS AND RECOMMENDATIONS

Analysis

- MBTA MOW reports on key performance indicators that result in restricted operations such as speed restrictions, and out of service switch infrastructure.
- MBTA MOW does not provide prioritized and actionable information to Executive Leadership regarding the condition of infrastructure assets with leading indicators of potential operational restrictions.
- 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 processes and other track analytics to increase transparency of system needs.
- The Reliability Engineering team worked with MOW leadership to develop a system wide view of track conditions that will be used to aid with Capital Investment planning, and long-range maintenance planning.

Recommendations

- MBTA MOW department will develop and implement a data collection and reporting process that identifies leading indicators for potential maintenance needed to prevent operational restrictions due to infrastructure conditions. This work is in conjunction with Corrective Actions FTA-TRA-22-006.
- MBTA will maintain sufficient planning resources to manage the preventative and corrective maintenance backlog work orders to clearly communicate the number, severity, and significance of MOW defects to Executive Leadership. This work is in conjunction with Corrective Actions FTA-TRA-22-006.

ACTION PLAN
Description: MBTA MOW department will develop a series of clear asset performance metrics and implement a process and reporting procedure that accurately communicates the number, severity, and significance of MOW defects to Executive Leadership.

### PLAN STRUCTURE

<table>
<thead>
<tr>
<th>#</th>
<th>Actionable Items</th>
<th>Description</th>
<th>Responsible Party¹</th>
<th>Est Start²</th>
<th>Est End³</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Develop leading KPIs</td>
<td>Establish an E&amp;M Working Group to review existing known conditions, required actions, potential consequences of no action, and determine appropriate indicators of performance that will highlight potential maintenance needs</td>
<td>E&amp;M: Cheever</td>
<td>9/1/22</td>
<td>10/15/22</td>
</tr>
<tr>
<td>2</td>
<td>Develop the process for data collection and transparency</td>
<td>The assigned resources will be tasked to develop a data collection and review process that will inform MOW infrastructure condition reporting.</td>
<td>OCE: Valdivia E&amp;M: Chann</td>
<td>10/16/22</td>
<td>1/1/23</td>
</tr>
<tr>
<td>3</td>
<td>Create transparent reporting</td>
<td>Build reports and dashboards from the EAM system to produce asset performance reports.</td>
<td>OCE: Valdivia OCE: Molewyk E&amp;M: Chann</td>
<td>1/2/23</td>
<td>4/1/23</td>
</tr>
<tr>
<td>4</td>
<td>Integrate Reporting into Maintenance Planning Process</td>
<td>Implement a business process where dashboards are regularly reviewed and used to inform maintenance planning.</td>
<td>MOW: Martin E&amp;M: Chann</td>
<td>4/1/23</td>
<td>6/30/23</td>
</tr>
<tr>
<td>5</td>
<td>Formalize the process</td>
<td>Once developed and formalized, the procedure will be implemented across the Authority and verified by Quality Management.</td>
<td>OCE: Molewyk</td>
<td>6/30/23</td>
<td>8/30/23</td>
</tr>
<tr>
<td>6</td>
<td>Communicate to Executive Leadership</td>
<td>Reports and dashboards will be used to clearly communicates the number, severity, and significance of MOW defects to Executive Leadership. Interim reporting will be provided prior to formalization of process.</td>
<td>E&amp;M: Cheever</td>
<td>6/31/23</td>
<td>ongoing</td>
</tr>
<tr>
<td>7</td>
<td>CAP Verification</td>
<td>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.</td>
<td>OCE: P. Hadley</td>
<td>Ongoing</td>
<td></td>
</tr>
</tbody>
</table>

### COMPLETION DOCUMENTATION

**Performance Metrics**

- **Expected Completion**: The MBTA will develop the reporting metrics and tools over the remainder of FY23.

**Verification**

- **Overview**: MBTA Executive Leadership will have additional MOW infrastructure asset condition metrics that will provide leading indications of needed investment and enhanced maintenance action.

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
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 costs associated with this corrective action plan are incorporated into the budget for FTA-TRA-22-006, with the exception of the consulting engineering/planning line below, which is a direct support activity for assisting with the scope of developing the leading indicator metrics and developing tools to collect and chart this information. The budget values below are estimates that will require further refinement as the work associated with this CAP is implemented. Estimates include 30% contingency.

<table>
<thead>
<tr>
<th>Segment Code</th>
<th>Cost Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consulting engineering/planning resources</td>
<td>$1,950,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$1,950,000</strong></td>
</tr>
</tbody>
</table>

CORRECTIVE ACTION PLAN COMMITMENT

Responsible Parties

<table>
<thead>
<tr>
<th>Department</th>
<th>Name</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>E&amp;M</td>
<td>Joseph Cheever</td>
<td></td>
</tr>
<tr>
<td>OCC &amp; Training</td>
<td>Aisheea Isidor</td>
<td></td>
</tr>
<tr>
<td>Office of Chief Engineer</td>
<td>Erik Stoothoff</td>
<td></td>
</tr>
<tr>
<td>Reliability Engineering</td>
<td>William Boyce</td>
<td></td>
</tr>
<tr>
<td>Human Resources</td>
<td>Thomas Waye</td>
<td></td>
</tr>
<tr>
<td>Budget</td>
<td>Mary Anne O'Hara</td>
<td></td>
</tr>
<tr>
<td>Procurement</td>
<td>Jeffrey Cook</td>
<td></td>
</tr>
<tr>
<td>Safety</td>
<td>Ronald Ester</td>
<td></td>
</tr>
</tbody>
</table>

Executive Leadership of Responsible Parties

Jeffrey D. Gonneville
MBTA Deputy General Manager

7/15/2022

Office 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.
Executive Leadership of Responsible Parties

DocuSigned by:

David Panagore
MBTA Chief Administrative Officer

7/15/2022

Date

DocuSigned by:

Ronald Ester
MBTA Chief Safety Officer

7/15/2022

Date

DocuSigned by:

Steve Poftak
MBTA General Manager

7/15/2022

Date