

APPENDIX: TRANSIT SAFETY PERFORMANCE TARGETS AND REQUIREMENTS

Metropolitan planning organizations (MPOs) are federally required to set transit safety performance measure targets for their regions. Under the Federal Transit Administration's (FTA) Public Transportation Agency Safety Plan (PTASP) Rule, applicable transit agencies are required to develop safety plans that define how these agencies will implement Safety Management Systems (SMS).¹ These transit plans are required to include performance measure targets defined in the National Public Transportation Safety Plan, which relate to fatalities, injuries, safety events, and system reliability.²

This appendix summarizes federal transit safety performance requirements and related planning activities conducted by applicable transit agencies in the Boston region. It also describes federally defined transit safety performance measures and the most recent set of transit safety targets set by the Massachusetts Bay Transportation Authority (MBTA), the Cape Ann Transportation Authority (CATA), and the MetroWest Regional Transit Authority (MWRTA). Finally, the appendix discusses next steps for the MPO to incorporate these targets into its performance-based planning and programming process. These transit safety performance activities support the MPO's goal to make the region's transportation system safe and addresses the following related objectives:

- Reduce fatalities and serious injuries from transportation
- Improve reliability of transit systems, allowing its assets to travel longer between disturbances
- Make investments and support initiatives that help protect transportation customers, employees, and the public from safety and security threats

1 TRANSIT SAFETY PERFORMANCE OVERVIEW

As per the Moving Ahead for Progress in the 21st Century Act, the PTASP rule requires transit providers, MPOs, and states to develop targets for established transit safety measures.

¹ Title 49, Part 673, of the Code of Federal Regulations.

² Federal Transit Administration, *National Public Transportation Safety Plan* (January 2017), accessed January 2, 2024, at <https://www.transit.dot.gov/regulations-and-guidance/safety/national-public-transportation-safety-plan>.

1.1 Transit Safety Management Systems and Plans

The PTASP rule requires certain public transit operators that receive federal funds from FTA's Urbanized Area Formula Grants (Title 49, Section 5307, of the US Code) or that operate rail systems subject to FTA's State Safety Oversight Program to develop agency safety plans (ASP) that will support implementation of Safety Management Systems (SMS). A safety management system is a "comprehensive, collaborative approach to managing safety."³ Overall, these systems are designed to help transit agency leaders and employees "better control risk, detect and correct safety problems earlier, share and analyze safety data more effectively, and measure safety performance more precisely."⁴

Under the PTASP rule, transit providers are required to create ASPs that describe the processes and procedures they will use to implement their SMS.⁵ They address the four main components of SMS, which include safety management policies, safety risk management strategies, safety assurance methods (which includes performance monitoring), and safety promotion (including training and communication practices). These plans also describe performance targets for federally required measures, which will be discussed in the next section, and the plans may also discuss other measures the transit agency may use to monitor its safety performance. Transit agencies must update and certify these plans on an annual basis.

1.2 Safety Performance Measures and Targets

Measures Overview

The National Public Transportation Safety Plan identifies safety performance measurement as a key component of safety management processes. It defines measures in four areas—fatalities, serious injuries, safety events, and system reliability—that transit providers can use to understand their performance and that the FTA and other federal agencies can use to understand safety trends nationwide. Transit providers track performance in these areas by transit modes, such as fixed-route bus service, light and heavy rail for rapid transit systems, and demand response service. The ASPs and performance measures do not apply to modes that fall under the jurisdiction of the Federal Railroad Administration, such as commuter rail, or the US Coast Guard, which covers ferries.⁶ These modes are subject to other federal safety requirements and management processes.

³ FTA, "PTASP Frequently Asked Questions" (September 4, 2023), accessed January 2, 2024, at transit.dot.gov/PTASP-FAQs.

⁴ FTA, "PTASP Frequently Asked Questions."

⁵ MBTA, CATA, and MWRTA ASPs are available on the February 15, 2024, page of the MPO meeting calendar. See <https://www.ctps.org/calendar/day/20240215>.

⁶ FTA, "PTASP Frequently Asked Questions."

Table 1 describes the measures discussed in transit agency ASPs. For all measures except for the system reliability measure, the goal is to minimize the value.

**Table 1
Federally Required Transit Safety Performance Measures**

Measure Category	Measure	Desired Direction
Fatalities	Total number of reportable fatalities by mode	Decrease
Fatalities	Fatality rate per total VRM by mode	Decrease
Injuries	Total number of reportable injuries by mode	Decrease
Injuries	Injury rate per total VRM by mode	Decrease
Safety Events	Total number of reportable safety events by mode	Decrease
Safety Events	Rate of safety events per total VRM by mode	Decrease
System Reliability	Mean distance between major mechanical failures by mode	Increase

VRM = vehicle-revenue miles.

The definitions as defined by the National Transit Database (NTD) for the measures in Table 1 are as follows:⁷

- Reportable fatalities: These include deaths (confirmed within 30 days) due to collision, derailment, fire, hazardous material spill, acts of God, system or personal security event, or other safety event. Fatalities resulting from illness or other natural causes (including those who have been found deceased) are excluded. The PTASP fatality measures also exclude deaths from trespassing or suicide.
- Reportable injuries: These include instances of damage or harm to persons that require immediate medical attention away from the scene because of a reportable transit safety event. Serious injuries, which are defined based on severity, are always reportable, even if a person was not immediately transported from the scene for medical attention. The PTASP injury measures exclude injuries resulting from assaults or other crimes.

⁷ FTA, *National Transit Database Safety and Security Policy Manual* (March 2023), accessed January 2, 2024, at <https://www.transit.dot.gov/sites/fta.dot.gov/files/2023-04/2023-Safety-and-Security-Policy-Manual-1-1.pdf>.

- Reportable safety events: These include incidents (including accidents and derailments) meeting NTD major reporting thresholds for transit rail, bus, and paratransit. These events may occur on transit right-of-way or infrastructure, or at a transit revenue facility, maintenance facility, or rail yard. They may take place during a transit-related maintenance activity or otherwise involve a transit revenue vehicle. Examples of these events include
 - collisions;
 - fires;
 - derailments (mainline and yard), including non-revenue vehicles;
 - hazardous materials spills; and
 - acts of God.⁸

NTD reporting thresholds for safety events are based on factors such as fatalities, injuries requiring immediate medical attention away from the scene, substantial damage, and evacuation for protection of life and safety reasons. Major security events, such as arson or hijacking, are not included in this measure.

- Major mechanical failures (system reliability): The NTD defines major mechanical failures as “a failure of some mechanical element of the revenue vehicle that prevents the vehicle from completing a scheduled revenue trip or from starting the next scheduled revenue trip because actual movement is limited or because of safety concerns.”⁹

Targets Overview

Generally, transit agencies set safety performance targets for each applicable transit mode for the upcoming year. The FTA provides transit agencies with flexibility to set their targets to meet the specific context of their transit service. These agencies can choose (1) the reporting timeframe they use (calendar, fiscal, or NTD reporting year), (2) the vehicle-revenue-miles (VRM) denominator values that transit agencies use for the rate measures, and (3) the methodologies for picking a target value.¹⁰ The FTA encourages transit providers to set realistic safety targets that consider relevant safety goals and objectives, but these providers have the latitude to set aspirational targets, targets that represent improvement over current safety performance levels, or targets that maintain current performance levels. The FTA has not established, and will not impose,

⁸ FTA, *National Transit Database Safety and Security Policy Manual* (March 2023), pg. 61, accessed January 2, 2024, at <https://www.transit.dot.gov/sites/fta.dot.gov/files/2023-04/2023-Safety-and-Security-Policy-Manual-1-1.pdf>.

⁹ FTA, *Safety Performance Targets Fact Sheet* (August 2020), pg. 2, accessed January 4, 2024, at https://www.transit.dot.gov/sites/fta.dot.gov/files/2020-08/SafetyPerformanceTargetFactSheet_20200814.pdf.

¹⁰ FTA, “Safety Performance Target Fact Sheet,” pg. 1.

penalties for transit agencies that do not meet their targets, which FTA reviews during a transit agency's Triennial Review.

1.3 MPO Responsibilities

Like the Transit Asset Management rule, the PTASP rule requires transit providers to make their safety performance targets available to states and MPOs. These providers must also coordinate with states and MPOs as these entities set their transit safety performance targets to the maximum extent practicable. As part of this coordination, transit agencies may choose to use a particular year (calendar, fiscal, or NTD reporting year) or VRM denominator value (for reporting rate targets) at the request of states or MPOs.

MPOs must also incorporate these targets into their planning processes and documents, as is required for targets for all federal performance areas. In general, an MPO can consider how the projects and programs it selects to receive federal funding may improve transit safety outcomes. In the Boston Region MPO's case, MPO board members can review projects and programs that the MBTA, CATA, and MWRTA submit for inclusion in the Transportation Improvement Program (TIP).

In addition to integrating safety performance measures and targets into their planning processes, MPOs must also reflect them in their planning documents:

- MPOs must incorporate transit safety performance measures, baseline values, and targets in the system performance report included in their next Long-Range Transportation Plan (LRTP). Subsequent LRTPs must describe progress that has been made compared to the baseline values and targets recorded in prior system performance reports.
- When developing TIP documents, MPOs must describe transit safety measures and targets and, "to the maximum extent practicable, provide a description of the anticipated effect of the TIP toward achieving the performance targets identified in the metropolitan transportation plan," the goal of which is to link investment priorities to those performance targets.¹¹

MPOs will neither be penalized for not achieving regional transit safety performance targets nor rewarded for attaining them. The FTA will review MPO performance-based planning and programming activities, including those related to transit safety performance, as part of MPO certification reviews.

¹¹ 23 CFR Part 450.326.

2 REQUESTED ACTION AND NEXT STEPS

As previously mentioned, each agency's set of targets reflect its operating context and anticipated safety-related investments, policies, and safety management activities. Should the MPO adopt this set of transit agency targets as its regional targets, staff will present and describe these targets in the performance chapters of the FFYs 2025–29 TIP document. Going forward, the MPO will work with transit agencies and the Massachusetts Department of Transportation to use transit performance measures and targets to monitor transit safety outcomes in the region, and to consider what effect the transit programs and projects proposed for the MPO's TIP will have on safety outcomes on the region's transit systems.