



U.S. Department
of Transportation
**Federal Transit
Administration**

Headquarters

1200 New Jersey Avenue, SE
Washington, DC 20590

SENT VIA EMAIL

October 13, 2023

Mr. Phillip Eng
General Manager
Massachusetts Bay Transportation Authority
10 Park Plaza
Boston, MA 02116

Subject: Approval – Corrective Action Plan Resubmissions for Special Directive 22-10, Findings 1 through 6 (FTA-23-10-MBTA-CAT2-1 through FTA-23-10-MBTA-CAT2-6)

Dear Mr. Eng:

Thank you and your team for submitting revised corrective action plans (CAPs) for Findings 1 through 6 of Special Directive 22-10, Prioritization of Safety Management Information issued by the Federal Transit Administration (FTA). The goal of the CAP rewrite, as discussed in the May 19 CAP rewrite approval letter, was to better focus on the original intent and purpose of FTA's findings and required actions and to streamline implementation of required actions. As part of this resubmission, MBTA combined former CAPs 2 and 3 into a new single CAP (CAP 2R).

The Massachusetts Bay Transportation Authority (MBTA) submitted the first version of these CAP rewrites on August 31, 2023, and subsequently submitted an update to that re-write on September 11, 2023, as requested by FTA. After internal discussions and review with FTA, the MBTA decided to further revise the CAP rewrites for CAP 4 and 6 to adjust the dates of the action items and better align the signatory personnel and titles with MBTA's current organizational structure. MBTA submitted the updated revision of CAPs 4 and 6 on September 29, 2023.

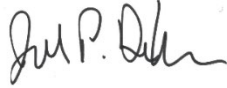
Based on careful review of the revised CAPs and a crosswalk to ensure that all required actions from Findings 1 through 6 in SD 22-10 are addressed, FTA approves MBTA's revised CAPs (FTA-23-10-MBTA-CAT2-1 through FTA-23-10-MBTA-CAT2-6).

FTA is archiving all previous submissions related to FTA-22-10-MBTA-CAT2-1 through FTA-22-10-MBTA-CAT2-6 and will open new tracking for MBTA's responses to Findings 1 through 6 from SD 22-10 based on the action items specified in the new CAPs.

We appreciate your efforts to enhance MBTA's safety performance, and we look forward to working with you as the MBTA continues to improve its safety rules compliance capabilities. If

you have any question, please contact our Safety Management Inspection Coordinator Erin Powell at (771) 200-8016 or by email at Erin.Powell@dot.gov.

Sincerely,



Joe DeLorenzo
Associate Administrator and
Chief Safety Officer
Office of Transit Safety and Oversight

Enclosure: FTA-23-10-MBTA-CAT2–Finding 1-6 Corrective Action Plan Evaluation Matrix

cc: Peter Butler, Regional Administrator, FTA Region 1
Ryan Coholan, Chief Operating Officer, MBTA
Doug Connett, Chief of Infrastructure, MBTA
Tim Lesniak, Chief Safety Officer, MBTA
Meredith Sandberg, Chief of Quality, Compliance, and Oversight,
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Robert Hanson, Rail Safety Director, DPU

FTA-23-10-MBTA-CAT2-1 through FTA-23-10-MBTA-CAT2-6
Corrective Action Plan (CAP) Evaluation Matrix for Rewrite of CAPs related to
Special Directive 22-10: Prioritization

Identification Number	Finding and Required Action	Proposed CAP Items	Proposed Start Dates	Proposed End Dates	FTA Comments	MBTA Response (if needed)
FTA-23-10-MBTA-CAT2-1	<u>Finding:</u> MBTA has not ensured that the necessary structures are in place to support effective implementation and operation of its SMS. <u>Required Action:</u> 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. 1.B: MBTA must update its SMS Implementation Plan to reflect the results of this review, including defined actions, timeframes, responsibilities, and expected outcomes.	1. Establish CAP Advisory Group: Establish an advisory group of internal stakeholders to review and guide implementation of the corrective action plan.	10/17/22	10/30/22	Action Item Approved	
		2. Strategic Planning Session: Conduct a strategic planning session for SD 22-10 Finding 1 CAP implementation with the advisory group identified in Actionable Item #1.	11/1/22	12/19/22	Action Item Approved	
		3. Procure Consulting Services: Issue RFP or Task Order for consulting services to evaluate the Transit Safety Plan, SMS Implementation Plan, and SMS Implementation Project Plan in relation to safety management governance structure and incorporate changes into the relevant plan(s).	11/16/22	12/22/22	Action Item Approved	
		4. Onboard Consultant: Onboard selected consultant.	12/23/22	2/17/23	Action Item Approved	
		5. Review SMS Documents:	2/21/23	4/25/23	Action Item Approved	

FTA-23-10-MBTA-CAT2-1 through FTA-23-10-MBTA-CAT2-6
Corrective Action Plan (CAP) Evaluation Matrix for Rewrite of CAPs related to
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		Complete inventory of existing documents, processes, procedures, and tools including plans, programs, promotional materials, meeting agendas, tracking templates, and trainings. Prepare gap analysis tool comparing inventory with SMS requirements as stated in Transit Safety Plan, SMS Implementation Plan, and federal and state regulations. Perform a comprehensive review and gap analysis to identify actionable steps requisite to the successful implementation of the SMS.				
		6. Establish an SMS Steering Committee: Identify stakeholders to comprise a steering committee that guides SMS implementation and oversees selection of an SMS Lead.	9/1/23	9/15/23	Action Item Approved	
		7. Identify an SMS Lead: Advertise and select an opening for a dedicated individual to lead SMS gap analysis and manage	9/1/23	10/18/23	Action Item Approved	

FTA-23-10-MBTA-CAT2-1 through FTA-23-10-MBTA-CAT2-6
Corrective Action Plan (CAP) Evaluation Matrix for Rewrite of CAPs related to
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Identification Number	Finding and Required Action	Proposed CAP Items	Proposed Start Dates	Proposed End Dates	FTA Comments	MBTA Response (if needed)
		implementation of the MBTA's SMS. A contingency plan for an interim SMS lead (consultant, detailed staff, etc.) will be presented if the SMS Lead role is not filled by target date.				
		8. Develop CAP Status Monitoring and Reporting: Develop status monitoring and reporting within the SMS safety management processes that provide project management controls to support resource allocation decision-making. This is intended to be an ongoing, short-term approach during this CAP. Reporting for SMS will be performed under CAP 2R.	9/15/23	11/3/23	Action Item Approved	
		9. Prepare for a Refocused Gap Analysis: Develop a tool to standardize approach to SMS gap analysis, leveraging FTA's SMS guidance and existing gap analysis checklists readily available, using the inventory from AI 5 to inform the development of the tool.	11/6/23	11/17/23	Action Item Approved	

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Identification Number	Finding and Required Action	Proposed CAP Items	Proposed Start Dates	Proposed End Dates	FTA Comments	MBTA Response (if needed)
		<p>10. Perform a Refocused Gap Analysis:</p> <p>Using the inventory performed under AI 5 as a baseline, perform an SMS gap analysis covering major organizational structures and processes within the SMS. Explicitly identify gaps between the analysis framework and MBTA's SMS. Development of the gap analysis will utilize the tool developed in AI 9, leverage FTA comments on – and both approval and disapproval of – prior iterations of deliverables and include meetings with representatives of groups that will be affected by implementation.</p> <p>An assessment of resources (operationally and capital) will occur in coordination with SD 22-9 (Workforce Assessment).</p> <p><i>Required Action 1A: Comprehensive SMS Planning Review</i></p>	11/20/23	2/2/24	Action Item Approved	

FTA-23-10-MBTA-CAT2-1 through FTA-23-10-MBTA-CAT2-6
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		<p>11. Apportion Actions from outcomes of SMS Gap Analysis:</p> <p>Perform, with involvement of the SMS Steering Committee, a comprehensive review of AI 10 with focus on identifying action items that can be assigned to specific departments and individuals.</p>	2/5/24	3/1/24	Action Item Approved	
		<p>12. Revise SMS Project Planning for Safety Event Investigations and ESRP:</p> <p>Specify responsible individuals, timelines, and expected outcomes in the SMS Implementation Project Plan for each SMS actionable step identified in the gap analysis for safety event investigations and ESRP. Update SMS Implementation Plan for these two processes. Require review, signature, and resourcing by General Manager. Revise SMS Implementation Plan for these two processes to clarify authorities, accountabilities, and responsibilities of MBTA personnel involved in</p>	3/4/24	4/4/24	Action Item Approved	

FTA-23-10-MBTA-CAT2-1 through FTA-23-10-MBTA-CAT2-6
Corrective Action Plan (CAP) Evaluation Matrix for Rewrite of CAPs related to
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		managing and executing the plan.				
		13. Revise SMS Project Planning for all other Processes: Complete all tasks identified in AI 12 for the remaining processes of the SMS Implementation Project Plan.	4/5/24	5/9/24	Action Item Approved	
		14. Update SMS Implementation and Project Plans: Revise the SMS Implementation Plan and SMS Implementation Project Plan per updates made in AIs 12 and 13 and obtain executive leadership approval of updated plans. <i>Required Action 1B: SMS Implementation Plan Update</i>	5/10/24	6/7/24	Action Item Approved	
		15. Issue Memo to Operating Managers: Chief Safety Officer will issue a memo or other formal guidance to operating managers outlining their involvement in SMS implementation.	6/10/24	6/21/24	Action Item Approved	
		16. Update SMS Trainings:	6/24/24	8/15/24	Action Item Approved	

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		Perform a review of existing SMS training materials to ensure SMS principles and their accountabilities are defined. Revise and expand incorporated training assessments and prepare to collect / document learning outcomes from employees completing training.				
		17. Reissue SMS Trainings: Reassign all updated trainings to staff tasked with SMS responsibilities.	8/16/24	9/6/24	Action Item Approved	
		18. CAP Verification: Evaluate actionable items/deliverables before submission to FTA to confirm there is reasonable evidence that the findings and this required action have been resolved, considering the scope and performance measures.	3/20/24	11/4/24	Action Item Approved	
		19. Develop Project Management Plan (PMP) & Integrated Schedule: Develop and use a project management plan (PMP) and integrated schedule for	9/1/23	10/5/23	Action Item Approved	

FTA-23-10-MBTA-CAT2-1 through FTA-23-10-MBTA-CAT2-6
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		comprehensive coordination and tracking.				
FTA-23-10-MBTA-CAT2-2R	<u>Finding 2:</u> MBTA executive leadership does not receive prioritized and actionable information related to safety risks or shortcomings in safety risk mitigations.	1. Establish CAP Advisory Group: Establish an advisory group of internal stakeholders to review and guide implementation of the corrective action plan.	10/17/22	10/30/22	Action Item Approved	
	<u>Finding 3:</u> MBTA Executive Management does not consistently ensure its decisions related to safety risks are based on safety data analysis or documented facts.	2. Strategic Planning Session: Conduct a strategic planning session for SD 22-10 Finding 2 CAP implementation with the advisory group identified in Actionable Item #1.	11/1/22	12/19/22	Action Item Approved	
	<u>Required Action:</u> MBTA leadership must: 2.1: Work with safety and operating department leads (including maintenance and engineering departments) to define explicit criteria for prioritizing safety risks.	3. Procure Consulting Services: Issue RFP or Task Order for consulting services to evaluate the safety risk management process and incorporate changes into the Transit Safety Plan.	11/16/22	12/22/22	Action Item Approved	
	2.2: Include explicit safety risk acceptance criteria into its Agency Safety Plan and/or reference documents.	4. Onboard Consultant: Onboard selected consultant.	12/23/22	2/17/23	Action Item Approved	
	2.3: Work with MBTA's Safety Department and operating	5. Perform Data Inventory: Perform a comprehensive review of existing sources of safety data across the MBTA,	11/22/22	1/2/23	Action Item Approved	

FTA-23-10-MBTA-CAT2-1 through FTA-23-10-MBTA-CAT2-6
Corrective Action Plan (CAP) Evaluation Matrix for Rewrite of CAPs related to
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Identification Number	Finding and Required Action	Proposed CAP Items	Proposed Start Dates	Proposed End Dates	FTA Comments	MBTA Response (if needed)
	department leads (including maintenance and engineering departments) to define how safety information must be presented to MBTA leadership in a prioritized and actionable manner.	including the basis for integration into Safety's SMS database. Consult with Office of Performance Management and Innovation (OPMI), OCC, Rail Transportation, Vehicle Maintenance, and Engineering & Maintenance.				
	2.4: 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.	6. Map Data Flow and Process: Develop an overall map of safety data sources, flows, and supporting processes, including all data types and processes necessary to support the SMS. Present results of this exercise to executive management for input and guidance; document and submit meeting notes.	1/4/23	2/9/23	Action Item Approved	
	3.A MBTA must map its safety data flows and supporting processes.	7. Assess SMS Database Gap: In consultation with Civix, review the data flow and process map to identify gaps where the SMS database currently may not be configured to support effective safety data management.	2/10/23	3/16/23	Action Item Approved	
	3.B MBTA must establish explicit accountabilities and responsibilities for safety data flows as a component of safety	8. Plan Pilot Project(s):	9/15/23	2/7/24	Action Item Approved	

FTA-23-10-MBTA-CAT2-1 through FTA-23-10-MBTA-CAT2-6
Corrective Action Plan (CAP) Evaluation Matrix for Rewrite of CAPs related to
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	<p>information management (collection, analysis, communication, storage, and retrieval of safety data).</p> <p>3.C MBTA must provide formal training in safety information management to relevant personnel.</p> <p>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.</p>	<p>Plan pilot project(s) that will apply risk escalation and safety information elevation principles to focused safety areas and issues. The planning of the pilot project(s) will occur concurrently with – and in the same vein as - Als 9-11 and lay out the implementation plan to enact the pilot project(s) upon completion of these items. Input from other MBTA Groups (e.g. E&M, Ops) will be included in the planning once an appropriate pilot(s) is identified.</p>				
		<p>9. Evaluate and Reconfigure Data Flows:</p> <p>Evaluate submitted safety data flows and reconfigure them as necessary to meet a structure that reflects the desired, streamlined approach to SMS the 23-10 CAPs will achieve. Include evaluation and reconfiguration of responsibilities for action steps in the data flows. Incorporate changes as necessary to address pending</p>	10/13/23	12/13/23	Action Item Approved	

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		FTA comments on AI 6 and AI 7 provided under the original CAP. Develop SOPs for data flows.				
		10. Establish Data Flow Training Materials: Develop training materials geared towards the specific roles associated with the established data flows. Use outputs of AI 9 to identify training needs and use SOPs to develop training materials.	12/13/23	1/10/24	Action Item Approved	
		11. Train Responsible Parties for Data Flows: Communicate – via updated trainings developed in AI 10 – responsibilities and expectations of each responsible party identified in AI 9. <i>Required Action 3B: Establish Safety Data Flow Responsibilities</i> <i>Required Action 3C: Train Safety Information Management</i>	1/11/24	2/7/24	Action Item Approved	
		12. Initiate Workshop, and Establish Safety Risk Tiers for Pilot Project(s): Progress the pilot project(s) to establish corresponding	2/8/24	3/21/24	Action Item Approved	

FTA-23-10-MBTA-CAT2-1 through FTA-23-10-MBTA-CAT2-6
Corrective Action Plan (CAP) Evaluation Matrix for Rewrite of CAPs related to
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		safety risk tiers by first initiating and workshoping the proposed tiers with other MBTA Groups (e.g. E&M, Ops). This activity will occur simultaneously with – and in the same vein as - AIs 13-15.				
		13. Initiate Safety Risk Tiers Development: Use information on flows of hazard and risk information from AI 9 to help define proposed tiers of safety risks in each division with examples to reinforce the categories (high/serious/medium/low). These draft risk tiers will be used as an input to the following AI.	2/8/24	2/22/24	Action Item Approved	
		14. Workshop Safety Risk Tiers: Hold a workshop with representatives from E&M, Ops, and Safety to review, discuss, and advise on the proposed tiers of safety risks developed in AI 13.	2/23/24	3/7/24	Action Item Approved	
		15. Establish Safety Risk Tiers: Define explicit criteria for safety risk categories and resulting prioritization in	3/8/24	4/10/24	Action Item Approved	

FTA-23-10-MBTA-CAT2-1 through FTA-23-10-MBTA-CAT2-6
Corrective Action Plan (CAP) Evaluation Matrix for Rewrite of CAPs related to
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		<p>applicable plans (e.g., Agency Safety Plan) by using feedback received from stakeholders in AI 14.</p> <p><i>Required Action 2.1: Define Explicit Criteria for Safety Risk Prioritization</i></p> <p><i>Require Action 2.2: Update Safety Plans with Explicit Criteria</i></p>				
		<p>16. Incorporate Risk Tiers into Risk Software:</p> <p>Integrate risk tiers defined in AI 15 into Origami for implementation as part of the impending reporting rollout.</p>	4/11/24	6/7/24	Action Item Approved	
		<p>17. Initiate Workshop, and Establish Elevation Risk Criteria for Pilot Project(s):</p> <p>Progress the pilot project(s) to establish corresponding elevation risk criteria by first initiating and workshopping the proposed criteria with other MBTA Groups (e.g. E&M, Ops). This activity will occur in the same vein as AIs 18-20.</p>	3/22/24	5/20/24	Action Item Approved	

FTA-23-10-MBTA-CAT2-1 through FTA-23-10-MBTA-CAT2-6
Corrective Action Plan (CAP) Evaluation Matrix for Rewrite of CAPs related to
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		18. Initiate Safety Information Elevation Criteria: Build on AI 15 of this CAP to draft proposed criteria for elevation of safety information, using Safety leadership's input on the end result to guide the process. These draft elevation criteria will be used as an input to the following AI.	4/11/24	5/2/24	Action Item Approved	
		19. Workshop Safety Information Elevation Criteria: Hold a workshop series with representatives from E&M, Ops, Safety, and executive leadership to review, discuss, and advise on the proposed criteria for elevation of safety information developed in AI 18. Workshops to be held either by data product (SDAR consumers) or safety committee tiers (BARC, SARC, etc.).	5/3/24	5/22/24	Action Item Approved	
		20. Establish Information Elevation Criteria: Define explicit criteria for elevation of safety information through the	5/23/24	8/8/24	Action Item Approved	

FTA-23-10-MBTA-CAT2-1 through FTA-23-10-MBTA-CAT2-6
Corrective Action Plan (CAP) Evaluation Matrix for Rewrite of CAPs related to
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		management structure in a prioritized and actionable manner and document it in applicable plans (e.g., TSP) by using feedback received from stakeholders in AI 19. <i>Required Action 2.3: Define Safety Information Presentation</i>				
		21. Incorporate Risk Tiers and Elevation Criteria for Pilot Project(s): Integrate pilot project(s)' risk tiers defined in AI 12 and elevation criteria defined in AI 17 into Origami for implementation.	6/10/24	7/9/24	Action Item Approved	
		22. Incorporate Elevation Criteria into Risk Software: Integrate elevation criteria defined in AI 20 into Origami for implementation as part of the impending reporting rollout.	8/9/24	10/24/24	Action Item Approved	
		23. Initiate Automated Reporting: Continue development of the risk tiers and elevation criteria implemented into Origami in AI 21 for pilot project(s) by initiating an iterative approach to creating	10/25/24	11/14/24	Action Item Approved	

FTA-23-10-MBTA-CAT2-1 through FTA-23-10-MBTA-CAT2-6
Corrective Action Plan (CAP) Evaluation Matrix for Rewrite of CAPs related to
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		automated and filterable safety data reports that identify the highest risk criteria items.				
		24. Complete Automated Reporting: Expand automated and filterable safety data reporting into the risk management software at all levels of management review by utilizing information on risk tiers and elevation criteria implemented into Origami in AIs 16 and 22, respectively.	11/15/24	12/27/24	Action Item Approved	
		25. Provide Management Training on Risk Elevation and Software Use: Provide training to the required tiers of management for safety information elevation and use of the risk management software. <i>Required Action 2.4 Resourcing for Risk Mitigations</i>	11/15/24	1/15/15	Action Item Approved	
		26. Track Data Analysis: Track safety data analysis usage over the course of a	12/30/24	5/14/25	Action Item Approved	

FTA-23-10-MBTA-CAT2-1 through FTA-23-10-MBTA-CAT2-6
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		few months, comparing current status against findings from the gap analysis performed under SD 23-10, CAP 1. <i>Required Action 3D: Data-Supported Decision Making</i>				
		27. CAP Verification:	1/29/25	6/12/25	Action Item Approved	
FTA-23-10-MBTA-CAT2-4	<u>Finding:</u> MBTA's safety investigations and safety assurance activities do not consistently collect and analyze information on precursor factors. <u>Required Action:</u> 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. 4.B MBTA must prepare a monthly look-ahead schedule for prioritized safety risk	1. Establish CAP Advisory Group: Establish an advisory group of internal stakeholders to review and guide implementation of the corrective action plan.	10/17/22	10/30/22	Action Item Approved	
		2. Strategic Planning Session: Conduct a strategic planning session for SD 22-10 Finding 4 CAP implementation with the advisory group identified in Actionable Item #1.	11/1/22	11/1/22	Action Item Approved	
		3. Procure Consulting Services: Issue RFP or Task Order for consulting services to evaluate the Transit Safety Plan, Risk Mitigation and Monitoring SOP, and Safety Event Investigation Manual in relation to mitigation	11/16/22	12/22/22	Action Item Approved	

FTA-23-10-MBTA-CAT2-1 through FTA-23-10-MBTA-CAT2-6
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	monitoring activities that include safety risk mitigations and corrective actions in place to address MBTA's highest safety priorities.	monitoring and validation and safety investigation precursor factors and incorporate changes into the relevant plan(s).				
	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: - Suitability of resources available to frontline personnel for operational and maintenance activities - 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	4. Onboard Consultant: Onboard selected consultant.	12/23/22	2/17/23	Action Item Approved	
		5. Review Tools and Processes for Risk Mitigation: Develop template for comprehensive review of existing programs and standard operating procedures related to risk mitigation and monitoring based on Transit Safety Plan and applicable federal/state regulations. Apply template to MBTA processes and documents, including Safety Department SOPs and external program documents such as the Safety Rules Compliance Program Manual. Identify proposed revisions to MBTA documentation.	2/24/23	4/29/23	Action Item Approved	
		6. Increase Staffing of Investigator Positions: In alignment with Safety staffing and hiring plans, increase staffing of	Ongoing	4/30/24	Action Item Approved	

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	- The limited success of discipline to address safety issues	investigation team Safety Lead Investigator, Safety Specialist, and Safety Analyst roles.				
		7. Assess backlog of incident reports: Catalog all investigation reports that are not complete within the 60-day timeline	9/11/23	9/29/23	Action Item Approved	
		8. Develop plan to complete backlogged/late reports: Develop a work plan with timelines to address the overdue reports.	10/2/23	12/15/23	Action Item Approved	
		9. Develop tracking tool for accident investigation through any follow on actions: Develop a tool to track the steps of an event investigation, to include all elements in the accident investigation manual, to enable visibility into status of investigations, root causes determined and any follow-on actions, including CAPs, as well as status of the report.	10/17/23	1/19/24	Action Item Approved	

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		10. Draft Investigation Quality Control Process: Draft a checklist for management quality control review of investigation reports. This checklist will be finalized in AI 13.	9/11/23	9/29/23	Action Item Approved	
		11. Apply Investigation Manual and Procedures: Submit draft reports, final reports, and quality control review checklists to DPU and FTA. The checklist will be user tested once the draft is completed in AI 10 and new iterations of it will be utilized based on user feedback, until finalization in AI 13.	10/2/23	3/15/24	Action Item Approved	
		12. Retrain Safety Event Investigators: Deliver training to refresh staff on event investigation principles. Feedback from the trainees will be requested on the checklist drafted in AI 10 and being user tested in AI 11.	10/2/23	12/29/23	Action Item Approved	
		13. Develop Investigation Quality Control Process:	12/1/23	12/29/23	Action Item Approved	

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Special Directive 22-10: Prioritization

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		Incorporate feedback received in AI 12 on the checklist for management quality control review of investigation reports, circulate to other groups, and finalize.				
		14. Resource and Apply Investigation Quality Control Process: In alignment with Safety hiring plan, identify managers and support staff to apply a sufficient level of quality control to the investigation process. Begin using these personnel to apply quality control process.	12/18/23	2/16/24	Action Item Approved	
		15. Coordinate CAP Development with Operating Departments: Work with stakeholders to develop a process for coordination during CAP development, to include at a minimum, implementing a process (e.g., DocuSign sign-off, Origami process flow) for investigation report corrective action plans.	10/2/23	6/7/24	Action Item Approved	

FTA-23-10-MBTA-CAT2-1 through FTA-23-10-MBTA-CAT2-6
Corrective Action Plan (CAP) Evaluation Matrix for Rewrite of CAPs related to
Special Directive 22-10: Prioritization

Identification Number	Finding and Required Action	Proposed CAP Items	Proposed Start Dates	Proposed End Dates	FTA Comments	MBTA Response (if needed)
		<p>16. Prioritize Risk Mitigation Monitoring:</p> <p>Establish criteria that define high-risk mitigations and corrective actions that should be included in the safety assurance monitoring program.</p>	4/11/24	5/10/24	Action Item Approved	
		<p>17. Define Mitigation Monitoring Performance Metrics:</p> <p>Establish and document performance metrics to track and demonstrate the success of mitigation monitoring activities. Include metrics that establish linkages between accident investigation results and mitigation effectiveness.</p>	5/13/24	6/21/24	Action Item Approved	
		<p>18. Train Investigators on Lessons Learned:</p> <p>Schedule and complete training for Safety investigators on strengths, gaps, and areas for improvement identified through quality control checklist reviews.</p> <p><i>Required Action 4C: Investigator Training</i></p>	6/10/24	9/27/24	Action Item Approved	

FTA-23-10-MBTA-CAT2-1 through FTA-23-10-MBTA-CAT2-6
Corrective Action Plan (CAP) Evaluation Matrix for Rewrite of CAPs related to
Special Directive 22-10: Prioritization

Identification Number	Finding and Required Action	Proposed CAP Items	Proposed Start Dates	Proposed End Dates	FTA Comments	MBTA Response (if needed)
		19. Develop Mitigation Monitoring Process: Establish and document explicit criteria to guide the application of safety assurance activities to risk mitigations, including the frequency and intensity of activities as well as the compliance- or performance-based nature of activities. Consider a comprehensive range of risk mitigation types that may be subject to assurance under these criteria. <i>Required Action 4A: mitigation Monitoring.</i>	6/24/24	8/2/24	Action Item Approved	
		20. Define Operating Departments Involved in Mitigation Monitoring: Clarify and document roles and responsibilities for all business units related to mitigation monitoring.	8/5/24	9/6/24	Action Item Approved	
		21. Train Operating Departments: Train operating department management to the	9/9/24	11/8/24	Action Item Approved	

FTA-23-10-MBTA-CAT2-1 through FTA-23-10-MBTA-CAT2-6
Corrective Action Plan (CAP) Evaluation Matrix for Rewrite of CAPs related to
Special Directive 22-10: Prioritization

Identification Number	Finding and Required Action	Proposed CAP Items	Proposed Start Dates	Proposed End Dates	FTA Comments	MBTA Response (if needed)
		requirements documented in AI 20.				
		22. Initiate Mitigation Monitoring Activities: Implement the mitigation monitoring process developed in AIs 19 and 20.	11/12/24	1/10/25	Action Item Approved	
		23. Schedule Mitigation Monitoring: Generate and deploy a monthly lookahead schedule for risk mitigation monitoring activities. <i>Required Action 4B: Look-Ahead Scheduling.</i>	1/13/25	2/7/25	Action Item Approved	
		24. Develop Mitigation Monitoring Training: Develop training materials on compliance- and performance-based monitoring activities, prioritization of monitoring activities, and roles/responsibilities.	2/10/25	3/7/25	Action Item Approved	
		25. Conduct Mitigation Monitoring Training: Deliver the training developed in AI 24 to Safety	3/10/25	4/25/25	Action Item Approved	

FTA-23-10-MBTA-CAT2-1 through FTA-23-10-MBTA-CAT2-6
Corrective Action Plan (CAP) Evaluation Matrix for Rewrite of CAPs related to
Special Directive 22-10: Prioritization

Identification Number	Finding and Required Action	Proposed CAP Items	Proposed Start Dates	Proposed End Dates	FTA Comments	MBTA Response (if needed)
		staff and impacted business units.				
		26. CAP Verification: Evaluate actionable items/deliverables before submission to FTA to confirm there is reasonable evidence that the findings and this required action have been resolved, considering the scope and performance measures.	9/16/24	6/20/25	Action Item Approved	
FTA-23-10-MBTA-CAT2-5	<u>Finding:</u> 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. <u>Required Action:</u> 5.A: MBTA must develop and document criteria for conducting safety risk assessments consistent with the basic principles of safety management and the tenants	1. Establish CAP Advisory Group: Establish an advisory group of internal stakeholders to review and guide implementation of the corrective action plan.	10/17/22	10/30/22	Action Item Approved	
		2. Strategic Planning Session: Conduct a strategic planning session for SD 22-10 Finding 5 CAP implementation with the advisory group identified in Actionable Item #1.	11/1/22	11/1/22	Action Item Approved	
		3. Procure Consulting Services: Issue RFP or Task Order for consulting services to evaluate the safety risk	11/16/22	12/22/22	Action Item Approved	

FTA-23-10-MBTA-CAT2-1 through FTA-23-10-MBTA-CAT2-6
Corrective Action Plan (CAP) Evaluation Matrix for Rewrite of CAPs related to
Special Directive 22-10: Prioritization

Identification Number	Finding and Required Action	Proposed CAP Items	Proposed Start Dates	Proposed End Dates	FTA Comments	MBTA Response (if needed)
	<p>of SMS as conveyed in FTA's SMS guidance materials.</p> <p>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.</p> <p>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.</p> <p>5.D: MBTA must expand its policy of establishing a predefined 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</p>	assessment process and incorporate changes into the Transit Safety Plan.				
		4. Onboard consultant: Onboard selected consultant.	12/23/22	2/17/23	Action Item Approved	
		5. Define Criteria for Safety Risk Assessments: Develop criteria for conducting safety risk assessments utilizing FTA's SMS guidance materials, to ensure the safety risk assessment process is applied to all hazards where mitigations or corrective actions are required. Document updated criteria in revised Safety Assessment Decision Tool.	2/21/23	4/18/23	Action Item Approved	
		6. Develop Risk Assessment Schedule: Develop and implement a defined schedule for risk assessment activities allowing for both expedited need-based assessments and planned assessments to create a comprehensive body of risk information incorporating critical functions and processes.	9/15/23	10/18/23	Action Item Approved	

FTA-23-10-MBTA-CAT2-1 through FTA-23-10-MBTA-CAT2-6
Corrective Action Plan (CAP) Evaluation Matrix for Rewrite of CAPs related to
Special Directive 22-10: Prioritization

Identification Number	Finding and Required Action	Proposed CAP Items	Proposed Start Dates	Proposed End Dates	FTA Comments	MBTA Response (if needed)
	prioritization for resource allocation.	Distribute the schedule to impacted stakeholders. <i>Required Action 5D: Risk Assessment Schedule</i>				
		7. Update Criteria for Safety Risk Assessments: Update safety risk assessment criteria for consistency with basic principles of safety management, tenets of FTA's SMS guidance materials and its comments on AI 5. Include sections on hazard identification and analysis, safety risk evaluation, and safety risk mitigation. Include criteria for elevation of safety management communications to executive leadership.	10/19/23	12/1/23	Action Item Approved	
		8. Define Roles and Responsibilities: Specify safety risk assessment (SRA) roles, responsibilities, and thresholds of authority by department. Document these roles, responsibilities, and thresholds within the SRA criteria.	12/4/23	1/12/24	Action Item Approved	

FTA-23-10-MBTA-CAT2-1 through FTA-23-10-MBTA-CAT2-6
Corrective Action Plan (CAP) Evaluation Matrix for Rewrite of CAPs related to
Special Directive 22-10: Prioritization

Identification Number	Finding and Required Action	Proposed CAP Items	Proposed Start Dates	Proposed End Dates	FTA Comments	MBTA Response (if needed)
		<p>9. Workshop Criteria for Safety Risk Assessments:</p> <p>Workshop SRA criteria with impacted department stakeholders and senior leadership. Incorporate updates identified during the workshop(s), if any. Document formal endorsement of the SRA criteria by senior leadership.</p> <p><i>Required Action 5A: Risk Assessment Criteria</i></p> <p><i>Required Action 5B: Risk Assessment Roles</i></p> <p><i>Required Action 5C: Risk Assessment Subject Matter</i></p>	1/16/24	2/28/24	Action Item Approved	
		<p>10. Engage Stakeholders to Identify Gaps in Training:</p> <p>Convene a stakeholder engagement group from all affected areas to understand gaps in training materials and training methods.</p>	2/29/24	3/27/24	Action Item Approved	
		<p>11. Schedule and Deliver SRM Training:</p> <p>Provide direct training and guidance on safety risk assessment process based on</p>	3/28/24	5/15/24	Action Item Approved	

FTA-23-10-MBTA-CAT2-1 through FTA-23-10-MBTA-CAT2-6
Corrective Action Plan (CAP) Evaluation Matrix for Rewrite of CAPs related to
Special Directive 22-10: Prioritization

Identification Number	Finding and Required Action	Proposed CAP Items	Proposed Start Dates	Proposed End Dates	FTA Comments	MBTA Response (if needed)
		results of the stakeholder engagements.				
		12. Revise Transit Safety Plan: Incorporate into the Transit Safety Plan annual update modifications to the safety risk prioritization and safety risk assessment process.	5/16/24	9/1/24	Action Item Approved	
		13. CAP Verification: Evaluate actionable items/deliverables before submission to FTA to confirm there is reasonable evidence that the findings and this required action have been resolved, considering the scope and performance measures.	7/1/24	10/15/24	Action Item Approved	
FTA-23-10-MBTA-CAT2-6	<u>Finding:</u> 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. <u>Required Action:</u>	1. Establish CAP Advisory Group: Establish an advisory group of internal stakeholders to review and guide implementation of the corrective action plan.	10/17/22	10/30/22	Action Item Approved	
		2. Strategic Planning Session: Conduct a strategic planning session for SD 22-10 Finding	11/1/22	11/1/22	Action Item Approved	

FTA-23-10-MBTA-CAT2-1 through FTA-23-10-MBTA-CAT2-6
Corrective Action Plan (CAP) Evaluation Matrix for Rewrite of CAPs related to
Special Directive 22-10: Prioritization

Identification Number	Finding and Required Action	Proposed CAP Items	Proposed Start Dates	Proposed End Dates	FTA Comments	MBTA Response (if needed)
	<p>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.</p> <p>6.B: MBTA must expedite the build out of its safety risk and safety risk mitigation monitoring information tools.</p> <p>6.C: MBTA must demonstrate use of its safety information management tools to effectively prioritize its resources to address the results of:</p> <ul style="list-style-type: none"> • Safety Risk Monitoring • Safety Performance Monitoring 	6 CAP implementation with the advisory group identified in Actionable Item #1.				
		3. Procure Consulting Services: Issue RFP or Task Order for consulting services to evaluate the safety risk management process and incorporate changes into the Transit Safety Plan.	11/16/22	12/22/22	Action Item Approved	
		4. Onboard Consultant: Onboard selected consultant.	12/23/22	2/17/23	Action Item Approved	
		5. Assess Existing Safety Data Tools and Processes: Compile and review all existing tools and processes used to document, track, and analyze safety data and monitor mitigations. Compare against SMS regulatory requirements, industry best practices, and TSP requirements.	2/21/23	5/5/23	Action Item Approved	
		6. Develop Data Verification Guidelines: Develop and formalize guidelines for verification of data accuracy and safety risk indexing within Safety and	9/15/23	10/13/23	Action Item Approved	

FTA-23-10-MBTA-CAT2-1 through FTA-23-10-MBTA-CAT2-6
Corrective Action Plan (CAP) Evaluation Matrix for Rewrite of CAPs related to
Special Directive 22-10: Prioritization

Identification Number	Finding and Required Action	Proposed CAP Items	Proposed Start Dates	Proposed End Dates	FTA Comments	MBTA Response (if needed)
		with operational departments.				
		7. Assess Data Logging Process: Document process and resource issues that contributed to data inaccuracies described in Required Action 6.A. Mitigate these issues through process/procedure/workflow changes. Incorporate changes in SD 23-10, CAP 2R, AI 9 if required.	9/15/23	11/17/23	Action Item Approved	
		8. Review and Update Data Logs: Evaluate and revise the data contained in the hazard and safety risk mitigation logs for accuracy and relevancy to SMS requirements. <i>Required Action 6A: Evaluate and Update Historic Data</i>	9/15/23	11/17/23	Action Item Approved	
		9. Track Development of Data Tools: Establish management reporting process and schedule to provide visibility on status of buildout, testing, and full implementation of Origami tools.	10/16/23	11/7/23	Action Item Approved	

FTA-23-10-MBTA-CAT2-1 through FTA-23-10-MBTA-CAT2-6
Corrective Action Plan (CAP) Evaluation Matrix for Rewrite of CAPs related to
Special Directive 22-10: Prioritization

Identification Number	Finding and Required Action	Proposed CAP Items	Proposed Start Dates	Proposed End Dates	FTA Comments	MBTA Response (if needed)
		10. Review Effectiveness of Information Tools: Using FTA guidance as a framework, review the effectiveness of safety risk mitigation and monitoring information tools. If necessary, incorporate additional safety information management tools to address areas of ineffectiveness. This item to supersede AI 5.	11/8/23	12/14/23	Action Item Approved	
		11. Workshop Data Products: Workshop existing data products with senior leadership to detail expectations for format and contents of actionable safety management information in future reports and dashboards.	12/15/23	2/6/24	Action Item Approved	
		12. Establish Provisions for Ineffective Mitigations: Based on the results of management workshops and on SMS principles, establish explicit provisions to review/revise existing safety risk mitigations when not effective, authorize	2/7/24	4/4/24	Action Item Approved	

FTA-23-10-MBTA-CAT2-1 through FTA-23-10-MBTA-CAT2-6
Corrective Action Plan (CAP) Evaluation Matrix for Rewrite of CAPs related to
Special Directive 22-10: Prioritization

Identification Number	Finding and Required Action	Proposed CAP Items	Proposed Start Dates	Proposed End Dates	FTA Comments	MBTA Response (if needed)
		management action to address ineffective mitigations, and reallocate resources to address higher priority safety concerns.				
		<p>13. Monitor & Optimize Effectiveness of Tools:</p> <p>Launch safety information management tools that provide the required information to effectively prioritize resources to address the results of Safety Risk Monitoring and Safety Performance Monitoring. The tools will be monitored for optimization opportunities and updated to reflect any necessary improvements. This monitoring and optimization phase will coincide with integration of risk tiers (SD 23-10, CAP 2R, AI 16) and elevation criteria (SD 23-10, CAP 2R, AI 22) into the risk software, as well as development of automated reporting (SD 23-10, CAP 2R, AIs 23 and 24). Required</p> <p><i>Action 6B: Build Out Information Tools.</i></p>	4/5/24	12/27/24	Action Item Approved	

FTA-23-10-MBTA-CAT2-1 through FTA-23-10-MBTA-CAT2-6
Corrective Action Plan (CAP) Evaluation Matrix for Rewrite of CAPs related to
Special Directive 22-10: Prioritization

Identification Number	Finding and Required Action	Proposed CAP Items	Proposed Start Dates	Proposed End Dates	FTA Comments	MBTA Response (if needed)
		14. Revise and Distribute Transit Safety Plan: Revise the Transit Safety Plan to reflect modifications to the safety risk management process.	6/3/24	8/30/24	Action Item Approved	
		15. Verify Effectiveness of Tools: Ensure safety information management tools – including automated reporting being developed under SD 23-10, CAP 2R, AI 24 – provide the required information to effectively prioritize resources to address the results of Safety Risk Monitoring and Safety Performance Monitoring. <i>Required Action 6C: Demonstrate Effectiveness of Tools</i>	12/30/24	2/26/25	Action Item Approved	
		16. CAP Verification: Evaluate actionable items/deliverables before submission to FTA to confirm there is reasonable evidence that the findings and this required action have been resolved, considering the scope and performance measures.	1/9/25	4/9/25	Action Item Approved	