Massachusetts Bay Transportation Authority

3-Year Safety Improvement Plan

March 2023

March 31, 2023

The Honorable Brendan Crighton
Chair Joint Committee on Transportation
State House, Room 109-C
Boston, MA 02133

The Honorable William Straus
Chair Joint Committee on Transportation
State House, Room 134
Boston, MA 02133

Dear Chairs, Crighton and Straus:

The Massachusetts Bay Transportation Authority (MBTA, T or Authority) is pleased to submit its Three-Year Safety Improvement Plan, pursuant to Massachusetts General Laws, Chapter 176 of the Acts of 2022.

More than 5,000 men and women keep the MBTA's trains, trolleys, buses, and ferries working seven days a week. As such, the safety of our riders and employees is paramount. Safety is our top priority and it is a value that will be ingrained in every facet of our daily operations and every task we undertake, 24/7.

The past year has been a challenge for all of us. And the men and women at the MBTA have been on the frontlines by providing service to people returning to the workplace, welcoming new riders, and most importantly, providing transportation to the essential workers who depend on the T every day for their daily commute.

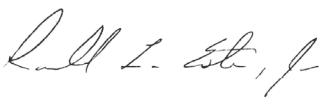
The MBTA's Three-Year Safety Improvement Plan embodies a multitude of mandated requirements from the Federal Transit Administration (FTA), Federal Railroad Administration (FRA), United States Coast Guard (USCG), and the Department of Public Utilities (DPU). It contains an overview of the relevant state and federal regulatory authorities, required safety plans, a description of each transit mode, safety objectives for the next three years, and the safety performance targets for each transportation mode. This document also includes an overview of the FTA's Safety Management Inspection (SMI), related Special Directives, and MBTA's targets for achieving compliance with the directives. This document closes with a description of the process for delivering injury and incident data during the next three calendar years as required by Chapter 176 of the Acts of 2022.

The MBTA is committed to developing, implementing, maintaining, and continuously improving its processes to ensure that all transportation services have the appropriate allocation of resources that support our safety performance objectives and will ensure a strong organizational safety culture, driven by our commitment to the Safety Management System (SMS). Through strategic investments and dedicated resources, the MBTA will continue to advance its safety culture and mature its SMS, with each MBTA employee accountable for the safety of our system.

Thank you for this opportunity to share with the Committee the MBTA's Safety Improvement Plan and for your continued support of the MBTA and public transportation in the Commonwealth of Massachusetts.

Sincerely,

Jeff Gonneville
Interim General Manager
Massachusetts Bay Transportation Authority



Ronald Ester
Chief Safety Officer
Massachusetts Bay Transportation Authority

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1. Executive Summary

The mission of the Massachusetts Bay Transportation Authority (MBTA, T or Authority) is to serve the public by providing safe, reliable, and accessible transportation services that meets the needs of the public we serve. Safety is embedded in our mission, safety – for our workers, the riding public, and the surrounding communities in which we operate. Our mission and commitment to safety is supported by our Board of Directors and our General Manager and it is implemented through our strategic planning process and the numerous specific safety planning processes within the MBTA. In 2020, we published our first Transit Safety Plan (TSP) which includes a description of a new approach to safety using the Safety Management System (SMS) process. In addition, we submitted the first Safety System Program (SSP) Plan for the commuter rail and received FRA approval in 2022.

These MBTA safety plans embody our mission and values to keep safety at the forefront of our work. By implementing an SMS and using proactive, strategic processes we will drive continuous improvement rather than striving to achieve a static level of performance. However, as previous challenges made clear, plans are not enough.

Understanding that this 3-Year Safety Improvement Plan (SIP Plan or Plan) was developed by the MBTA to address the requirements stipulated in the Commonwealth of Massachusetts, Chapter 176 of the Acts of 2022, Section 62, the Plan embodies our mission and values and is based on our TSP, SSP Plan, and our SMS process, while also embracing the organizational changes required to fully and successfully implement these plans and process. This SIP applies to all modes of transportation services provided by the MBTA, including subway, paratransit service, bus, commuter rail, and ferry, as well as to all internal efforts that support these services, such as capital, engineering, and maintenance.

We understand that a strong safety culture and **practice** are essential to our success. Safety is our top priority and from this point moving forward it will be part of all our decisions and actions protecting people as we improve our systems and processes. This Plan defines the safety objectives and targets that will support the organization's transformation into a safe and reliable transit agency during the next three years.

Background

Over the past four years we have experienced serious and highly publicized accidents resulting in injuries and fatalities, financial loss, and loss of the public's confidence. During this same period, we did demonstrate the ability to be nimble and pivoted during the COVID-19 pandemic to deliver essential services to the public while keeping our workforce safe. We worked diligently to understand, address, and pivot to ensure safe, reliable service to the public while keeping workers safe. Following two highly publicized derailments in 2019, our Fiscal and Management Control Board, supported by the FTA, appointed a third-party Safety Review Panel to investigate the MBTA. The Panel issued a Final Report in December 2019, which contained 34 observations/findings and 58 recommendations.

In 2022, we demonstrated a pattern of safety incidents which included revenue and nonrevenue derailments, train and grade crossing collisions, fatalities, and other incidents involving both MBTA employees and passengers. In addition, our safety performance as monitored through data reported to the National Transit Database (NTD) indicated a higher overall rate of safety events and increase in severity of incidents.. As a result of these two observations, the FTA conducted a Safety Management Inspection (SMI) in 2022.

FTA's 2022 SMI included a review of rail transit operations, training, vehicle maintenance, signals and train control, and track access. It also covered capital project delivery, traction power, facilities, and safety management. As a result of the inspection, the FTA issued eight Special Directives to the MBTA. In response, we developed 38 Corrective Action Plans (CAP) and 545 Action Items that detail how we will address each FTA Special Directive and implement safety improvements across the organization. Remaining recommendations from the 2019 Safety Panel Report were considered and woven into the CAP process. As of March 20, 2023, we already have completed 42 percent of our total action items and expect 100% completion by the end of 2025 as defined in our approved SMI implementation timeline.

A Renewed Focus on Safety

As we move through 2023, we are continuing our journey, working collaboratively to meet safety expectations and continually improve our safety systems and processes. We understand there is a tremendous amount of work to accomplish to improve our safety performance and our safety culture. A positive and healthy safety culture is the key to sustaining continuous safety improvement at the MBTA. We are aggressively focused on hiring and staff retention to support the completion of the SMI CAPs and all safety objectives.

It is widely known that the MBTA has spent much the second half of 2022 and early 2023 focusing on responding to the FTA Special Directives and improving safety reporting. We have made progress, which can be seen in the safety data that is published every month at each of the Safety Committee levels, in the publicly available SMI CAP implementation status update on MBTA's website, www.mbta.com/FTAResponse, that went live February 24, 2023, and in the area of personal protective equipment, where we reviewed and updated our PPE requirements and provided a mobile safety shoe van to all affected employees. We now have over 3,000 work boots either purchased or on order, that not only ensures proper foot protection for our workforce, but demonstrates to our workforce our commitment about their safety and well-being to facilitate a culture of safety by all of our employees practicing safety and making it part of their normal thought process for everything they do. Safety must be second nature.

An important development integral to enhancing safety and ensuring continuous improvement is the creation of the Department of Quality, Compliance and Oversight (QCO). It functions as an internal quality and project management office, providing project management expertise and supplemental resources to departments across the MBTA to implement corrective actions to address the SMI and related projects. The office's dedicated focus on the tracking and reporting of the SMI CAPs as well as its cross-departmental authority to catalyze change allows broad and sustainable implementation of best practices across the MBTA. For optimal effectiveness, the office is structured around four centers of excellence that encompass the SMI findings and projected future work: Workforce; Data, System, and Communications; Rules, Policies, and Procedures; and Quality Management.

MBTA is committed to tracking and reporting progress towards achieving our safety objectives and performance targets, completing the SMI CAPs, and discussing each year's targets based on our experience and accomplishments from the prior year. We will report regularly to the Legislature and to the public on this progress. In addition, we will update and adjust those targets annually as we learn from our staff, the FTA, and all stakeholders.

Safety Objectives and Safety Performance Targets

Through our careful evaluation and planning processes throughout the MBTA, we have identified safety objectives and targets to guide our journey to improved safety for our employees and riders. MBTA's safety performance is managed using leading and lagging indicators, both functioning as important, complementary drivers for safety improvement. Our objectives include the necessary actions that we must take to drive our organization to ingrain safety in everything we do. We will continuously be monitoring our objectives and open to adjustments to meet and exceed our targets in conjunction with the regulatory authorities. As targets are indicative of our progress towards an improved safety culture, we must respond by evaluating and revising our objectives to ensure that we achieve our safety targets, which really means providing riders and workers a safer environment.

The objectives are based on several initiatives centered on people, processes, and equipment that are projected to be completed by the end of 2025. A few of our more important safety objectives include improved staffing, installation of the Green Line Train Protection System, and completion of the Commuter Rail Train Protection Enhancements. A complete list of these objectives is presented in Section 4.

The MBTA also has established safety targets, presented in Section 6, which were developed to provide a measurement of our progress in reducing fatalities, injuries, and safety and security events, while increasing system reliability. An example of a critical safety target is reducing fatalities across the system to zero.

In addition to these objectives the MBTA has undertaken several additional safety-related, long-range, and ongoing programs and projects that exceed the timeframe of this 3-year SIP. These programs and projects will not only enhance safety but are vital to continuous improvement.

Examples of these programs and projects include continued implementation of the SMS, infrastructure upgrades, and vehicle replacement.

The MBTA is committed to improving our safety culture to ensure a safe, and more reliable and sustainable service by reducing fatalities, injuries, and safety and security events, as well as increasing system reliability. We are confident that our approach, along with the objectives and targets identified in this plan will lead the way to achieving our mission.

2. Scope

At the MBTA, our mission is to serve the public by providing safe, reliable, and accessible transportation services that meet the needs of the public we serve. Our core values are built around safety, service, equity, and sustainability. This 3-Year Safety Improvement Plan (herein referred to as the SIP or Plan) has been prepared in accordance with Massachusetts General Laws, Chapter 176 of the Acts of 2022, Section 62 and addresses safety improvements that will positively impact safety for passengers and workers, in accordance with our mission and values. The safety objectives included in this SIP are focused on activities that are anticipated to be completed within the next three years.

Chapter 176 of the Acts of 2022 was created, among other objectives, to finance improvements to the Commonwealth's environmental and transportation infrastructure. Specifically, Section 62 of the Chapter 176 directs the MBTA to prepare a 3-year SIP and submit the plan to the Massachusetts Legislature on or before March 1, 2023. This document was created not only to comply with this requirement as it applies to the MBTA, but also provide a forward-facing document that illustrates our extensive commitment, through numerous comprehensive objectives and targets, to ensure the safety of our employees and riders.

3. Introduction

We have taken the results of the FTA's 2022 Safety Management Inspection (SMI), our safety-related projects, and the targets associated with our safety plans, which are focused on Safety Management System principles, to establish our 3-Year Safety Improvement Plan objectives and targets. Our safety objectives are integral to improving the safety performance of the MBTA, which includes our valued employees, outside entities working on our or near our ROW, our riders and the public at large.

And yet we're not stopping our efforts after three years. We are committed to continuous improvement of our safety culture well into the future. As such, we will assess, identify, plan, and complete other safety objectives that are not currently part of this plan's three-year timeframe, as well as reassess our safety targets to further enhance employee, rider, and public safety. Examples of projects outside of this plan's timeframe include the new Orange and Red Line cars and the numerous state of good repair projects in the MBTA's Capital Investment Plan (CIP) that will enhance safety and reliability.

4. MBTA Safety Objectives

As discussed briefly in the Executive Summary, our Plan establishes both objectives and targets that drive safety performance at the MBTA. Objectives, which are leading indicators, are like looking through the windshield of a car at the road ahead and are used to try to influence future outcomes, such as reduced injuries. We have established our 3-Year Safety Improvement Plan objectives based on FTA's SMI results, Capital Transformation Program safety-related projects, as well as other capital improvement projects and regulatory requirements.

Our objectives are developed to support the health and well-being of our valued employees, outside entities working on our or near our ROW, our riders and the public at large. As the T is a large and diverse organization with five distinct modes of transportation, our objectives reflect a broad range of actions that will improve our safety culture and safety performance.

Table 4-1 summarizes each objective and its expected outcome, including the program associated with each objective. As the MBTA is diverse organization with many modes of transit services that affects employees, customers, and the general public, our objectives cover a broad, multifaceted approach to safety-improvement. We incorporated several critical Safety Management Inspection Special Directive corrective action plans, our two safety plans, and four safety-related capital projects into these objectives that will facilitate forward progress to improving safety at the MBTA. Each of these objectives is discussed in greater detail within this section.

At the T, we are aiming for continuous improvement on an evolving timeline. The projected completion dates are provided as anticipated deadlines based on available information at the time each initiative was planned or was last updated. We will be monitoring resources, parts and equipment, and scheduling, among other factors, and may adjust timelines accordingly in full conjunction with the applicable regulatory authority.

Table 4-1. 3-Year Safety Improvement Objectives

SOURCE	OBJECTIVE	EXPECTED OUTCOME	PROJECTED COMPLETION
SMI	Workforce Improvement – Staff for a resilient, efficient, and effective workforce	Safety and workplace culture improvements leading to improved operational outcomes	January 2024
SMI	Workforce Improvement – Manage the impact of operations, maintenance, and capital project requirements on the existing workforce	Identification of necessary staffing levels for the safe and effective operations of the MBTA and adherence to the corresponding recruitment and hiring plan.	June 2024
SMI	Policies, Rules & Procedures – Improve and implement policies and procedures related to safe train movement and securement	Decrease in incidents of unintentional train movements and disabled trains in revenue service	December 2023
SMI	Policies, Rules & Procedures – Implement fatigue management and certification management for OCC dispatches and supervisors	Fully staffed OCC with no lapsed certifications	July 2024
SMI	Policies, Rules & Procedures – Elimination of hours of work violations and certification management program for transportation personnel	Elimination of hours of work violations and lapsed certification violations	October 2024
SMI	Data, Systems, & Communications – Prioritize safety management information	Full implementation of the Authority-wide Safety Management System and use of safety data analysis for safety risk decision making at all levels of the Authority	July 2024
SMI	Data, Systems, & Communications – Effective safety communication	Enhanced employee safety reporting and feedback through the ESRP and safety meeting structures	January 2024
SMI	Quality Management – Improved correlation between operating conditions and policies, rules, and procedures	Improved and updated rules, policies, procedures, quality management, and training	September 2025
SMI	Policies, Rules & Procedures – Establish a Safety Management Working Group to review existing PPE policies	Improve worker safety through the application of one written policy for minimum PPE requirements for Right of Way (ROW) access	June 2023

SOURCE	OBJECTIVE	EXPECTED OUTCOME	PROJECTED COMPLETION
SMI	Data, Systems, & Communications – Monitor proper and consistent use of PPE by personnel when accessing the ROW and performing other hazardous work activities	Improve worker safety through monitoring of the ROW written policy for minimum PPE requirements	June 2023
SMI	Policies, Rules & Procedures – Increase the working time on the ROW that balances the work time between maintenance priorities, capital renewal activities, and capital project work	Provide adequate time to complete necessary maintenance of way (MOW) maintenance activities	June 2024
SMI	Policies, Rules & Procedures – Develop a comprehensive work plan to address MOW maintenance needs and manage on-going MOW workload	Improve work plans to address MOW maintenance needs and manage on-going MOW workload	Verification Stage
SMI	Data, Systems, & Communications – Transition to a new Enterprise Asset Management (EAM) system with sufficient resources to support	Improve preventative and corrective maintenance practices while developing and implementing plans and schedules	July 2023
SMI	Data, Systems, & Communications – Develop a series of clear asset performance metrics and implement a procedure that accurately communicates MOW defects to Executive Leadership	Provide prioritized and actionable information to Executive Leadership regarding the condition of MBTA's assets and infrastructure	August 2023
SMI	Policies, Rules & Procedures – Develop and implement a special maintenance repair plan to reduce the percentage of system track that is under a speed restriction.	Reduce the percentage of system track that is under a speed restriction	June 2023
SMI	Data, Systems, & Communications – Restore Green Line work train capabilities	Access locations with equipment and supplies needed to perform corrective maintenance	Complete
TSP	Revision of the Transit Safety Plan	TSP revised to incorporate FTA's SMI recommendations to improve the Plan	2024
SSP Plan	Implementation of the System Safety Program Plan	Implementation of programs and processes that reduce injuries and incidents	April 2025

SOURCE	OBJECTIVE	EXPECTED OUTCOME	PROJECTED COMPLETION
Commuter Rail Safety and Resiliency Program	Northside Automatic Train Control Program	Reduce train-on-train collisions and incorporate speed enforcement	December 2024
Green Line Train Protection System	Green Line Train Protection System	Implementation of field-based hardware and software systems for collision prevention and speed control	2025
Station Accessibility	Subway and commuter rail stations, vertical transportation, bus stops, accessibility improvements	Provide accessibile transit benefits for everyone—older adults, parents, students, commuters, toursits, and the many other riders	2025 and beyond
Rail Maintenance Yard and Facility Modernization	Modernize two maintenance rail yards	Improve worker safety and security by providing safer, more efficient maintenance facilities	Fall 2025

In addition to the above-mentioned objectives, we also have undertaken several additional safety-related long-range and ongoing programs and projects that exceed the limits of this 3-year SIP. These programs and projects will not only enhance safety but are vital to continuous improvement of our services. These programs and projects include, but are not limited to:

- Continued implementation of the SMS
- New car procurement for the Orange and Red Lines
- State of good repair program (well maintained, reliable transit infrastructure)
- Replacement of analog with digital signaling systems on the Orange and Red Lines
- Construction and rehabilitation of the Hingham ferry dock
- Green Line Type 10 vehicle design and replacement
- Mattapan Line Transformation program
- Bus Facility Modernization program

At the MBTA, we have undertaken various initiatives, sometimes in coordination with state and local partners, that impact the safety of our employees, riders, and the general public. Our partnerships exist across all modes of transportation, and include initiatives related to emergency response and bus stop accessibility. These activities, a few of which are highlighted below, are ongoing, continuous improvement efforts that seek to improve ridership experience and safety.

- The MBTA, in conjunction with MassDOT Security and Emergency Management, conducts emergency evacuation drills annually on the transit and commuter rail systems. These drills provide training to local emergency responders including police, fire, emergency medical services, and dispatch services. Each drill is planned with the involved city or municipality well in advance to provide them with relevant training for transportation-related emergency situations. Following each drill, an after-action review is conducted to discuss successes, review lessons learned, and identify areas for improvement. Emergency training is also conducted monthly on the ferry system, reinforcing the crew's ability to manage various emergency situations.
- One of our previously completed initiatives that will be maintained through ongoing efforts is the Bus Stop Accessibility Project. In 2022, the MBTA installed two interactive Information Kiosks at Maverick and Roxbury Crossing as the first steps towards the larger deployment of Bus Shelters and Information Kiosks across the region, providing more amenities for riders at bus stops, including shelter, seating, real-time travel information, and improved rider accessibility and security. In 2023 and beyond, the MBTA will install new Bus Shelters and Information Kiosks whose operations, maintenance, and snow removal are supported by advertising revenue.
- After relying on written letters, the MBTA has reinstated annual meetings with municipal partners to grow communication and collaboration regarding effective snow removal activities at bus stops and commuter rail crossings. Clearing sidewalks and curb ramps and cutting through snow berms is a critical component of keeping bus service safe and accessible during the winter. As most bus stops are located on municipal sidewalks, their cooperation and support are crucial to maintaining a safe and accessible network. At rail crossings, proper snow removal and judicious application of salt can prevent infrastructure damage, allow gate arms to function properly, improve user visibility, and prevent malfunction of active railroad crossing warning devices. With municipal cooperation, we can improve public safety as well as the conditions of equipment and infrastructure.

4.1 Safety Management Inspection Objectives

A component of this Safety Improvement Plan includes the work that will be performed over the next three calendar years in response to FTA's Safety Management Inspection (SMI). The FTA conducted an SMI of the MBTA and its state safety oversight agency (SSOA), Massachusetts Department of Public Utilities (DPU), in the second quarter of 2022. The SMI was in response to multiple notable safety incidents at the MBTA involving both employees and passengers, and MBTA's safety performance as monitored through data reported to the National Transit Database (NTD). The SMI also assessed DPU's implementation of its SSO program. The FTA published its SMI Final Report on August 31, 2022.

As a result of the SMI, the FTA issued eight Special Directives (SD) containing forty-two findings to the MBTA. These findings address various aspects of safety at the MBTA, from safety recertifications to developing and prioritizing safety data. The MBTA created a total of 38 corrective action plans (CAP) with 545 corrective actions to address these findings. A summary of the CAPs for each Special Directive is as follows:

SD 22-4: Delayed Critical Maintenance. Nine CAPs were developed 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 impede track repair.

SD 22-5: Operating Procedures Related to Train Movements. Three CAPs were created to address operating procedures for disabled trains and yard moves and unintended and uncontrolled train movements by disabled trains in maintenance facilities and rail yards.

SD 22-6: OCC Staffing & Number of Hours People are Working. Four CAPs were developed to address the scheduling system and daily reporting of planned and actual shift assignments for all OCC staff.

SD 22-7: Safety Recertification Process for Employees. Two CAPs were developed to address the pattern of safety incidents and interim safety findings about lapsed safety training certifications of safety-sensitive rail personnel.

SD 22-9: Managing the Impact of Operations, Maintenance & Capital Projects Requirements on the Existing Workforce. Four CAPs were created to address the balance of demands from operations and capital projects with workforce capacity and capability to inform resource prioritization.

SD 22-10: Prioritization of Safety Management Information. Six CAPs were developed to address the enhancement and expeditious implementation of the Authority's SMS, including the development of procedures, safety management training, safety risk assessment, and safety assurance activities to build the organization's capability to identify safety concerns and to prioritize action to mitigate safety risk.

SD 22-11: Effectiveness of Safety Communication. Three CAPs were created to improve MBTA's management of its safety committee process, employee safety reporting program, and safety promotion activities.

SD 22-12: Operating Conditions and Policies, Procedures, and Training. Seven CAPs were developed 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.

Several objectives were selected from the four over-arching SMI themes: Workforce Improvements, Policies, Rules & Procedures, Data, Systems & Communications, and Quality Management. Each of the selected objectives are further discussed in the following subsections.

4.1.1 Workforce Improvements

Our goal for staffing the MBTA is not just to meet the safety minimums but to staff for a resilient, efficient, and effective workforce. The workforce analysis undertaken as part of the SMI response will evaluate the needs of all levels of the Authority and establish a five-year hiring plan with targets and strategies. Staffing and hiring plans will not just be about hiring people but about how to build infrastructure, i.e., physical, human, and procedural, to support and grow the MBTA's workforce. Proper staffing with a focus on engagement and employee experience will result in safety and workplace culture improvements leading to improved operational outcomes. The workforce assessment will be performed first, then a Five-Year Hiring Plan will be developed by January 2024.

In terms of staffing improvements, we will assess and manage the impact of operations, maintenance, and capital project requirements on the existing workforce. We will first Identify the necessary staffing levels for the safe and effective operations of the MBTA and adherence to the corresponding recruitment and hiring plan. It is anticipated that this work will be completed by June 2024.

4.1.2 Policies, Rules & Procedures

At the MBTA, we strive to improve the quality of our programs to reduce the potential for incidents. To address safety concerns on the right of way (ROW). These actions are intended to address deficiencies in personal protective equipment and right of way safety.

We have developed and implemented a special maintenance repair plan (SMRP) to reduce the percentage of system track that is under a speed restriction. We have executed and continue to plan multiple diversions to allow for maintenance and repairs to address these speed restrictions. To support track maintenance planning and execution, we are developing and fully resourcing additional headcount, materials, equipment, operating budget, and capital budget to reduce the percentage of service-affecting defects managed by MOW departments. The MBTA MOW and Capital Programs departments continue to jointly develop strategies for resourcing each work scope to reduce speed restrictions using both internal maintenance capabilities and contractor resources. Working in conjunction with the ROW access committee, we will continue to schedule additional track time to adequately support activities required to reduce defects that result in speed restrictions.

As part of this focus, we will improve and implement policies and procedures related to safe train movement and securement, which will decrease incidents of unintentional train movements and disabled trains in revenue service.

Finally, we will create a certification management program for transportation personnel, which will eliminate hours of work violations and lapsed certification violations.

4.1.3 Data, Systems & Communications

Several CAPs address the importance of having efficient and effective data, systems, and communication processes in place that positively impact safety. We will address issues with our

current ROW practices, work order system, safety management information, and safety communication.

The MBTA is committed to implementing an efficient and effective track maintenance planning and implementation process to improve the overall safety of the system. We will expedite and sufficiently resource the transition to a new Enterprise Asset Management system as well as add resources to increase maintenance planning to improve preventative and corrective maintenance practices, while developing and implementing plans and schedules to better manage data on MOW defects and work order status. This transformed process will address track defects prior to impacts to service, thus improving safety and reliability.

One of the SMI findings identified the safety information management tools (e.g., hazard log, safety risk mitigation log, etc.) do not fully support prioritization of resources to address safety risk and safety performance monitoring. To address this issue, we will review the existing data collection and tracking resources to develop explicit and formal provisions for the new Safety Risk Management and Safety Assurance data management modules. The review will result in the development and execution of these modules which will provide a central repository for tracking safety risk information and mitigations and monitoring the effectiveness of corrective action plans. By fully implementing an Authority-wide Safety Management System and using safety data analysis for safety risk decision making at all levels, we will be better positioned to allocate resources to resolve safety issues.

Effective safety communication, which includes a robust employee safety reporting program (ESRP), within an organization supports a strong safety culture. We will evaluate and implement an enhanced ESRP to support increased proper reporting of safety incidents while generating prioritized risk information. The program will ensure feedback through the safety meeting structure and other reporting venues. The goal is to collect inputs from a wider range of employees and monitor the program to ensure its continued success.

4.1.4 Quality Management

An important aspect of an effective safety culture is ensuring rules, policies, procedures, and training are not just relevant, but also adhered to as intended. We endeavor to improve the correlation between operating conditions and policies, rules, and procedures through periodic audits and reviews. The result of these efforts will ensure improved and updated rules, policies, procedures, quality management, and training.

4.2 Transit Safety Plan

MBTA's Transit Safety Plan establishes baseline safety program requirements and parameters for modes including heavy rail, light rail, bus, and paratransit. This plan was developed based on Safety Management System principles. As a living document which is updated at least annually, the TSP evolves to account for changes in MBTA's organizational structure, programs, policies, procedures, and operating environment, in addition to new or updated regulatory requirements and industry best practices.

Scheduled updates to the TSP are incorporated as required actions into MBTA's response to the FTA SMI. Over the period of this three-year safety improvement plan, the TSP will incorporate revisions as key SMI-related objectives are achieved and implemented within the Authority. For additional information on the TSP, please refer to Section 5.

4.3 System Safety Program Plan

The commuter rail's System Safety Program Plan utilizes a system safety program approach to safety. The SSP Plan is designed to be a proactive and systematic approach that actively promotes continuous safety improvement which directly affects the safety culture. It is also meant to ensure all transit and commuter rail activities are appropriately resourced and supported to achieve the highest level of safety performance.

The SSP Plan has a three-year implementation phase and is subject to an internal system safety program assessment that occurs annually for the next three years. The SSP Plan is reviewed annually and any findings from the review and the internal audit are incorporated into the plan. For additional information of the SSP Plan, please refer to Section 5.

4.4 The North Side Automatic Train Control (ATC) Program

A critical safety improvement project for the commuter rail is the North Side Automatic Train Control (ATC) Program, which is responsible for planning, designing, installing, testing, and placing into service ATC ("cab signals") on the MBTA's North Side commuter rail lines. This program is an extension of the Positive Train Control (PTC) program. ATC sends signal indications to the train cab in addition to using physical signal lights alongside the tracks. These signals are part of the MBTA PTC System that alert the engineer of potentially unsafe conditions. If the crew does not respond to an alert, the system will automatically slow or stop the train.

The PTC system on the North Side lines is currently operating under a variance issued by the Federal Railroad Administration (FRA) in 2018 that permits the Advanced Civil Speed Enforcement System (ACSES) PTC system on these lines to operate without ATC, but which requires the MBTA to install ATC on an expedited schedule. A fully compliant PTC system for the MBTA is ACSES with ATC on all lines. The FRA granted an extension to the variance to install ATC on the North Side to December 31, 2024.

The work of this program is divided into 3 phases:

- Lowell and Wildcat Lines
- Fitchburg/Wachusett Line
- Newburyport, Rockport, and Haverhill Lines

The ATC system will be commissioned on each line in segments. The existing PTC system will be taken out of service (construction zone, CZ) during ATC commissioning on a segment. Upon completion of the ATC system on a line segment, the PTC system will be modified and placed back into service.

4.5 Green Line Train Protection System

The Green Line Train Protection System (GLTPS) combines vehicle and wayside equipment that works together to avoid train-on-train collisions, add red-light signal protection, and incorporates speed enforcement. The project investment is $212,000,000 with a projected completion date for the project in June 2025.

This project has four overlapping phases:

- **Equipment design:** planning how to integrate new components into the existing system
- **Vehicle installation:** installing new equipment in Green Line vehicles
- **Wayside installation:** installing upgraded signal equipment on the right-of-way
- **Operational integration:** preparing the MBTA to use the new safety system

The GLTPS system uses safety monitoring equipment like radar, signals, and cameras to transmit data to the train as it moves along the tracks. Using onboard alerts and communications, the system notifies the operator and can automatically stop the train when another vehicle is detected, when a red light is present, or when the vehicle is traveling over a specific speed. These improvements significantly improve the safety of the system through the reduced risk of train-to-train collision.

4.6 Station Accessibility Improvements

The MBTA is committed to building a fully accessible system, and we've been hard at work developing our Plan for Accessible Transit Infrastructure (PATI), a roadmap for the

improvements that will help us get there. One of the primary objectives of PATI is to survey our entire network of stations and bus stops to catalog barriers like missing curb ramps, heavy station doors, and obstructions in the path of travel. The effort has yielded extensive data about the types and locations of access barriers throughout the system. A more accessible system leads to a safer experience for all our riders. We can't fix everything at once, so we've worked with outside groups who have helped prioritize the improvements to the system.

We're modernizing several stations to ensure safer access and uses as shown by the selected projects in Table 4-2. We're renovating stations on the Green Line, commuter rail, and subway to make them fully accessible. In general, these projects will upgrade platforms that are not at an accessible height for boarding, address track crossings and platforms that are not accessible, and remove significant barriers for riders with disabilities, which will improve rider safety. Work continues at these stations with the last station projected to be completed by Fall 2025. The total project investment for the listed rail station improvements is $264,600,000, with more projects on the horizon.

In addition to updating stations, we are investing $37,000,000 to renovate or replace 27 elevators in nine subway stations, including several safety upgrades that will affect employees and riders such as LED fixtures, station-wide emergency egress lighting, fire alarm replacement, upgraded lighting within the work zones, security, and communication systems. Several of these projects are completed, while others are currently in the construction or design phase and will progress according to each project's schedule.

Table 4-2. Select Station Accessibility Improvement Projects

LOCATION	PROJECT SAFETY IMPROVEMENTS	PROJECTED COMPLETION
Hynes Convention Center	Raised platforms and new elevators	Fall 2025
Newton Highlands	Raised boarding platforms, multiple accessible pedestrian crossings	Fall 2025
Symphony	Raised platforms, new elevators, and accessible bathrooms	Summer 2023
Natick Center	Full-length, high-level platforms for easier boarding	2024
Winchester Center	Structural repairs to improve safety, accessibility, and station capacity	Spring 2024
Worcester Union	A new, high-level center platform, track, signal, communications, and infrastructure upgrades, new elevators, stairways, pedestrian bridge, and accessibility improvements to the commuter parking area	Winter 2023
Multiple Subway	Full accessibility, greater safety, more reliable elevator and escalator service, improved pedestrian circulation and wayfinding, enhanced rider experience	2025 and beyond

4.7 Rail Maintenance Yard and Facility Modernization

All aspects of MBTA's operation have been evaluated and targeted for improvement, including our railyards. Specifically, two maintenance yards will be modernized to improve worker safety.

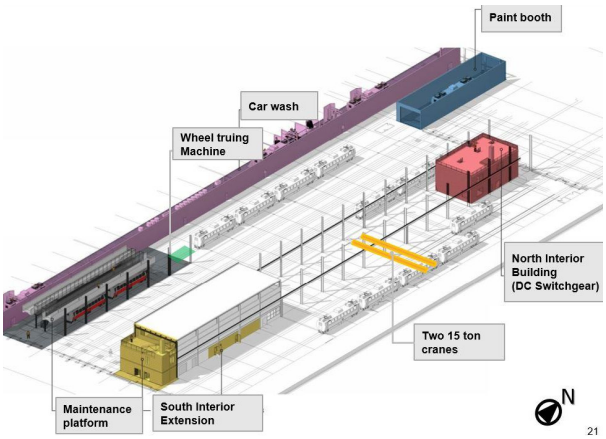
The Codman Yard Expansion and Improvements project ($85,980,000) will provide additional vehicle storage and help crews move trains through the yard more safely and easily. The yard was last reconstructed in the 1980's and requires several improvements to maintain worker safety and security, which includes:

- Upgraded crossover, bypass track, and walkways for ease of employee egress and train movement into and out of the yard.
- New inspection pit and rehabilitated vehicle wash.
- New CCTV system, fencing, and neighborhood-friendly efficient LCD lighting.
- Improved entrances to ease flow of traffic for employees in and out of the yard.

The Codman Yard project is expected to be completed by Fall of 2025.

The Wellington Yard and Maintenance Facility, where we store and care for Orange Line vehicles each day, will be updated for safer, more efficient maintenance. With the yard rebuild complete ($103,000,000), we are now finishing the maintenance facility ($83,000,000), with a projected completion date of Summer 2023. Worker safety improvements include:

- Track replacement to improve reliability of train movement and more safe traveling of trains throughout the yard.
- Switch and special trackwork replacement to improve reliability of train movement and more safe traveling of trains throughout the yard.
- New and increased lighting throughout the yard and maintenance facility to improve visibility.
- New "Guarded" switches in yard tracks.
- New paved walkways for worker access and egress safely throughout the yard.
- Rehabilitation of interior pit tracks to add lighting, re-paint, and strengthen the tracks to increase load capacity to support new trains for maintenance.
- Added 2 new "catwalks" to safely maintain trains from the top side.
- Added automated system for grade crossing warnings on the south side of yard.
- Rehabilitated train wash to begin washing trains again inside carhouse.
- Replace "swing on" platforms that were in a poor state of operation.
- Four new bridge cranes and a vehicle hoist for safer, more efficient vehicle repair work and more space for vehicle maintenance.



5. Safety Plans

Safety plans are an important basic building block of a well-developed safety culture. They establish the expectations, processes, and procedures that reduce risk of future harm. We have had safety plans in place prior to those currently required by the FTA and FRA in 49 CFR 673 and 49 CFR 270, respectively, and used those previous plans to build better, more comprehensive safety plans in accordance with newer regulatory requirements. Each plan is discussed in detail within the sections below.

Within each of these plans, we analyze and review our targets at least annually to ensure we are moving ahead. Consequently, these targets are often adjusted year by year to ensure we are on track to continuously improve our safety culture. In addition, both safety plans require review and approval by their respective regulatory agency, which may provide feedback that necessitates further adjustments to these targets.

As we work to meet our safety objectives, we may find that revised targets will aid and focus our work to improve safety.

5.1 Transit Safety Plan

Our Transit Safety Plan (TSP) provides collaborative, strategic, and management performance objectives to affirm and execute our commitment to provide a safe, reliable, and sustainable regional transportation service. The development and implementation of the TSP is intended to ensure that our transportation system is safe. The MBTA is required to develop and implement its TSP to comply with 49 CFR Parts 673 and 674 and 220 CMR 151.00, approved by the Board of Directors and then subject to acceptance by DPU.

The FTA requires the TSP to be based on the Safety Management System (SMS) approach. FTA describes SMS as, “A risk-based approach to the development and implementation of a safety program. SMS builds on existing transit safety practices by using data to proactively identify, avoid, and mitigate risks to safety. It is also a comprehensive, collaborative approach to managing safety. It brings management and labor together to control risk better, detect and

correct safety problems earlier, share and analyze safety data more effectively and measure safety performance more precisely."

Our TSP is based on SMS principles which describe the integration of SMS components and defines the related authority, responsibilities, roles, and processes. The four main components for successful implementation and maintenance of the system are:

- **Safety Management Policy:** aligns the entire MBTA under a safety management system for the purpose of prioritizing safety in management decision making.
- **Safety Risk Management (SRM):** implements processes to identify, evaluate, and resolve risks; and track risk mitigations in a timely manner.
- **Safety Assurance (SA):** ensures that objectives are met through effective data collection and assessment, as well as through objective verification activities, such as risk mitigation and monitoring, to confirm that mitigations are effectively implemented and performing their intended functions.
- **Safety Promotion:** encourages workplace knowledge, through training and engagement, and encourages employee and public confidence by communicating our commitment to ensuring safety.

Our Transit Safety Plan, and resulting safety programs, policies, rules, orders, implementation and processes, represents our commitment to safety as a core value. Under the TSP, we identify and assess risk, set targets for safety performance, and track and report on the progress towards meeting those targets. Education, training, reporting, and communication are imbedded in the process. Establishing targets for safety performance is a significant aspect of the plan; however, the ultimate goal of the TSP is to improve the safety culture. By advancing the safety culture, safety performance will improve with all other aspects of the operation including service. The Transit Safety Plan targets are presented in Section 6.

5.2 System Safety Program Plan

The commuter rail has a long history of developing and implementing safety plans. Our commuter rail has required its contractor to develop and submit an annual Operator Safety Compliance Plan since 2014. In 2005, MBTA published a Railroad Safety Program Plan per FRA requirements, which was the precursor to the current System Safety Program (SSP) Plan. Under FRA's revised regulations, the commuter rail was required to submit the SSP Plan (commonly referred to as the 270 Plan) in 2021. The SSP Plan embodies and describes a proactive approach to ensuring safety across the commuter rail. The SSP Plan was submitted to the FRA in 2021 and approved by them in April 2022 with a three-year implementation schedule.

An SSP Plan is intended to improve railroad safety through structured, proactive processes and procedures developed and implemented that:

- Supports risk management and provides methods for evaluating and responding to all safety issues.
- Includes proactive hazard management methods that support continuous safety improvement.

- Ensures that applicable federal, state, and local safety regulations and safety requirements are identified and addressed.
- Represents the railroad's safety philosophy and cultivates a robust safety culture from the most senior officer throughout all levels of the organization.

The SSP Plan provides strategic and management targets to affirm and execute our commitment to provide a safe, reliable, and sustainable commuter rail transportation service and ensures compliance with federal, state, and local regulations, and appropriate industry best practices. With the development and implementation of the SSP Plan, the commuter rail has established targets to ensure the safe operation of the system. These targets, which are presented in Section 6, are regularly reviewed, and updated as necessary to support continuous improvement of the commuter rail's safety culture.

It's important to note that the targets may be revised due to the annual internal system safety program assessment as required by the FRA. The assessment evaluates implementation of the system safety program, compliance with the implemented elements of the approved system safety program, and achievement of its stated targets. Per the requirement, the MBTA must, "manage revisions and updates to the SSP plan based on the internal system safety program assessments." The FRA may provide comments that affect our SSP Plan, which then may initiate an additional revision of the Plan.

6. Safety Performance Targets

The MBTA safety performance targets assist management in determining the overall status and health of the Authority's safety program, as well as making informed safety-related decisions for resource allocation, management oversight, and intervention. As discussed in the Executive Summary, targets are like looking in the rearview mirror of our car to see what is behind us, i.e., how did safety performance improve after accomplishing certain objectives. Targets provide an indication of the effectiveness of our objectives, which provides insight so that we may evaluate and then improve our objectives to stay firmly on the road to continuous safety improvement.

The MBTA's commuter rail and ferry modes are not subject to the MBTA Transit Safety Plan, and the performance of these modes is subject to different regulatory requirements, performance objectives, and targets, which is explained below.

Our performance targets are reviewed and updated annually and approved by the Authority's General Manager, senior management, and labor safety committees, and the MBTA Board of Directors through the required annual review of the Transit Safety Plan. Future performance targets spanning the full 3-year period of this Safety Improvement Plan will be established in part based on the rolling average of MBTA's safety performance during the period of the SIP and will be reported to the Joint Committee on Transportation in the Chief Safety Officer's annual letter describing the strengths and weaknesses of the Plan.

6.1 SMI Special Directives CAP Targets

As discussed in Section 4.1, we have established thirty-eight Corrective Action Plans that contain 545 Action Items with specific completion dates to respond to each of the FTA's SMI Special Directives. To ensure effective and timely completion of the CAPs, MBTA's Quality, Compliance, and Oversight (QCO) Office implements and oversees the CAP progress through established advisory groups assessing and reporting progress on their respective CAPs. The MBTA's QCO Office also may identify additional projects as a result of the CAPs that

should be completed in order to create lasting changes to the MBTA's safety culture.

QCO has developed an integrated master schedule of all action items and other FTA deliverables within the CAPs. Using this schedule, the QCO Office developed a Special Directive progress summary, Figure 6-1, which is reported quarterly to the FTA and monthly to the public during the MBTA Board of Directors and the MBTA Safety, Health & Environment Subcommittee meetings. The QCO tracks progress by assessing completed action items with respect to the time remaining within the CAP's established timeframe.

A public facing website, www.mbta.com/FTAResponse, was launched in late February 2023 that includes the CAPs, tracking information that is updated monthly, and other measurable metrics as the CAPs progress towards completion.

MBTA and FTA collaboratively review the status of each CAP, upcoming deliverables, and on-site verification activities no less than biweekly via standing CAP Meetings. The MBTA and FTA meet nearly daily to discuss CAPs implementation, hold monthly CAPs status reviews, and perform regular onsite inspections. As the CAPs are implemented, they may be adjusted or expanded based on the implementation results and/or additionally identified needs.

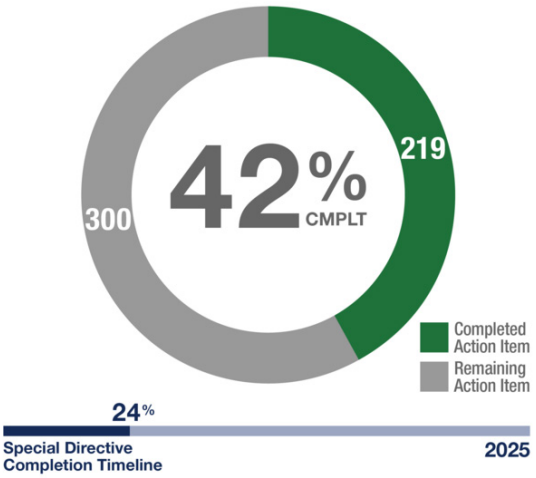


Figure 6.1 FTA SMI CAP Progress Summary

6.2 Transit Safety Plan Targets

We established our safety performance targets (goals) within our Transit Safety Plan in accordance with the 2017 National Public Transportation Safety Plan (NPTSP). The NPTSP identifies four required performance target areas for modes subject to the MBTA's Transit Safety Plan, including heavy rail, light rail, bus, and paratransit:

- Fatalities
- Injuries
- Safety Events
- System Reliability

In recognition of the varying scopes of service, operating requirements, and oversight regimes for major transit providers across the country, the NPTSP empowers each transportation system to establish performance indicators and measurable targets that are appropriate to its operations and environment. Safety performance targets established in the TSP assist management in determining the status of the SMS and making informed safety-related decisions for resource allocation, management oversight, and intervention.

Safety performance targets are reviewed monthly in the Safety Data Analysis Report (SDAR) and discussed routinely within the safety committee structure and at the MBTA Board of Directors' Safety, Health, and Environmental subcommittee meeting.

The SDAR report shows safety data related to Bus, Heavy Rail and Light Rail. These events, as defined in Appendix 2, are reportable to the National Transit Database. The charts have three colors: Green, Yellow and Red. These colors represent the status of our targets on a monthly basis. Green indicates the target was met, Yellow indicates the target was not met but there was improvement from the previous month, and Red indicates the target was not met and not improved upon from the previous month.

The SDAR reports do not cover Commuter Rail or the Ferry. That data is reported separately to the Federal Railroad Administration and U.S. Coast Guard. Appendix 8 includes an SDAR report for calendar year 2022.

As a result of monitoring the monthly SDAR, safety performance data and trends may require further investigations and corrective actions, using the safety risk management and safety assurance components of the SMS process. The results of this analysis are communicated through our established meeting channels and forums.

In accordance with new FTA regulations within the Bipartisan Infrastructure Law, required performance criteria will be specified in an upcoming update to the NPTSP, at which point MBTA's current safety performance criteria will be amended as specified in the NPTSP.

Tables 6-1 through 6-4 presented below represent the Authority's transit safety performance targets for 2023. New performance targets are established each year using the 3-year rolling average of data submitted to National Transit Database. The NTD definitions for fatalities, injuries, and safety events as described in Appendix 2 apply to these indicators.

Table 6-1. Fatality Performance Targets

Mode	3-Year Total number of Fatalities[1]	Performance Target Count for CY2023	3-Year Average Rate per 1 Million Vehicle Revenue Miles	Performance Target Rate for CY2023
Heavy Rail	1	0	0.01	0
Light Rail	0	0	0	0
Bus	3	0	0.05	0
The RIDE	0	0	0	0

Table 6-2. Injury Performance Targets

Mode	3-Year Average Total Number of Reportable Injuries[2]	Performance Target Count for CY2023	3-Year Average Rate per 1 Million Vehicle Revenue Miles	Performance Target Rate for CY2023
Heavy Rail	184	180	8.16	7.99
Light Rail	81	79	14.64	14.35
Bus	292	286	12.48	12.23
The RIDE	27	27	2.31	2.27

Table 6-3. Safety Events Performance Targets

Mode	3-Year Average Total Number of Safety Events[3]	Performance Target Count for CY2023	3-Year Average Rate per 1 Million Vehicle Revenue Miles	Performance Target Rate for CY2023
Heavy Rail	25	24	1.09	1.07
Light Rail	28	27	5.04	4.94
Bus	100	98	4.29	4.21
The RIDE	21	20	1.77	1.74

[1, 2, 3] At the time of performance target development, data available included 2019 through 2021 statistics.

Table 6-4. System Reliability Performance Targets

Mode	Performance Target Rate for CY2023
Heavy Rail	44,500 Vehicle Revenue Miles
Light Rail	7,650 Vehicle Revenue Miles
Bus	29,500 Vehicle Revenue Miles
The RIDE	62,500 Vehicle Revenue Miles

6.3 Commuter Rail Targets

The MBTA commuter rail is operated under contract by Keolis Commuter Services, which took over operations on July 1, 2014, from the Massachusetts Bay Commuter Railroad Company. Keolis Commuter Services (Keolis) is responsible for the operational safety of the commuter rail system.

With the implementation of the SSP Plan, MBTA and Keolis Commuter Service have developed targets to ensure the safe operation of the system. Together, we developed these targets as shown in Table 6-5 to span the implementation period, which is three years, as allowed by the regulation. MBTA and Keolis work collaboratively to ensure continuous improvement towards each goal.

These targets are aligned with the hazard management program as well as with reducing risk within the railroad environment. Each target encompasses safety management policies, data collection processes, employee engagement, reporting mechanisms, and/or education and training. As Keolis is continuously striving to progress its safety culture, targets may be modified, added, or deleted to ensure alignment with any prescribed changes. MBTA Safety works in collaboration with MBTA Railroad Operations to explore the following criteria to help establish safety targets and objectives:

- Peer railroad/commuter rail agency best practices.
- Industry safety incidents, and a risk evaluation related to MBTA Railroad Territory.
- Regular and recurring meetings with the Federal Railroad Administration to discuss regulatory and/or industry trends.

Furthermore, some of the early action/established targets took root in the 2019 Safety Review Panel Report. For example, a shortcoming that was identified in the report, related to commuter rail, was the lack of an existing Obstructive Sleep Apnea (OSA) screening program. While an OSA program is not required under the Code of Federal Regulations, MBTA worked to establish a multi-phased approach to the implementation of an OSA program, which goes beyond a simple screening, and allows for treatment and management of OSA, as part of a railroad best practice fatigue management program.

Table 6-5. Commuter Rail Targets

SSP Plan Goal	Due Date
Establish a collaborative working group between MBTA and Keolis within two months of SSP Plan approval that meets routinely to ensure the SSP is fully implemented	Duration of implementation
Ensure Keolis establishes and maintains a monthly safety data collection and analysis report that records, tracks, and analyzes system safety processes, hazards, accidents, near misses, observations, assessments, and other safety data	4/28/23
Develop and deploy Phase 2 of the Commuter Rail OSA program, to expand the program to Conductors and Assistant Conductors.	12/31/23
Review critical regulatory plan submittals, to ensure that all new territories/ operations are taken into account. (Locomotive Engineer Certification Program, Conductor Certification Program, 49CFR217 Tests & Observation programs)	03/31/24
Ensure Keolis conducts a safety culture survey once per year (at a minimum), analyzes the results, and implements at least two recommendations from the surveys	4/28/24

SSP Plan Goal	Due Date
Confirm Keolis is promptly and thoroughly notifying, reporting, and communicating information on safety critical events, activities and hazards 100% of the time directly with the MBTA Safety	4/28/24
Enhance Keolis' safety performance data by developing at least four safety performance indicators and targets; and monitoring the effectiveness of mitigations implemented	4/28/24
Develop, conduct, and maintain a robust SSP training that introduces employees to system safety concepts; provide an overview of the SSP Plan; and educates affected employees on how to identify, report, and mitigate or eliminate hazards	4/28/24
Develop and deploy Phase 3 of the Commuter Rail OSA program, to expand the program to Train Dispatchers.	12/31/2024

6.4 Ferry Targets

The ferry service is obligated to report marine casualties (safety incident data) to the USCG in accordance with 46 CFR Subpart 78.07, "Notice and Reporting of Casualty and Voyage Records" and 46 CFR Subpart 78.33, Reports of Accidents, Repairs, and Unsafe Equipment, as well as to the FTA, under the Urbanized Area Formula Program (49 USC § 5307) as a recipient of Passenger Ferry Grant Program funds. To ensure consistency with the transit safety targets, we selected the data categories reported to FTA's National Transit Database to establish safety targets for the ferry service, i.e., injuries, fatalities, and safety and security events as safety performance indicators. These targets are established using a 3-year rolling average, similar to the transit target setting approach presented in Section 6.2 The NTD definitions for fatalities, injuries, and safety and security events as described in Appendix 2, also apply to these indicators, except for rail-specific criteria.

Table 6-6. Ferry Performance Targets

Indicator	3-Year Average Total Number of Safety Events[4]	Performance Target Count for CY2023	Performance Target Count for CY2024	Performance Target Rate for CY2025
Injuries	0	0	0	0
Fatalities	0	0	0	0
Safety Events	0	0	0	0
Security Events	0	0	0	0

Future targets are reflective of a 3-year averages from the previous 3 years.

[4] At the time of performance target development, data available included 2020 through 2022 statistics.

7. Regulatory Planning, Inspection, Audit, and Reporting

We are subject to numerous regulatory requirements which may include planning, inspection, audit, and reporting requirements to ensure adherence to state and federal regulations that support a safer work environment for our employees and travel for our riders, and surrounding environments. Table 7-1 summarizes the most important of these requirements which demonstrates that our business is accountable to many agencies for a diverse array of safety-related requirements.

Table 7-1. Planning, Inspection, Audit, and Reporting Requirements

Agency	Requirement	Frequency	Regulatory Citation
FTA	National Transportation Database Reporting	Annual	49 U.S.C. §5335
FTA	Special Directives and Information Requests	As issued	49 CFR 670.27
FRA	System Safety Program Plan (SSP Plan)	Initial, and as changes dictate	49 CFR 270 Subpart B
FRA	Fatigue Management Program (new)	Initial, and as changes dictate	49 CFR 270, Subpart E
FRA	Internal SSP Plan Audit	Annually during implementation	49 CFR 270.303
FRA	Incident Notification and Reporting	Per occurrence	49 CFR 225
FRA	Alcohol and Drug Use Random Testing Plan	Initial and as changes dictate	49 CFR 219
FRA	Hours of Service Reporting	Biennial	49 CFR 228
FRA	Locomotive Engineer Certification Program	Initial and as changes dictate	49 CFR 240.103
FRA	Conductor Certification Program	Initial and as changes dictate	49 CFR 242.103
FRA	Training Program	Annual	49 CFR 243
FRA	Submit Code of Operating Rules, Timetable & TTSI	Initial and as changes dictate	49 CFR 217.7(a)
FRA	Railroad Safety Program Plan for Processor-based Control Systems	Initial and as changes dictate	49 CFR 236.905
FRA	Product Safety Plan for Processor-based Control Systems	--	49 CFR 236.907
FRA	Positive Train Control System Requirements	--	49 CFR 236.1005
FRA	Positive Train Control Implementation Plan	Initially	49 CFR 236.1011
FRA	Railroad Workplace Safety Program	--	49 CFR 214
FRA	CWR Program Submission	As specified in regulation	49 CFR 213
DPU	Public Transportation Agency Safety Plan (PTASP or TSP)	Initial, annual, as changes dictate	220 CMR 155.03
DPU	Annual Internal Safety Audit Report (TSP)	Annually over 3-year cycle	220 CMR 155.05
DPU	Incident Notification	Per occurrence	220 CMR 151.08
DPU	Incident Reporting	Per occurrence	220 CMR 151.09
DPU	Corrective Action Plans	As required	220 CMR 155.07

Agency	Requirement	Frequency	Regulatory Citation
DPU	Track Inspections	3x/week through annual	220 CMR 151.11
DPU	Risk-based Inspection Program (10/21/24)	To be determined	49 USC § 5329(k)
USCG	Incident Reporting	Per occurrence	46 CFR 78.07
USCG	Accidents, Repairs, and Unsafe Equipment Reports	Per occurrence	46 CFR 78.33
USCG	Inspection and Certification	Annual	46 CFR 71
DLS	Inspections	As deemed necessary	454 CMR 25.03
DLS	Recording and Reporting Occupational Injuries and Illnesses	Per occurrence	454 CMR 25.06
DLS	Reporting Occupational Injuries and Illnesses	Annually, as requested	454 CMR 25.06
OSHA	Recording and Reporting Occupational Injuries and Illnesses	Per occurrence	29 CFR 1904
EPA	Spill and Release Reporting	Within 15 minutes	40 CFR 110; 40 CFR 302; 40 CFR 355
MassDEP	Spill and Release Reporting	Immediately	40 CFR 110; 40 CFR 302; 40 CFR 355; 310 CMR 40
LEPC	Spill and Release Reporting	Immediately	40 CFR 110; 40 CFR 302; 40 CFR 355

8. Annual Progress Report on Safety Objectives

The annual SIP report will have five sections as required by Chapter 176 of the Acts of 2022:

1. an accident and injury summary, Section 62(a)(iv),
2. an assessment of progress of the 3-year safety improvement plan, Section 62(b)(i),
3. an analysis and recommendations sections per Section 62(b)(ii),
4. an analysis on the financial and human resources needed to execute the plan and information on the authority's plan to secure these resources, Section 82(b)(iii), and
5. an appendix for agency correspondence per Section 62(a)(iii).

Starting calendar year 2024, this annual report will be prepared and attached to the CSO letter and delivered on or before March 1.

9. Contracted Audit and Report

According to Chapter 176 of the Acts of 2022, Section 62(b), the MBTA Board of Directors will contract with an independent third-party entity to conduct an annual independent safety audit of MBTA's operations, including, but not limited to, issues affecting employees, passengers, and equipment. The MBTA will cooperate and provide any information or access requested by the DPU for third party audits as identified in Section 62.

10. DPU Audit and Report

The DPU is required to perform an independent audit and submit a report in accordance with Chapter 176 of the Acts of 2022, section 62(c). The MBTA will cooperate and provide any information or access requested by the DPU for third party audits as identified in Section 62.

11. MBTA's Chief Safety Officer Annual Letter and Chief Financial Officer Report

Beginning in calendar year 2024, annually, and not later than March 1, the CSO will submit a letter on the strengths and weaknesses of the 3-year safety improvement plan. The Chief Financial Officer (CFO) of the Authority will submit a report outlining how the funds requested from the CSO are provided in the existing operating and capital budgets. The letter and the report will be submitted to the Joint Committee on Transportation. The annual CSO letter and CFO report are distinct from the annual SIP progress report, as such, each will be transmitted separately to the Joint Committee on Transportation.

Appendix 1 - Acronyms

BOD	Board of Directors
CAP	Corrective Action Plan
CFR	Code of Federal Regulations
CFO	Chief Financial Officer
CIP	Capital Improvent Plan
CMR	Code of Massachusetts Regulations
CSO	Chief Safety Officer
DLS	Massachusetts Department of Labor Standards
DPU	Massachusetts Department of Public Utilities
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
GM	General Manager
LEPC	Local Emergency Planning Committee
MassDEP	Massachusetts Department of Environmental Protection
MassDOT	Massachusetts Department of Transportation
MBTA	Massachusetts Bay Transportation Authority (also referred to as the Authority)
MGL	Massachusetts General Law
MOW	Maintenance of Way
NTD	National Transit Database
NPTSP	National Public Transportation Safety Plan
OHS	Occupational Health and Safety
OSA	Obstructive sleep apnea
OSHA	Occupational Safety and Health Administration
PTASP	Public Transportation Agency Safety Plan (also referred to as the Transit Safety Plan)
QCO	Quality, Compliance, and Oversight
RC	Reportable concentration

ROW	Right of Way
RQ	Reportable quantity
SERC	State Emergency Response Commission
SIP	Safety Improvement Plan (also referred to as the Plan)
SMI	Safety Management Inspection conducted by FTA
SMS	Safety Management System
SRM	Safety Risk Management
SSP	System Safety Program (FRA)
TAM	Transit Asset Management
TSP	Transit Safety Plan (FTA)
USC	United States Code
USCG	United States Coast Guard
USDOT	U.S. Department of Transportation
UZA	Urbanized Areas
WSHP	Workplace Safety and Health Program

Appendix 2 - Definitions

Accident: An event that involves any of the following: a loss of life; a report of a serious injury to a person; a collision involving a rail transit vehicle; a collision involving public transportation vehicles; a runaway train; an evacuation for life safety reasons; or any derailment of a rail transit vehicle, at any location, at any time, whatever the cause. An accident must be reported in accordance with the thresholds for notification and reporting set forth in 49 CFR Part 674, Appendix A and 220 CMR 151.09.

Accountable Executive: A single, identifiable person who has ultimate responsibility and accountability for the effective implementation and maintenance of the Safety Management System throughout the authority's transit system; responsibility for carrying out the agency's Transit Asset Management Plan; and control or direction over the human and capital resources needed to develop and maintain both the agency's Public Transportation Agency Safety Plan, in accordance with 49 CFR 673, and the agency's Transit Asset Management Plan in accordance with 49 CFR 625. MBTA's Accountable Executive is the General Manager.

Corrective Action Plan: A plan that describes actions a rapid transit agency will take to minimize, control, correct, or eliminate risk and hazards and a schedule for taking those actions (49 CFR Part 674.7.)

Chief Safety Officer (CSO): An adequately trained individual, specific to the MBTA, who has responsibility for safety and reports directly to MBTA's Accountable Executive (General Manager). A Chief Safety Officer may not serve in other operational or maintenance capacities.

Environment: Operational setting, right-of-way, passenger interface, pedestrian/vehicle interface, weather, subway/non-subway, regulatory, political, media, etc.

Hazard: Any real or potential condition that can cause injury, illness, or death; damage to or loss of the facilities, equipment, rolling stock, or infrastructure of a public transportation system; or damage to the environment.

Incident: An event that involves any of the following: a personal injury that is not a serious injury; one or more injuries requiring medical transport; or damage to facilities, equipment, rolling stock, or infrastructure that disrupts the operations of a transit agency.

Marine Casualty: An event caused by or involving a vessel and includes, but is not limited to any fall overboard, injury, or loss of life of any person; any occurrence involving a vessel that results in grounding; stranding; foundering; flooding; collision; allision; explosion; fire; reduction or loss of a vessel's electrical power, propulsion, or steering capabilities, failures or occurrences, regardless of cause, which impair any aspect of a vessel's operation, components, or cargo; any other circumstance that might affect or impair a vessel's seaworthiness, efficiency, or fitness for service or route; or any incident involving significant harm to the environment.

National Transportation Database Fatalities: Fatalities are defined as a death due to a collision, derailment, fire, hazardous material spill, act of God, personal security event, or other safety events. Fatalities that occur due to an illness or other natural causes are not reportable to the National Transit Database (NTD) and are not included. In accordance with FTA guidance, trespassing and suicide-related fatalities are also excluded for this fatality safety performance measure. See Table 6-1.

National Transportation Database Injuries: Any harm to persons that requires immediate medical attention away from the scene because of a reportable event is considered a reportable injury. For

the purpose of this performance measure, injuries resulting from assaults and other crimes have been excluded. For rail mode events, in addition to injuries requiring transport from the scene, injuries defined as serious are automatically reportable. NTD defines a serious injury as one that: requires hospitalization for more than 48 hours within 7 days of the event; results in a fracture of any bone (except simple fractures of fingers, toes, or nose); causes severe hemorrhages, or nerve, muscle, or tendon damage; involves an internal organ; or involves second- or third-degree burns, or any burns affecting more than five percent of the body surface. See Table 6-2.

National Transportation Database Safety Events: NTD defines a safety event involving one or more of the following: Collisions, Fires (suppression), Derailments (mainline and yard) including non-revenue vehicles, Hazardous Material Spills, Acts of God, Other Safety Events (events that do not fall into any of the other categories, yet meet a reporting threshold other than immediate transport for medical attention for one person).The safety events measure captures events meeting NTD reporting thresholds that occur on the MBTA right-of-way or infrastructure, at a revenue or maintenance facility, in a rail yard, during the performance of maintenance activities, or that involve a transit revenue vehicle. NTD reporting thresholds include fatalities, injuries requiring immediate medical attention away from the scene, derailment, substantial damage, and evacuation for life safety reasons. See Table 6-3.

National Transportation Database System Reliability: The system reliability measure expresses the relationship between safety and asset condition. The rate of vehicle failures in service, defined as mean distance between major mechanical failures, is measured as vehicle revenue miles operated divided by the number of major mechanical failures. Major mechanical system failures prevent a vehicle from completing or starting a scheduled revenue trip because actual movement is limited or because of safety concerns. Examples of major bus failures include breakdowns of brakes, doors, engine cooling systems, steering, axles, or suspension. See Table 6-4.

National Public Transportation Safety Plan (NPTSP): Pursuant to Section 49 U.S.C 5329(b), the Public Transportation Safety Program must include a National Public Transportation Safety Plan to improve the safety of all public transportation systems that receive Federal transit funds.

Occupational Health and Safety Plan: A written plan that describes the potential hazards in the workplace, and the company policies, controls, and work practices used to minimize those hazards.

Passenger: A person who is onboard, boarding, or alighting from a transit vehicle for the purpose of travel.

Public Transportation Agency Safety Plan (PTASP): The documented, comprehensive agency safety plan for a transit agency that is required by 49 USC 5329 and 49 CFR Part 673.

Public Transportation Agency: As referenced in this plan, the MBTA is the public transportation agency.

Rail Transit Vehicle: The MBTA's rolling stock specific to rail including, but not limited to, passenger and maintenance vehicles.

Recommendation: A safety action that usually addresses a specific issue uncovered during an internal safety audit, employee safety report, or safety data analysis. Recommendations may be developed in instances where MBTA is technically in compliance with applicable federal and state regulations and documented safety program requirements, but where no written plan, policy, or procedure is in place, where agency practices are not fully consistent with relevant industry best practices and standards, or where organizational and resource issues have inhibited the performance of safety-related activities. A recommendation does not take the place of a Corrective Action Plan (CAP).

Risk: The composite of predicted severity and likelihood of the potential effect of a hazard.

Rolling Stock: Transit vehicles such as buses, vans, cars, railcars, locomotives, trolley cars and trolley buses, as well as vehicles used for support and maintenance services.

Safety: The state in which the potential of harm to persons or property damage during operations related to provisions of services is reduced to and maintained at an acceptable level through continuing hazard identification and safety risk management activities.

Safety Assurance: One of the four main components of SMS; ensures and verifies effectiveness of MBTA's SMS safety performance, corrective action mitigations, and overall program.

Safety Culture: The safety culture of an organization is the product of the individual and group values, attitudes, competencies, and patterns of behavior that determine the commitment to, and the style and proficiency of, an organization's health and safety programs. Organizations with a positive safety culture are characterized by communications founded on mutual trust, shared perceptions of the importance of safety, and confidence in the efficacy of preventative measures.

Safety Management Policy: A transit agency's documented commitment to safety, which defines the transit agency's safety objectives and the accountabilities and responsibilities of its employees regarding safety. Safety Management System (SMS): A formal, top-down, organization-wide, data-driven approach to managing safety risks and assuring the effectiveness of safety risk mitigations. SMS includes systematic procedures, practices, and policies for managing risks and hazards.

Safety Management System (SMS): A formal, top-down, organization-wide approach to managing safety risks and assuring the effectiveness of safety risk mitigations. Safety Management Systems (SMS) components include: 1) Safety Policy; 2) Safety Risk Management; 3) Safety Assurance; and 4) Safety Promotion.

Safety Promotion: One of the four main components of SMS; provides visibility of executive management's commitment to safety and fosters improved safety performance by increasing safety awareness through safety communication and training.

Safety Risk Management (SRM): One of the four (4) main components of SMS; a process within a transit agency's Public Transportation Agency Safety Plan for identifying hazards and analyzing, assessing, and mitigating safety risk.

Security: Freedom from harm resulting from intentional acts or circumstances.

State Safety Oversight Agency: The entity established by the State and certified by the FTA to regulate and oversee state transit agencies, including fixed guideway systems (trolley, light & heavy rail), bus, and paratransit, ferry, and other transportation systems not otherwise regulated by the FRA (passenger rail operation) in accordance with 220 CMR 151, 220 CMR 155, 49 USC 5329, and 49 CFR Parts 673 and 674. The Department of Public Utilities (Department or DPU) is appointed as the SSOA for the state of Massachusetts.

System: A composite of people, procedures and equipment that are integrated to perform a specific operational task or function within a specific environment.

System Safety: The application of management, economic, and engineering principles and techniques to optimize all aspects of safety, within the constraints of operational effectiveness, time, and cost, throughout all phases of the system life cycle.

System Safety Program (SSP): A comprehensive process for the application management and engineering principles and techniques to optimize all aspects of safety. A railroad's SSP sets out how the railroad will implement system safety in its operations. FRA defined program for the commuter rail.

System Safety Program Plan (SSP Plan): An FRA-regulated plan developed by the passenger rail operation that documents system safety programs and processes used by MassDOT/MBTA commuter rail employees, which satisfies the requirements of 49 CFR Part 270: System Safety Program.

Transit Asset Management (TAM) Plan: The MBTA's Transit Asset Management Plan which describes: the capital asset inventory; condition of inventoried assets; TAM performance measures, targets, and prioritization of investments aligned with the agency's TAM and SGR policy, strategic targets and objectives; as well as the strategies, activities, and resources required for delivering this plan (including decision support tools and processes); and other agency-wide approaches to continually improve TAM practices.

Transit Safety Plan (TSP): A comprehensive federally required (FTA) document that outlines the activities and processes of the MBTA's transit safety program. It establishes the framework for the MBTA's Safety Management System (SMS) program and applies to Heavy Rail, Light Rail, Bus, and Paratransit operations.

Triennial Safety Review: A formal, comprehensive, on-site examination by the oversight agency of a transit agency's safety practices to determine whether they comply with the policies and procedures required under the transit agency's system safety program plan.

Appendix 3 - Description of Modes

A3.1 Background

The MBTA is a quasi-public authority operating under the Massachusetts Department of Transportation (MassDOT). Commonly referred to as the T, the MBTA is one of the largest and one of the oldest public transit systems in the United States. The MBTA serves nearly 200 cities and towns in Eastern Massachusetts extending to Rhode Island, with about 750 thousand trips per weekday on its subway, bus, ferry, commuter rail, and paratransit service. The MBTA transit network includes the MBTA subway with three heavy rail lines (Blue, Orange, and Red lines), two light rail lines (Green and Ashmont–Mattapan lines), and a five-line bus rapid transit system (Silver Line); the MBTA bus local and express service; the twelve-line MBTA commuter rail system; and several ferry routes.

The MBTA is one of five organizations within MassDOT. MBTA's leadership consists of the Secretary of Transportation and the MBTA General Manager. The MBTA is overseen by a diverse seven-member Board of Directors, with the Secretary of Transportation serving as an ex-officio member. The MBTA Advisory Board appoints one member who has municipal government experience in the MBTA's service area and experience in transportation operations, transportation planning, housing policy, urban planning or public or private finance. The Governor appoints the remaining five members, including a rider and resident of an environmental justice population, and a person recommended by the President of the AFL-CIO. Regulatory Authorities.

Massachusetts General Laws, Chapter 176 of the Acts of 2022, Section 62 requires this Plan to provide an analysis of all modes of transit operated or overseen by the Authority. This section provides details on each of these modes, including a description of the provided service and a summary of equipment and associated infrastructure.

A3.2 Subway

The subway is the largest part of Boston's public transit system, with about 750 thousand trips per weekday. It is often referred to simply as the T.

The MBTA subway system consists of heavy and light rail transit. There are three heavy rail rapid transit lines (the Red, Orange and Blue Lines) and two light rail lines (the Green Line and the Ashmont–Mattapan High-Speed Line, the latter designated an extension of the Red Line).

All four subway lines cross downtown, forming a quadrilateral configuration, and the Orange and Green Lines (which run approximately parallel in that district) also connect directly at two stations just north of downtown.

Green Line Summary:

- Four branches in the west: B (Boston College), C (Cleveland Circle), D (Riverside), and E (Heath Street), and to the north the D extends to the new Union Square station and the E extends all the way to the Medford/Tufts station. The Green Line Extension has been completed: Union Branch was completed March 21, 2022 and the Medford Branch was completed December 12, 2022.
- 65 stations 227 vehicles60 miles of track with 40 bridges, 4.75 miles of tunnel and 53 grade crossings
- Traction power includes 600v DC overhead catenary. The GLX Project added three additional 600v DC traction power substations.
- Four carhouses/maintenance facilities.

Mattapan Line Summary:

- One line connecting Ashmont and Mattapan Terminals

- 8 stations
- 10 Presidents' Conference Committee (PCC) Cars (expected to be 8 Cars following next overhaul)
- 5.7 miles of track with 11 bridges and 2 grade crossings
- Traction power includes 600v DC overhead catenary
- One carhouse

Orange Line Summary:

- One line connecting Forest Hills and Oak Grove
- 20 stations
- 164 vehicles
- 30 miles of track with 38 bridges, 3.9 miles of tunnel, and 0 grade crossings
- Traction power includes third rail
- One carhouse and two storage yards

Red Line Summary:

- Two branches in the south, Ashmont and Braintree, named after their terminal stations; runs south from Cambridge into Boston and South Boston, and branches into 2 sections south of JFK/UMass; the Braintree branch travels through Quincy (on the South Shore), and the Ashmont branch travels through Boston's Dorchester neighborhood
- 22 stations
- 228 vehicles
- 56 miles of track with 72 bridges, 8.9 miles of tunnel, and 0 grade crossings
- Traction power includes third rail
- One carhouse and three storage yards

Blue Line Summary:

- One line connecting Wonderland and Bowdoin
- 12 stations
- 94 vehicles
- 17 miles of track with 17 bridges, 2.6 miles of tunnel, and 0 grade crossings
- Traction power includes third rail and 600v DC overhead catenary between Wonderland and Airport
- One carhouse and two storage yards

A3.3 The RIDE

The RIDE is the MBTA's paratransit service. The RIDE provides door-to-door, shared-ride public transportation to people who cannot use the subway, bus, or trolley all or some of the time due to temporary or permanent disability. ADA requires transit agencies to provide door to door paratransit service for trips within three-quarters of a mile from bus, light rail, or subway services. The MBTA also offers premium service beyond those boundaries. The MBTA contracts operation of The RIDE to paratransit contractors.

The RIDE is available year-round in 58 cities and towns in the greater Boston area, with similar operating hours to the MBTA—generally from 5 AM to 1 AM daily. Riders schedule their trips on The RIDE one to five days in advance and are given a pick-up window for their ride's arrival. Travel times are comparable to the same trip taken on fixed-route transit (bus, subway, or trolley) plus an additional 20 minutes. Similar to other public transit services, The RIDE is a shared service. The MBTA Paratransit does not function as medical or human service transportation.

The RIDE Summary:

- Door-to-door paratransit service contracted by the MBTA
- Service available in 58 cities and towns
- 675 vehicles

A3.4 Buses

Local and Express Buses

The MBTA bus system, the nation's seventh largest by ridership, has over 155 routes. Most routes provide local service in the urban core; smaller local networks are also centered around Waltham, Lynn, and Quincy. Buses connect neighborhoods in Greater Boston with each other, and offer service to several surrounding cities and towns, from Bedford and Medford to Saugus and Salem. The system also includes longer routes serving less-dense suburbs, including several express routes. Most routes are directly operated by the MBTA, though several suburban routes are run by private operators under contract to the MBTA. Local buses only travel within Boston and the communities in the immediate area. Express buses make stops in suburbs and communities outside the city and then drive directly to downtown Boston.

Local and Express Buses Summary:

- 12 major bus hubs
- 155 routes and over 7,500 bus stops across 51 cities and towns
- Almost 1,000 vehicles
- Traction power includes diesel, natural gas, diesel electric hybrid, and battery electric
- Ten maintenance and storage facilities

Silver Line

The Silver Line is also operated as part of the MBTA bus system. It is designated as bus rapid transit (BRT). The Silver Line has five routes identified as SL1 – SL5. Two routes run on Washington Street between Nubian station and downtown Boston. Three "waterfront" routes run in a dedicated tunnel in South Boston and on the surface, and elsewhere including the SL1 route that serves Logan Airport.

Silver Line Summary:

- Five routes with 30 stops and stations
- 59 vehicles

- 1.2 miles of tunnel
- Traction power includes diesel, hybrid, and electric
- One maintenance/storage facility

A3.5 Commuter Rail

The MBTA commuter rail system is a regional passenger rail network that reaches from Boston into the suburbs of eastern Massachusetts. It is the largest contracted commuter service operation in the United States. It was the first commuter rail service in the United States and operated over what is now the Framingham/ Worcester Line beginning in 1834. The current system is the sixth-busiest commuter rail in the United States, behind only New York, Chicago, and Philadelphia area systems. The railroad's characteristic purple stripe-trimmed coaches operate as far south as North Kingstown, Rhode Island, as far north as Newburyport, MA and as far west as Wachusett Station in Fitchburg, MA. Trains originate at two major terminals in Boston — South Station and North Station — both transportation hubs offering connections to Amtrak, local bus, and subway lines.

The MBTA commuter rail system operates on over 600 miles of track with 12 service routes that operate over 14 lines with 142 stations. The maximum operating speed is 80 miles per hour, mainly due to passenger coach equipment limitations. Throughout the system, there are approximately 423 grade crossings, the majority of which are public highway crossings, protected by active warning devices. The system operates in a push-pull format with diesel locomotives and up to 9 coaches for normal scheduled service. Maintenance occurs at three facilities in Somerville and Boston, with layover facilities near the end of each line. The system serves as a vital transportation link for 177 towns in the greater Boston area.

The MBTA commuter rail is operated under contract by Keolis Commuter Services, which took over operations on July 1, 2014, from the Massachusetts Bay Commuter Railroad Company. Keolis Commuter Services is responsible for the operational safety of the commuter rail system.

Commuter Rail Summary:

- Passenger rail service operated by Keolis under contracted with the MBTA
- 12 service routes with 14 lines servicing 177 communities
- 142 stations
- 500 vehicles
- 623 miles of track with 409 bridges, 2.3 miles of tunnel, and 423 grade crossings
- Diesel traction power
- Three maintenance facilities and 11 storage facilities

A3.6 Ferry

The MBTA Water Transportation Service is a ferry system which operates three ferry routes utilizing seven docks in and adjacent to Boston Harbor. It is operated under a contract by Hornblower, previously Boston Harbor Cruises. For normal service, twelve boats are utilized, four of which are owned by the MBTA. All boats are maintained at Hornblower's maintenance facility in Charlestown. Minor repairs and overnight storage occur at an MBTA facility located in Quincy.

Ferry Summary:

- Contractor-operated water transportation (ferry) service for the MBTA
- Four routes (Boston-Charlestown, Boston-Logan-Hull-Hingham, Boston-Hingham,Long Wharf to East Boston (pilot program))
- Seven docks and piers
- 16 vessels total (MBTA-owned, contracted service vessels, and back-up vessels)
- 38 miles over water
- Contracted operator responsible for all vessel maintenance

Appendix 4 - Regulatory Authorities

The MBTA is regulated by multiple different agencies, which oversee various safety and safety-related environmental aspects of our business. The employee, operational, and equipment safety aspects of the various modes are governed by:

- The Federal Transit Administration (FTA), an agency within the U.S. Department of Transportation (USDOT), administers a national transit safety program and program compliance oversight process to advance the provision of safe, reliable, and equitable transit service through adherence with legislative, policy and regulatory requirements.
- The Federal Railroad Administration (FRA), also a USDOT agency, oversees and regulates the MBTA commuter rail operations.
- The ferry operations are subject to US Coast Guard (USCG) requirements and oversight, as well as FTA safety data reporting requirements.

While safety incident reporting is covered to some degree by the aforementioned agencies, it is also covered by the Occupational Health and Safety Administration (OSHA) and the Massachusetts Department of Labor Standards (DLS), specifically for injury and illness reporting.

Finally, the MBTA has spill and release reporting obligations under the Environmental Protection Agency (EPA) and Massachusetts Department of Environmental Protection (DEP), which focus on ensuring community safety.

As one can see, these regulatory bodies and their respective oversight responsibilities are not just important partners, but also collect and monitor essential data that is critical to the safety operation of our business. Their roles are explained below in greater detail.

A4.1 Federal Transit Administration

The FTA administers a national transit safety program and compliance oversight process to advance safe, reliable, and equitable transit service throughout the United States. The Office of Transit Safety and Oversight helps to increase transit safety through:

- Policy development
- Hazard investigation
- Data collection
- Risk analysis
- Oversight programs
- Information sharing

The FTA provides grants to local public transit systems, including buses, subways, light rail, commuter rail, trolleys and ferries. The FTA provides annual formula grants to transit agencies nationwide as well as discretionary funding in competitive processes. Grantees have a responsibility to comply with statutory and regulatory requirements associated with the management of federally assisted grants.

As a recipient of 49 USC § 5307 Urbanized Area Formula Grant program funds, the MBTA is subject to reporting requirements to FTA's National Transportation Database (NTD) for subway, The RIDE, bus, and ferry modes. Congress established the NTD to be the Nation's primary source for information and statistics on the transit systems of the United States. Statute requires that recipients or beneficiaries of grants from the Federal Transit Administration (FTA) under the Urbanized Area (UZA) Formula Program (§5307) or Other than Urbanized Area (Rural) Formula Program (§5311) submit data to the NTD. Each year, NTD performance data are used to apportion over $5 billion of FTA funds to transit agencies in UZAs. FTA submits annual NTD

reports to Congress summarizing transit service and safety data. Additional information regarding these reporting requirements is further discussed in section 6, which discusses the MBTA's safety targets.

The FTA has nearly daily communication with the MBTA's Chief Safety Officer and executive leadership, as well as regularly scheduled meetings to review the Safety Management Inspection progress, discuss pending and recently provided deliverables, and prepare for future FTA site visits and field activities. These regular meetings include standing Bi-Weekly Corrective Action Plan Meetings for each of the eight Special Directives pertaining to MBTA, for a minimum of four scheduled sessions involving FTA and MBTA management each week.

A4.2 Massachusetts Department of Public Utilities

The FTA recognizes the Massachusetts Department of Public Utilities (DPU) as the State Safety Oversight Agency (SSOA) for the Commonwealth of Massachusetts. MGL. c. 161A, s. 3(i) empowers the DPU to regulate the safety of equipment and operations at the MBTA as prescribed in 220 CMR. 151.00, et seq., "Rail Fixed Guideway System: System Safety Program Standard."

The DPU exercises jurisdiction over the safety of equipment and operations of the MBTA and is responsible for establishing standards for rail safety practices. In addition, DPU oversees the execution of these practices and procedures to ensure compliance by utilizing a broad range of tools and powers. In addition, the DPU requires the MBTA to develop and document in its TSP a process requiring ongoing internal safety audits over a three-year cycle to evaluate compliance with, and measure the effectiveness of the TSP.

The DPU is also responsible for passenger bus safety. Under M.G.L. Chapter 159A and 220 CMR 155.00, the Transportation Oversight Division of the DPU regulates the operations of intrastate motor bus carriers in Massachusetts. The DPU has had a role in safety oversight of bus service since at least 1925, and its jurisdiction extends to public and private bus operators, including the MBTA and RTA. These quasi-public authorities are only subject to DPU regulations related to matters of safety.

Included in DPU's authority within the Bipartisan Infrastructure Law is newly granted authority to collect and analyze data and conduct risk-based inspections of rail fixed guideway transportation systems. Section 30012(b) of the Bipartisan Infrastructure Law provides SSOAs with two years from the date of the Special Directive's issuance (10/21/22) to develop and implement a risk-based inspection program. Until this program is formalized, the DPU will continue to conduct inspections of MBTA's fixed railway and bus transportation equipment and records in accordance with 220 CMR 151 and 155.

The DPU and the MBTA meet on a regular basis to discuss safety-related issues, in addition to the meetings stipulated in 220 CMR 155.01:

- (5) The Department and the Transportation Authority shall meet quarterly, during the months of January, April, July, and October, to discuss safety concerns.
- (6) The Department and the Accountable Executive of the Transportation Authority shall meet at least annually.
- (7) The Department and the Board of Directors of the Transportation Authority shall meet at least annually.
- (8) The Department and the Chief Safety Officer of the Transportation Authority shall meet at least monthly.

A4.3 Federal Railroad Administration

The Federal Railroad Administration (FRA), also a USDOT agency, oversees and regulates the MBTA commuter rail operations. The FRA provides regular oversight of the commuter

rail and its contract operator, Keolis Commuter Service (Keolis), through several applicable Code of Federal Regulations (CFR), which includes but is not limited to planning, reporting, and auditing activities.

The FRA operations, mechanical, track, and signal inspectors are routinely present on MBTA property to oversee safety-related activities and equipment condition. For example, in any given week, the FRA performs at least one inspection on the commuter rail, yet more typically, the FRA conducts several safety intensive inspections weekly. In addition to the regular onsite safety and equipment inspections, the FRA routinely audits the MBTA and its contract operator for compliance with applicable documentation and record keeping requirements, including but not limited to, 49 CFR 213 – Track Safety Standards (inspection records), 49 CFR 219 – Control of Alcohol & Drug Use (testing), and 49 CFR 228 – Passenger Train Employee Hours of Service (service records).

To ensure an open channel for effective communication and issue resolution, the FRA's Safety Management Team 1 (SMT-1), which oversees Amtrak and commuter railroads east of the Mississippi River, holds regular meetings with the MBTA and Keolis. On a weekly basis, MBTA's leadership meet with leaders of the FRA's SMT-1 to discuss safety related topics and issues. On a quarterly interval, in-person meetings are hosted by the MBTA with FRA's SMT-1 leaders to discuss more in depth topics, overall directions.

A4.4 United States Coast Guard

The ferry operations are subject to US Coast Guard (USCG) requirements and oversight, as well as FTA safety data reporting requirements. The USCG requires incident and injury reporting as described in Table 5.6.

The USCG schedules eight cyclical inspections per year where they inspect the boats that are pulled after they are pulled out of the water. On average, the USCG visits the ferry service twelve or more times per year. Typically, the USCG does not pull over and board the ferries but will meet the boats at the dock for inspection. Once the inspection is completed, the USCG produces an inspection report and submits it the MBTA and/or service provider. The results of the inspection typically yield minimal to no defects, which supports the ferry service's excellent record of no accidents or incidents over the past 3 years. The USCG also responds to, takes control of, and investigates major ferry accidents and incidents.

A4.5 Occupational Safety and Health Administration

In 1970, the United States Congress and President Richard Nixon created the Occupational Safety and Health Administration (OSHA), a national public health agency created to assure safe and healthful conditions for working men and women by setting and enforcing standards and providing training, outreach, education and compliance assistance. Under the OSHA law, employers are responsible for providing a safe and healthful workplace for their workers.

The Massachusetts Workplace Safety and Health Program (WSHP) was recognized as an OSHA State Plan in August 2022. State Plans are OSHA-approved workplace safety and health programs operated by individual states or U.S. territories. State Plans are monitored by OSHA and must be at least as effective as OSHA in protecting workers and in preventing work-related injuries, illnesses, and deaths. WSHP enforces occupational safety and health regulations in public sector workplaces, including state, county, and municipal workplaces; public schools, colleges, universities, and quasi-government agencies, such as water districts and transportation, including the MBTA. Federal OSHA continues to have jurisdiction over the private sector in this state.

A4.6 Massachusetts Department of Labor Standards

The Massachusetts Department of Labor Standards (DLS) is the agency that provides employee workplace safety oversight and enforcement of safety standards for the MBTA. The Authority is subject to 454 CMR 25.00, which affords public-sector employees safe and healthful work environments free from recognized

hazards that may cause serious injury, physical harm or death on par with the level of protection provided under the Occupational Safety and Health Act of 1970. This regulation applies to all "public employers" and "public employees" as defined in M.G.L. c. 149, § 6½.

As stated in the previous section, Congress passed the federal Occupational Safety and Health Act in 1970 creating comprehensive worker protection standards that covered all private sector employees. In Massachusetts, public sector employees (outside the Executive Branch) were provided some protection by MGL 149 Section 6 which predated OSHA, so the State did not adopt OSHA standards or create a "State Plan" at that time.

In July 2014, MGL 149 Section 6 ½ was passed to give the DLS the authority to provide support and enforcement to public agencies. Authorized by MGL 149 § 6 ½, DLS promulgated 454 CMR 25.00 – regulations that set OSHA level protections as the standard for all Executive State employees. These regulations went into effect on March 24, 2015. On March 9, 2018, Governor Baker signed a bill that amended MGL chapter 149 §6 ½. The law went into effect February 1, 2019, and provided clarification on employee safety requirements in public sector workplaces, defined to include municipalities, counties, quasi-public entities, public colleges and universities, etc., and set OSHA as the minimum standard for all public and quasi-public agencies, including the MBTA.

The MBTA is required to implement workplace safety programs that meet standards set forth under the federal Occupational Safety and Health Act of 1970, 29 USC c. 651, et seq., including the general duty clause under 29 USC § 654, all current and updated regulations and references at 29 CFR Parts 1903, 1904, 1910, 1917, 1926, and 1977. MBTA's Occupational Health and Safety (OHS) Plan and related programs are developed to conform to the DLS requirements and the federal OSHA standards. MBTA reports specific OSHA reportable injuries to DLS with in specified timeframes, maintains a log (OSHA 300 Log) of all OSHA "recordable" injuries, completes OSHA incident reports (301 form), and generates and annually posts an OSHA 300A summary of work-related injuries and illnesses for the previous calendar year.

A4.7 Environmental Protection Agency

The EPA requires timely reporting of spills and releases to ensure protection of the environment and the public's safety. The MBTA is subject to the following reporting requirements, should a spill or release occur.

- If a release of an Extremely Hazardous Substance is at or above its applicable Reportable Quantity (RQ) under the Emergency Planning, and Community Right-to-Know-Act, section 304, the facility must notify the State Emergency Response Commission (SERC) and the Local Emergency Planning Committee (LEPC) for any area(s) likely to be affected by the release.
- If it is an accidental release of a hazardous substance listed under the Comprehensive Environmental Response, Compensation and Liability Act, the facility must notify the National Response Center (NRC), as well as the SERC and LEPC.

A4.8 Massachusetts Department of Environmental Protection

Oil spills and leaks, the release of hazardous materials, the contamination of drinking water or other threats to the public are Environmental Emergencies and must be reported immediately to the Massachusetts Department of Environmental Protection (MassDEP). For any chemical (either oil or a hazardous material), there is a Reportable Quantity (RQ) or Reportable Concentration (RC) that triggers the need to notify MassDEP. These RQs and RCs are published on the Massachusetts Oil & Hazardous Material List.

Appendix 5 - Transit Asset Management Plan

(Provided separately)

Appendix 6 - Capital Investment Plan

(Provided separately)

Appendix 7 - Substantive Communications

(Provided separately)

Attached (provided separately) please find the Safety Improvement Plan memoranda, reports and substantive email communication between the MBTA and the Department of Public Utilities (DPU), the Federal Transit Administration (FTA), the Federal Railroad Administration (FRA), and the United States Coast Guard (USCG).

Please note the MBTA withheld and/or redacted certain records in accordance with the Public Records Law. See G.L. c. 66, § 10. Based on review, these documents are reasonably believed to contain personnel, privacy, deliberative, investigative, and/or security sensitive information and are exempt from public disclosure under the Public Records Law. See G.L. c. 4, § 7(26)(c), (d), (f), (n).

In addition, please follow this link to view FTA Safety Management Inspection (SMI) Corrective Action Plans (CAP) records: https://www.mbta.com/quality-compliance-oversight/fta-safety-management-inspection-response. Follow this link to view correspondence from the FTA to the MBTA regarding SMI: https://www.transit.dot.gov/regulations-and-programs/safety/safety-management-inspection-massachusetts-bay-transportation

Appendix 8 - National Transit Database Data and Safety Data & Analysis Reports

Every month, a Safety Data Analysis Report (SDAR) is presented to the Board of Director's Safety, Health, and Environmental Subcommittee in the areas of operational targets and injuries. Attached to this appendix is the SDAR Report for calendar year 2022. The SDAR report shows safety data related to Bus, Heavy Rail and Light Rail. These are events that are reportable to the National Transit Database. The charts included in the SDAR Report have three colors: Green, Yellow and Red. These colors represent the status on our monthly targets. Green indicates the target was met, Yellow indicates the target was not met but there was improvement from the previous month, and Red indicates the target was not met or not improved upon from the previous month. The SDAR report is provided separately.

The SDAR reports do not cover Commuter Rail or the Ferry. That data is reported separately to the Federal Railroad Administration (FRA) and U.S. Coast Guard (USGA). This appendix includes Commuter Rail and Ferry data for calendar year 2022.

Employee Injuries

Date	Location	Department	Body Part	Summary	Reportable?
1/6/2022	Plan Room	Engineering	Leg	Lifting old heavy plans to place on hanging racks, stepped back and caught foot on side of rail causing fall.	Reportable
1/13/2022	BET S&I 3 Coach 630	Mechanical	Ankle, left	Carman tried to step over vomit on floor of coach and didn't make it. Slipped and broke ankle.	Reportable
1/18/2022	In train 117	Service Delivery	Heel, left	Trying to pop trap on train 117 coach 1625, spring was stuck.	Reportable
1/22/2022	Readville Parking lot	Mechanical	Back	Slipped in parking lot at Readville.	Reportable
1/29/2022	Cohasset Station	Engineering	Hand	Medical emergency that caused employee to drive Kubota off platform and into tracks.	Reportable
1/27/2022	769 Concord Ave, Cambridge	Engineering	Hand	Employee was driving personal vehicle too close for weather. Another car stopped and the employee could not stop in time and hit the car in front.	Reportable
1/29/2022	Hyde Park Station	Engineering	Back	Employee was at Hyde Park Station shoveling heavy wet snow and hurt back and possible sciatica.	Reportable
2/2/2022	Treble Cove Rd Gas Station	Engineering	Knee, right	Employee was stepping out of timber truck and slipped on the step of truck.	Reportable
2/3/2022	Waverly Sta. Stairs	Engineering	Knee, right	Walking down the stairs to get to the platform employee's knee gave out.	Reportable
3/4/2022	BET Back 2	Mechanical		Watching video it looks like employee tripped on turnstyle which caused the fall	Reportable
3/6/2022	BET #78 Switch	Service Delivery		Throwing the 78 switch at the BET. Switch was tough and on the 2nd attempt strained lower back.	Reportable
3/9/2022	BET	Service Delivery	Ears	Shift in tracked hearing.	Reportable
3/14/2022	Pawtucket Layover	Service Delivery		Fell while climbing up stairs to board train.	Reportable
4/6/2022	Titicut Siding South End	Engineering	Back	Sharp pain in back while pulling stones towards himself.	Reportable
4/8/2022	SHS Front Yard	Mechanical	Back	Moving 480 cables from generator 5 to generator 4 felt pinch in left shoulder.	Reportable
4/24/2022	Between SHSY and SS	Service Delivery	All over	Walking thru coaches she said the floor was raised causing her to trip.	Reportable
5/6/2022	Bi Level Stairs SHSY	Mechanical	Wrist, left	Reached for the left handrail and turned hand wrong causing sprain.	Reportable
5/9/2022	Willow St Xing Reading	Engineering	Foot, right	While building a crossing panel a rail rolled over onto her foot.	Reportable
5/11/2022	Norwood Central Int.	Engineering - Track	throat	Lining bar of jack was not locked into place and came up and hit employee in throat.	Reportable
5/24/2022	NHML Track 2	Engineering	back, lower	Climbing into truck after throwing a switch.	Reportable

6/1/2022	Off Property	Engineering	Head	Head on collision in Company vehicle.	Reportable
6/8/2022	Rockport Facility	Service Delivery	Face	Struck by propelled object while standing in the yard.	Reportable
6/9/2022	East Cottage Street Bridge	Engineering	Leg, upper	Fell in a hole when plywood they were standing on moved.	Reportable
6/20/2022	BET PM 2	Service Delivery	Head	Switching in the PM2 pit coming from under the coach went to stand up and struck head on the bottom of stairs.	Reportable
7/26/2022	Gym Facility, Readville Facility	Mechanical	Head	Struck head on door frame while exiting the gym due to piece of carpet.	Reportable
8/1/2022	53 State Street	Service Delivery		Shift in tracked hearing (HEARING ISSUES)	Reportable
8/1/2022	53 State Street	Service Delivery		Shift in tracked hearing (HEARING ISSUES)	Reportable
8/10/2022	Kingston Track 3	Mechanical		Electrician stumbled on a discarded brake shoe while unplugging the jumpers from the nose of a locomotive.	Reportable
8/16/2022	Fort Int.	Engineering	Shoulder and neck	Leaning down to pick up a fire extinguisher felt pain in shoulder and neck.	Reportable
8/21/2022	Manchester Crossover	Engineering	Ankle	While walking the track he twisted his ankle on a broken tie	Reportable
8/26/2022	S.S. Track 7	Service Delivery	Head	Had head out the window watching for motion and struck his head on window frame causing laceration.	Reportable
8/30/2022	Yard 14	Mechanical		Walking west between tracks L1W and L2W to inspect cables from loco cut being made on L2W	Reportable
9/10/2022	Rockport Station Track	Mechanical	Hand, left	Shoelace caught on spike causing him to fall, injuring left hand	Reportable
9/25/2022	53 State Street	Service Delivery	Ears	Hearing loss over time	Reportable
10/20/2022	Wakefield Station	Service Delivery	Knee, right	Employee was attempting to opening the coach door was stiff and heavy to operate. Knee popped.	Reportable
10/24/2022	Newtonville Station Platform	Service Delivery	Knee, right	Stepping onto the Newtonville platform and lost his balance on cracked and broken asphalt.	Reportable
10/28/2022	rv523 Track 2	Service Delivery	Finger	The trap bounced up when she tried to open it causing a laceration to finger.	Reportable
10/31/2022	SHSY S&I 1	Service Delivery	Eyes	Employee riding in control car with window open while going thru the wash.	Reportable
11/4/2022	BET 78 Switch	Service Delivery	Head	Threw the 78 switch and was walking back to the S&I 1 when he tripped on a rail. Sustained a laceration to his head and injury to left elbow.	Reportable
11/6/2022	Valley Track - Somerville	Mechanical	Shoulder	Employee was walking from one set to another when the wind caught the paper he was writing and in the process he tripped.	Reportable

11/15/2022	Track 13 South Station	Service Delivery	Thigh, right	Employee was stepping from platform onto the train and slipped and had right leg go in the gap.	Reportable
11/20/2022	Track 12 Readville	Mechanical	Knee, left	Employee was climbing coach stairs performing 238 inspection as required when he slipped off stair spraining knee.	Reportable
11/29/2022	Haverhill Station, in train	Service Delivery	Head	Employee was head butted by an angry passenger that he had woken earlier on the outbound trip.	Reportable
12/20/2022	Rockport Station Backtrack	Service Delivery	Head	Employee was climbing down fireman's side ladder. He Missed a rung and fell but landed on his feet but then lost balance fell back and their head hit the railing.	Reportable
12/30/2022	Gloucester Draw	Engineering	Leg	Employee was hitting a tie plate with a sledgehammer while the fire stick was on to heat the rail. A spark flew up and landed on his pants causing them to catch fire. Employee suffered burns to his lower leg.	Reportable

Customer Injuries

Date	Location	Type	Summary	Reportable?
2/4/2022	Providence Station	In Train	Passenger slipped in coach 804 on train 823. Rescue Unit 5 transported Passenger to the hospital.	Reportable
2/8/2022	Worcester Station	Boarding	Passenger boarding train at Worcester Station slipped on the yellow tactile and fell. Sprain to wrist and ring finger.	Reportable
2/22/2022	Lansdowne Station	Boarding	Slipped while boarding and leg went in the gap. Transported to hospital.	Reportable
3/2/2022	Bellevue Station		Slipped on black ice on the platform	Reportable
3/28/2022	North Station, Track 1	Deboarding	Passenger was deboarding coach 926 and the trap popped up catching their shin. Transported to the hospital.	Reportable
4/12/2022	Mansfield Station	Jumped	Unruly Passenger jumped off train before Conductor could lift trap and fell on the platform breaking an ankle.	Reportable
6/13/2022	North Station	Boarding	Tripped on trap while boarding.	Reportable
6/27/2022	South Station		Legally blind individual fell in the pit while walking to the commuter rail platforms.	Reportable
8/1/2022	Cohasset Station	In Train	Slip/Trip/Fall in train 074	Reportable
8/26/2022	Needham Heights	Boarding	Slipped in vestibule, laceration - 4 stitches	Reportable
9/1/2022	Lansdowne Station	Gap	Passenger sustained a leg injury while detraining. Transported to hospital.	Reportable
9/10/2022	South Station	Pit	Fell in pit after trying to board a moving train	Reportable
9/19/2022	Providence Station	Detraining	Passenger getting off fell down interior stairs of coach and fractured ankle.	Reportable
9/28/2022	South Station	Boarding	Slipped into gap. Laceration to leg requiring stitches.	Reportable
10/5/2022	South Station	Detraining	Slipped on wet floor in vestibule while detraining. Sustained a laceration to leg.	Reportable
10/19/2022	In train 721	In Train	Passenger was thrown backwards when the train jerked as it came to a stop.	Reportable
10/25/2022	Train 934	In Train	Passenger fell in train wrenching knee and ankle	Reportable
10/27/2022	West Concord	Boarding	Passenger fell through damaged section of West Concord Station while trying to board the train.	Reportable
11/9/2022	Back Bay Station	Detraining	Slipped on stairs while detraining	Reportable
12/20/2022	Rockport Station	Boarding	Psgrs were told to board the train from the mini-high. Concrete was not level causing the indiviual to trip and fall right into the side of train 100	Reportable

Rail Equipment Accidents and Injuries

Date	Incident Type	Location	Description	Reportable?
2/15/2022	Fuel Spill	Southampton S&I	Fuel spill at Southampton S&I Track No. 3.	Reportable
10/12/2022	CSX Runaway Equipment	Alden Yard to North Precinct St, Middleboro Main	CSX train carrying 4 MBTA coaches ran away. A Mass Coastal hi-rail vehicle reported the incident to Mass Coastal Dispatch.	Reportable
11/17/2022	Gate Activation Failure	North Ave @ Church St, Wakefield	Keolis Train 291 approached Prospect Street after departing Wakefield Station and reported that the gates did not come down. Train came to a complete stop and did not enter the crossing.	Reportable
12/6/2022	Fire	South Station	On 06 December 2022 at 1132 Train 748, located on South Station Track 4 reported a small fire under Locomotive MBTA 2004.	Reportable
12/27/2022	Environmental - Water Spill	BET-Ultrafiltration System 46 3rd Ave, Somerville, MA (42.37745, -71.07909)	Late Reporting: Keolis was notified 17hrs afterward that Ultrafiltration System was taken Out of service thereby discontinuing the batch by US ecology. 3800 gallons of unfiltered/filtered water was discharged into MWRA sewer system. Aries (the company which installed the system) will be on property 12/28 to investigate.	Reportable

Highway-Rail Grade Crossing

Date	Incident Type	Location	Description	Reportable?
1/21/2022	Collision - Vehicle	MP BW 16.30, Western Route	Gate did not activate until train was about to occupy the crossing on the Western Route. Fatal collision with vehicle.	Reportable
1/31/2022	Collision - Vehicle	Wyman St. Crossing (MP BT 18.90), Stoughton Branch	Train 865 collided with a vehicle at Wyman St. (MP 18.90) on the Stoughton Branch. No injuries.	Reportable
2/6/2022	Collision - Vehicle	Main St. Ashland	Train 2513 struck a vehicle at Main St. Grade Crossing in Ashland. Vehicle operator not in car at the time of collision. No injuries.	Reportable
2/25/2022	Collision - Vehicle	South St. Waltham	Train No. 406 collided with a City of Waltham small snow clearing machine at the South St. Grade Crossing. No injuries.	Reportable
2/25/2022	Collision - Vehicle	King St. Littleton	Train No. 419 collided with a Tractor Trailer at King St., Littleton. Tractor Trailer Operator transported to hospital. No crew/passenger injuries.	Reportable
3/2/2022	Collision - Vehicle	Wellesley Square Station	Train 516 just West of Wellesley Square Station collided with a Keolis Vehicle parked too close to the track. No injuries. Damage to vehicle mirror.	Reportable
3/4/2022	Collision - Vehicle	Fitchburg ML	Train No. 425 struck an unoccupied vehicle at Phoenix St. No injuries.	Reportable
3/25/2022	Collision - Vehicle	Spring St. Grade Crossing,	Train 012 collided with vehicle at Spring St. Grade Crossing. No injuries.	Reportable
3/28/2022	Collision - Vehicle	Central St. Grade Crossing, Stoughton Branch	Motorist drove thru gates and was clipped by train. No injuries, minor damage.	Reportable
4/22/2022	Collision - Vehicle	Everett Junction Interlocking, Eastern Route ML	Train 3126 struck unoccupied vehicle.	Reportable
4/28/2022	Collision - Vehicle	Pond St. Grade Crossing, Kingston Branch	Train 052 struck a vehicle at Pond St. MP BP 14.96. No injuries, damage to right front control car 1703.	Reportable
6/15/2022	Collision - Vehicle	Walpole Station	Train 751 reported they clipped an unoccupied vehicle at the Walpole Station driveway. No injuries.	Reportable
6/27/2022	Freight Collision - Vehicle	Beechum Street, Everett	Box truck went around Freight Conductor flagging crossing and collided with Freight Bo-1. No injuries, minor damage to truck.	Reportable
9/29/2022	Collision - Vehicle	Broad St., Rt. 18 Xing (MP BM 26.93)	Train 013 was operating southbound approaching Broad Street the engineer observed a white minivan fouling the track. The locomotive struck the front center of the minivan causing the vehicle to get spun away from the track and into the crossing gate pole. Both occupants of the vehicle had evacuated and were in the clear at the time of impact. All crossing warning devices had been working as intended.	Reportable

10/28/2022	Collision - Vehicle	Porter St. Xing (MP BT 18.80), Stoughton Line	While the wash train was headed south with the grade crossing activated (no gates), a white box truck tried to beat the train. Box truck was struck by lead locomotive (MBTX#1072). Force of the collision pushed the box truck into a sedan. Driver of the sedan transported.	Reportable
10/30/2022	Collision - Vehicle	Broad St., Rt. 18 Xing (MP BM 26.93), Middleboro Mainline	Southbound train collided with car inside the gates at Broad Street grade crossing. Minor damage to train and car. No injuries.	Reportable
12/16/2022	Collision - Grade Crossing	Park St. XING (MP BF 2.70) - Duck Village Crossing, 33 Park St., Somerville	Train 423, with the MBTA Locomotive 1124 and control car 1649 was traveling West on the number one Track of the Fitchburg Route Mainline when it collided with a vehicle fouling the track at the Park Street crossing (MP BF 2.70). An Emergency Brake Application was performed prior to Locomotive 1124 colliding with the rear portion of the fouling vehicle. The vehicle initially left the scene but later returned.	Reportable

Derailments

Date	Incident Type	Location	Description	Reportable?
1/12/2022	Rochester Facility Derailment	Rochester Facility	One full bi-level and at least one end of a single level coach derailed. All equipment upright. No injuries.	Reportable
6/8/2022	Derailment	Beverly Junction	Train 116 derailed at Beverly Junction track 2.	Reportable
10/23/2022	CSX Derailment	Holliston Industrial Track, CP 22, Worcester Mainline	CSX Y101 coming out of Holliston Industrial Track at CP22 and derailed 5 cars.	Reportable