



**Massachusetts Bay  
Transportation Authority**

# MBTA Transit Safety Plan

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Fiscal and Management Control Board

June 22, 2020

Nancy Prominski, Chief Environmental and Health Officer

Kelly Chronley, Director of Transportation Safety

# Agenda

- Define Requirements from 49 CFR 673 (Public Transportation Agency Safety Plan)
- Discuss key components of MBTA's Transit Safety Plan

**GOAL:** FMCB approval of the MBTA Transit Safety Plan



**Safety  
Management  
System**

**MANAGEMENT POLICY**  
**RISK MANAGEMENT**  
**ASSURANCE**  
**PROMOTION**



# Plan Preparation and Approval Requirements

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- § 49 CFR 673 supersedes 49 CFR 659 System Safety Program
- § 49 CFR 673.11(a) requires the MBTA to prepare a Public Transportation Agency Safety Plan, “Transit Safety Plan” and implementation of a Safety Management System
- § 673.13(a) requires MBTA’s Transit Safety Plan, and subsequent updates, to be **signed by the Accountable Executive and approved by the MBTA’s Board of Directors**, or an Equivalent Authority. Then approved and certified by the DPU by July 20, 2020.
- Due to COVID-19 FTA extended the compliance deadline to December 31, 2020
  - Our focus is on safety improvements and cultural change; therefore, we have chosen to complete the Plan within the original timeframe and continue with SMS implementation initiative.



# Transit Safety Plan Preparation and Review Summary

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- Plan development – **November 2018** – present
  - Engaged employees from operations, maintenance, and engineering in plan development
  - Cross-functional employees participated on SMS Steering Committee and SMS Transition Team
  - Benchmarked and shared Plan, and conducted information sharing sessions with other transit agencies
  - Engaged DPU – monthly meetings with DPU to review/discuss plan elements and progress
  - Participated in FTA training and information sessions on PTASP and SMS
- Initial SMRC review/approval – **September 2019**
- Initial GM/SMS Accountable Executive review – **November 2019**
- Plan sent to FTA TAC for review – best practice; comments received – **March 2020**
- DPU review/conditional approval – **January-May 2020**
- Expanded SMRC and new Executive Safety Council final review and approval – **May 2020**
- GM final review and approval – **June 2020**
- **FMCB review and approval – June 2020**
- DPU final approval and certification – **Regulatory deadline\* July 20, 2020**



# Internal Preparation



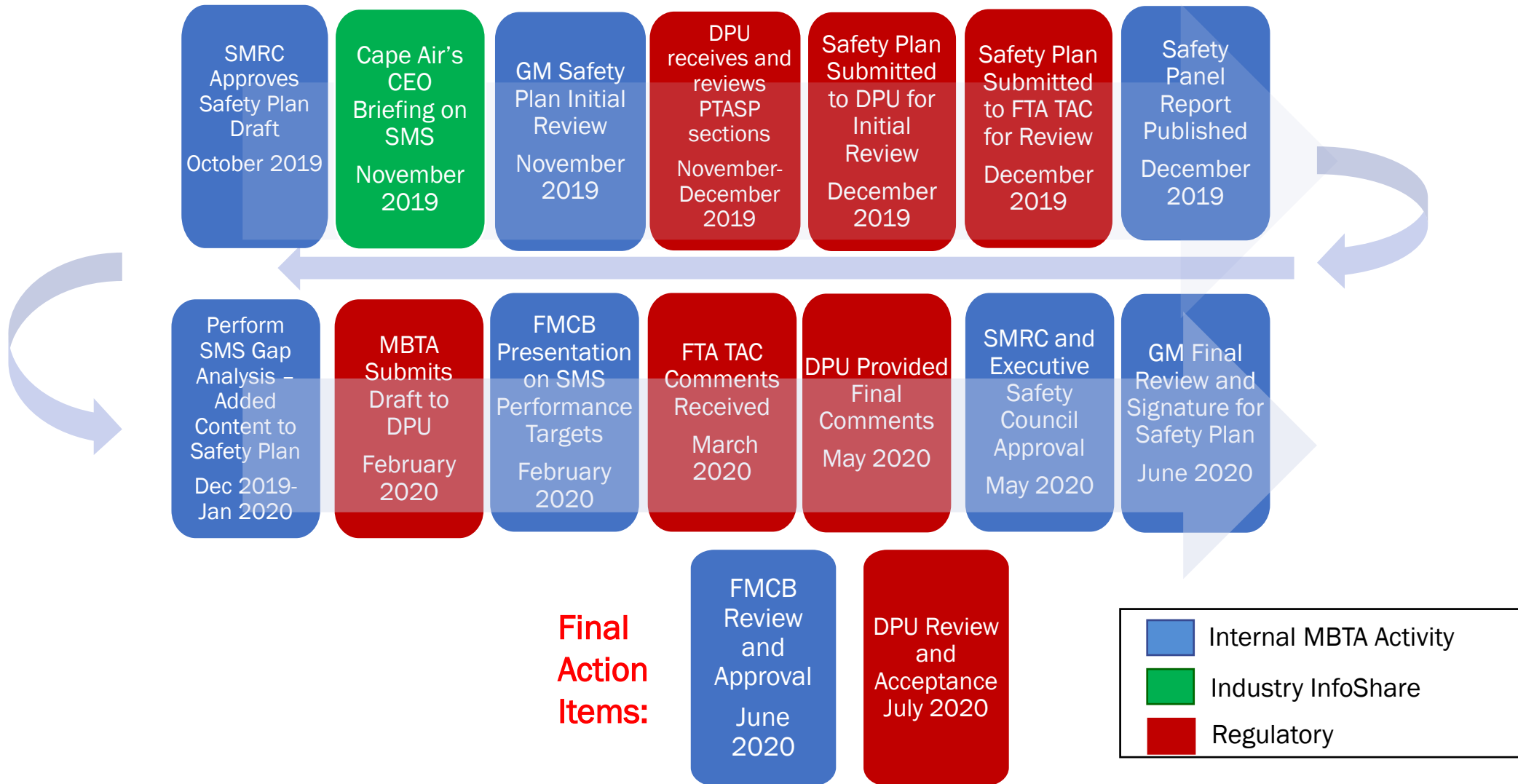
- Internal MBTA Activity
- Industry InfoShare
- Regulatory



# Internal & External Collaboration



# Plan Finalizations and Approvals



# Key Transit Safety Plan Requirements



Plan must document processes and activities related to SMS - § 49 CFR 673.11(a)(2)

- Safety Management Policy (673.23) – MBTA Safety Management Policy Statement
- Safety Risk Management (673.25)
- Safety Assurance (673.27)
- Safety Promotion (673.29)

Plan must include performance targets based on performance measures (metrics) (673.11(a)(3))





# MBTA Transit Safety Plan Table of Contents

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## **Safety Management Policy Statement**

1) Introduction

2) SMS Policies and Documentation

## **3) Safety Performance**

4) Organizational Structure and Responsibilities

## **5) Safety Risk Management (SRM)**

## **6) Safety Assurance**

## **7) Safety Promotion**

8) Safety Training

Department-specific appendices



# MBTA Safety Management Policy Statement – PRF 3

## Regulatory Mandates (673.23)

- Written statement w/organizational accountabilities and responsibilities and agency safety objectives
- Establish/implement a process for employees to report safety conditions to senior management, associated employee protections
- Communication of policy
- Establish authorities, accountabilities, and responsibilities for key SMS personnel – Accountable Executive (GM), CSO, key leadership and staff

## MBTA Implementation Actions

- Worked with GM/Accountable Executive to write Safety Policy Statement
- Signed Policy Statement in Plan
- Promoted Safety Hotline, improved feedback communication with success during Covid
- Planned Campaign of Safety Policy Statement
- Collaborated and strategized with SMRC/Senior Leadership on SMS approach



# MBTA Safety Risk Management – Sec. 5

## Regulatory Mandates (673.25)

- Hazard identification
- Safety risk assessment – likelihood and severity
- Identification of risk mitigations

## MBTA Implementation Actions

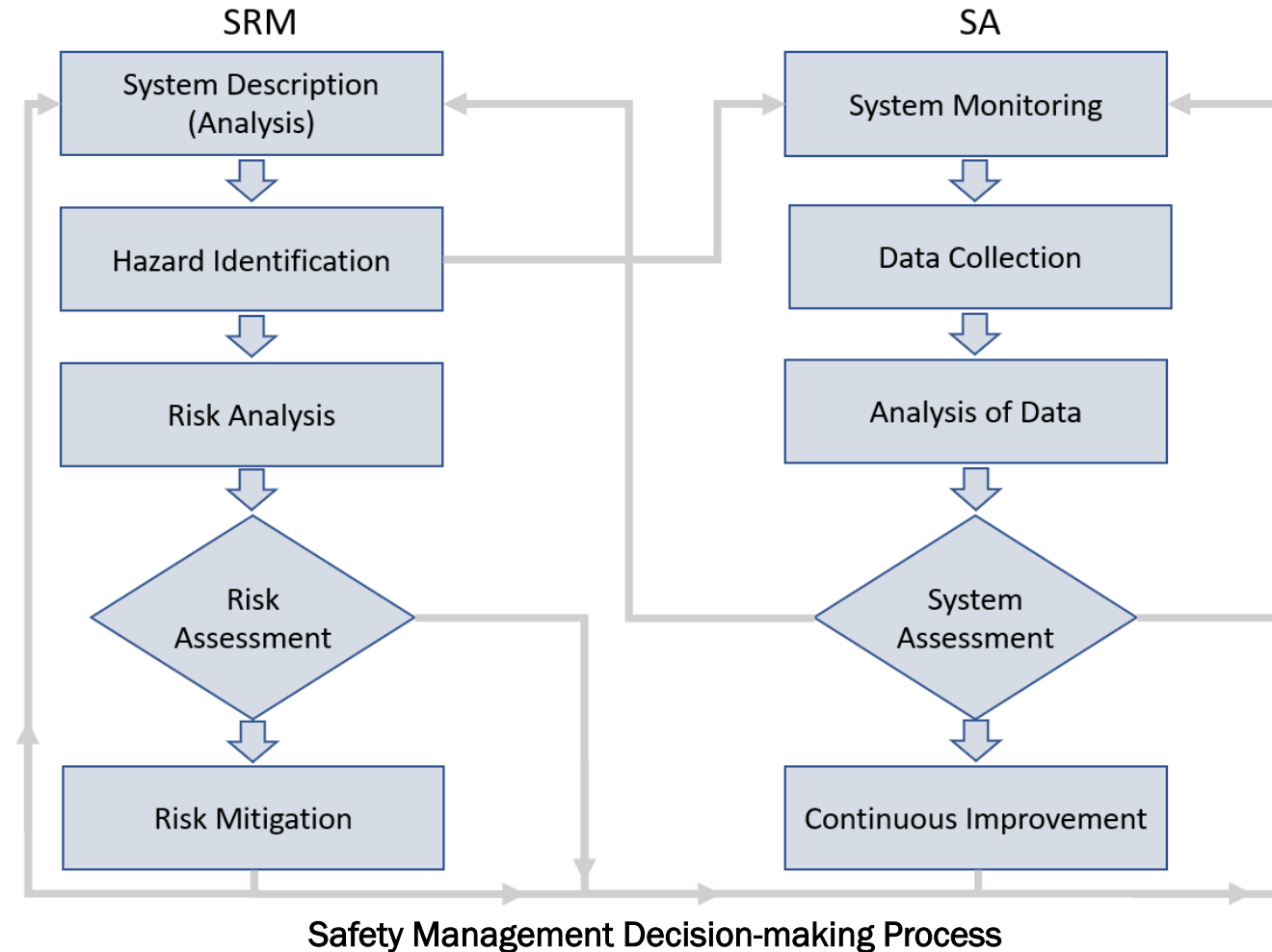
- Procure technology that will communicate employee reports, track & prioritize hazards, and document SRM process.
  - Inspections, audits, JHA library
  - Maintain in hazard tracking log
- Enhance Event Investigation process



# MBTA's Safety Risk Assessment Matrix

	Catastrophic (1)	Critical (2)	Moderate (3)	Minor (4)	Low (5)	Step 2b - Proactive Assessment (Forward Looking)	
<b>Not Effective (2):</b> Remaining controls were ineffective or no controls remained. The only thing separating this event from an accident was pure luck or exceptional skill, which is not trained or required	2	4	6	8	10	Frequent (2)	Likely to occur (Will occur in most circumstances, not surprised if it happened) or Occurs $\geq$ to 1 in 100
<b>Minimal (3):</b> Some controls left but their total effectiveness was minimal	3	6	9	12	15	Probable (3)	Possible to occur (Might occur in some circumstances) or occurs 1 in 100 to 1,000
<b>Limited (4):</b> An abnormal situation, more demanding to manage, but with still a considerable remaining safety margin	4	8	12	16	20	Occasional (4)	Unlikely to occur (Could occur in some circumstances, surprised if it happens) or Occurs 1 in 1,000 to 10,000
<b>Adequate (5):</b> Consisting of several good controls	5	10	15	20	25	Remote (5)	Rare to occur (May occur but only in exceptional circumstances, may happen but it would be highly unexpected) or Occurs 1 in 10,000 to 1,000,000
<b>Effective (6):</b> All controls in place and working as intended	6	12	18	24	30	Improbable (6)	Almost inconceivable to occur

# Relationship of Safety Risk Management (SRM) and Safety Assurance (SA)



# MBTA Safety Assurance – Sec. 6

## Regulatory Mandates (673.27)

- Safety performance monitoring and measuring
- Management of Change
- Continuous improvement process

## MBTA Implementation Actions

- Collaborate with Internal Departments to Collect and Measure Data against Performance Targets:
  - Internal Audits & Inspections
  - A/I Investigations
  - Ensure CAP Effectiveness & Closed CAP Monitoring
- Expand System Modification & Safety Certification Programs
- Expanding metrics/targets beyond requirements
- Working towards leading indicators



# MBTA's Safety Performance Measures and Targets – Sec. 3.1

## Safety Performance Targets

*Safety performance targets based on the safety performance measures established under the National Public Transportation Safety Plan.*

Mode of Transit Service	Fatalities (Total)	Fatalities (Rate per 1 million revenue miles)	Injuries (Total)	Injuries (Rate per 1 million revenue miles)	Safety Events (Total)	Safety Events (Rate per 1 million revenue miles)	System Reliability (Revenue miles traveled per major mechanical failure)
Heavy Rail	0	0	221	9.45	24	1.00	47,000
Light Rail	0	0	100	17.25	34	5.83	7,000
Bus	0	0	367	15.50	142	6.00	18,000
The RIDE	0	0	36	2.30	37	2.22	66,000

# MBTA Safety Promotion – Sec. 7

## Regulatory Mandates (673.29)

- Competencies and training
- Safety communication

## MBTA Implementation Actions

- Enhancing and creating new training content
  - ROW training reboot
  - SMS training program under development
- Promotion:
  - Employee newsletter
  - Everbridge outreach
  - GM videos
  - Electronic messaging
  - Posters, safety flashes...





# MBTA SMS Implementation Plan

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- Multi-phased approach to develop and implement SMS:
  - **Phase 1:** Planning, organization, policy development, gap analysis
    - Enhance Safety Policy, reviewed by SMRC/GM
    - Internal review of safety program and gap analysis
    - Initial messaging about SMS throughout organization
    - **Phase 1 Exit:** DPU approval of the MBTA Transit Safety Plan
  - **Phase 2:** Safety Risk Management (SRM)
    - Identify, strengthen and refine existing SRM tools for hazard tracking and risk assessment
    - Refine existing Employee Safety Reporting Program – evaluating 3<sup>rd</sup> party expanded ESR that includes the hazard reporting, tracking, and risk assessment
    - Launch Training on SMS Awareness and SRM for the MBTA
  - **Phase 3:** Safety Assurance
    - Review and update objectives and performance targets based on SRM and requirements
    - Enhance existing safety oversight procedures (internal inspections, audits, investigations)
    - Continue to train and promote SMS at all levels of the MBTA
  - **Safety Promotion is embedded in all phases of SMS**
- *MBTA's detailed SMS Implementation Plan is documented and available upon request.*



# Request of the Fiscal and Management Control Board

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VOTE: That the Fiscal and Management Control Board hereby approve the Massachusetts Bay Transportation Authority Transit Safety Plan, dated June 15, 2020, and presented to the Fiscal Management and Control Board on June 22, 2020.

