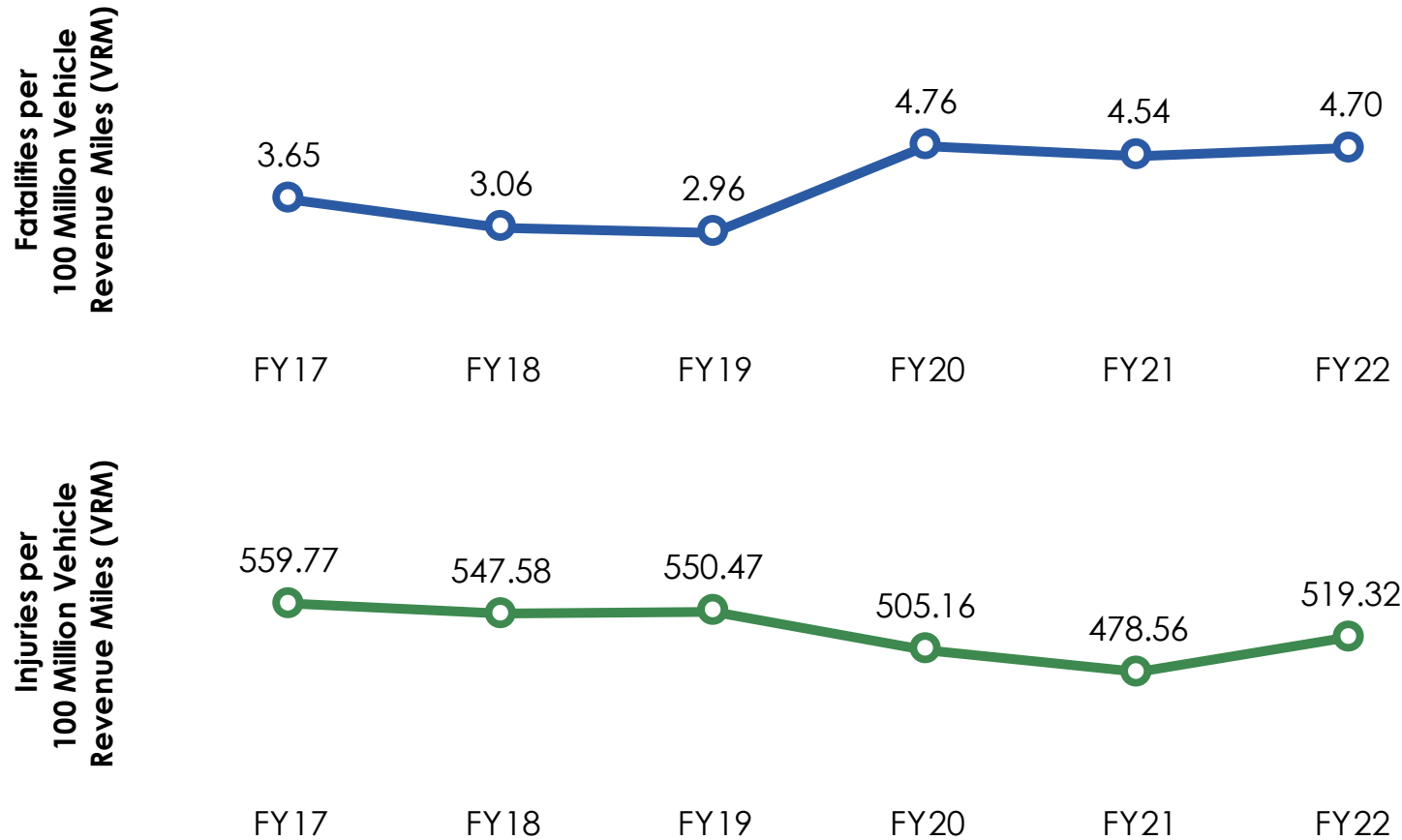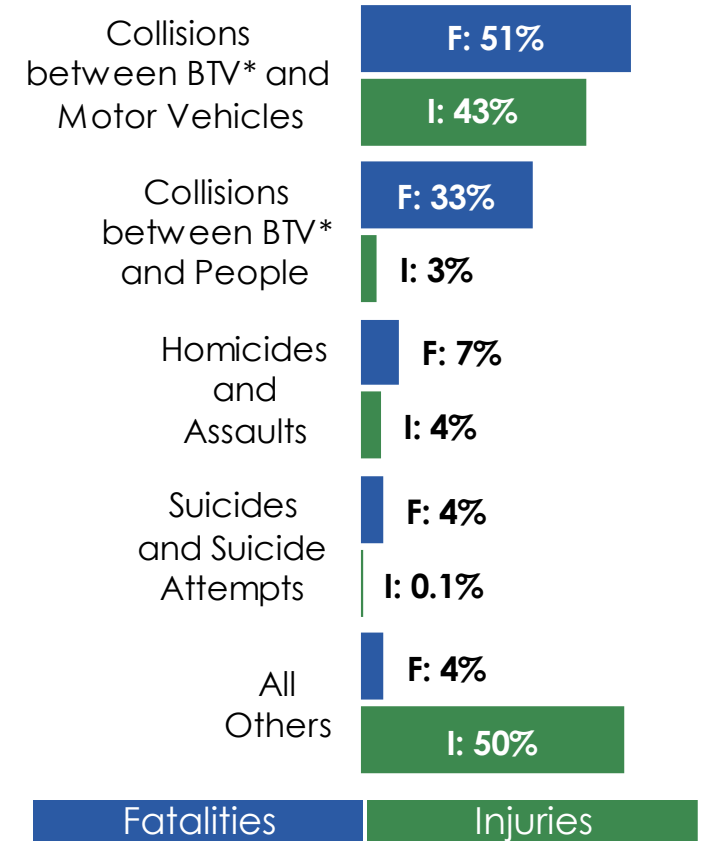# Presentation Overview

- State of Bus Transit Safety & Bus-to-Person Collisions
- Protecting Transit Workers from Assaults
  - Responses to FTA's Special Directive - Required Actions Regarding Transit Worker Assault
- Expanded Assault Reporting - [NTD Safety and Security Reporting Changes and Clarifications](#)
- Bus Operator Compartment Redesign
- Cybersecurity
- Fall 2022 Unified Regulatory Agenda
- Safety Committees & Role in Safety Management Systems

# State of Bus Transit Safety

**Fatalities per 100 Million Vehicle Revenue Miles (VRM)**

| FY17 | FY18 | FY19 | FY20 | FY21 | FY22 |
|------|------|------|------|------|------|
| 3.65 | 3.06 | 2.96 | 4.76 | 4.54 | 4.70 |

**Injuries per 100 Million Vehicle Revenue Miles (VRM)**

| FY17 | FY18 | FY19 | FY20 | FY21 | FY22 |
|--------|--------|--------|--------|--------|--------|
| 559.77 | 547.58 | 550.47 | 505.16 | 478.56 | 519.32 |

## Sources of Bus Fatalities

| | Fatalities | Injuries |
|---|---|---|
| Collisions between BTV* and Motor Vehicles | F: 51% | I: 43% |
| Collisions between BTV* and People | F: 33% | I: 3% |
| Homicides and Assaults | F: 7% | I: 4% |
| Suicides and Suicide Attempts | F: 4% | I: 0.1% |
| All Others | F: 4% | I: 50% |

**Source**: National Transit Database (NTD)
*FY 2022 data are preliminary.*

**Data as of**: May 2, 2023
*\*Bus Transit Vehicles*

# Bus-to-Person Collisions Overview

## Description

- Bus-to-Person Collisions focuses on safety events involving bus collisions with people at stations, bus stops, intersections, and publicly accessible roadways
- This analysis defines "person" as pedestrians, bicyclists, and people utilizing micromobility
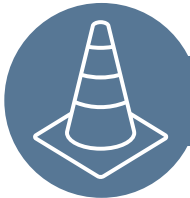
## Challenges

- Bus design features can obscure the field of view
- Streetscape features can obscure the view of operators
- Operators must have situational awareness of both exterior and interior surroundings

## Applicable Legal Framework

- The Bipartisan Infrastructure Law amended Section 5329 of title 49, United States Code by adding that public transportation agencies take into consideration "innovations in driver assistance technologies and driver protection infrastructure, where appropriate, and a reduction in visibility impairments that contribute to pedestrian fatalities"

# Bus-to-Person Collisions NTD Data

## Bus-to-Person Collisions Data
### 2008 – 2021

**7,298**
**Bus-to-Person Collisions**

**7,329**
**Injuries**

Accounts for:
- 2% of all transit injuries
- 3% of bus transit injuries

**537**
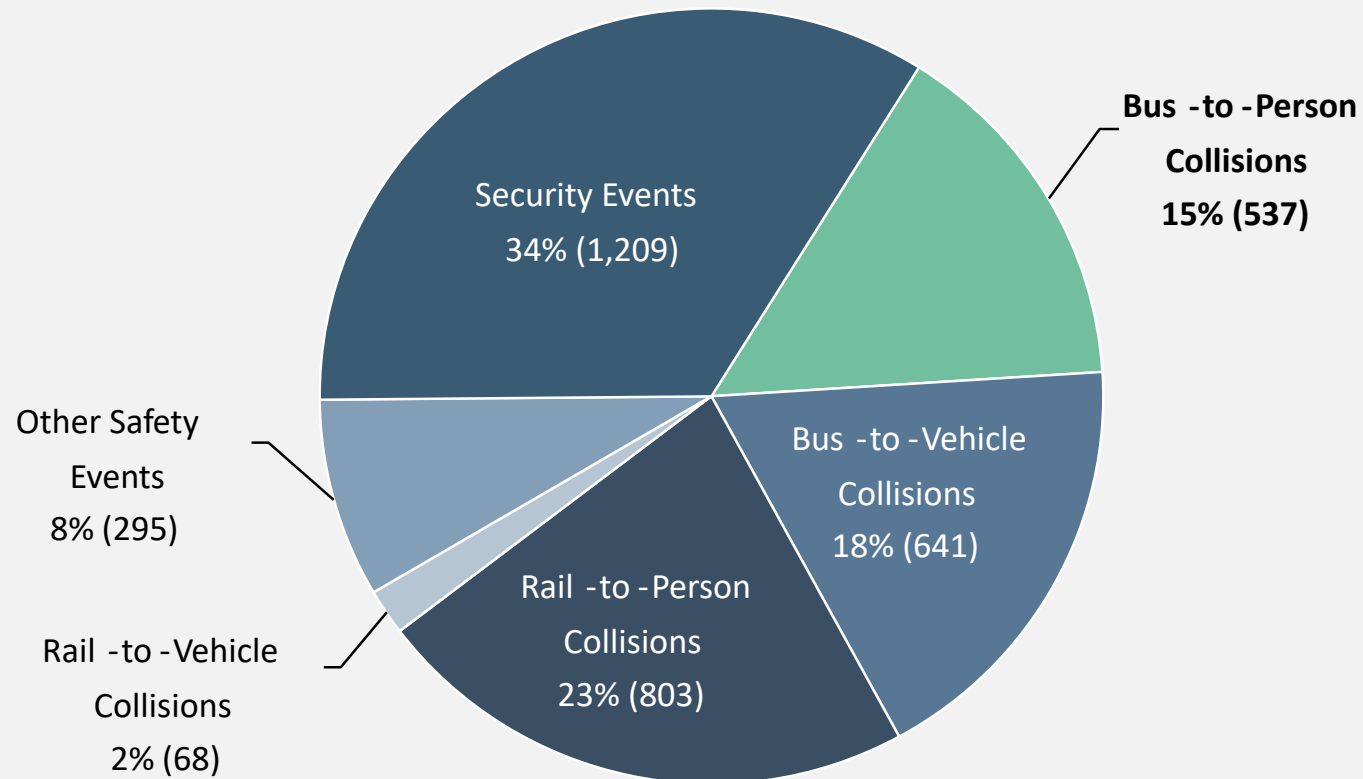**Fatalities**

Accounts for:
- 15% of all transit fatalities
- 37% of all bus transit fatalities

Source: National Transit Database (NTD), 2008-2021
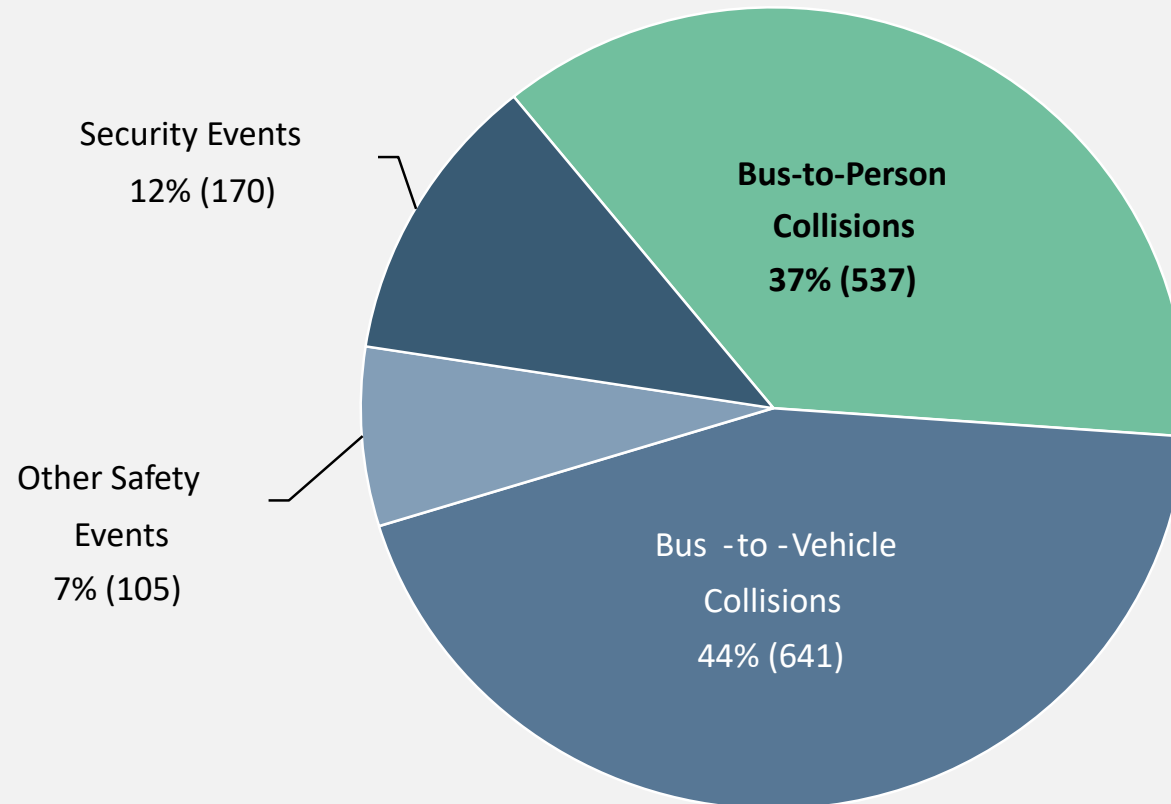
# Transit Fatality Data

**Transit Fatalities Data, 2008 – 2021**



- Security Events 34% (1,209)
- Bus-to-Person Collisions 15% (537)
- Bus-to-Vehicle Collisions 18% (641)
- Rail-to-Person Collisions 23% (803)
- Rail-to-Vehicle Collisions 2% (68)
- Other Safety Events 8% (295)

Source: National Transit Database (NTD), 2008-2021

# Bus Transit Fatality NTD Data

## Bus Transit Fatalities Data, 2008 – 2021



Security Events
12% (170)

Other Safety
Events
7% (105)

Bus-to-Person
Collisions
37% (537)

Bus -to -Vehicle
Collisions
44% (641)

Source: National Transit Database (NTD), 2008-2021

# Bus-to-Person Collisions by Location

**Bus-to-Person Collisions by Location**
2017 – 2021

Roadway Intersections — 948 (42%)

Mid-Block of Roadway — 868 (38%)
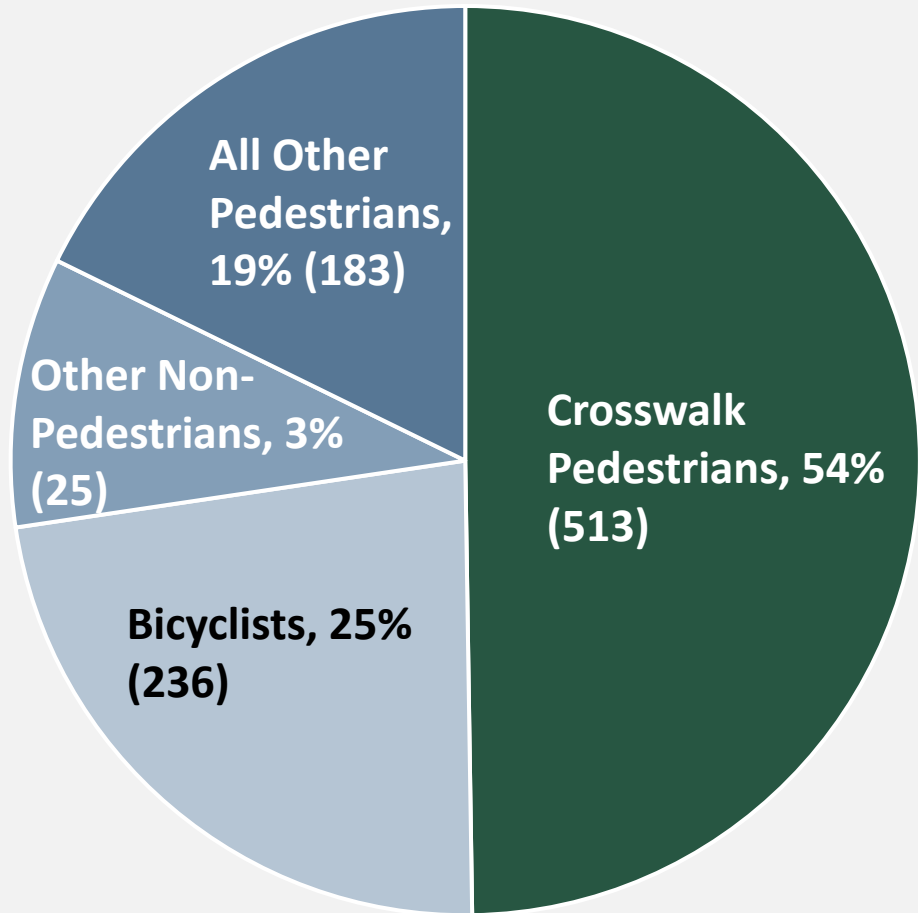
Bus Stops — 342 (15%)

All Other Locations — 99 (4%)
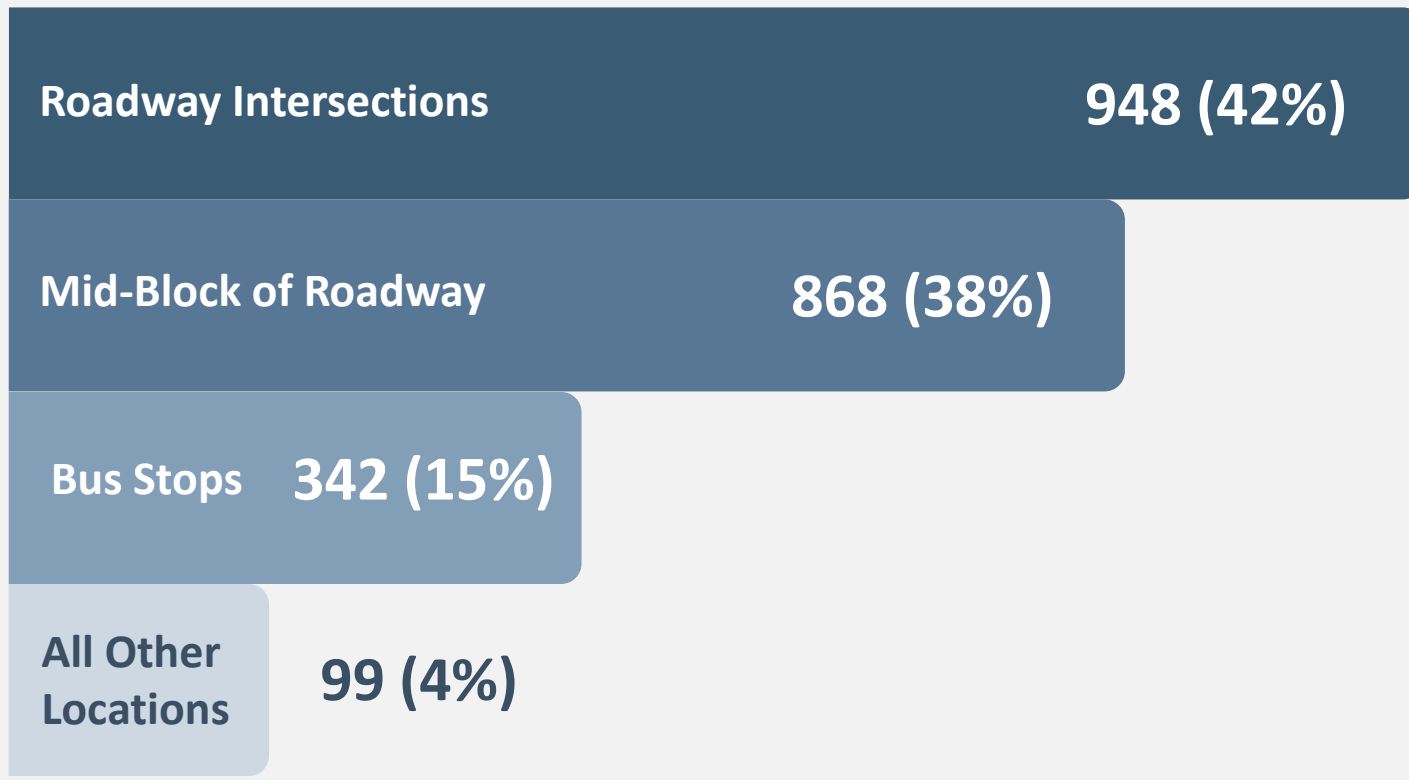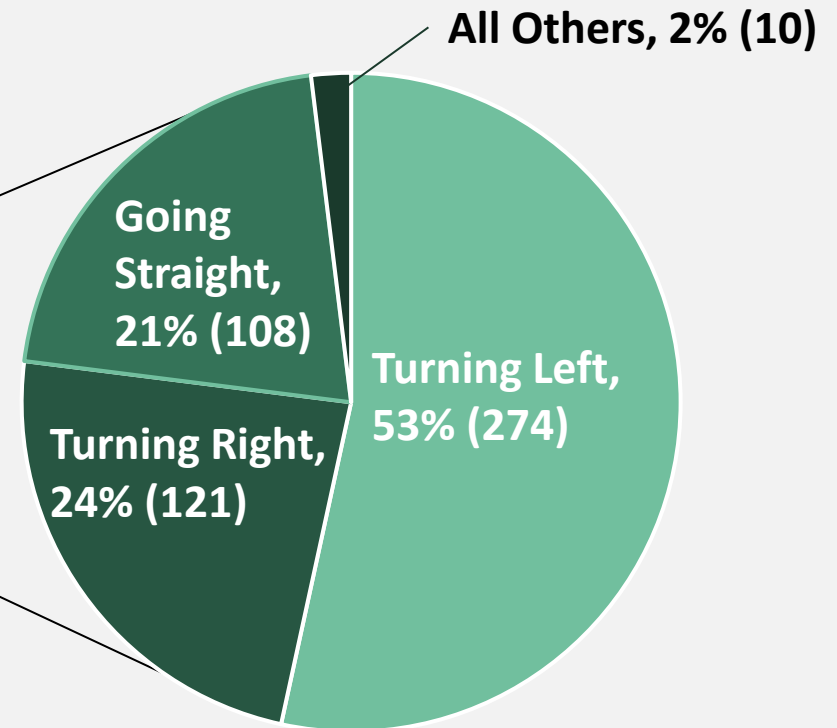
Source: NTD, 2017-2021 (new location field added in 2017)

# Roadway Intersection Collisions

Intersection Bus-to-Person Collision Fatalities and Injuries (948) by Pedestrian Type

Crosswalk Pedestrian Fatalities and Injuries from Intersection Collisions

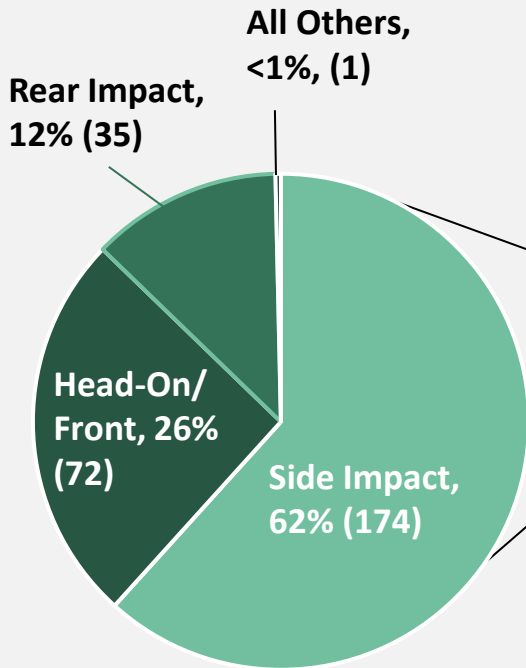All Other Pedestrians, 19% (183)

Other Non-Pedestrians, 3% (25)

Crosswalk Pedestrians, 54% (513)

Bicyclists, 25% (236)

All Others, 2% (10)

Going Straight, 21% (108)

Turning Right, 24% (121)

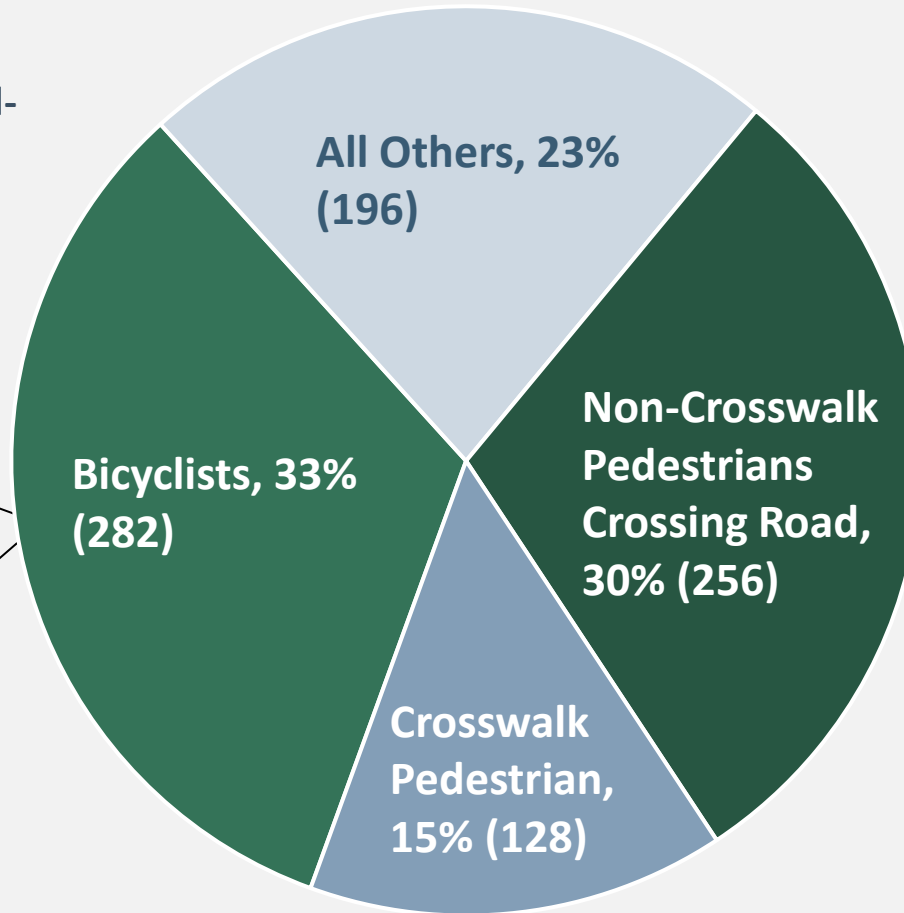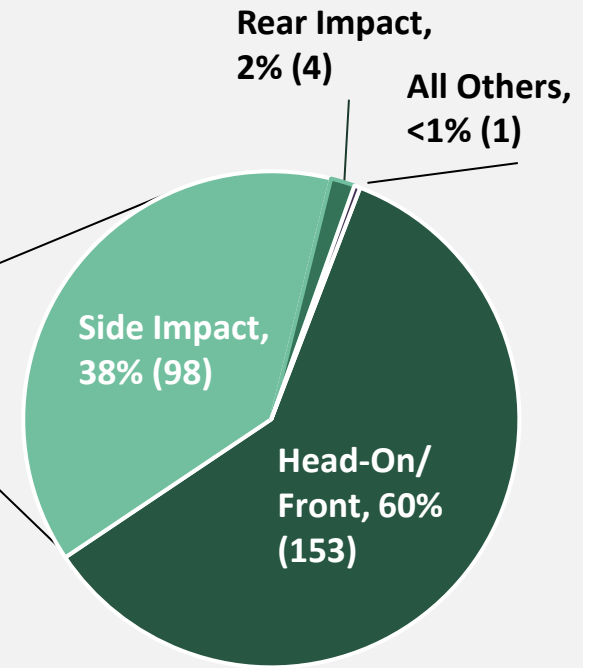Turning Left, 53% (274)

Source: NTD, 2017-2021

# Mid-Block of Roadway Collisions

## Mid-Block Bus-to-Person Collision Fatalities and Injuries (868)

**Bicyclist Fatalities and Injuries from Mid-Block Collisions with Buses**

- All Others, <1%, (1)
- Rear Impact, 12% (35)
- Head-On/Front, 26% (72)
- Side Impact, 62% (174)

**Mid-Block Bus-to-Person Collision Fatalities and Injuries (868)**

- All Others, 23% (196)
- Bicyclists, 33% (282)
- Non-Crosswalk Pedestrians Crossing Road, 30% (256)
- Crosswalk Pedestrian, 15% (128)

**Non-Crosswalk Pedestrian Fatalities and Injuries from Mid-Block Collisions**

- Rear Impact, 2% (4)
- All Others, <1% (1)
- Side Impact, 38% (98)
- Head-On/Front, 60% (153)

Source: NTD, 2017-2021

# Safety Advisory 23-1 Overview

- **Distribution:** Published in the Federal Register

- **Effective Date**: September 19, 2023

- **Audience**: Agencies that provide bus service

- **Overview**: Recommends transit agencies that provide bus service…

  - Consider mitigation strategies to reduce bus-to-person collisions

  - **Identify specific hazards** that may cause or contribute to bus-to-person collisions, **assess the associated safety risk**, and **implement appropriate mitigations** to reduce the likelihood and severity of those collisions
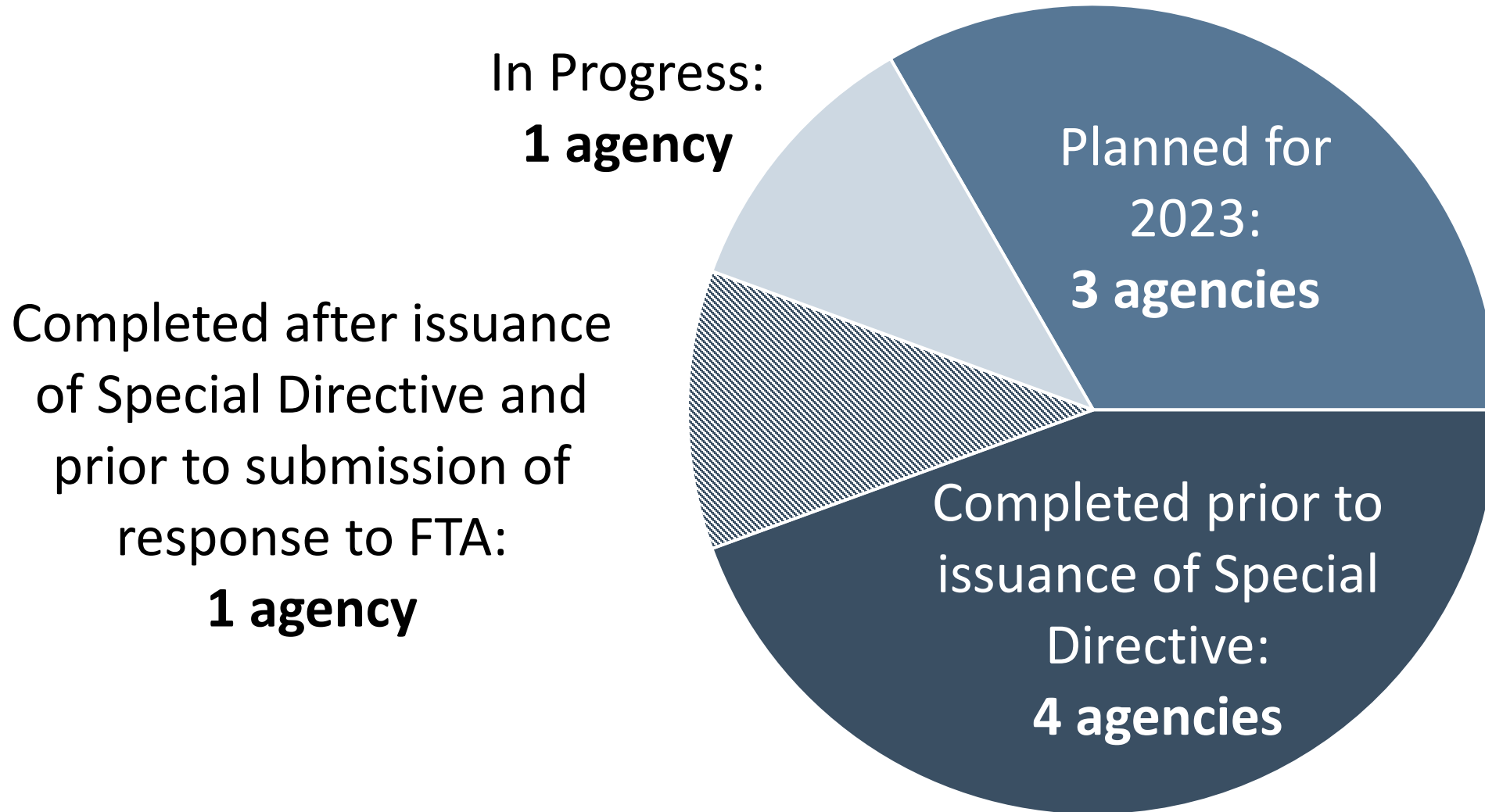
# Special Directives: Required Actions Regarding Transit Worker Assault

Special Directives issued on October 4, 2022 to nine transit agencies who reported 79% of assaults on transit workers to the NTD between 2016-2021.

| General | Agency contact information and Agency Safety Plan (ASP) |
|---|---|
| **Safety Risk Assessment** | Has agency performed safety risk assessment related to transit worker assault? |
| **Safety Risk Mitigations** | Has agency implemented safety risk mitigations to address transit worker assault risk, such as operator area protective barriers? If yes, status and available data on effectiveness? |

# Safety Risk Assessment

In Progress:
**1 agency**

Completed after issuance of Special Directive and prior to submission of response to FTA:
**1 agency**

Planned for 2023:
**3 agencies**

Completed prior to issuance of Special Directive:
**4 agencies**

# Safety Risk Mitigations

| Safety Risk Mitigation | # Agencies | Complete | In Progress |
|---|---|---|---|
| Operator Area Protective Barriers | 9 | 5 | 4 |
| De-Escalation Training Program | 8 | 6 | 2 |
| Video and Audio Surveillance | 8 | 7 | 1 |
| Policing Strategies | 7 | 7 | - |
| Operating Procedures and Training | 6 | 6 | - |
| Emergency/Silent Alarms | 6 | 6 | - |
| Automatic Vehicle Location | 4 | 4 | - |
| Communication Devices and Protocols | 4 | 4 | - |
| Public Awareness Campaigns | 3 | 3 | - |
| Surveillance/Penalty Signage | 3 | 2 | 1 |

# Safety Risk Mitigation Monitoring

Eight agencies provided information on monitoring mitigation effectiveness.

One agency described key performance indicators relating to transit worker assault.

Seven agencies described monitoring the effectiveness of all mitigations layered together rather than each individual mitigation.

Six agencies described using post-event analysis and reviews to monitor mitigation effectiveness.

One agency described using feedback on training as a mechanism to support mitigation effectiveness.

# Expanded Assault Reporting

**Federal Register Notice:** [NTD Safety and Security Reporting Changes and Clarifications](#) published February 2023

| Before NTD Updates | After NTD Updates |
|---|---|
| • FTA collected only transit worker assault data that qualified as **major events** from full reporters to NTD<br><br>• **Major events** involve one or more fatalities or injuries requiring medical transport | • FTA will collect all transit worker assaults data for **major and non-major** events<br><br>• Non-major transit worker assaults will be collected in a summarized format |

**When do changes take effect?**

| Full Reporters | Small Reporters |
|---|---|
| CY 2023 | NTD report year 2023 |

# Bus Operator Compartment (BCP) Program

- In October 2020, FTA awarded $1.6M in competitive grant funds to:
  - International Transportation Learning Center (ITLC) to redesign a transit bus compartment to improve safety for operators. FTA award was $1M.
  - New Orleans Regional Transit Authority (NORTA) to study the addition of shields and barriers on its bus fleet to protect bus operators. FTA award was $.6M.
- FTA held a public listening session in June.
- FTA is issuing a second NOFO, which will focus on offering state of the art safety, convenience, and comfort.

# Cybersecurity Review Area for FTA's Triennial Review

- In Fiscal Year (FY) 2022, FTA added the Cybersecurity Section as a review area to the Triennial Review Contractors Manual.

- Review is to ensure that recipients certified in the Transit Award Management System (TrAMS) develop, maintain and execute a written plan for identifying and reducing Cybersecurity risks.
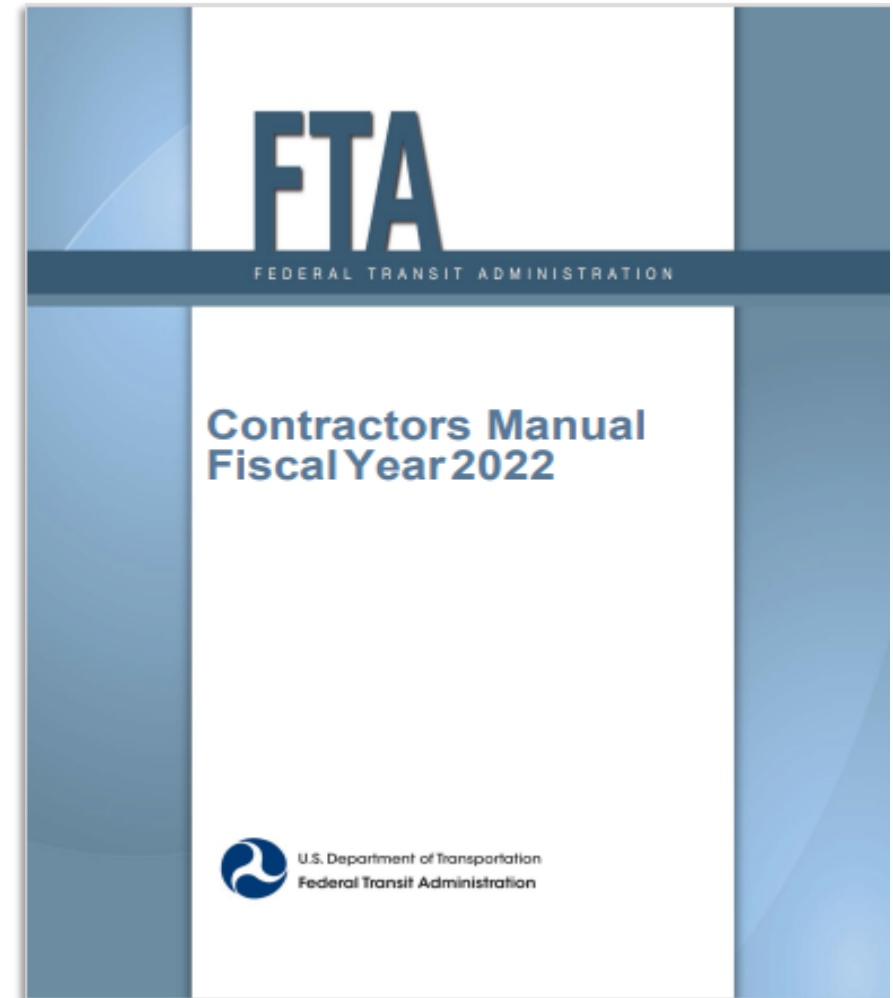
# Eligible Cybersecurity Expenses

While cybersecurity costs are not directly addressed in FTA's authorizing legislation, they are allowable under various FTA programs in areas such as:

- **Operating Assistance**
- **Crime Prevention and Security Projects**
- **State of Good Repair**

Any costs associated with an award, including cybersecurity costs must be:

- Allowable, Reasonable, and Allocable

Applicability of the Cost Principles

- Uniform Guidance under 2 CFR part 200 Subpart E Cost Principles General Provisions
- Subawards that are contracts are subject to the FAR – Federal Acquisition Regulations Part 31 – Contract Cost Principles and Procedures

# Cybersecurity Assessment Tool for Transit (CATT)



Cybersecurity Assessment Tool for Transit (CATT): Self Assessment Package

June 2022

Photo by Sawyer Bengtson on Unsplash

FTA published an open-source PDF based CATT tool on February 10, 2023, [Tool](#)

- o Assists small and mid-sized transit agencies in self-assessing their cybersecurity preparedness

**CATT has three primary components**

- o Data collection form

- o Resulting report produced given data input from transit agency

- o Resource guide on how to begin practices

# FTA's Cybersecurity Resources

https://bit.ly/3AQQWqe
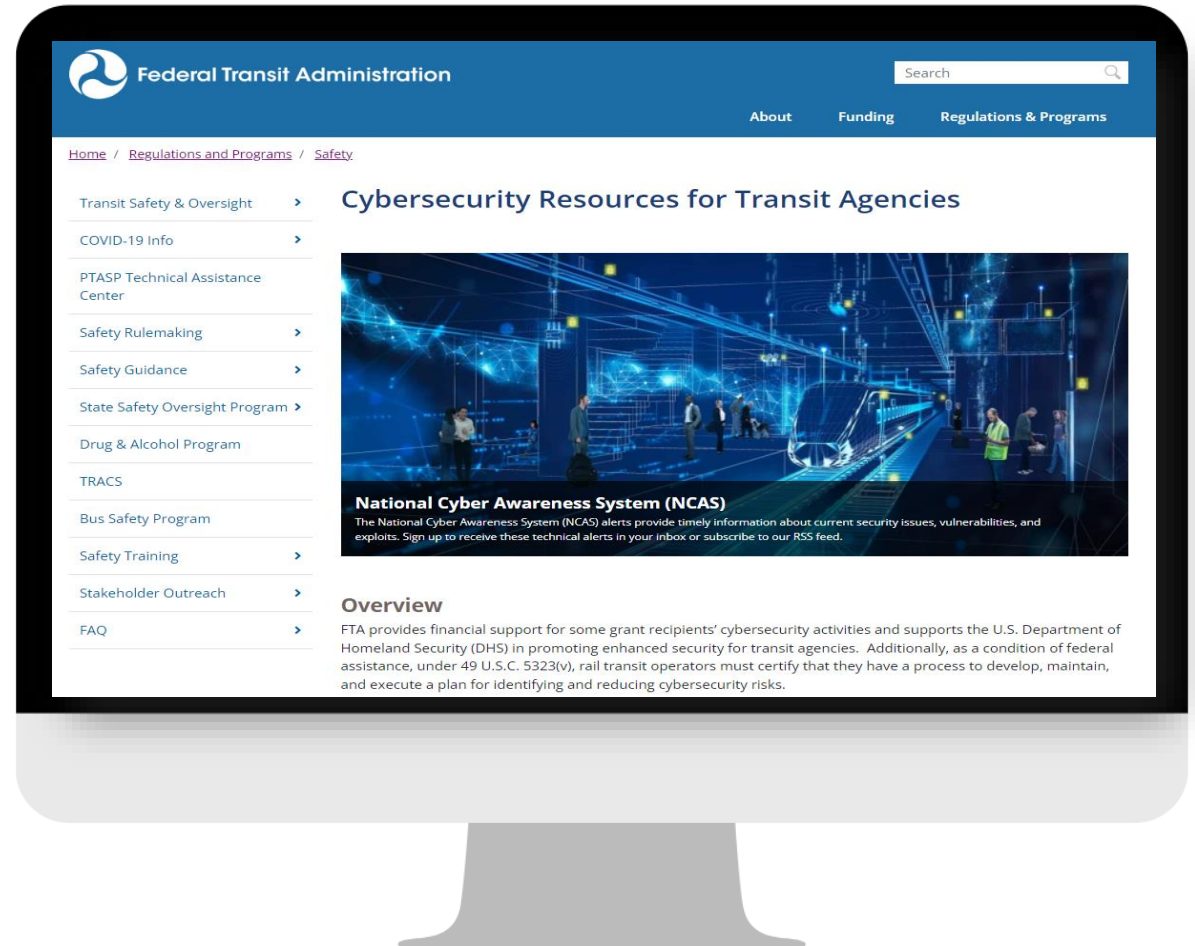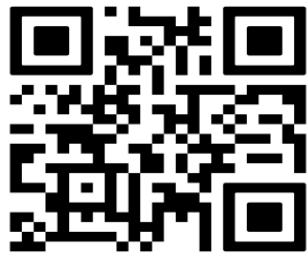
# Fall 2022 Unified Regulatory Agenda

**Publication Date: January 4, 2023**

| | |
|---|---|
| **Public Transportation Agency Safety Plans (PTASP)** | • Incorporates new requirements established through the Bipartisan Infrastructure Law |
| **State Safety Oversight (SSO)** | • Introduces changes to clarify State Safety Oversight Agencies' (SSOA) oversight responsibilities and authority to conduct inspections |
| **Rail Transit Roadway Worker Protection (RWP)** | • Establishes minimum baseline standards and risk-based redundant protection requirements |
| **Transit Worker Fitness for Duty** | • Asks questions about establishing minimum standards related to transit worker fitness for duty |
| **Public Transportation Safety Certification Training Program (PTSCTP)** | • Amends training curriculum to reflect new requirements and training course information |

## Proposed Changes to PTASP

### Large Urbanized Area Providers

- Safety Committee
- Safety risk reduction program
- Safety Performance Targets for safety risk reduction program
- Safety training for maintenance employees

### Small Urbanized Area Providers

- Cooperation with frontline transit worker representatives on Agency Safety Plan development

### Rail Transit Agencies

- Clarification of PTASP applicability
- Policies and procedures regarding State Safety Oversight Agency risk-based inspection
- Any policies and procedures for Roadway Worker Protection the agency has issued

### All Transit Agencies

- New and updated definitions
- Clarification regarding PTASP certification
- Transit worker assaults, near-misses, unsafe acts and conditions in an employee safety reporting program
- Infectious disease guidance from CDC or a State health authority
- Continuous Improvement Extended to Small Public Transportation Providers
- De-escalation training

# What BIL Says About Safety Committees

Agencies serving an urbanized area with a population of *fewer than 200,000 must:*

- Develop their ASP in cooperation with frontline employee representatives

Agencies receiving Section 5307 funding and serving an urbanized area with a population of *200,000 or more must:*

- Establish a Safety Committee compliant with 49 U.S.C. Section 5329(d)
  - Safety Committees must consist of an **equal** number of frontline employee representatives and management representatives
- Ensure their ASP is compliant with new PTASP requirements

# Safety Committees & Role in SMS

## Implement and Support an Agency's Safety Management System

| | | | | |
|---|---|---|---|---|
| Identify and recommend risk-based mitigations or strategies necessary to reduce the likelihood and severity of consequences identified through the agency's safety risk assessment | Identify mitigations or strategies that may be ineffective, inappropriate, or were not implemented as intended | Identify safety deficiencies for the purposes of continuous improvement | Establishing safety performance targets for the risk reduction program | Review and approve the Agency Safety Plan |

# Questions

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