



U.S. Department of Transportation
Federal Transit Administration

Public Transportation Agency Safety Plan (PTASP) Workshop PARTICIPANT GUIDE



FTA provides this document to assist transit providers with considerations for meeting the requirements in 49 CFR Part 673 by July 20, 2020. This document is not legally binding in its own right and will not be relied upon by the FTA as a separate basis for affirmative enforcement action or other administrative penalty. Compliance with the guidance in this document (as distinct from existing statutes and regulations) is voluntary only, and noncompliance will not affect rights and obligations under existing statutes and regulations.

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Section 1: Public Transportation Agency Safety Plan (PTASP) Rule Overview

Session Objectives







- Review the Public Transportation Agency Safety Plan (PTASP) Rule’s applicability, requirements, and timeline
- Demonstrate how to develop safety performance targets
- Consider the resources needed to draft and implement the Agency Safety Plan

1.1 PTASP Fundamentals

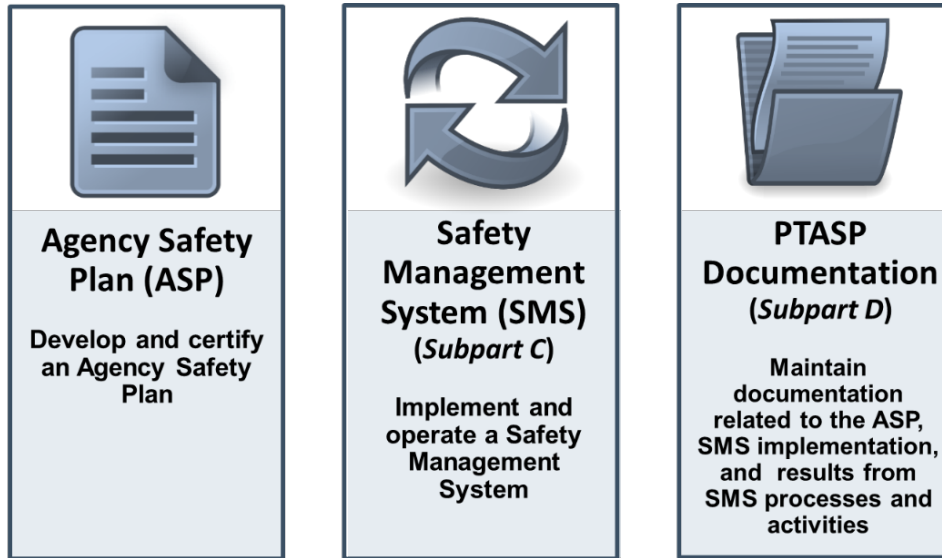
PTASP Regulation at 49 CFR Part 673

- Innovative approach to improving transit safety:
 - Based on Safety Management System (SMS) principles and methods
 - Risk and performance-based
 - Flexible and scalable
- Compliance deadline: July 20, 2020




Applicability

Applies to:	Does NOT Apply to:
<p>Operators of transit systems that are recipients or subrecipients of FTA funds:</p> <ul style="list-style-type: none">  Section 5307  Section 5310 & 5311 (applicability deferred)  All rail transit operators, regardless of FTA funding source 	<ul style="list-style-type: none">  FTA recipients that do not operate transit systems  Commuter rail service regulated by Federal Railroad Administration  Passenger ferry service regulated by U.S. Coast Guard

PTASP Requirements



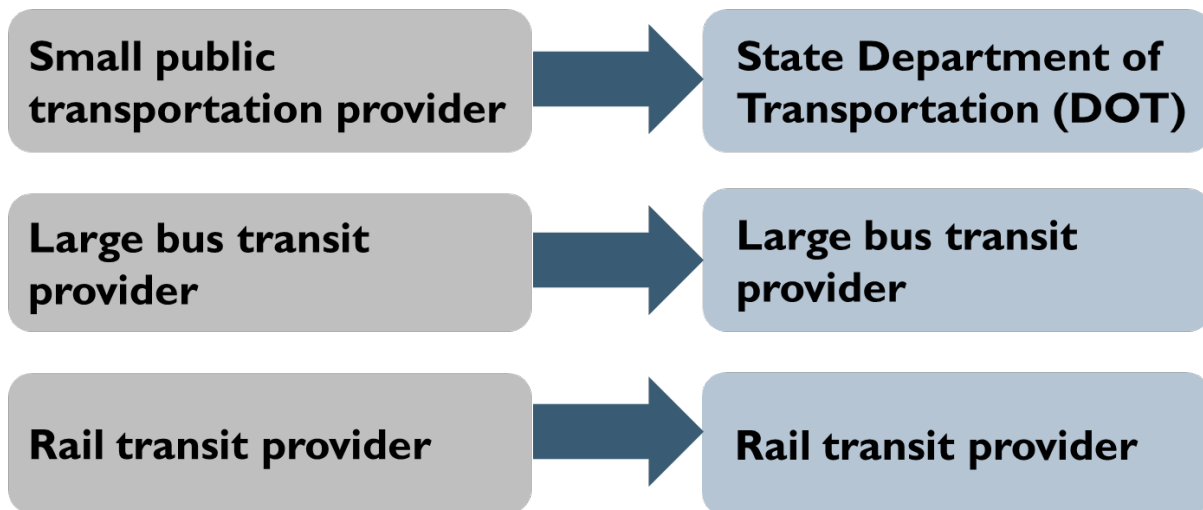
What is a Small Public Transportation Provider?

-  100 or fewer vehicles in revenue service during peak regular service across all fixed route modes
-  100 or fewer vehicles in revenue service during peak regular service in each non-fixed route mode
-  Does not operate rail transit

Who is responsible for developing the Plan?

If the recipient or subrecipient is a:

Then:



Small Provider Opt-Out

- Small public transportation providers may opt out of a State-developed plan
- To opt-out, a small provider must **notify** the State that it will draft its own plan
- State should **maintain documentation** of small provider opt-out if the State doesn't develop the plan
- If the State develops small provider plan and small provider later opts-out, small provider has one year from the notification date to draft and certify a plan

Who is responsible for carrying out and annually updating the Plan?

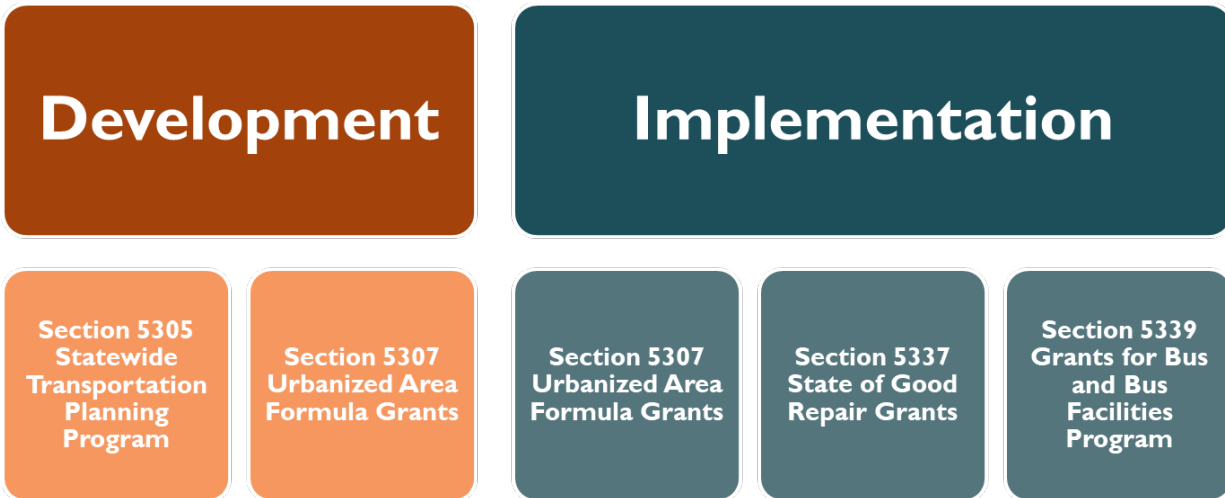
- Each transit agency must carry out and update its own plan, regardless of agency size or plan development approach

State DOT vs. SSOA

State Department of Transportation (DOT)	State Safety Oversight Agency (SSOA)
<ul style="list-style-type: none">• Develop ASPs for small public transportation providers• Can develop a single plan or separate plans for each small provider• Not responsible for carrying out or updating ASPs• Not responsible for overseeing or enforcing PTASP requirements	<ul style="list-style-type: none">• Conduct safety oversight of rail transit under 49 CFR Part 674• Cannot develop ASPs for rail transit agencies• Cannot use State Safety Oversight formula funds to develop ASPs for bus transit agencies

Funding

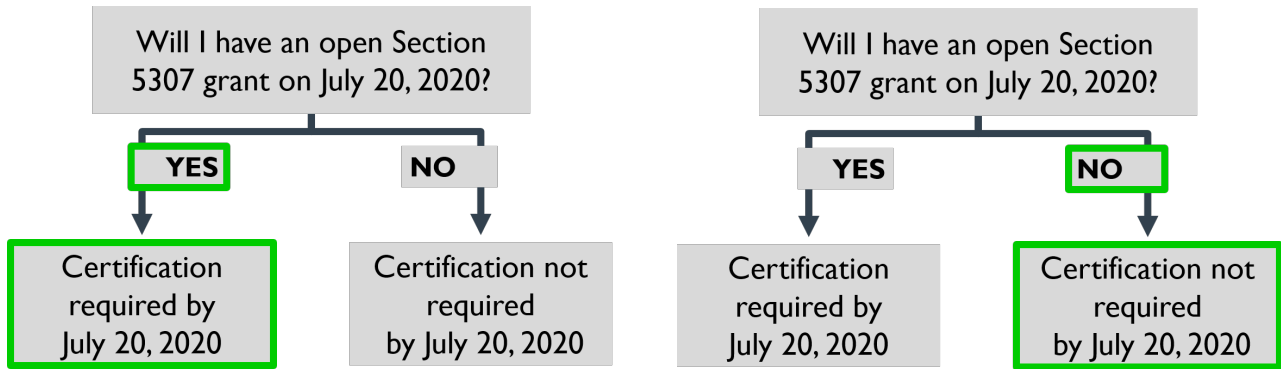
Federal funds may be used to develop and implement an Agency Safety Plan



Certification

- Each applicable transit agency, or State, must certify that it established an Agency Safety Plan that meets PTASP requirements by July 20, 2020 (§673.13(a))
- On or before July 20, 2020, applicable States and direct recipients must certify in TrAMS that they—and applicable sub recipients—meet relevant PTASP regulation requirements
- Must certify compliance with the PTASP regulation annually (§673.13(b))

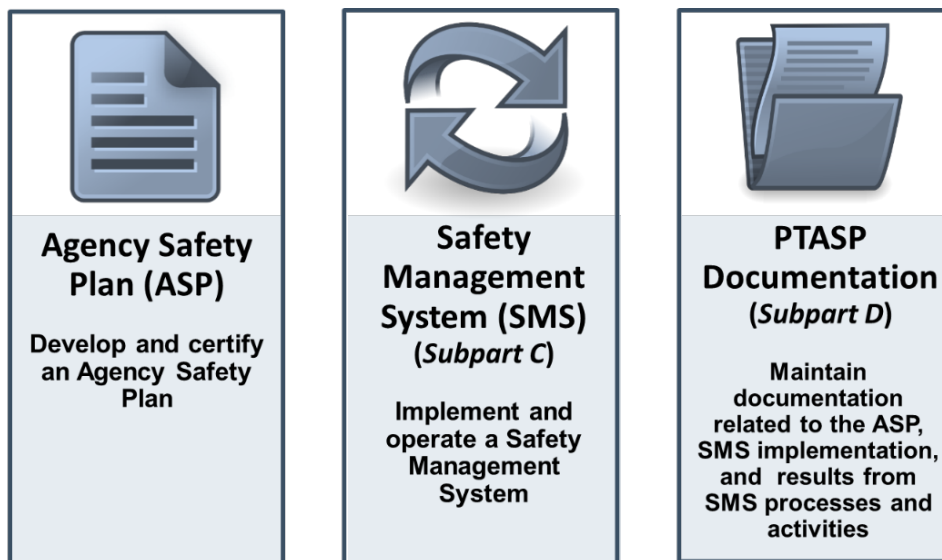
When does certification occur?



If you will **not** have an open Section 5307 grant on July 20, 2020, you must certify compliance with PTASP requirements before FTA will process your application for Section 5307 funding

1.2 PTASP Requirements

PTASP Requirements



Agency Safety Plan Requirements

- One plan for all modes, or one for each mode
 - Recommend excluding commuter rail subject to safety regulation by FRA from ASP due to data protection differences
- Must include:



SMS processes and activities



Safety performance targets



Emergency preparedness and response plan (rail only)

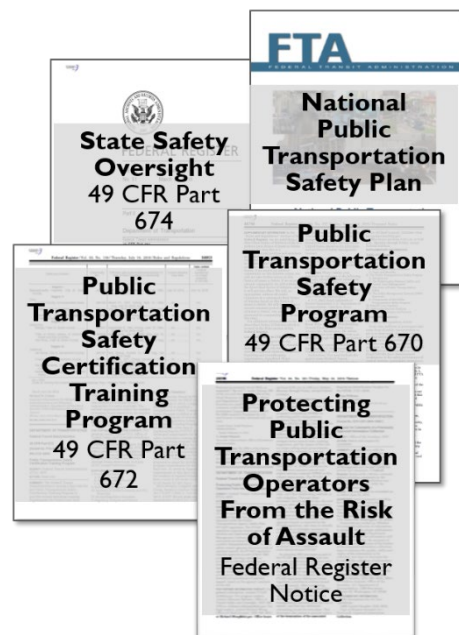


Process and timeline for annual review and update

- Must address all applicable requirements and standards in FTA's Public Transportation Safety Program
- Must specify a Chief Safety Officer or SMS Executive
- Must be signed by the Accountable Executive
- Must be approved by the agency's Board of Directors or an Equivalent Authority

FTA Safety Program Applicable Requirements

- ASP must address applicable requirements of FTA's Safety Program based on 49 U.S.C. §5329
- Examples include:
 - Requirements established in regulations (Parts 670, 672, 673, 674)
 - General and special directives
 - Operator Assault
 - Standards in the National Public Transportation Safety Plan (not yet established)



The Accountable Executive

- A single, identifiable person who has ultimate responsibility for carrying out the Agency Safety Plan and the Transit Asset Management (TAM) Plan
- Has control or direction over the human and capital resources needed to develop and maintain the Agency Safety Plan and TAM Plan
- Accountable for ensuring that the agency's SMS is effectively implemented, and action is taken, as necessary, to address substandard performance in the agency's SMS
- Accountable Executive may be a contractor if these criteria are met

Chief Safety Officer (CSO) or SMS Executive

- An adequately trained individual with authority and responsibility for day-to-day implementation and operation of the SMS
- Designated as the CSO/SMS Executive by the Accountable Executive
- Direct line of reporting to the Accountable Executive
- May be a full-time or part-time employee of the transit system, or a contracted employee
- For rail modes, may not serve in other operational or maintenance capacities unless those responsibilities have a nexus to safety, for example:
 - Security
 - Training
 - Transit asset management

Safety Performance Targets

- Must develop safety performance targets based on the safety performance measures established in the National Public Transportation Safety Plan
- Must make safety performance targets available to States and Metropolitan Planning Organizations (MPOs)
- Must coordinate with States and MPOs on the selection of State and MPO performance targets to the maximum extent practicable
- Targets are not reported to FTA at this time

FTA's Safety Performance Measures (by mode)*

Injuries	• Total number and rate per total vehicle revenue miles
Fatalities	• Total number and rate per total vehicle revenue miles
Safety Events	• Total number and rate per total vehicle revenue miles
System Reliability	• Mean distance between major mechanical failures

*Established in FTA's National Public Transportation Safety Plan

Safety Performance Targets

- Addressing FTA's **four** safety performance measures in the National Public Transportation Safety Plan requires **seven** safety performance targets by mode

1. Total number 2. Rate per vehicle revenue mile	3. Total number 4. Rate per vehicle revenue mile	5. Total number 6. Rate per vehicle revenue mile	7. Miles between major mechanical failures
Fatalities by Mode	Injuries by Mode	Safety Events by Mode	System Reliability by Mode

What do we mean by “mode”?

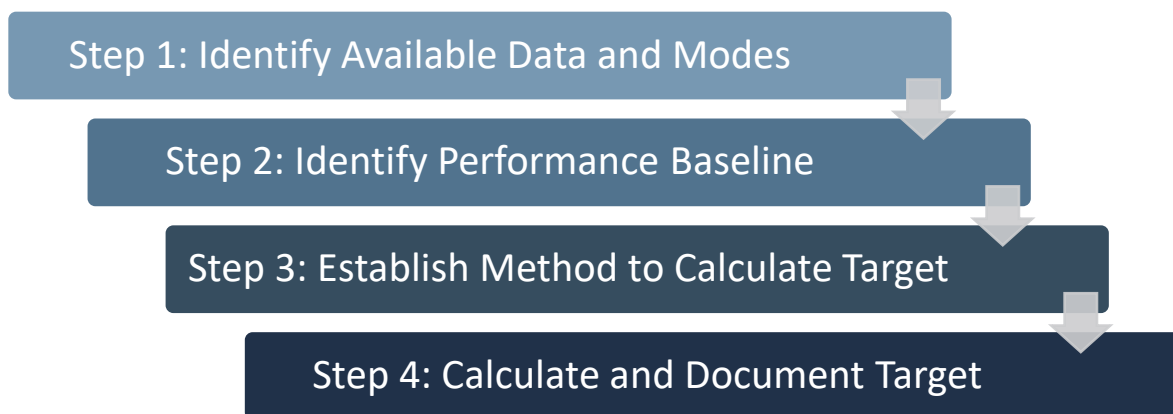
- The National Public Transportation Safety Plan defines the word “mode” as one of three categories:
 1. Rail modes
 2. Fixed route bus modes
 3. Non-fixed route bus modes

National Public Transportation Safety Plan Mode Examples		
Rail Mode	Fixed Route Bus Mode	Non-Fixed Route Bus Mode
<ul style="list-style-type: none"> • Heavy Rail (HR)* • Light Rail (LR) • Streetcar (SC) • Hybrid Rail (YR)* • Monorail/Automated Guideway (MG) • Inclined Plane (IP) • Cable Car (CC) 	<ul style="list-style-type: none"> • Motorbus (MB) • Commuter Bus (CB) • Bus Rapid Transit (RB) • Trolley Bus (TB) • Publico (PB) 	<ul style="list-style-type: none"> • Demand Response (DR) • Demand Response Taxi (DT) • Vanpool (VP)
<p>* Recall that Part 673 excludes modes under the safety jurisdiction of the Federal Railroad Administration</p>		

Sample Four-Step Method for Creating Safety Performance Targets

Here is a sample four-step approach to developing safety performance targets

- This is a sample only – there is no required approach



Step 1: Identify Applicable Modes and Available Data

- Which modes do I operate?
 - The National Public Transportation Safety Plan identifies three mode categories (rail, fixed route bus, and non-fixed route bus modes)
- What data do I already have that I can use?
 - Do I report fatality, injury, safety event, and system reliability data to the National Transit Database?
 - Do I report on these metrics regularly to executive leadership or our Board of Directors?

Modes my agency operates:

Rail

Fixed route bus

Non-fixed route bus

Data I can use:

National Transit Database Reports

Monthly Safety Committee Reports

Annual Safety Performance Report

Step 2: Identify Performance Baseline

- What is my agency’s typical performance for each measure?
 - Using historical data can help establish a performance baseline, which provides context for developing safety performance targets

Rail Mode Performance	
	5-year average
Fatalities	1.2
Injuries	15.4
Safety events	30.9
Major mechanical failures per vehicle revenue mile	86.3
Vehicle revenue miles	16,438,114

Step 3: Establish Method to Calculate Target

- What is an appropriate rate for my agency?
 - There is no “correct” answer – some agencies may use 100,000 vehicle revenue miles, or one million, or 15 million
 - Some MPOs and/or States may provide guidance or preferences for transit agency safety performance targets

Step 3: Establish Method to Calculate Target (continued)

- Consider “testing” these rates out by dividing your historic numbers of fatalities, injuries, or safety events by the selected number of vehicle revenue miles

Sample Rate Calculations		
Fatalities, 5-year average	1.2	
Safety events, 5-year average	30.9	
Vehicle revenue miles, 5-year average	16,438,114	
Rate Calculations	Fatalities	Safety Events
per 100,000 vehicle revenue miles	0.007	0.19
per 1,000,000 vehicle revenue miles	0.07	1.9
per 10,000,000 vehicle revenue miles	0.7	19

- What is an appropriate target for my agency? Do we want to:
 - Benchmark our target to the performance of peer agencies?
 - Maintain the same numbers from the last year(s)?
 - Set a percentage reduction?
 - Set an aspirational goal?

Rail Mode Targets	
	Method
Fatalities	Aspirational (zero)
Injuries	Reduce to peer average
Safety Events	Maintain five-year average
Major Mechanical Failures	Reduce by five-percent

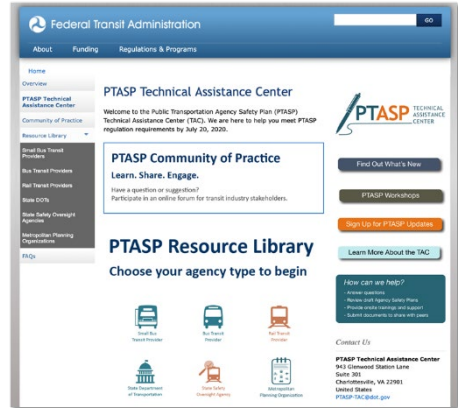
Step 4: Calculate and Document Target

- Using the method identified in Step 3, calculate the safety performance target, including the associated timeframe
 - For example, reduce major mechanical failures by five-percent by the end of 2021
- Document the safety performance targets in the Agency Safety Plan and provide to the State and MPO

Rail Mode Targets		
	5-Yr. Avg.	12/31/21 Target
Fatalities	(#)	1.2
	Rate	7.3×10^{-8}
Injuries	(#)	15.4
	Rate	9.4×10^{-7}
Safety Events	(#)	30.9
	Rate	1.9×10^{-6}
Major Mechanical Failures	86.3	Reduce by 5% to 80

Available Guidance on Safety Performance Targets

- Find more guidance under “Safety Performance Targets” in the PTASP Public Technical Assistance Center Resource Library (<https://www.transit.dot.gov/PTASP-TAC>)

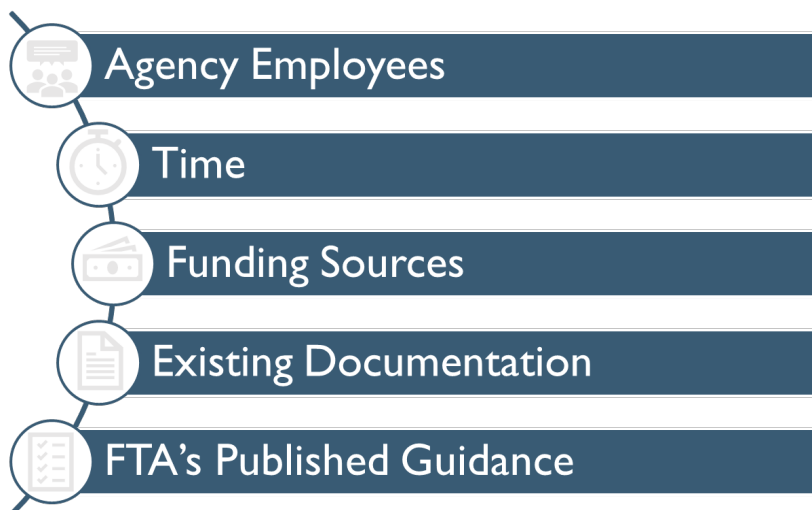


PTASP Documentation and Recordkeeping





- Transit agencies must maintain documentation and recordkeeping of:
 - Establishing the ASP, including documents included in whole or by reference
 - Plan updates
 - Programs, policies, and procedures to carry out the ASP
 - SMS implementation activities
 - Results from SMS processes and activities
- Must maintain these documents for a minimum of three years after they are created and make these documents available upon request by the FTA, other Federal agency or SSOA

1.3 PTASP Resources

Resources for Agency Safety Plan Development



PTASP TAC Components

Community of Practice	Resource Library	One-on-One Technical Assistance	Onsite Technical Assistance
 <ul style="list-style-type: none">• Online discussion forums to ask questions, share ideas and documents, and engage with posts• Quick sign-up process to post• Optional alerts when others post	 <ul style="list-style-type: none">• Voluntary technical assistance materials organized by agency type• Hosted on FTA's website• Updated with new materials, based on industry needs	 <ul style="list-style-type: none">• Agency Safety Plan (ASP) reviews• Help desk to answer questions and schedule assistance<ul style="list-style-type: none">○ Staffed 9am-8pm ET, M-F, with a dedicated phone number, email and mailing address	 <ul style="list-style-type: none">• Onsite training• Targeted onsite assistance• Prioritized based on agency type, ASP development status, and identified needs

Community of Practice

Peer-to-peer sharing

- Provides an opportunity to ask questions and request resources directly from agencies with similar characteristics or those facing similar issues/challenges.

How it works

- Post a question, comment, or idea, or offer or request a resource.
- Posts are moderated by FTA during business hours.
- Feel free to review “threads”— questions, comments, or ideas that others have posted.





URL: <https://www.transit.dot.gov/PTASP-TAC>

PTASP Technical Assistance Center (TAC) Links and Contact Information

- Technical Assistance Center
 - www.transit.dot.gov/PTASP-TAC
- PTASP Community of Practice
 - <http://www.transit.dot.gov/PTASP-COP>
- Frequently Asked Questions
 - www.transit.dot.gov/PTASP-FAQs



Section 2: Safety Management Policy and Safety Promotion

Session Objectives

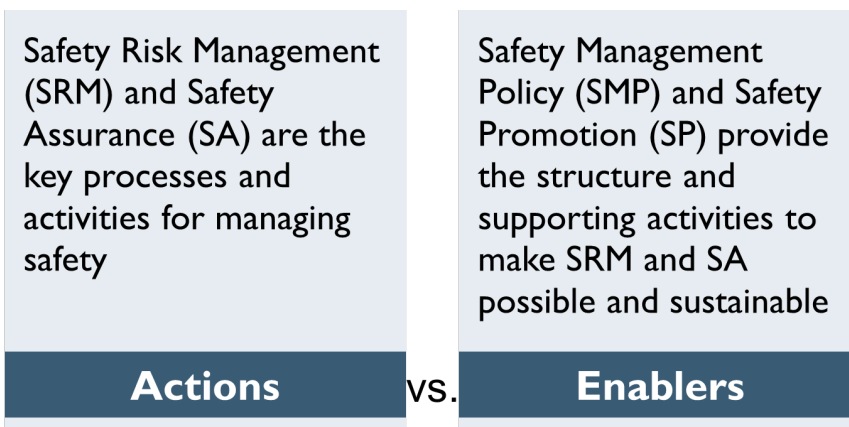
- Provide an overview of Safety Management Systems (SMS) components
- Explain Safety Management Policy (SMP) and Safety Promotion (SP) requirements
- Give examples of activities and programs that agencies could include in their Agency Safety Plans (ASP)
- Identify personnel resources and documentation necessary to address PTASP requirements
- Help participants identify actions to take in preparation for July 20, 2020

2.1 SMS Components

SMS Components

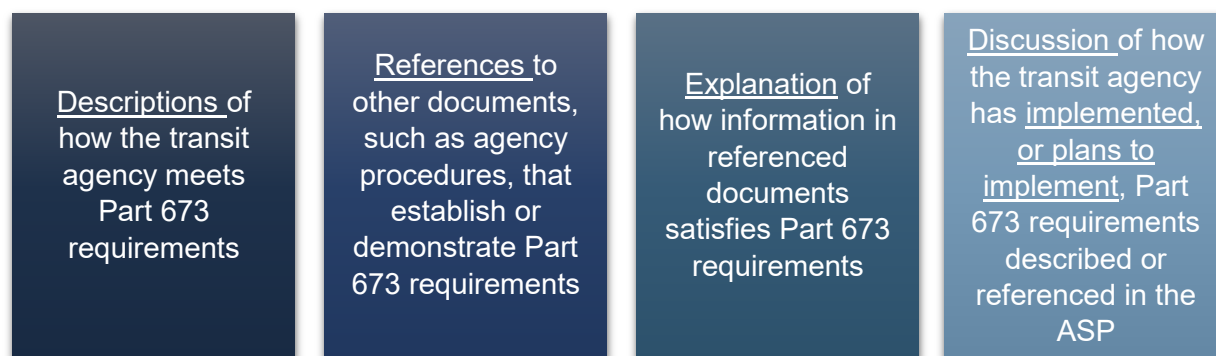


How are the SMS components different?



SMS Content in Agency Safety Plans

ASP content could include:



2.2 Safety Management Policy

Safety Management Policy Requirements

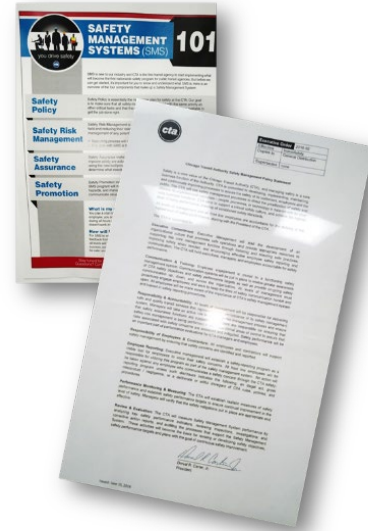
- Safety **management** policy, not all safety policy
- Include information **relevant to** developing and carrying out the **other SMS components**
- Consider how you will **develop, maintain,** and **make available** required documents

§673.23

- a) Written statement, with safety objectives
- b) Employee safety reporting program
- c) Safety management policy communication
- d) Authorities, accountabilities, and responsibilities

The Safety Management Policy Statement §673.23(a)

- Clear, simple language can be helpful for communicating organizational accountabilities and responsibilities
- Engaging a transit agency's senior management (such as the Accountable Executive) in developing the statement may help to reinforce leaderships commitment to SMS
- To develop the statement, transit agencies could consider:
 - Relevant audiences
 - Key take-aways
 - Communication approaches
- May be part of, or referenced in, the ASP



Safety Objectives §673.23(a)

- **Must be part of the written statement of safety management policy**
- **Part 673 does not specify what the safety objectives must include, be based on, or be used for**
 - No requirement to achieve safety objectives, but they can be a useful tool to drive safety improvements and priorities
- To develop safety objectives, transit agencies may find it useful to consider:

Leadership goals and priorities	Local, regional, or State priorities	Concerns or targeted areas for improvement	Strategic and long-term planning documents
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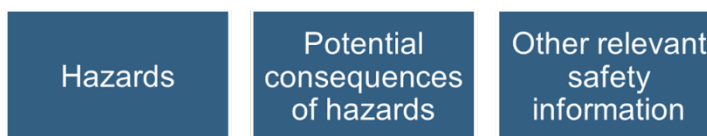
Employee Safety Reporting Program §673.23(b)

- Must establish and implement a process that allows **all employees**—including relevant contract employees—to **report safety conditions to senior management**
- Intended to help the Accountable Executive and other senior managers get important safety information from across the transit agency
- The program can be an agency’s most important source of information
- Part 673 does not specify which methods should be used—transit agencies may consider:



- | | |
|------------------------------------|--|
| • Hotline | • SharePoint site or form |
| • Paper form | • Phone or tablet app |
| • Safety meetings or toolbox talks | • Third party information collection service |

- Reported **safety conditions** could include:



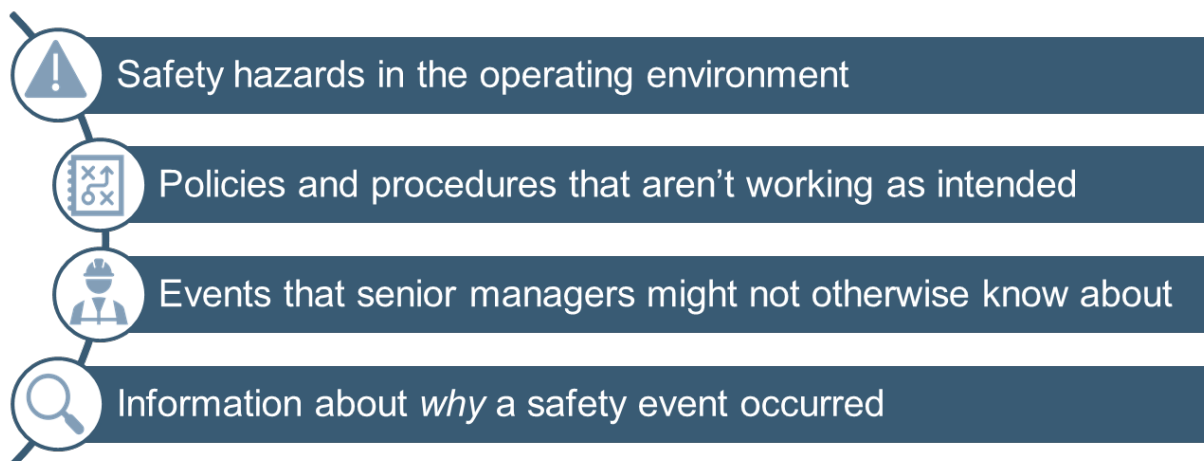
- Must **specify protections** for employees who report safety conditions to senior management
 - Part 673 does not specify what those protections must be
- Must **describe employee behaviors** that may result in disciplinary action, and therefore would not be covered by protections
- **Must inform employees of safety actions taken in response to reports** submitted through an employee safety reporting program §673.29(b)

Protections and Communication can Encourage More Reporting



Employee Safety Reporting Program §673.23(b)

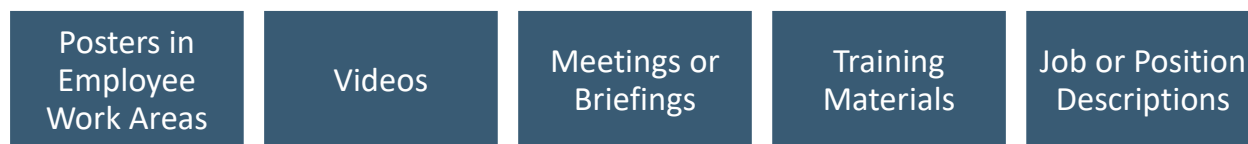
- It may be helpful to **consider what safety information the agency needs from employees** when developing the process, methods, and protections for employee reporting, such as:



- Note: Other industries may have helpful experience with effective safety reporting programs. Transit agencies should consider reaching out to local or partner organizations in rail, aviation, utilities, healthcare, etc., for relevant insights.

Communicating the Policy §673.23(c)

- Must demonstrate the **safety management policy is communicated throughout the agency's organization**
- May choose to use the following communication methods, among others:



- No requirement to communicate all policy information in the same way, so you may **consider the best method(s) for what you expect to achieve** through the communication

Communicating the Policy §673.23(c)

- May be helpful to **ensure that communications** about safety management policy **set realistic expectations**
 - For example, before posting a Safety Management Policy Statement on bulletin boards in all maintenance shops, you may consider:
 - Does the language in the document mean what we think it means to all intended audiences?
 - Do we currently perform the activities as described?
 - Are we able to consistently deliver the outcomes as promised?

Authorities, Accountabilities, and Responsibilities §673.23(d)

- Must establish necessary **authorities, accountabilities, and responsibilities for the development and management of the transit agency's SMS**

Authorities	Accountabilities	Responsibilities
<ul style="list-style-type: none">• What is the position authorized to do?	<ul style="list-style-type: none">• What is the position accountable for, which cannot be delegated?	<ul style="list-style-type: none">• What must the position do or oversee the accomplishment of?

- Required positions or categories of positions include:
 - Accountable Executive
 - Chief Safety Officer or SMS Executive
 - Agency leadership and executive management
 - Key staff

Authorities, Accountabilities, and Responsibilities §673.23(d)

- May choose to document authorities, accountabilities, and responsibilities in job or position descriptions, among other options
- Transit agencies are **responsible for ensuring that requirements specified for a role are met**
 - Both in §673.23(d) and in §673.5 Definitions
- It may be helpful to **consider all the requirements in Part 673** to identify what authorities, accountabilities, and responsibilities are necessary for the development and management of the SMS
- Using clear and concise language can help reduce confusion and misunderstanding, especially when implementing new processes and activities

2.3 Safety Promotion

Safety Promotion Requirements

- Includes **all safety topics**, not just safety management
- **Separate requirement** from the Public Transportation Safety Certification Training Program rule at 49 C.F.R. Part 672
 - No requirements for bus transit in Part 672

§673.29

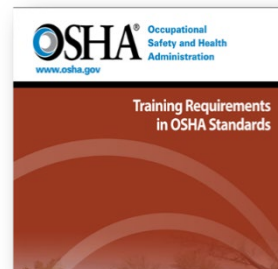
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|------------------------------|
| a) Competencies and training |
| b) Safety communication |

Competencies and Training §673.29(a)

- Must **establish and implement a comprehensive safety training program for all agency employees directly responsible for safety**
 - Part 673 does not define “directly responsible for safety”
 - Must include relevant contractors
 - Must include refresher training
 - May consider training for Board Members or others involved in approving or overseeing the ASP

Competencies and Training §673.29(a)

- “Directly Responsible for safety” could be individuals whose job titles extend beyond having “safety” in the job title.
- Use existing training programs:
 - OSHA training requirements
 - Agency specific training
 - FTA Safety Training Curriculum
 - External agency developed Safety Training



Voluntary Bus Program Curriculum (49 C.F.R. Part 672)

As part of a comprehensive safety training program, you may consider the following voluntary bus safety training curriculum available from TSI and described under the Public Transportation Safety Certification Training Program regulation (49 CFR Part 672):

- SMS Awareness (eLearning)
- Safety Assurance (virtual instructor-led)
- SMS Principles for Transit
- Courses offered through the Transit Safety and Security Program (TSSP) Certificate (Bus)
 - Effectively Managing Transit Emergencies
 - Transit Bus System Safety
 - Fundamentals of Bus Collision Investigation



Safety Communication §673.29(b)

- Must demonstrate that **safety and safety performance information is communicated** throughout the agency’s organization
 - Must include **information on hazards and safety risk relevant to employees’ roles and responsibilities**
 - Must **inform employees of safety actions taken in response to reports** submitted through an employee safety reporting program
 - A safety action doesn’t have to mean implementing a new safety solution
 - Could communicate safety action information to a group of employees, not just the individual reporter
 - Must include relevant contractors

Safety Communication §673.29(b)

More doesn't always mean better

- May **consider what and how to communicate** safety information
- Relevant questions include, but are not limited to:

What information does this individual need to do their job?

How can we ensure they understand what is communicated?

How can we ensure they understand what action they must take as a result of the information?

How can we ensure the information is accurate and kept up-to-date?

Are there any privacy or security concerns to consider when sharing information? If so, what should we do to address these concerns?

Safety Communication Example



Section 3: Safety Risk Management and Safety Assurance

Session Objectives

- Explain Safety Risk Management (SRM) and Safety Assurance (SA) requirements
- Provide examples of activities and programs that agencies could include in their Agency Safety Plans (ASP)
- Identify personnel resources and documentation to address PTASP requirements
- Help participants identify actions to take in preparation for July 20, 2020

3.1 Safety Risk Management

Safety Risk Management Definition

- Enables a **proactive approach** to managing safety
- Helps **allocate resources to** areas of **highest safety risk** and/or unacceptable safety risk

§673.5 Definitions

Safety Risk Management means a process within a transit agency's Public Transportation Agency Safety Plan for **identifying hazards** and **analyzing, assessing, and mitigating safety risk**

How is Safety Risk Management different from Hazard Management?

Hazard Management	Safety Risk Management
<ul style="list-style-type: none">• Assumes systems—as designed—are sufficient to prevent hazards• Focused on preventing system failures and the bad outcomes of those failures• Addresses failures through corrective actions	<ul style="list-style-type: none">• Assumes systems are changing• Focused on the routine, ongoing capture and analysis of safety information to assess safety risk• Supports decision-making on managing safety risk and allocating safety resources

3.1.1 Safety Risk Management Definitions

Risk

- A **measure** of severity and likelihood, combined
- **Predicted**—in the future; hasn't happened yet
- Measures the **potential effects** of a hazard, not the hazard itself
- Likelihood (**how often**) vs. severity (**how bad**)
- **Avoid confusing** risk with hazard
 - We often call something “a safety risk” when we mean “a hazard”

§673.5 Definitions

Risk means the composite of predicted severity and likelihood of the potential effect of a hazard

Hazard

- **Real or potential condition**—not an event
 - **Real**: Observable condition that exists in the transit system
 - **Potential**: Condition that doesn't exist, but could exist if a change is made in the transit system
- **Can cause** consequences

§673.5 Definitions

Hazard means 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

Consequence

- Important to **distinguish hazards from consequences** for accurate safety risk assessment
- Potential consequences are **the focus of safety risk assessment**
 - Assess the **severity and likelihood of potential consequences, not hazards**
- A single hazard could cause multiple consequences

Not defined in §673.5, but can be derived from the definition of *Hazard*. Transit agencies may choose to use the following definition:

Consequence means an effect of a hazard, involving 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

Event

- **Something that happened**, not a condition or system state
- Important to distinguish from a hazard
- Safety event investigation may reveal hazards
- Used primarily for reporting, not **SRM**
 - Event definitions are based on type of event and magnitude of outcomes

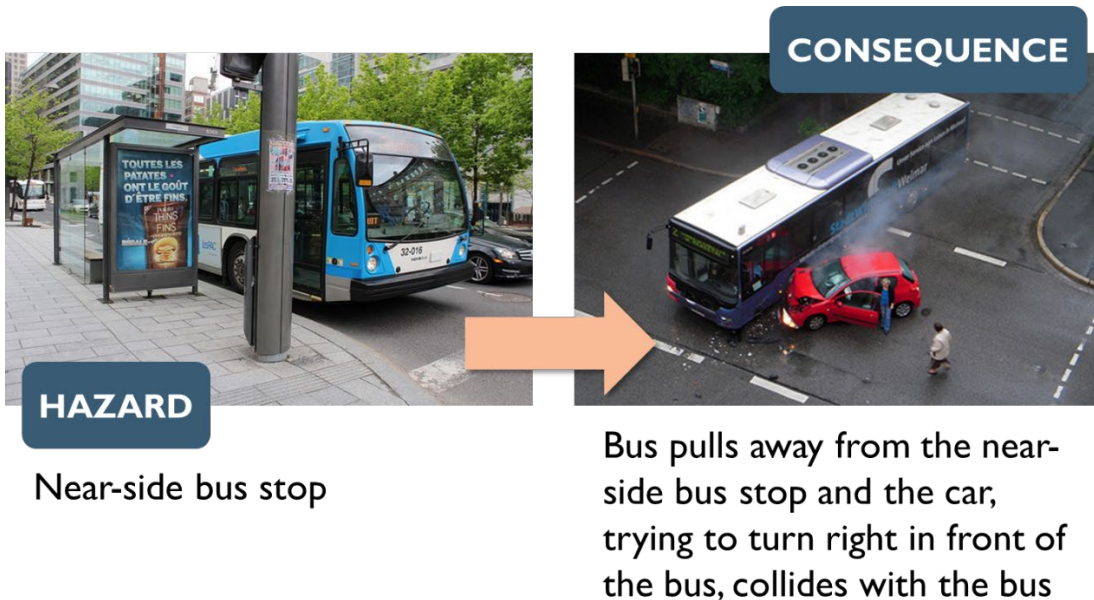
§673.5 Definitions

Event means any accident, incident, or occurrence

Sample Tool: SRM Definitions Checklist

<p>What is it?</p> <p>If you can select all 3 in one box, it's...</p>	<p>A Potential Consequence</p> <ul style="list-style-type: none"> <input type="checkbox"/> Not a real or potential condition <input type="checkbox"/> Can be caused by a hazard <input type="checkbox"/> Hasn't happened yet, but could be similar to a past event
<p>A Hazard</p> <ul style="list-style-type: none"> <input type="checkbox"/> Real or potential condition <input type="checkbox"/> Can cause a consequence <input type="checkbox"/> Not an event 	<p>An Event</p> <ul style="list-style-type: none"> <input type="checkbox"/> Accident, incident, or occurrence <input type="checkbox"/> Not a real or potential condition <input type="checkbox"/> Has already occurred

Example of Hazard vs. Consequence



Risk Mitigation

- **Solution** to a problem, not the problem itself
- Eliminates or reduces **likelihood and/or severity of consequences**
- Usually focused on **reducing safety risk to an acceptable level**, not getting the level of risk to zero

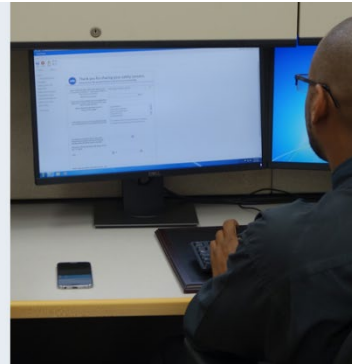
§673.5 Definitions

Risk mitigation means a method or methods to eliminate or reduce the effects of hazards

Engaging Employees in SRM

- Consistently and accurately distinguishing key terms can be challenging
- **Could use key terms for analysis, while using other words to communicate** about safety throughout the agency

For example, in its SRM Pilot, the Chicago Transit Authority **asks individuals to report** whatever concerns they regarding safety—**their safety concerns**. Safety specialists then ensure the safety concerns are properly characterized for analysis



3.1.2 The Safety Risk Management Process

Safety Risk Management Requirements

- For **all elements** of a transit agency's system
- Consider how you will **develop, maintain, and make available** required documents
- Detailed documentation can help **increase consistency**, and therefore **confidence** in the process and its results
- Consider defining **when** SRM is conducted

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a) *A transit agency must **develop and implement a Safety Risk Management process** for all elements of its public transportation system*

Developing and Implementing the SRM Process

- Models for conducting SRM include:
 - **Centralized**: Safety Department leads the SRM process with input from subject matter experts across the agency
 - **Decentralized**: Personnel throughout the agency conduct SRM and the Safety Department assists
- **Consider testing** SRM procedures before implementing them agency-wide

Safety Hazard Identification Requirements

- Must establish how the agency will **identify hazards and consequences**
- All agencies **must consider FTA and oversight authority information**
- Some agencies **must consider changes that may impact safety performance** §673.27(c)(2)
- Information sources **may include employee safety reporting** and **Safety Assurance outputs** §673.27

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b) *Safety hazard identification*

- 1) *A transit agency must establish **methods or processes to identify hazards and consequences** of hazards*
- 2) *A transit agency **must consider, as a source for hazard identification, data and information provided by an oversight authority and the FTA***

Documenting Hazards and Consequences

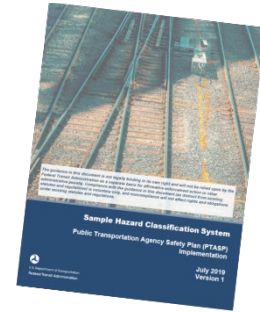
Could **consolidate** hazard and consequence information in **one location** for sorting and analysis

For example, a **Risk Register** (paper or electronic)

A	B	C	D	E	F
Hazard	Type of hazard	Identification Date	Identification Source	Date of Analysis	Worst Credible Potential Consequence(s)
Buses misaligned over maintenance pits	Maintenance	1/14/2018	Employee safety reporting	02/01/18	Bus falling into pit resulting in worker fatality
Near side bus stop at the intersection of First and Main	Operational	3/20/2018	Inspection report	3/22/2018	Car turning right in front and colliding with the bus as the bus pulls out of the stop

Categorizing Hazards

- Could use a **system to categorize and organize hazards** for analysis
- May adopt the method described in FTA's Sample Hazard Classification System



Safety Risk Assessment Requirements

- Must **assess likelihood and severity** of the consequences of hazards
 - Must include existing mitigations
- Must **prioritize hazards based on the safety risk** of their potential consequences
- Consider how your agency will **select or prioritize hazards and potential consequences to undergo safety risk assessment**

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- c) Safety risk assessment
 - 1) A transit agency must **establish methods or processes to assess safety risks** associated with identified safety hazards
 - 2) A safety risk assessment includes an assessment of the likelihood and severity of the consequences of the hazards, including existing mitigations, and prioritization of the hazards based on the safety risk

Conducting Safety Risk Assessment

Examples of methods and processes:

- Managers assess safety risk and prioritize hazards as part of day-to-day work, using defined practices (e.g., procedures, forms, escalation criteria)
- Safety Committee meets regularly to conduct or oversee safety risk assessment
- Rotating group of subject matter experts helps the Safety Department conduct safety risk assessments using a defined process

Benefits of Using a Safety Risk Matrix

- **Communicates leadership guidance to support decision-making** (e.g., what is unacceptable)
- Supports **consistent assessment**
- **Leverages data analysis**
- Can make it **easier to communicate and track changes** in safety risk
- Enables **easier comparison** of hazards

Severity \ Likelihood	1	2	3	4
A	1A	2A	3A	4A
B	1B	2B	3B	4B
C	1C	2C		4C
D				4D
E				4E

Conducting Safety Risk Assessment with a Risk Matrix

1. Apply criteria to **identify the level of severity** (e.g., catastrophic) and **level of likelihood** (e.g., frequent) of a potential consequence

Severity Categories			Likelihood Levels			
Description	Severity Category	Criticality	Description	Level	Individual item	System or Vehicle Fleet
Catastrophic	1	Could result in death, per exceeding \$250,000, system shutdown, or irreversible damage that violates law	Frequent	A	Likely to occur often in the life of an item.	Continuously experienced. Potential consequence may occur more than once in 500 operating hours.
Serious	2	Could result in permanent occupational illness that requires hospitalization, or of at least one person, per \$25K but less than \$250K, lasting between 10 minutes to 30 minutes, or irreversible environmental violation of law or regulation	Occasional	B	Will occur several times in the life of an item.	Will occur several times. Potential consequence may be experienced once in 500 to 60,000 operating hours.
Marginal	3	Could result in injury or occupational illness, or in one or more lost work hours, or system shutdown for 10 minutes, or mitigatable environmental violation without violation of law or regulation.	Remote	C	Unlikely to occur in the life of an item.	Unlikely but possible. Potential consequence may be experienced once in 60,000 to 1,800,000 operating hours.

Considerations for Assessing Safety Risk

- **Consequence** – Choose the appropriate potential consequence for safety risk assessment
 - The most common consequence,
 - The worst possible consequence, and/or
 - The worst credible consequence

For example, consider: What is the worst credible consequence that could occur as a result of the hazard?

- **Criteria** – What are the criteria we must consider to determine the levels of severity and likelihood? What information do we need about the consequence to determine which criteria apply?

Considerations for Determining Severity

What do we need to know?

- Characteristics of the potential consequence, as they relate to the criteria to assess severity
- If multiple criteria for a level of severity include “or”, then the potential consequence only needs to meet one, not all, of the criteria for a particular level of severity

Considerations for Determining Likelihood

What do we need to know?

- **Scope** – What is the scope associated with the consequence?
 - (e.g., specific location, specific equipment, or other unique circumstances)
- **Exposure** – What is the number of possible opportunities for the consequence to happen?
 - Usually in the unit used to measure likelihood (e.g., vehicle revenue miles, operating hours, process cycles, months, years)
- **Frequency** – What is the number of times the consequence is expected to happen?
 - Usually in the same unit of measure as exposure

Conducting Safety Risk Assessment with a Risk Matrix

- Based on identified levels of severity (e.g., catastrophic) and likelihood (e.g., frequent), **identify the safety risk index** (e.g., high)

Risk Assessment			
Likelihood/Severity	Catastrophic (1)	Serious (2)	Marginal (3)
Frequent (A)	HIGH (1A)	HIGH (2A)	MEDIUM (3A)
Occasional (B)	HIGH (1B)	MEDIUM (2B)	LOW (3B)
Remote (C)	HIGH (1C)	MEDIUM (2C)	LOW (3C)

- Identify next steps based** on the safety risk index (e.g., safety risk must be mitigated or eliminated)

Safety Risk Index	Criteria by Index
HIGH	<u>Unacceptable – Action Required:</u> Safety Risk must be mitigated or eliminated.
MEDIUM	<u>Undesirable – Management Decision:</u> Executive management must decide whether to accept safety risk with monitoring or require additional action.
LOW	<u>Acceptable with Review:</u> Safety Risk is acceptable pending management review.

Safety Risk Mitigation Requirements

- Must have methods or processes to **identify necessary mitigations or strategies**
- Can reduce risk by reducing likelihood and/or severity**
 - No requirement for a single mitigation to address both
- When identifying and choosing mitigations, **consider mitigation monitoring needs** § 673.27(b)(2)

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- Safety risk mitigation; A transit agency must **establish methods or processes to identify mitigations** or strategies necessary as a result of the agency's safety risk assessment to reduce the likelihood and severity of the consequences

Sample Guidance for Developing Mitigations

Consider providing guidance to help identify appropriate mitigations, such as:

MIL-STD-882E Risk Mitigation Measures

- Eliminate hazards
- Reduce risk through alteration
- Incorporate engineered features or devices
- Provide warning devices
- Incorporate signage, procedures, training, and personal protective equipment (PPE)

Safety Risk Mitigation Strategies

- Safety risk avoidance
- Safety risk reduction
- Safety risk segregation

3.2 Safety Assurance

Safety Assurance Definition

- Processes for the **collection, analysis, and assessment of information**
- Help to ensure:
 - Safeguards are in place and *actually* effective
 - Early identification of potential safety issues
 - Safety objectives are met

§673.5 Definitions

Safety Assurance means processes within a transit agency's Safety Management System that function to ensure the implementation and effectiveness of safety risk mitigation, and to ensure that the transit agency meets or exceeds its safety objectives through the collection, analysis, and assessment of information

Safety Assurance Applicability (§673.27(a))

Must meet requirements in (b), (c), and (d)

- **Rail fixed guideway public transportation systems**
- **Recipients or subrecipients** of Federal financial assistance under 49 U.S.C. Chapter 53 that **operates more than one hundred vehicles in peak revenue service**

Must meet requirements in (b) only

- **Small public transportation providers**—recipients or subrecipients of Federal financial assistance under 49 U.S.C. 5307 that have **100 or fewer vehicles in peak regular service** (across all fixed route modes or in any one non-fixed route mode) and **do not operate a rail fixed guideway public transportation system**

3.2.1 Safety Performance Monitoring & Measurement

Safety Performance Monitoring and Measurement Requirements

- Focused on **current** agency processes and activities
- To **validate expectations** and **identify system changes**:
 - Do our assumptions match reality? Is there something we missed that could be a safety concern?
 - How is the system changing? Is the change a safety concern?

What Does Safety Performance Monitoring and Measurement Look Like?

- **Roles and responsibilities could vary**, for example:
 - Safety Department could perform monitoring and measurement
 - Safety Department could oversee monitoring performed by other departments, and conduct measurement
 - Operations and Maintenance Departments could conduct monitoring and measurement, while the Safety Department oversees and develops reports for decision-makers

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- b) Safety performance monitoring and measurement. A transit agency must establish activities to:
- 1) Monitor its system for compliance with, and sufficiency of, the agency's procedures for operations and maintenance;
 - 2) Monitor its operations to identify any safety risk mitigations that may be ineffective, inappropriate, or were not implemented as intended;
 - 3) Conduct investigations of safety events to identify causal factors; and
 - 4) Monitor information reported through any internal safety reporting programs

Monitoring Safety Risk Mitigations (§673.27(b)(2))

Must monitor operations to **identify safety risk mitigations** that may be **ineffective**, **inappropriate**, or were **not implemented as intended**

- If **ineffective**, could re-analyze the hazard(s) and consequence(s) the mitigation was intended to address through SRM
- If **inappropriate**, could identify new mitigation options
 - The mitigation may not be feasible
- If **not implemented as intended**, could consider alternative mitigations or alternative approaches to implementation

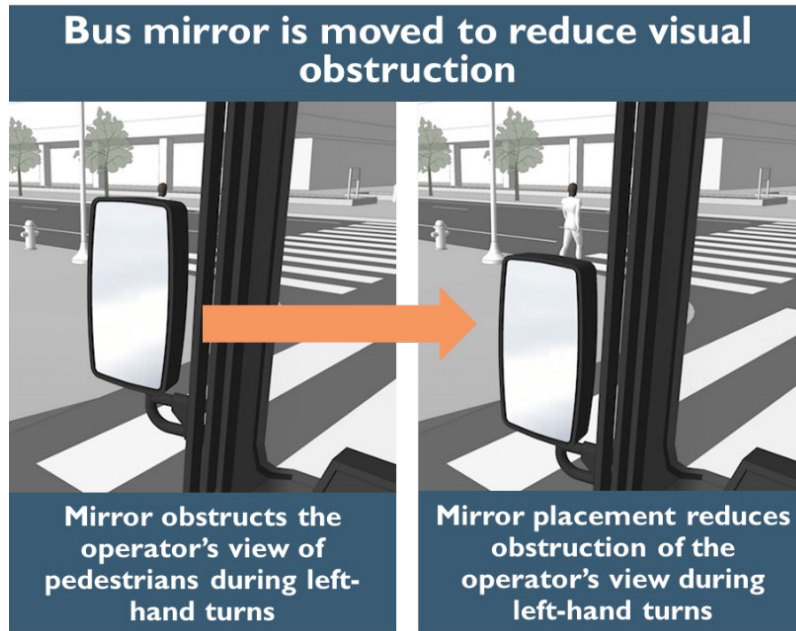
Safety Performance Indicators and Targets

Safety Performance Indicator (SPI)	Safety Performance Target (SPT)
<ul style="list-style-type: none"> • A signal or early warning sign • Can measure inputs, outputs, outcomes, or impacts <ul style="list-style-type: none"> – For example, the number of hard braking events per month on Bus Route 45 	<ul style="list-style-type: none"> • Level or extent of expected change in the SPI over a period of time • Quantifiable <ul style="list-style-type: none"> – For example, hard braking events per month are 10% lower on Bus Route 45 over the next 12 months

Types of SPIs for Safety Performance Monitoring and Measurement

Lagging Indicators	Leading Indicators
<ul style="list-style-type: none"> • Monitor negative safety outcomes the agency aims to prevent <ul style="list-style-type: none"> • For example, the number of collisions caused by icy road conditions • Data may be more readily available 	<ul style="list-style-type: none"> • Monitor conditions with potential to become or contribute to negative safety outcomes • Can be focused on monitoring operational and environmental conditions or agency processes <ul style="list-style-type: none"> • For example, the number of days of freezing rain • More useful for safety performance monitoring and measurement than lagging indicators

SPIs for Safety Risk Mitigation Monitoring - Example



Lagging Indicator:

- Number of collisions with pedestrians during left-hand turns

Leading Indicators:

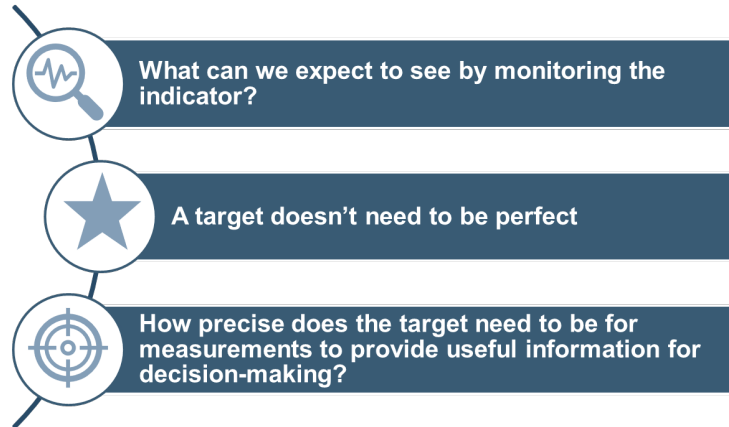
- Percentage of mirrors adjusted
- Number of operator reports about mirrors blocking line of sight
- Number of complaints of near-collisions from bicyclists and pedestrians

Setting SPIs for Safety Performance Monitoring and Measurement

When establishing safety performance indicators, it may be helpful to consider:

- **What is a reliable indicator – or set of indicators – of what we are trying to monitor?**
 - Consider alternatives if an indicator isn't a reliable source of information
- **What is the minimum number of indicators needed?**
 - A large set of indicators can be resource-intensive to monitor over time
- **Are there existing data sources we can use to monitor the indicator?**
 - If not, consider allocating monitoring resources based on safety risk

Setting SPTs for Safety Performance Monitoring and Measurement



Mitigation Monitoring Plans

Mitigation Monitoring Plans **help ensure safety performance monitoring and measurement activities are performed** to confirm that mitigations are effective, appropriate, and fully implemented

Contents of a Mitigation Monitoring Plan may include, but are not limited to:

Selected safety risk mitigation(s)	Safety performance indicators and targets	Data sources used for monitoring	Description of performance monitoring activities
Timeframe of safety performance monitoring activities	Safety performance monitoring responsibility	Safety performance reporting frequency	Safety performance reporting format

Corrective Action Plan vs Mitigation Monitoring Plan

Corrective Action Plan (CAP)

- Documents the corrective action
- Typically addresses short-term defects or compliance issues
- Helps ensure the corrective action is implemented

Mitigation Monitoring Plan (MMP)

- Documents mitigation(s) and monitoring activities
- Defines how the transit agency will monitor whether the mitigation is performing as intended—implemented, appropriate, and effective
- Helps the agency prioritize safety resource investments

Monitoring Operations and Maintenance Procedures (§673.27(b)(1))

Must monitor system for **compliance** with and **sufficiency** of **operations and maintenance procedures**

- Could address **non-compliance** through training, coaching, and management oversight, among other approaches
- Could address **insufficient procedures** through Safety Risk Management

Safety Event Investigation (§673.27(b)(3))

- Transit agencies must **conduct investigations of safety events** to **identify causal factors**
- Safety events include **accidents**, **incidents**, and **occurrences**
- Identified factors could include rule violations and technical failures, among others
- Investigation is important, **whether or not the event is considered preventable**
- Identified causal factors **may reveal hazards** that could be addressed through SRM
- Investigations may be an additional **source of safety data**

Monitoring Internal Safety Reporting (§673.27(b)(4))

Transit agencies must **monitor information reported** through **any internal safety reporting programs**

- Including, but not limited to:
 - Employee safety reporting programs
 - Mandatory safety reporting programs (e.g., accident notification)
- **Could collect, analyze, and assess information** reported from programs over time
- May be an important **source of safety data**
- Analysis of reports **may lead to the identification of hazards** to address through Safety Risk Management

Mapping Safety Performance Monitoring and Measurement Processes – Example

Safety Assurance Process		If yes, then...
Procedures Monitoring and Measurement		
	Inadequate compliance?	Address non-compliance
	Insufficient?	Evaluate hazards through SRM
Safety Risk Mitigation Monitoring and Measurement		
	Ineffective?	Evaluate hazards through SRM
	Inappropriate?	Identify new mitigation under SRM
	Not implemented?	Address non-compliance
Safety Event Investigations		
	Causal factors identified?	Evaluate hazards through SRM
	Information collected?	Use to monitor and measure through other SA processes
Internal Reporting Programs Monitoring and Measurement		
	Safety concerns identified?	Evaluate hazards through SRM
	Information collected?	Use to monitor and measure through other SA processes

3.2.2 Management of Change

Management of Change Requirements

Management of change, **not change management**

- **Evaluates *proposed* or *future* changes**
 - Once a change is made (e.g., new procedure implemented) it may be monitored through other SA activities
- **Focused on non-safety changes**
- Recommended, but **not required for small public transportation providers**

Identifying Changes (§673.27(c)(1))

Transit agencies must establish a process for **identifying and assessing changes that may introduce new hazards** or **impact** the transit agency's **safety performance**

- Examples of approaches include:
 - **Centralized** – A person or group assesses changes (all, or a certain type) to determine safety impacts

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- b) Management of change
 - 1) A transit agency must establish a process for identifying and assessing changes that may introduce new hazards or impact the transit agency's safety performance
 - 2) If a transit agency determines that a change may impact its safety performance, then the transit agency must evaluate the proposed change through its Safety Risk Management process

- **Decentralized** – All departments evaluate if proposed changes have a safety impact, and the Safety Department provides guidance and oversight
- May use existing processes
- Could identify and assess different proposed changes in different ways
- Proposed changes can be initiated within or outside the transit agency

Assessing Changes (§673.27(c)(2))

Transit agencies must **evaluate proposed changes** that may impact safety performance through the **Safety Risk Management** process

Transit agencies may choose to:

Send all types of hazards through the agency's **standard SRM process**

Establish a **separate SRM process** for addressing proposed changes (all changes or certain types)

3.2.3 Continuous Improvement

Continuous Improvement Requirements

- Focused on **agency-wide safety performance**
- Assessment could use:
 - **Required safety performance targets** (e.g., number of injuries)
 - **Safety objectives**
 - Additional **agency-wide or mode-wide SPTs**
- Recommended, but **not required for small public transportation providers**

Assessing Safety Performance (§673.27(d)(1))

Must establish a **process to assess safety performance**

- Part 673 **does not** specify **how to conduct** assessments or **which standard** to base assessments on
 - FTA may establish performance standards at a later time §673.11(a)(4)

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- c) Continuous improvement
 - 1) A transit agency must establish a **process to assess its safety performance**
 - 2) If a transit agency identifies any deficiencies as part of its safety performance assessment, then the transit agency must develop and carry out, under the direction of the Accountable Executive, a plan to address the identified safety deficiencies

- Should be sufficient for the Accountable Executive to know **when to take action** to address inadequate safety performance
- May choose to **develop SPIs and SPTs for safety objectives**
- Consider a **small set of meaningful SPIs and SPTs** to measure overall safety performance
- Safety performance assessment **might not show you what is wrong, only that something is wrong** that requires a closer look
- Consider indicators for safety performance assessment that:
 - Have a **clear connection to safety performance**
 - Are **relevant to transit agency objectives and leadership goals**
 - **Measure change reliably and sufficiently** to inform decision-making
 - Are **not easy to manipulate or misinterpret**
 - Are relatively **easy to track**

Assessing Safety Performance Examples

Transit agencies may decide to monitor safety performance based on, but not limited to:

Safety objectives, or targets based on safety objectives

Required safety performance targets

Major segments of required safety performance measures

Key sources of safety information

Key areas of safety risk

Performance of key safety processes or activities

Addressing Safety Deficiencies (§673.27(d)(2))

Must **develop and carry out**, under the direction of the Accountable Executive, a **plan to address identified safety deficiencies**

- Safety deficiencies can be in the **transit agency's SMS or related to other agency processes and activities**
- A plan to address identified safety deficiencies could involve:
 - Addressing underlying hazards and potential consequences through Safety Risk Management
 - Changing data collection or analysis techniques to better understand what's really going on
 - Testing and evaluating new approaches to SMS processes

Appendix A. Public Transportation Agency Safety Plan Regulatory Text

Subpart A – General

673.1 Applicability

- a. This part applies to any State, local governmental authority, and any other operator of a public transportation system that receives Federal financial assistance under **49 U.S.C. Chapter 53**.
- b. This part does not apply to an operator of a public transportation system that only receives Federal financial assistance under **49 U.S.C. 5310**, **49 U.S.C. 5311**, or both **49 U.S.C. 5310** and **49 U.S.C. 5311**.

673.3 Policy

The Federal Transit Administration (FTA) has adopted the principles and methods of Safety Management Systems (SMS) as the basis for enhancing the safety of public transportation in the United States. FTA will follow the principles and methods of SMS in its development of rules, regulations, policies, guidance, best practices, and technical assistance administered under the authority of **49 U.S.C. 5329**. This part sets standards for the Public Transportation Agency Safety Plan, which will be responsive to FTA's Public Transportation Safety Program, and reflect the specific safety objectives, standards, and priorities of each transit agency. Each Public Transportation Agency Safety Plan will incorporate SMS principles and methods tailored to the size, complexity, and scope of the public transportation system and the environment in which it operates.

673.5 Definitions

As used in this part:

Accident means an Event that involves any of the following: A loss of life; a report of a serious injury to a person; a collision of 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.

Accountable Executive means a single, identifiable person who has ultimate responsibility for carrying out the Public Transportation Agency Safety Plan of a public transportation agency; 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 U.S.C. 5329(d)**, and the agency's Transit Asset Management Plan in accordance with **49 U.S.C. 5326**.

Chief Safety Officer means an adequately trained individual who has responsibility for safety and reports directly to a transit agency's chief executive officer, general manager, president, or equivalent officer. A Chief Safety Officer may not serve in other operational or maintenance capacities, unless the Chief Safety Officer is employed by a transit agency that a small public transportation provider as defined in this part, or a public

transportation provider that does not operate a rail fixed guideway public transportation system.

Equivalent Authority means an entity that carries out duties similar to that of a Board of Directors, for a recipient or subrecipient of FTA funds under **49 U.S.C. Chapter 53**, including sufficient authority to review and approve a recipient or subrecipient's Public Transportation Agency Safety Plan.

Event means any Accident, Incident, or Occurrence.

FTA means the Federal Transit Administration, an operating administration within the United States Department of Transportation.

Hazard means 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 means 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.

Investigation means the process of determining the causal and contributing factors of an accident, incident, or hazard, for the purpose of preventing recurrence and mitigating risk.

National Public Transportation Safety Plan means the plan to improve the safety of all public transportation systems that receive Federal financial assistance under **49 U.S.C. Chapter 53**.

Occurrence means an Event without any personal injury in which any damage to facilities, equipment, rolling stock, or infrastructure does not disrupt the operations of a transit agency.

Operator of a public transportation system means a provider of public transportation as defined under **49 U.S.C. 5302 (14)**.

Performance measure means an expression based on a quantifiable indicator of performance or condition that is used to establish targets and to assess progress toward meeting the established targets.

Performance target means a quantifiable level of performance or condition, expressed as a value for the measure, to be achieved within a time period required by the Federal Transit Administration (FTA).

Public Transportation Agency Safety Plan means the documented comprehensive agency safety plan for a transit agency that is required by **49 U.S.C. 5329** and this part.

Rail fixed guideway public transportation system means any fixed guideway system that uses rail, is operated for public transportation, is within the jurisdiction of a State, and is not subject to the jurisdiction of the Federal Railroad Administration, or any such system in engineering or construction. Rail fixed guideway public transportation systems include but are not limited to rapid rail, heavy rail, light rail, monorail, trolley, inclined plane, funicular, and automated guideway.

Rail transit agency means any entity that provides services on a rail fixed guideway public transportation system.

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

Risk mitigation means a method or methods to eliminate or reduce the effects of hazards.

Safety Assurance means processes within a transit agency's Safety Management System that functions to ensure the implementation and effectiveness of safety risk mitigation, and to ensure that the transit agency meets or exceeds its safety objectives through the collection, analysis, and assessment of information.

Safety Management Policy means a transit agency's documented commitment to safety, which defines the transit agency's safety objectives and the accountabilities and responsibilities of its employees in regard to safety.

Safety Management System (SMS) means the formal, top-down, organization-wide approach to managing safety risk and assuring the effectiveness of a transit agency's safety risk mitigation. SMS includes systematic procedures, practices, and policies for managing risks and hazards.

Safety Management System (SMS) Executive means a Chief Safety Officer or an equivalent.

Safety performance target means a Performance Target related to safety management activities.

Safety Promotion means a combination of training and communication of safety information to support SMS as applied to the transit agency's public transportation system.

Safety risk assessment means the formal activity whereby a transit agency determines Safety Risk Management priorities by establishing the significance or value of its safety risks.

Safety Risk Management means a process within a transit agency's Public Transportation Agency Safety Plan for identifying hazards and analyzing, assessing, and mitigating safety risk.

Serious injury means any injury which:

- Requires hospitalization for more than 48 hours, commencing within 7 days from the date of the injury was received;
- Results in a fracture of any bone (except simple fractures of fingers, toes, or noses);
- Causes severe hemorrhages, nerve, muscle, or tendon damage;
- Involves any internal organ; or
- Involves second- or third-degree burns, or any burns affecting more than 5 percent of the body surface.

Small public transportation provider means a recipient or subrecipient of Federal financial assistance under **49 U.S.C. 5307** that has one hundred (100) or fewer vehicles in peak revenue service and does not operate a rail fixed guideway public transportation system.

State means a State of the United States, the District of Columbia, Puerto Rico, the Northern Mariana Islands, Guam, American Samoa, and the Virgin Islands.

State of good repair means the condition in which a capital asset is able to operate at a full level of performance.

State Safety Oversight Agency means an agency established by a State that meets the requirements and performs the functions specified by **49 U.S.C. 5329(e)** and the regulations set forth in **49 CFR part 674**.

Transit agency means an operator of a public transportation system.

Transit Asset Management Plan means the strategic and systematic practice of procuring, operating, inspecting, maintaining, rehabilitating, and replacing transit capital assets to manage their performance, risks, and costs over their life cycles, for the purpose of providing safe, cost-effective, and reliable public transportation, as required by **49 U.S.C. 5326** and **49 CFR part 625**.

Subpart B – Safety Plans

673.11 General requirements.

- a. A transit agency must, within one calendar year after July 19, 2019, establish a Public Transportation Agency Safety Plan that meets the requirements of this part and, at a minimum, consists of the following elements:
 1. The Public Transportation Agency Safety Plan, and subsequent updates, must be signed by the Accountable Executive and approved by the agency's Board of Directors, or an Equivalent Authority.
 2. The Public Transportation Agency Safety Plan must document the processes and activities related to Safety Management System (SMS) implementation, as required under subpart C of this part.
 3. The Public Transportation Agency Safety Plan must include performance targets based on the safety performance measures established under the National Public Transportation Safety Plan.
 4. The Public Transportation Agency Safety Plan must address all applicable requirements and standards as set forth in FTA's Public Transportation Safety Program and the National Public Transportation Safety Plan. Compliance with the minimum safety performance standards authorized under **49 U.S.C. 5329(b)(2)(C)** is not required until standards have been established through the public notice and comment process.
 5. Each transit agency must establish a process and timeline for conducting an annual review and update of the Public Transportation Agency Safety Plan.
 6. A rail transit agency must include or incorporate by reference in its Public Transportation Agency Safety Plan an emergency preparedness and response plan or procedures that addresses, at a minimum, the assignment of employee

responsibilities during an emergency; and coordination with Federal, State, regional, and local officials with roles and responsibilities for emergency preparedness and response in the transit agency's service area.

- b. A transit agency may develop one Public Transportation Agency Safety Plan for all modes of service, or may develop a Public Transportation Agency Safety Plan for each mode of service not subject to safety regulation by another Federal entity.
- c. A transit agency must maintain its Public Transportation Agency Safety Plan in accordance with the recordkeeping requirements in subpart D of this part.
- d. A State must draft and certify a Public Transportation Agency Safety Plan on behalf of any small public transportation provider that is located in that State. A State is not required to draft a Public Transportation Agency Safety Plan for a small public transportation provider if that agency notifies the State that it will draft its own plan. In each instance, the transit agency must carry out the plan. If a State drafts and certifies a Public Transportation Agency Safety Plan on behalf of a transit agency, and the transit agency later opts to draft and certify its own Public Transportation Agency Safety Plan, then the transit agency must notify the State. The transit agency has one year from the date of the notification to draft and certify a Public Transportation Agency Safety Plan that is compliant with this part. The Public Transportation Agency Safety Plan drafted by the State will remain in effect until the transit agency drafts its own Public Transportation Agency Safety Plan.
- e. Any rail fixed guideway public transportation system that had a System Safety Program Plan compliant with **49 CFR part 659** as of October 1, 2012, may keep that plan in effect until one year after July 19, 2019.
- f. Agencies that operate passenger ferries regulated by the United States Coast Guard (USCG) or rail fixed guideway public transportation service regulated by the Federal Railroad Administration (FRA) are not required to develop agency safety plans for those modes of service.

673.13 Certification of compliance.

- a. Each transit agency, or State as authorized in **673.11(d)**, must certify that it has established a Public Transportation Agency Safety Plan meeting the requirements of this part one year after July 19, 2019. A State Safety Oversight Agency must review and approve a Public Transportation Agency Safety Plan developed by rail fixed guideway system, as authorized in **49 U.S.C. 5329(e)** and its implementing regulations at **49 CFR part 674**.
- b. On an annual basis, a transit agency, direct recipient, or State must certify its compliance with this part.

673.15 Coordination with metropolitan, statewide, and non-metropolitan planning processes.

- a. A State or transit agency must make its safety performance targets available to States and Metropolitan Planning Organizations to aid in the planning process.
- b. To the maximum extent practicable, a State or transit agency must coordinate with States and Metropolitan Planning Organizations in the selection of State and MPO safety performance targets.

Subpart C – Safety Management Systems

673.21 General requirements.

Each transit agency must establish and implement a Safety Management System under this part. A transit agency Safety Management System must be appropriately scaled to the size, scope and complexity of the transit agency and include the following elements:

- a. Safety Management Policy as described in **673.23**;
- b. Safety Risk Management as described in **673.25**;
- c. Safety Assurance as described in **673.27**; and
- d. Safety Promotion as described in **673.29**.

673.23 Safety management policy

- a. A transit agency must establish its organizational accountabilities and responsibilities and have a written statement of safety management policy that includes the agency's safety objectives.
- b. A transit agency must establish and implement a process that allows employees to report safety conditions to senior management, protections for employees who report safety conditions to senior management, and a description of employee behaviors that may result in disciplinary action.
- c. The safety management policy must be communicated throughout the agency's organization.
- d. The transit agency must establish the necessary authorities, accountabilities, and responsibilities for the management of safety amongst the following individuals within its organization, as they relate to the development and management of the transit agency's Safety Management System (SMS):
 1. **Accountable Executive.** The transit agency must identify an Accountable Executive. The Accountable Executive is accountable for ensuring that the agency's SMS is effectively implemented, throughout the agency's public transportation system. The Accountable Executive is accountable for ensuring action is taken, as necessary, to address substandard performance in the agency's SMS. The Accountable Executive may delegate specific responsibilities, but the ultimate accountability for the transit agency's safety performance cannot be delegated and always rests with the Accountable Executive.
 2. **Chief Safety Officer or Safety Management System (SMS) Executive.** The Accountable Executive must designate a Chief Safety Officer or SMS Executive who has the authority and responsibility for day-to-day implementation and operation of an agency's SMS. The Chief Safety Officer or SMS Executive must hold a direct line of reporting to the Accountable Executive. A transit agency may allow the Accountable Executive to also serve as the Chief Safety Officer or SMS Executive.
 3. **Agency leadership and executive management.** A transit agency must identify those members of its leadership or executive management, other than an Accountable Executive, Chief Safety Officer, or SMS Executive, who have

authorities or responsibilities for day-to-day implementation and operation of an agency's SMS.

4. Key staff. A transit agency may designate key staff, groups of staff, or committees to support the Accountable Executive, Chief Safety Officer, or SMS Executive in developing, implementing, and operating the agency's SMS.

673.25 Safety risk management

- a. Safety Risk Management process. A transit agency must develop and implement a Safety Risk Management process for all elements of its public transportation system. The Safety Risk Management process must be comprised of the following activities: Safety hazard identification, safety risk assessment, and safety risk mitigation.
- b. Safety hazard identification.
 1. A transit agency must establish methods or processes to identify hazards and consequences of the hazards.
 2. A transit agency must consider, as a source for hazard identification, data and information provided by an oversight authority and the FTA.
- c. Safety risk assessment.
 1. A transit agency must establish methods or processes to assess the safety risks associated with identified safety hazards.
 2. A safety risk assessment includes an assessment of the likelihood and severity of the consequences of the hazards, including existing mitigations, and prioritization of the hazards based on the safety risk.
- d. Safety risk mitigation. A transit agency must establish methods or processes to identify mitigations or strategies necessary as a result of the agency's safety risk assessment to reduce the likelihood and severity of the consequences.

673.27 Safety assurance

- a. Safety assurance process. A transit agency must develop and implement a safety assurance process, consistent with this subpart. A rail fixed guideway public transportation system, and a recipient or subrecipient of Federal financial assistance under **49 U.S.C. Chapter 53** that operates more than one hundred vehicles in peak revenue service, must include in its safety assurance process each of the requirements in paragraphs (b), (c), and (d) of this section. A small public transportation provider only must include in its safety assurance process the requirements in paragraph (b) of this section.
- b. Safety performance monitoring and measurement. A transit agency must establish activities to:
 1. Monitor its system for compliance with, and sufficiency of, the agency's procedures for operations and maintenance;
 2. Monitor its operations to identify any safety risk mitigations that may be ineffective, inappropriate, or were not implemented as intended;
 3. Conduct investigations of safety events to identify causal factors; and
 4. Monitor information reported through any internal safety reporting programs.

- c. Management of change.
 - 1. A transit agency must establish a process for identifying and assessing changes that may introduce new hazards or impact the transit agency's safety performance.
 - 2. If a transit agency determines that a change may impact its safety performance, then the transit agency must evaluate the proposed change through its Safety Risk Management process.
- d. Continuous improvement.
 - 1. A transit agency must establish a process to assess its safety performance.
 - 2. If a transit agency identifies any deficiencies as part of its safety performance assessment, then the transit agency must develop and carry out, under the direction of the Accountable Executive, a plan to address the identified safety deficiencies.

673.29 Safety promotion

- a. Competencies and training. A transit agency must establish and implement a comprehensive safety training program for all agency employees and contractors directly responsible for safety in the agency's public transportation system. The training program must include refresher training, as necessary.
- b. Safety communication. A transit agency must communicate safety and safety performance information throughout the agency's organization that, at a minimum, conveys information on hazards and safety risks relevant to employees' roles and responsibilities and informs employees of safety actions taken in response to reports submitted through an employee safety reporting program.

Subpart D – Safety Plan Documentation and Recordkeeping

673.31 Safety plan documentation

At all times, a transit agency must maintain documents that set forth its Public Transportation Agency Safety Plan, including those related to the implementation of its Safety Management System (SMS), and results from SMS processes and activities. A transit agency must maintain documents that are included in whole, or by reference, that describe the programs, policies, and procedures that the agency uses to carry out its Public Transportation Agency Safety Plan. These documents must be made available upon request by the Federal Transit Administration or other Federal entity, or a State Safety Oversight Agency having jurisdiction. A transit agency must maintain these documents for a minimum of three years after they are created.

Appendix B. Acronyms

Acronym	Definition
AE	Accountable Executive
ASP	Agency Safety Plan
CDL	Commercial Driver's License
CFR	Code of Federal Regulations
CSO	Chief Safety Officer
EDR	Electronic Data Recorder
ESRP	Employee Safety Reporting Program
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
MPO	Metropolitan Planning Organizations
MTBE	Mean Time Between Events
NSP	National Public Transportation Safety Plan
OBE	Office of Bus Engineering
OSQ	Office of Safety and Quality
PTASP	Public Transportation Agency Safety Plan
PV	Private Vehicle
RTC	Regional Transportation Center
SA	Safety Assurance
SMP	Safety Management Policy
SMS	Safety Management System
SOP	Standard Operating Procedure
SP	Safety Promotion
SPI	Safety Performance Indicator
SPT	Safety Performance Target
SRM	Safety Risk Management
STIP	Statewide Transportation Improvement Program
TAM	Transit Asset Management
TSO	Office of Transit Safety and Oversight
TSSP	Transit Safety and Security Program
USCG	United States Coast Guard
VRM	Vehicle Revenue Miles

Appendix C. List of Resource Documents

- [PTASP Checklist for Bus Transit](#)
- [PTASP Template for Bus Transit](#)
- [PTASP Template for Bus Transit Reference Tool](#)
- [Developing the Safety Management Policy Statement](#)
- [Potential Sources of Hazard Information for Bus Transit Operations](#)
- [Sample Hazard Classification System](#)
- [Sample Safety Risk Assessment Matrices for Bus Transit Agencies](#)
- [Sample List of Documented Safety Risk Management and Safety Assurance Process Elements](#)