Massachusetts Bay Transportation Authority

MBTA Safety Report

Nancy Prominski, Chief Environmental Health & Safety Officer
June 24, 2019
Overview

• Summary
  • Highlight the MBTA’s ongoing efforts to improve safety across the system for both employees and customers
  • Explain outcome and incident tracking and resulting corrective actions taken
  • Share key achievements in safety promotion and address areas of concern

• Outline
  • Safety trends and auditing
  • Safety Management System (SMS) and Public Transportation Agency Safety Plan (PTASP)
  • Programs and Initiatives
    • Customer-facing
    • Employee-facing
In-Service Mainline Derailments

<table>
<thead>
<tr>
<th>Calendar Year</th>
<th># of Derailments</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>4</td>
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<tr>
<td>2016</td>
<td>7</td>
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<tr>
<td>2017</td>
<td>3</td>
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<tr>
<td>2018</td>
<td>5</td>
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<tr>
<td>2019</td>
<td>5</td>
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- **Commuter Rail**
- **Green Line**
- **Red Line**
Customer Injury Trends

Customer Injuries 2016 – Present*

Customer Injuries are injuries on MBTA property or onboard an MBTA vehicle requiring immediate transport from the scene for medical attention.

* 2019-Q2 Totals as of 6/19/19
National Transit Database reportable collisions include a collision resulting in a fatality, serious injury, or immediate transport away from the scene for medical treatment; a collision resulting in >$25,000 in property damage; or a collision resulting in a vehicle being towed from the scene due to disabling damage.

* 2019-Q2 Totals as of 6/19/19
Auditing

• DPU 2018-2020 Triennial Audit of MBTA
  o In March, the DPU published their 2018 Annual Update Report
  o DPU conducted over 300 targeted and random audit activities to assess compliance with the MBTA Safety Plan
  o No hazards or findings requiring a Corrective Action Plan by the MBTA were identified
Public Transportation Agency Safety Plan - Requirements

FTA Final Rule 49 CFR 673 – Public Transportation Agency Safety Plan (PTASP)

- Supersedes System Safety Program Plan requirements of 49 CFR 659
- Requires restructured safety plan and integration of SMS principles
- Will replace MBTA’s currently approved and implemented Safety Transit Plan and 21 element-based safety system
- New plan must be certified by DPU on July 20, 2020
- Applies to:
  - Transit Rail
  - Bus
  - Para-transit
- Exempt:
  - Commuter Rail – Overseen by FRA
  - Ferry Service – Overseen by US Coast Guard

New Requirements:

SMS

- Enhanced Safety Statement issued/signed by SMS Accountable Executive/GM
- SMS Executive responsible for implementation
- Employee Safety Reporting System where employees can report safety conditions to senior management without fear of retaliation/discipline
- Data collection – Safety Performance Targets – at a min.:
  - Fatalities
  - Injuries
  - Safety Events
  - System Reliability

Plan

- Plan must document agency’s updated SMS processes
- Signed by the GM, approved by FMCB
- Certified by the DPU
- Annual internal review, update, and certification
Public Transportation Agency Safety Plan - SMS

- Builds on system safety concepts, adding:
  - More management commitment, oversight, and accountability for safety
  - Enhanced safety performance metrics and targets - DATA
  - Strengthened safety culture
- The intent – bring management and labor together to:
  - Collect, share, and analyze safety data more effectively
  - Identify and control risk better
  - Detect and correct safety problems earlier
  - Measure safety performance more precisely

Four Main Components of SMS:

1. **Safety Management Policy**
   - Policy Statement
   - Accountabilities and Responsibilities

2. **Safety Risk Management**
   - Hazard Identification and Analysis
   - Safety Risk Evaluation and Mitigation

3. **Safety Assurance**
   - Safety Performance Monitoring and Measurement
   - Management of Change

4. **Safety Promotion**
   - Safety Communication
   - Competencies and Training
SMS – Key Roles and Responsibilities

- Drives overall SMS decision making and implementation: Accountable Executive (GM)
- Oversees day-to-day implementation of SMS: CSO/SMS Executive, Agency Leadership (SMRC)
- Support development of SMS policies and procedures: Key Staff (Safety dept. and mgmt.-level)
- Identify safety hazards and report through the Employee Safety Reporting System: All Staff
Safety Department Collaboration – SMRC, Task Teams, Working Groups

MBTA SMRC – Executive Management Review and Approval
Task Teams & Working Groups – Program/Plan Development and Review

- **Safety Engineering – Infrastructure**
  - GLX Working Group
  - South Coast Rail Working Group
  - Red Line/Orange Line Infrastructure Working Group
  - Wellington Campus Coordination Working Group
  - Capital Asset Safety Management Working Group

- **Safety Engineering – Systems**
  - Red Line/Orange Line Vehicle Working Group
  - Green Line Vehicle Working Group
  - Red Line/Orange Line Signals Improvements Working Group (planned)
  - Vehicle Maintenance Safety Management Working Group
  - E&M Safety Management Working Group

- **Transportation Safety**
  - Transportation Safety Management Working Group
  - Unified Training Safety Management Working Group
  - Security Safety Management Working Group
  - Bus Accident Reduction Committee
  - Right of Way Safety Committee
  - Safety Rules Compliance Program Meeting

- **Occupational Health & Safety**
  - OHS Steering Committee
  - OHS Working Groups
  - Code 1 Task Force
  - GLX Fire Life Safety Committee

- **Safety Oversight & Planning**
  - SMS Steering Committee
  - SMS Transition Task Team
  - DPU Transition Team

Draft for Discussion & Policy Purposes Only
### Public Transportation Agency Safety Plan – Plan Development

<table>
<thead>
<tr>
<th>Step</th>
<th>Responsibility</th>
<th>Dates</th>
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</thead>
<tbody>
<tr>
<td>Finalize Transit Safety Plan draft</td>
<td>Steering Committee and Task Team</td>
<td>September 2019</td>
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<tr>
<td>SMS Transition Task Team approval</td>
<td>CSO review and approval</td>
<td>December 2019</td>
</tr>
<tr>
<td>SMS Steering Committee/SMRC review and approval</td>
<td>GM initial review</td>
<td>January 2020</td>
</tr>
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<td></td>
<td>DPU review</td>
<td>February/March 2020</td>
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<td></td>
<td>Back to SMRC for final approval, if required</td>
<td>April/May 2020</td>
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<tr>
<td></td>
<td>GM and FMCB final review and approval</td>
<td>DPU approval and certification</td>
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- **PTASP and SMS Development**
  - SMS Steering Committee and Task Team – created to oversee safety plan and SMS development and implementation
  - Safety Plan Schedule:
    - Steering Committee and SMRC review/approval – **September 2019**
    - GM/SMS Accountable Executive review – **December 2019**
    - DPU review – **January 2020**
    - Back to SMRC for final approval, if required – **February/March 2020**
    - GM and FMCB final review and approval – **April/May 2020**
    - DPU approval and certification – Regulatory Deadline **July 20, 2020**
  - SMS Development and Implementation – multi-year phased process
    - Phased approach – manageable series of steps, allocation of resources, milestones
    - Schedule and milestones
Workplace Safety Improvement Initiative – OSHA Program Requirement

- 3/9/18 - Governor Baker signed a bill amending MGL c 149 Sec 6 ½ to clarify employee safety requirements in public sector workplaces.
  - Law requires all public sector employers to implement methods of reducing work-related injury and illness that meet the minimum requirements provided under the federal Occupational Safety and Health Act of 1970.
  - Law enforced at state level by Department of Labor Standards (DLS)
- 2/1/19:
  - DLS OHS oversight became effective
  - DLS may conduct onsite inspections at MBTA facilities
- DLS standard 454 CMR 25 directly extends OSHA regulations to executive branch state agencies.
Workplace Safety Improvement Initiative – MBTA OHS Program

• Occupational Health & Safety (OHS) Program Status:
  o **OHS Safety Bulletins**: Nov 2018 - MBTA Safety published 26 bulletins which serve as guidance documents throughout the development/implementation process of the OSHA-compliant OHS program.
  o **Job Hazard Analyses (JHAs)**: MBTA Safety is collaborating with various departments to complete JHAs throughout the workplace. JHAs:
    - Help identify job-related hazards
    - Assist in developing mitigations, controls, proper resource allocation
    - Form the basis for many OSHA-related programs
  o **OSHA-compliant written safety programs**: MBTA Safety has drafted 5 safety programs to be reviewed by OHS steering committee with a schedule for completion of remaining programs.
• MBTA Safety is incorporating best practices into the existing OHS Plan with the intent to make the revised plan available by summer 2019.
Workplace Safety Improvement Initiative – OHS Program Progress

- **Personal Protective Equipment (PPE) Program**: written program approved by SMRC in May 2019; moving to full program development/implementation.
- **Electrical Safety and Lock-Out/Tag-Out (LO/TO) Program**: to be reviewed by the OHS Steering Committee at the next committee meeting.

<table>
<thead>
<tr>
<th>OHS Program</th>
<th>Estimated Program Publication Date</th>
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<tr>
<td>Personal Protective Equipment (PPE)</td>
<td>Quarter 2 – 2019</td>
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<td>Electrical Safety</td>
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<tr>
<td>Lockout/Tagout</td>
<td>Quarter 3/4 – 2019</td>
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<tr>
<td>Confined Space</td>
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<td>Hot Work</td>
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<tr>
<td>Respiratory Protection</td>
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<tr>
<td>Fire/Life Safety and Emergency Egress</td>
<td>Quarter 1 – 2020</td>
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<tr>
<td>Hearing Conservation</td>
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<tr>
<td>Bloodborne Pathogens</td>
<td>Quarter 2 – 2020</td>
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<tr>
<td>Fall Protection</td>
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<tr>
<td>Chemical Hazardous Communication</td>
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Workplace Safety Improvement Initiative – Capital Improvement Inspections

- MBTA Safety works with the OHS Steering Committee to initiate and implement OHS Capital Improvement Projects
- Safety, management, and labor have been conducting comprehensive facility inspections to determine high-priority safety-related Capital Improvement projects
- MBTA Safety Capital Improvement Grant funds used to date:

  - Fall Protection
  - Outdoor Lighting
  - Hose Reel Upgrades
  - Steam Washer Cabinets
  - Garage Exhaust/Tail Pipe Hoses
  - Steel Grate Replacement
  - Steel Plate Elimination
  - Vehicle Maintenance Facility Asphalt
  - Bus Garage Structural Assessments
  - Quincy Bus Garage Structural Repair
  - Bus Maintenance Facility Bird Netting
  - Motor Up-Enders
  - Grab Iron Bars
  - Torrent Parts Cleaners
  - Vertical Panel Saw
  - Shop Floor Smoothing
Safety Certification

- Safety Certification Program authored by MBTA Safety
  - Approved by SMRC and MBTA Depts.
  - Adopted by DPU
- Audited twice since 2015 with no findings
- Includes Infrastructure, Vehicles, & Systems
- Includes all projects, not just FTA mandated
- MBTA Safety Certification Program recognized by APTA as an Industry Best Practice

- Safety Certification – Systems, Infrastructure, and Vehicles
  - Ensures safety concerns and hazards are adequately addressed prior to revenue service
  - Process begins during the design/planning phase
  - A working group comprised of the MBTA Project Team (PM, RE), Design Consultant, Contractor, and Safety Department rep oversee the accomplishment of the safety objectives for each project development phase
  - Safety critical items (certifiable items list or CIL) are identified through Preliminary Hazard Analyses (PHA) and Threat and Vulnerability Assessments (TVA)
  - Process continues throughout the construction/procurement/integration phases and is completed prior to operational use
  - MBTA Safety participates in all phases of the Certification process
  - CSO certifies

- Example Projects: PTC; GLX; New Green, Red and Orange Line Vehicles; Test Tracks; South Coast Rail
As safety oversight for the commuter rail, MBTA Safety:
- Monitors Keolis’ compliance with federal regulations, the Commuter Rail Operating Agreement, MBTA safety program requirements, and industry best practices
- Collaborates with MBTA Railroad Operations and Keolis to identify, resolve, and track safety issues
- Responds to and investigates emergency events and hazardous conditions
- Works closely with representatives from the Federal Railroad Administration (FRA), Keolis, and various MBTA departments to ensure the resolution of identified safety issues
Safety Promotion

Safety Hotline
- Employees can report safety conditions and/or hazards directly to the MBTA Safety department
- Reports can be made anonymous/confidential
- Safety Department tracks safety concerns and monitors any corrective actions

General Manager Safety Excellence Awards
- First Annual Award ceremony held on January 22, 2019 to recognize employees that demonstrated safety excellence or provided safety input to effect a positive change in 2018
- Managers across the MBTA submitted nominees
- From the nominations, 34 employees were selected for commendation with an additional 21 honorable mentions
- Planning for the 2019 ceremony is currently underway
Safety Department Training – Classroom and Hands-On

MBTA Safety collaborates to conduct safety training, including:

- Federally approved safety courses with Transportation Safety Institute (TSI)
- Right of Way (ROW) Training at Cabot with Subway Ops Training
- New Hire Training with Human Resources
- Bus Operator Safety Training with Bus Ops Training
- In-field training for Operations, E&M, and Construction Contractors
- Safety Flashes
Safety Department Outreach

Community Outreach

- MBTA Safety collaborates with Keolis, Transit Police, MassDOT, Mass Department of Health, FRA, Samaritans Inc., and Operation Lifesaver to conduct **public outreach and raise safety awareness**

- In an effort to **reduce trespasser strikes**, MBTA created a Rail Collision Reduction Committee, with stakeholders and subject matter experts on the national, state, and local level working collaboratively to study the issue.