

Safety Performance Targets Guide

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Incorporates the requirements of the PTASP final rule published in April 2024.

Icon Legend



All agencies subject to the PTASP regulation



Large urbanized area providers

The contents of this document do not have the force and effect of law and are not meant to bind the public in any way. This document is intended only to provide clarity to the public regarding existing requirements under the law or agency policies. Recipients and subrecipients should refer to FTA's statutes and regulations for applicable requirements.

Overview

The [Public Transportation Agency Safety Plans \(PTASP\)](#) regulation, at [49 CFR part 673](#) (part 673), requires the Agency Safety Plan (ASP) of each transit agency subject to the regulation to include annual safety performance targets (SPTs) based on the safety performance measures established in the [National Public Transportation Safety Plan](#) (National Safety Plan) (§ 673.11(a)(3)). Transit agencies use SPTs to monitor and assess the safety performance of their public transit systems.

Purpose

This guide provides information to help transit agencies and Safety Committees develop safety performance targets based on the safety performance measures in FTA’s National Safety Plan.

On April 10, 2024, FTA published an update to the National Safety Plan to address requirements in the Bipartisan Infrastructure Law, enacted as the Infrastructure Investment and Jobs Act (Public Law 117-58).¹ The updated National Safety Plan establishes performance measures for ASPs to improve the safety of public transportation systems that receive Federal financial assistance from FTA.

Each transit agency subject to the PTASP regulation must revise its ASP to address the new safety performance measures defined by the National Safety Plan, including documenting required SPTs, during the next annual review and update cycle identified in its ASP. State Safety Oversight agencies may establish additional requirements for rail transit agencies under their jurisdiction.

Safety Performance Measure	
<i>Expression</i> used to establish targets and to assess progress toward meeting the established targets.	
Ex.	<i>Total major safety events</i>

Safety Performance Target	
<i>Quantifiable level of performance or condition</i> expressed as a value for the measure, related to safety management activities, to be achieved within a specified time period.	
Ex.	<i>15 or less total major safety events over the next calendar year</i>

¹ This plan supersedes the plan that FTA published in January 2017 and was applicable upon publication in the Federal Register.



Incorporates the requirements of the PTASP final rule published in April 2024.

National Safety Plan Safety Performance Measures



Safety Performance Measures for All Agencies Subject to the PTASP Regulation

FTA’s National Safety Plan establishes safety performance measures that can be applied to all modes of public transit under FTA’s safety jurisdiction. The National Safety Plan identifies 14 safety performance measures for all agencies subject to the PTASP regulation. There are two kinds of safety performance measures established in the National Safety Plan: **total number measures**, or measures of the total number of instances (for example, total number of major events, total number of collisions, etc.), and **rate measures**, or measures of the rate of instances. These two types are discussed later in this guide.

Safety Performance Measures for All Agencies Subject to PTASP Regulation ²		
1	Measure 1a:	Major Events
2	Measure 1b:	Major Event Rate
3	Measure 1.1:	Collision Rate (new)
4	Measure 1.1.1:	Pedestrian Collision Rate (new)
5	Measure 1.1.2:	Vehicular Collision Rate (new)
6	Measure 2a:	Fatalities
7	Measure 2b:	Fatality Rate
8	Measure 2.1:	Transit Worker Fatality Rate (new)
9	Measure 3a:	Injuries
10	Measure 3b:	Injury Rate
11	Measure 3.1:	Transit Worker Injury Rate (new)
12	Measure 4a:	Assaults on Transit Workers (new)
13	Measure 4b:	Rate of Assaults on Transit Workers (new)
14	Measure 5:	System Reliability

² FTA uses the NTD threshold for major events and the NTD definitions for collision, fatality, injury, and assault on a transit worker. For clarification on NTD definitions, see the latest [NTD Safety and Security Reporting Policy Manual](#).



Incorporates the requirements of the PTASP final rule published in April 2024.



Safety Performance Measures for Safety Risk Reduction Programs

The Bipartisan Infrastructure Law requires large urbanized area (UZA) providers (recipients or subrecipients of financial assistance under 49 U.S.C. 5307 (Section 5307) that serve an urban area with a population of 200,000 or more as determined by the most recent decennial Census) to include a safety risk reduction program in their ASPs. In the National Safety Plan, FTA identified eight safety performance measures that the Safety Committee of applicable transit agencies will use to set targets for the safety risk reduction program.

Safety Risk Reduction Program Safety Performance Measures	
1	Major Events
2	Major Event Rate
3	Collisions
4	Collision Rate
5	Injuries
6	Injury Rate
7	Assaults on Transit Workers
8	Rate of Assaults on Transit Workers

Some of the performance measures for the safety risk reduction program overlap with the measures for all agencies subject to the PTASP regulation (described above). Large UZA providers may opt to use the same safety performance target set by the Safety Committee for the safety risk reduction program to satisfy the general safety performance target requirement for overlapping measures. Note that the target for the safety risk reduction program must be based on a three-year rolling average of the data the agency submits to the NTD.³

The safety risk reduction program safety performance targets must reflect an annual reduction in the associated safety performance measure. To reflect an annual reduction, the SPT must be set below the three-year rolling average.

Safety Committees have flexibility regarding the amount of annual reduction defined by their targets, as long as the methodology uses a three-year rolling average of data reported to the NTD and the targets reflect an annual reduction. For example, a Safety Committee may decide to set a target that is a 5 percent reduction from the previous three-year rolling average. Alternatively, a Safety Committee may set a target representing an annual reduction of 10 injuries from the previous three-year rolling average.

³ The safety risk reduction program performance targets must be based on the level of detail the large urbanized area provider is required to report to the NTD. The Safety Committee is not required to set a target for a performance measure until the large urbanized area provider has been required to report three years of data to the NTD corresponding to such performance measure (see § [673.11\(a\)\(7\)\(iii\)\(C\)](#)).

Safety Performance Targets

This section of the guide discusses SPTs related to the 14 safety performance measures required for all agencies subject to the PTASP regulation and SPTs related to the 8 safety performance measures specific to the safety risk reduction program required for large UZA providers.

Resources

See page 12 of the [National Safety Plan](#) for additional information on the NTD data related to each safety performance measure.

For the relevant NTD data, see the [Safety & Security Times Series](#) and the [Safety & Security Major Event Time Series](#).

SPTs Related to Major Events

Major events include **all safety and security major events** as defined by the NTD.⁴



SPTs Related to Major Events for All Agencies Subject to the PTASP Regulation

Agencies must set SPTs for the total number of major events (**Measure 1a**) and the rate of major events per vehicle revenue mile (VRM) (**Measure 1b**).

Agencies must also establish SPTs for:

- Collisions rate (all collisions reported to the NTD) per VRM (**Measure 1.1**)
- Pedestrian collision rate per VRM (**Measure 1.1.1**), and
- Vehicular collision rate per VRM (**Measure 1.1.2**), all as defined by the NTD.

⁴ FTA uses the NTD threshold for major events. For clarification on NTD thresholds and definitions, see the latest NTD Safety and Security Reporting Policy Manual at the [NTD Manuals web page](#). In general, PTASP-applicable transit agencies set annual SPTs that represent their safety performance goals for the coming year.



SPTs Related to Major Events for the Safety Risk Reduction Program

Safety Committees must set SPTs for the total number of major events (**Safety Risk Reduction Program Measure 1**) and the rate of major events per VRM (**Safety Risk Reduction Program Measure 2**).

Safety Committees must also establish SPTs for the total number of collisions (**Safety Risk Reduction Program Measure 3**) and the rate of collisions per VRM (**Safety Risk Reduction Program Measure 4**).

SPTs Related to Fatalities

This includes **all fatalities** as defined by the NTD. The safety risk reduction program does not include safety performance measures related to fatalities.



SPTs Related to Fatalities for All Agencies Subject to the PTASP Regulation

Agencies must set SPTs for the total number of fatalities (**Measure 2a**) and the rate of fatalities per VRM (**Measure 2b**). They must also set an SPT for the rate of transit worker fatalities as defined by NTD per VRM (**Measure 2.1**).

SPTs Related to Injuries

This includes **all injuries** as defined by the NTD.



SPTs Related to Injuries for All Agencies Subject to the PTASP Regulation

Agencies must set SPTs for the total number of injuries (**Measure 3a**) and the rate of injury per VRM (**Measure 3b**). They must also set an SPT for the rate of transit worker injury as defined by the NTD per VRM (**Measure 3.1**). This includes the categories “Transit Employee/Contractor,” “Transit Vehicle Operator,” and “Other Transit Staff.”



Incorporates the requirements of the PTASP final rule published in April 2024.



SPTs Related to Injuries for the Safety Risk Reduction Program

Safety Committees must set SPTs for the total number of injuries (**Safety Risk Reduction Program Measure 5**) and the rate of injury per VRM (**Safety Risk Reduction Program Measure 6**).

SPTs Related to Assaults on Transit Workers

This includes **all assaults on transit workers** as defined by the NTD.



SPTs Related to Assaults on Transit Workers for All Agencies Subject to the PTASP Regulation

Agencies must set SPTs for the total number of assaults on transit workers (**Measure 4a**) and the rate of assault on transit workers per VRM (**Measure 4b**).



SPTs Related to Assaults on Transit Workers for the Safety Risk Reduction Program

Safety Committees must set SPTs for the total number of assaults on transit workers (**Safety Risk Reduction Program Measure 7**) and the rate of assaults on transit workers per VRM (**Safety Risk Reduction Program Measure 8**).

SPTs Related to System Reliability

System reliability is measured as the **mean (mathematical average) distance (VRM) between major mechanical system failures** as defined by the NTD. The Safety Risk Reduction Program does not include safety performance measures related to system reliability.

Agencies calculate System Reliability by dividing the distance in VRM operated by the number of major mechanical system failures experienced during a time period identified by the agency.

$$\text{System Reliability} = \frac{\text{Distance (VRM) operated over a time period}}{\text{\# of major mechanical system failures over the same time period}}$$



SPTs Related to System Reliability for All Agencies Subject to the PTASP Regulation

Agencies must set SPTs for system reliability (**Measure 5**).

Example: Using Historic System Reliability to Set System Reliability Target

Straightline Transit⁵ experienced 60 major mechanical system failures over the previous calendar year (CY), during which time they operated 1 million VRM. They calculated their historical system reliability as follows:

$$\text{Straightline Transit's System Reliability} = \frac{1,000,000 \text{ VRM over the previous CY}}{60 \text{ major mechanical system failures over the previous CY}} = 16,667 \text{ VRM between major mechanical system failures over the previous CY}$$

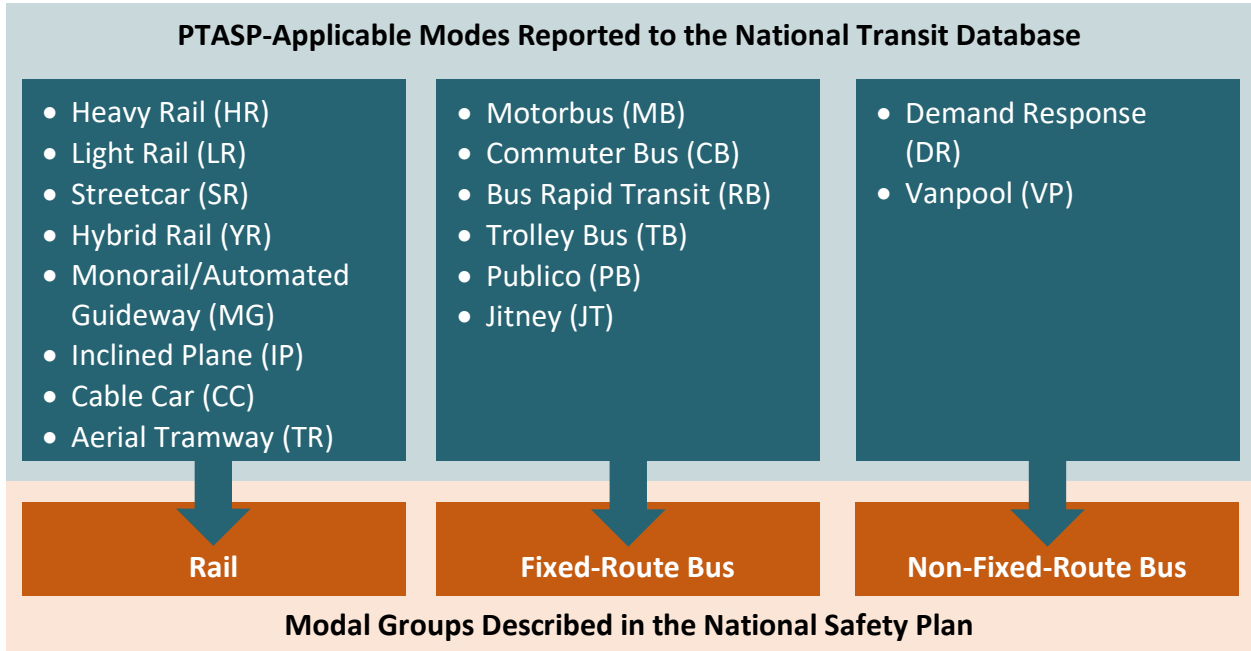
Straightline Transit then set their system reliability SPT to 18,500 VRM between major mechanical system failures.

Modal Categories

Transit agencies and, as applicable, Safety Committees, must set targets for the different modes of transit service the transit agency provides.⁶ When setting SPTs based on the safety performance measures in the National Safety Plan, agencies should use the following high-level modal groups: **rail**, **fixed-route bus**, and **non-fixed-route bus** (see page 15 of the National Safety Plan). Transit agencies must set SPTs for modal groups at least as specific as rail, fixed-route bus, and non-fixed-route bus, regardless of how many individual modes of transit service it reports to the NTD.

⁵ Straightline Transit is a fictional agency used as an example public transportation provider. Straightline Transit is not a real transit agency; any similarities to an actual agency are merely coincidental.

⁶ The PTASP regulation does not apply to certain modes of transit service that are subject to the safety jurisdiction of another Federal agency, including passenger ferry operations that are regulated by the United States Coast Guard and commuter rail operations that are regulated by the Federal Railroad Administration. (49 CFR 673.11(e))





Incorporates the requirements of the PTASP final rule published in April 2024.



Example Strategies for Setting Safety Performance Targets

FTA has not established a required methodology for setting SPTs for the 14 safety performance measures for all agencies subject to the PTASP regulation. **Except for safety risk reduction program measures**, agencies can set SPTs for safety performance measures using their own selected target-setting methods.

This section primarily applies to the 14 safety performance measures for all agencies subject to the PTASP regulation. Information relating solely to the safety risk reduction program will be identified by the large UZA provider icon and a green box.

FTA establishes two kinds of safety performance measures in the National Safety Plan: **total number measures**, or measures of the total number of instances, and **rate measures**, or measures of the rate of instances.

Safety Performance Measure	Measure	Safety Performance Target Calculation
1a: Major Events	Total #	= # of major events
1b: Major Event Rate	Rate	= # of major events/ VRM
1.1: Collision Rate	Rate	= # of collisions/ VRM
1.1.1: Pedestrian Collision Rate	Rate	= # of pedestrian collisions / VRM
1.1.2: Vehicular Collision Rate	Rate	= # of vehicular collisions/ VRM
2a: Fatalities	Total #	= # of fatalities
2b: Fatality Rate	Rate	= # of fatalities / VRM
2.1: Transit Worker Fatality Rate	Rate	= # of transit worker fatalities / VRM
3a: Injuries	Total #	= # of injuries
3b: Injury Rate	Rate	= # of injuries / VRM
3.1: Transit Worker Injury Rate	Rate	= # of transit worker injuries / VRM

Incorporates the requirements of the PTASP final rule published in April 2024.

Safety Performance Measure	Measure	Safety Performance Target Calculation
4a: Assaults on Transit Workers	Total #	= # of assaults on transit workers
4b: Assault on Transit Workers Rate	Rate	= # of assaults on transit workers / VRM
5: System Reliability ⁷	Rate	= VRM / # of major mechanical system failures

Transit agencies will determine the annual time period over which each SPT applies (calendar, fiscal, or NTD reporting year).



For large UZA providers, Safety Committees must set SPTs for the **safety risk reduction program** to reflect **an annual reduction** in the associated safety performance measure using a three-year rolling average of the data the agency submits to the NTD. As stated in § [673.11\(a\)\(7\)\(iii\)\(C\)](#), “The Safety Committee is not required to set a target for a performance measure until the large urbanized area provider has been required to report three years of data to the NTD corresponding to such performance measure.”



For the safety performance measures for all agencies subject to the PTASP regulation, agencies may choose to select SPTs that represent their safety performance goals for the coming year. For example, an agency’s goal could be to maintain current safety performance levels, or an agency might aim to improve upon current safety performance. In its efforts to improve safety, an agency may want to improve its own current safety performance or set performance targets based on peer agency benchmarking (see, for example, [peer agency data provided by the NTD](#)). To the extent possible, FTA recommends that agencies set realistic SPTs that consider relevant safety goals and objectives.

⁷ Rate calculations for all rate measures, except Measure 5, are the number of instances divided by VRM. System reliability is calculated by dividing VRM by the number of instances of major mechanical system failures.



Safety Performance Measures for All Agencies Subject to PTASP Regulation ⁸		
1	Measure 1a:	Major Events
2	Measure 1b:	Major Event Rate
3	Measure 1.1:	Collision Rate (new)
4	Measure 1.1.1:	Pedestrian Collision Rate (new)
5	Measure 1.1.2:	Vehicular Collision Rate (new)
6	Measure 2a:	Fatalities
7	Measure 2b:	Fatality Rate
8	Measure 2.1:	Transit Worker Fatality Rate (new)
9	Measure 3a:	Injuries
10	Measure 3b:	Injury Rate
11	Measure 3.1:	Transit Worker Injury Rate (new)
12	Measure 4a:	Assaults on Transit Workers (new)
13	Measure 4b:	Rate of Assaults on Transit Workers (new)
14	Measure 5:	System Reliability

⁸ FTA uses the NTD threshold for major events and the NTD definitions for collision, fatality, injury, and assault on a transit worker. For clarification on NTD definitions, see the latest [NTD Safety and Security Reporting Policy Manual](#).



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Considerations for Setting SPTs for Total Number Measures

If an agency’s goal is **to maintain its current safety performance levels**, it could set the SPT based on its previous year’s performance or based on multiple years’ performances.

Example: Calculating Total Injury SPT to Maintain Current Safety Performance

Example 1: Straightline Transit experienced 10 total injuries in the previous calendar year. It could set an SPT of 10 total injuries over the next calendar year.

Example 2: Straightline Transit may also consider a longer period of historical safety performance, such as over the previous four calendar years:

Straightline Transit Safety Performance				
Calendar Year	2020	2021	2022	2023
# of Injuries	17	13	20	10

To set its SPT, Straightline Transit could consider the average of the four years:

$$\begin{array}{l} \text{Straightline} \\ \text{Transit's Injury} \\ \text{Average} \end{array} = \frac{(\mathbf{17} \text{ injuries} + \mathbf{13} \text{ injuries} + \mathbf{20} \text{ injuries} + \mathbf{10} \text{ injuries})}{\mathbf{4} \text{ calendar years}} = \begin{array}{l} \text{Average of } \mathbf{15} \\ \text{injuries per} \\ \text{calendar year} \end{array}$$

If an agency’s goal is **to improve upon its current safety performance levels**, it could set the SPT based on a reduction in instances (for example, number of major events, number of collisions, etc.).

Example: Calculating Total Major Events SPT to Improve upon Current Safety Performance

Option 1: Straightline Transit experienced 100 total major events in the previous calendar year. It could decide to set an SPT for a whole-number reduction, such as a reduction of 30 major events. Their SPT would then be 70 total major events for the upcoming calendar year.

Option 2: Straightline Transit could also establish a percentage by which they wish to reduce total major events. For example, the agency could decide to set its SPT to reflect a 20-percent reduction in total major events:

$$\# \text{ of major events} - (\% \text{ reduction} \times \# \text{ of major events}) = \text{SPT based on rate of reduction}$$

$$\mathbf{100} \text{ major events} - ((\mathbf{20/100}) \text{ reduction} \times \mathbf{100} \text{ major events}) = \mathbf{80} \text{ major events over the next calendar year}$$

Incorporates the requirements of the PTASP final rule published in April 2024.

Considerations for Setting SPTs for Rate Measures

To set an SPT for a rate measure that has a corresponding total number measure, transit agencies use the SPT they set for their total number measure.

- Use total number **Measure 1a: Major Events** (# of major events) to set rate **Measure 1b: Major Event Rate** (# of major events / VRM).
- Use total number **Measure 2a: Fatalities** (# of fatalities) to set rate **Measure 2b: Fatality Rate** (# of fatalities / VRM).
- Use total number **Measure 3a: Injuries** (# of injuries) to set rate **Measure 3b: Injury Rate** (# of injuries / VRM).
- Use total number **Measure 4a: Assaults on Transit Workers** (# of assaults on transit workers) to set rate **Measure 4b: Rate of Assaults on Transit Workers** (# of assaults on transit workers / VRM).

For example, to set an SPT for **Measure 1b: Major Event Rate**, the agency would use its SPT for **Measure 1a: Major Events**, divided by the VRM the agency expects to provide in the identified time period.

Example: Calculating Major Event Rate SPT

Straightline Transit’s SPT for **Measure 1a: Major Events** is 80 major events or fewer over the next calendar year. To calculate their SPT for **Measure 1b: Major Event Rate**, Straightline Transit uses the service data, the 26,000,000 VRM they expect to provide in the next calendar year, to calculate its SPT for **Measure 1b: Major Event Rate** as follows:

$$\text{Straightline Transit's Major Event Rate SPT} = \frac{80 \text{ major events}}{26,000,000 \text{ VRM}} = 0.000003 \text{ major events per VRM}$$

Straightline Transit could also choose to express this rate per one million VRM, or any other value, by multiplying the result as follows:

$$0.000003 \text{ major events per VRM} \times 1,000,000 = 3 \text{ major events per 1 million VRM}$$

The two SPTs (0.000003 major events per VRM and three major events per one million VRM) are equal to each other. Agencies may find it easier to communicate and conceptualize the SPT using the second number.



Incorporates the requirements of the PTASP final rule published in April 2024.

Some of the rate safety performance measures do not have a corresponding total number measure but do have a related total number measure:

- Rate **Measures 1.1: Collision Rate, 1.1.1: Pedestrian Collision Rate, and 1.1.2: Vehicular Collision Rate** are related to total number **Measure 1a: Major Events**.
- Rate **Measure 2.1: Transit Worker Fatality Rate** is related to total number **Measure 2a: Fatalities**.
- Rate **Measure 3.1: Transit Worker Injury Rate** is related to total number **Measure 3a: Injuries**.

Transit agencies may use the same data they used to set the SPTs for the related total number measures by filtering their data. For example, when the agency pulls data to identify the total number of major events, it could use that same data set to identify the total number of collisions that occurred during that time period.

As described above, agencies calculate **Measure 5: System Reliability** by dividing the distance in VRM operated by the number of major mechanical system failures experienced during a time period identified by the agency. To set the SPT for **Measure 5: System Reliability**, transit agencies can consider the options provided above.

Coordination with Statewide and Metropolitan Planning

Transit agencies must make their SPTs available to their State and MPOs (§ 673.15(a)). Agencies also must coordinate with States and MPOs in selecting State and MPO SPTs to the maximum extent practicable (§ 673.15(b)). States and MPOs may request that transit agencies use specific VRM values for SPTs for rate safety performance measures to ensure consistency across the transportation modes represented in the State/regional planning process.

The Federal Highway Administration and FTA [joint planning regulation](#) governs the planning activities of transit agencies, States, and MPOs. For more information, see FTA's [web page on the joint planning regulation](#).



PTASP Technical Assistance Available

- Access one-on-one Agency Safety Plan support
- View the Agency Safety Plan Directory
- Explore the PTASP Resource Library

transit.dot.gov/PTASP

