

# Federal Transit Administration's Safety Risk Management Program and Current Initiatives

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# Purpose and Agenda

This presentation provides an overview of the Federal Transit Administration's (FTA) approach to reducing safety risk in the transit industry and an update on ongoing efforts to improve transit safety.

## Agenda

- Safety Risk Management (SRM) Program Overview
- Transit Customer Assault Data Insights and Research
- FTA Safety Risk Management: Transit Worker Assault Risk Assessment
- Safety Advisory 23-1: Bus to Person Collisions
- Q&A

## FTA Safety Risk Management Program Overview

Transit Customer Assault Data Insights and Research

FTA Safety Risk Management: Transit Worker Assault Risk Assessment

Safety Advisory 23-1: Bus-to-Person Collisions



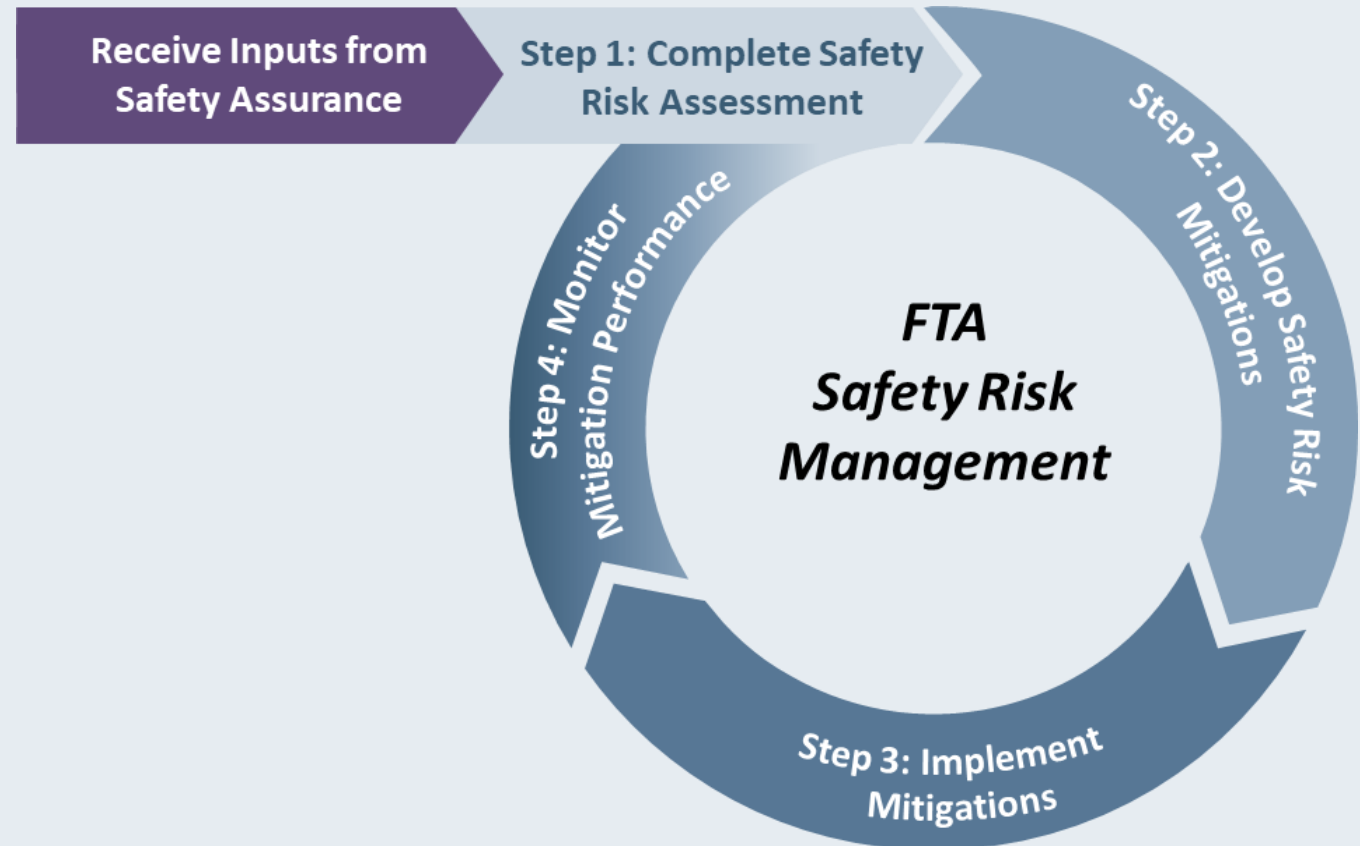
# SRM Program Overview

## Purpose

The SRM program is FTA's primary tool for identifying, analyzing, and mitigating safety risks



## Four-Step Process

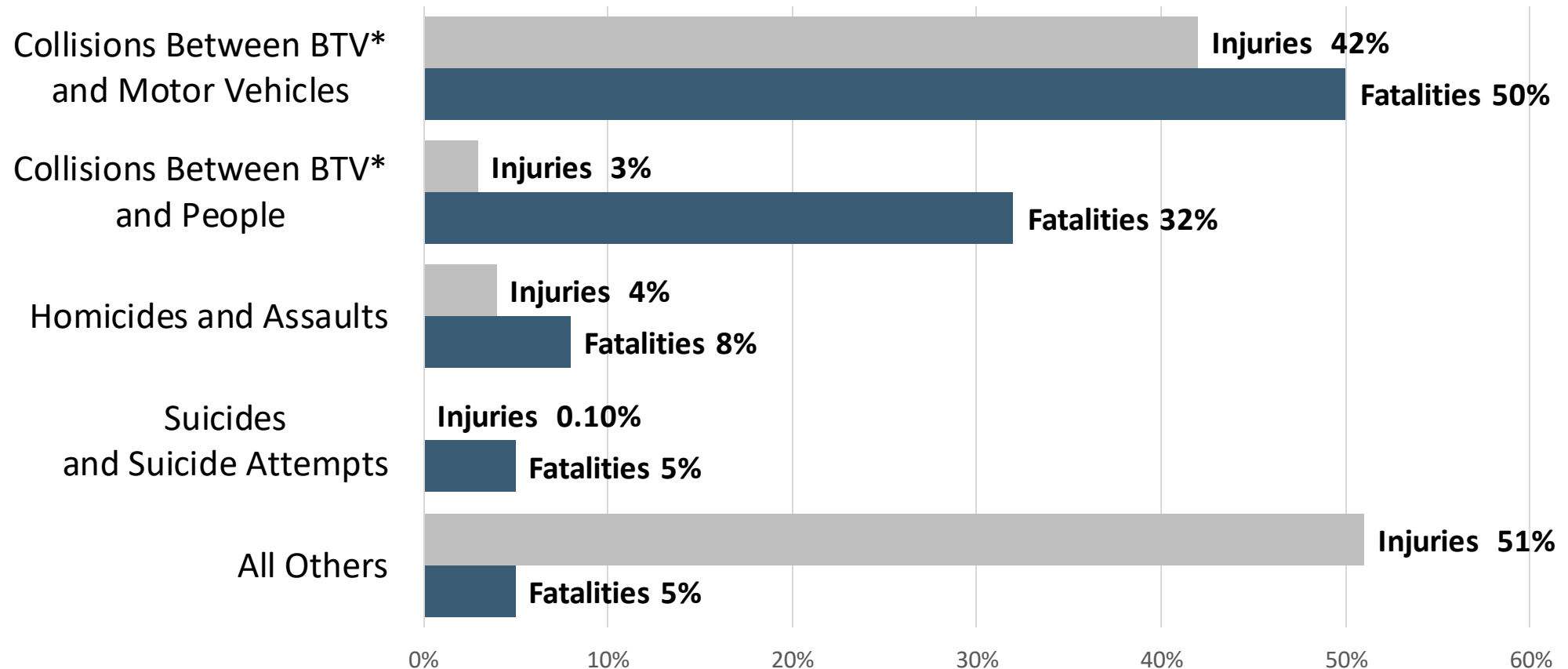


# Safety Risk Management Safety Topics

Safety Topic	Step 1: Safety Risk Identification and Assessment	Step 2: Develop Mitigations	Step 3: Implement Mitigations	Step 4: Monitor Mitigation Performance
Inward- and Outward-Facing Cameras	✓	✓	✓	In progress
Roadway Worker Protection	✓	✓	In progress	
Transit Worker Assault Prevention	✓	✓	In progress	
Signal System Safety	✓	✓	✓	In progress
End-of-Railcar Door Messaging	✓	✓	✓	In progress
Bus-to-Person Collisions	✓	✓	In progress	
Transit Customer Assault Prevention	In progress			
Train-to-Privately Owned Vehicle (POV) Collisions at Rail Grade Crossings (RGX)	In progress			
Fitness for Duty	✓	In progress		
Rail-to-Person Collisions	In progress			

# State of Bus Transit Safety (2 of 2)

## Sources of Bus Transit Injuries and Fatalities



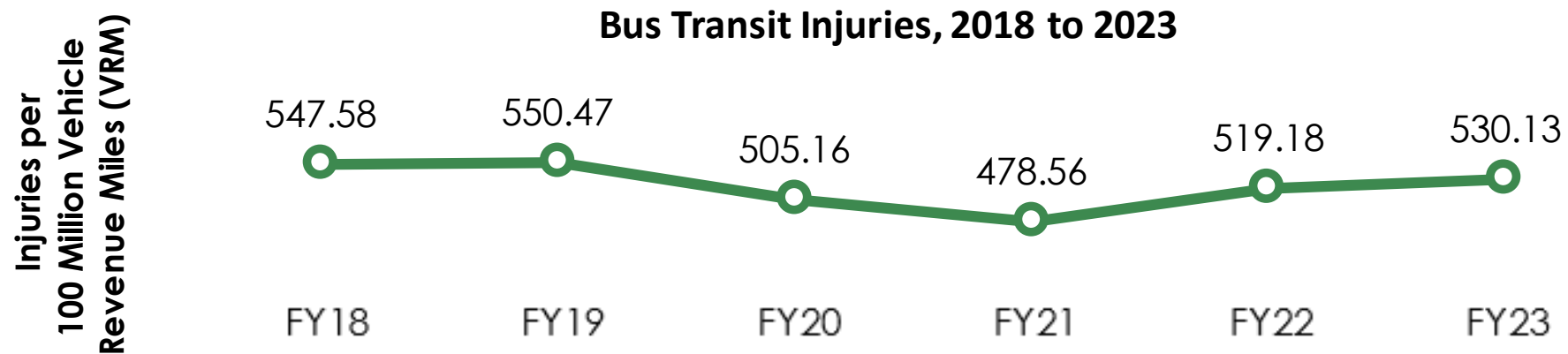
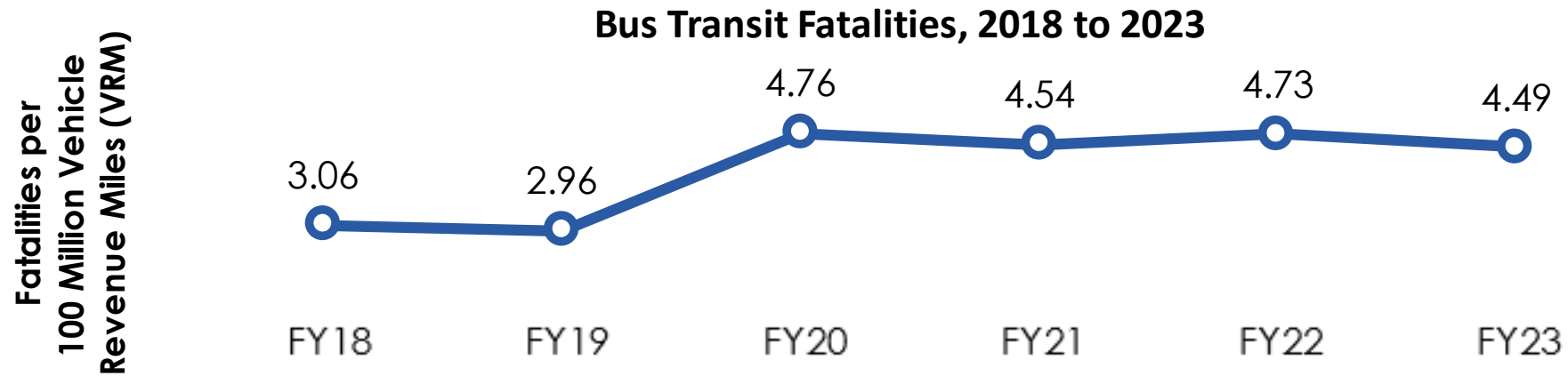
Source: National Transit Database (NTD), 2018 – 2023

FY 2022–2023 data are preliminary. FY 2023 includes Oct–Mar only

Data as of July 5, 2023

\*Bus Transit Vehicles

# State of Bus Transit Safety (1 of 2)



Source: National Transit Database (NTD)

FY 2022–2023 data are preliminary. FY 2023 includes Oct–Mar only

FTA Safety Risk Management Program Overview

**Transit Customer Assault Data Insights and Research**

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Safety Advisory 23-1: Bus-to-Person Collisions

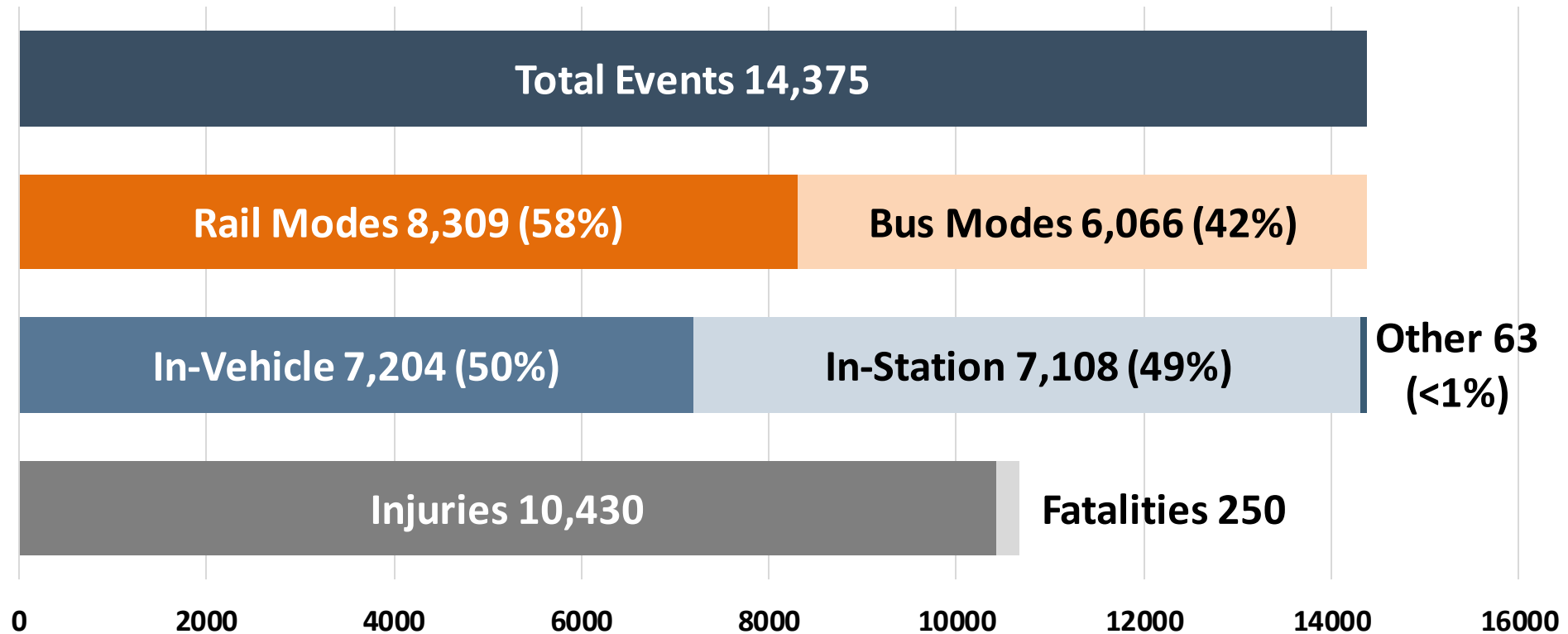




# Transit Customer Assaults Summary

Bus mode assaults account for 42% of reportable transit customer assaults

## Transit Customer Assault Events, 2008-2022\*

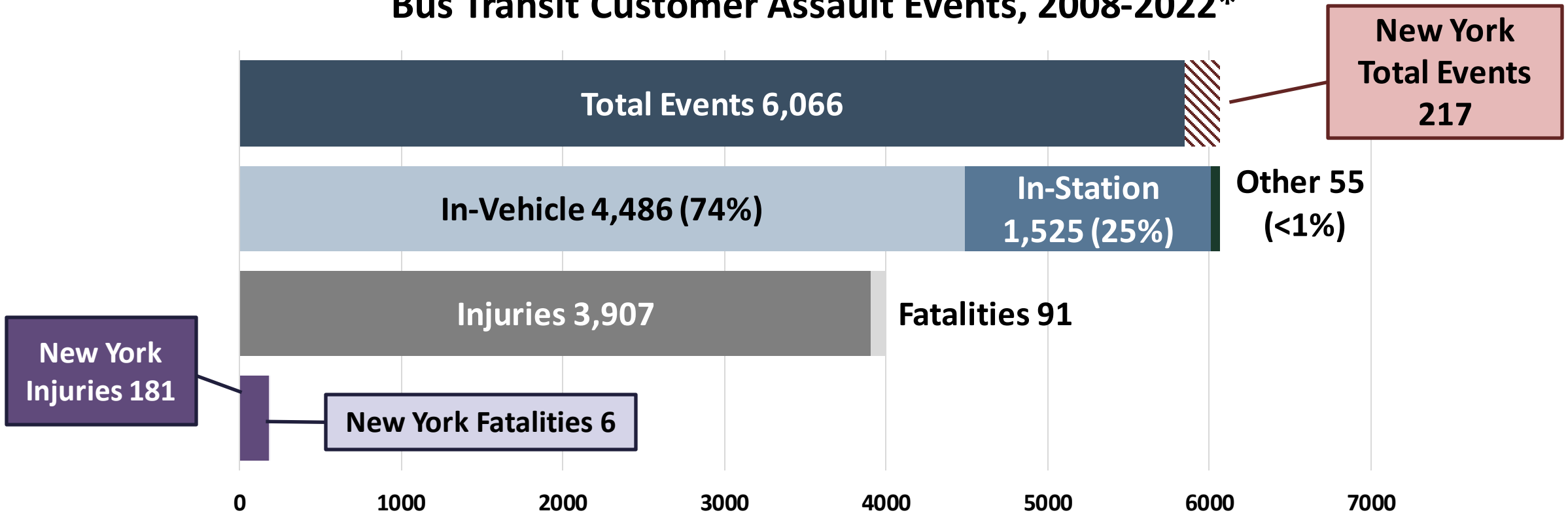


Source: National Transit Database (NTD)  
2008 -2022 | \*2022 data are preliminary

# Bus Transit Customer Assaults Summary

In-vehicle assaults account for 74% of reportable bus transit customer assaults

## Bus Transit Customer Assault Events, 2008-2022\*

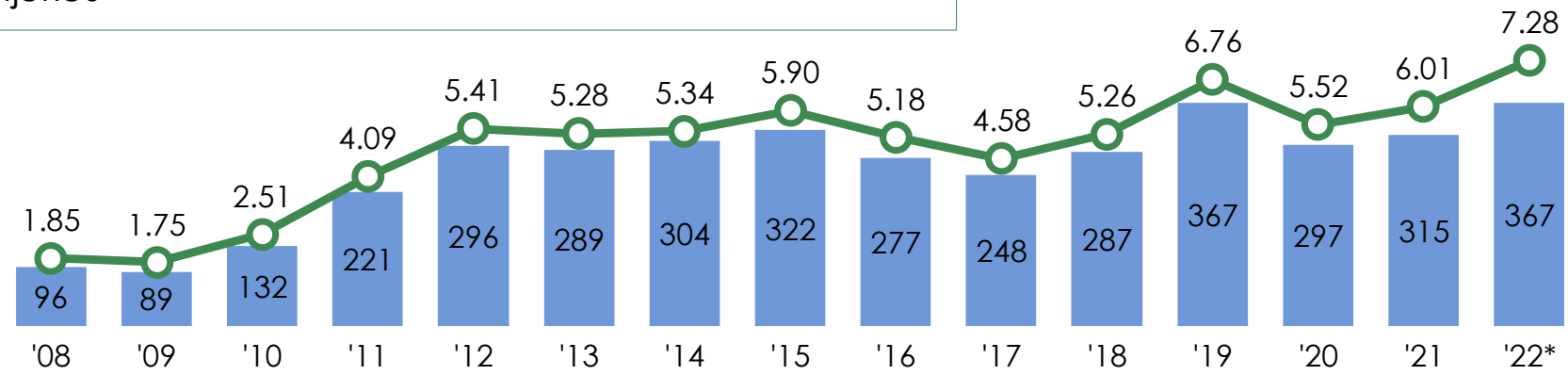


Source: National Transit Database (NTD)  
2008 -2022 | \*2022 data are preliminary

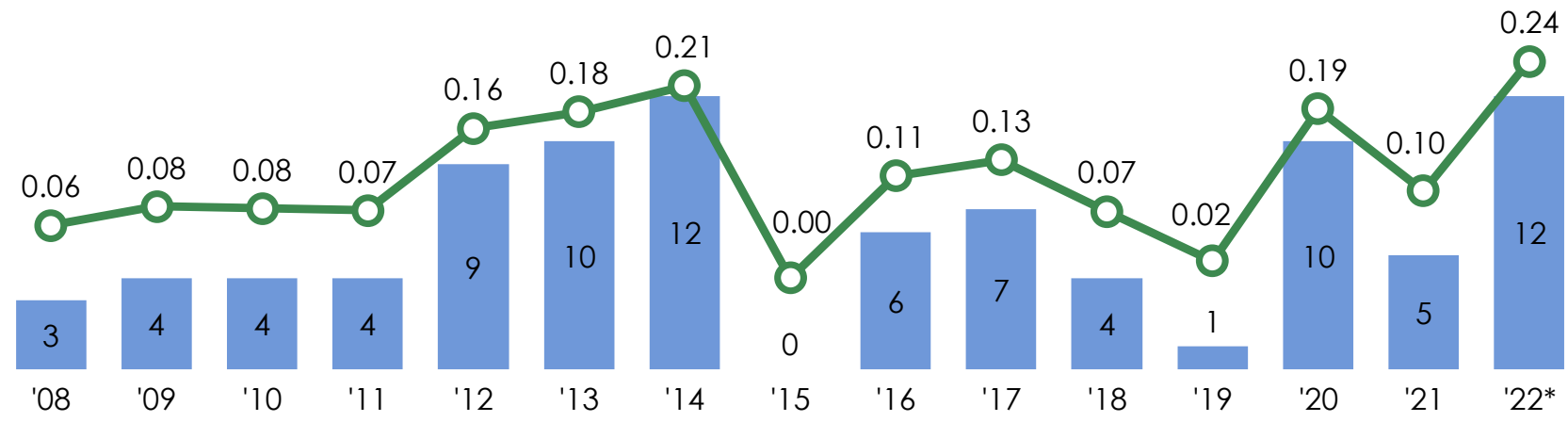
# Bus Customer Assault Trends, 2008–2022\*

○ Fatality and Injury Rate (per 100 Million Unlinked Passenger Trips)  
■ Fatalities and Injuries

## Assault Injuries



## Homicide Fatalities



Source: NTD, \*2022 data are preliminary

Data as of: May 2, 2023

# Volpe Customer Assault Data Insights

## Factors Contributing to Assault Events

### Ridership

Fare evasion

Escalation of minor conflicts and unprovoked assaults

Local laws and policies (e.g., decriminalization, lack of prosecution)

### Crowds

Mental health crises, substance abuse, homelessness

Differences in operator location (rail vs. bus)

COVID-19 pandemic related conflicts (e.g., disputes over mask policies)

## Mitigations Implemented by Agencies



Social Services and Outreach



Policing and Uniformed Presence



Surveillance Cameras



Crime Prevention Through Environmental Design (CPTED)



FTA Safety Risk Management Program Overview

Transit Customer Assault Data Insights and Research

**FTA Safety Risk Management: Transit Worker Assault Risk Assessment**

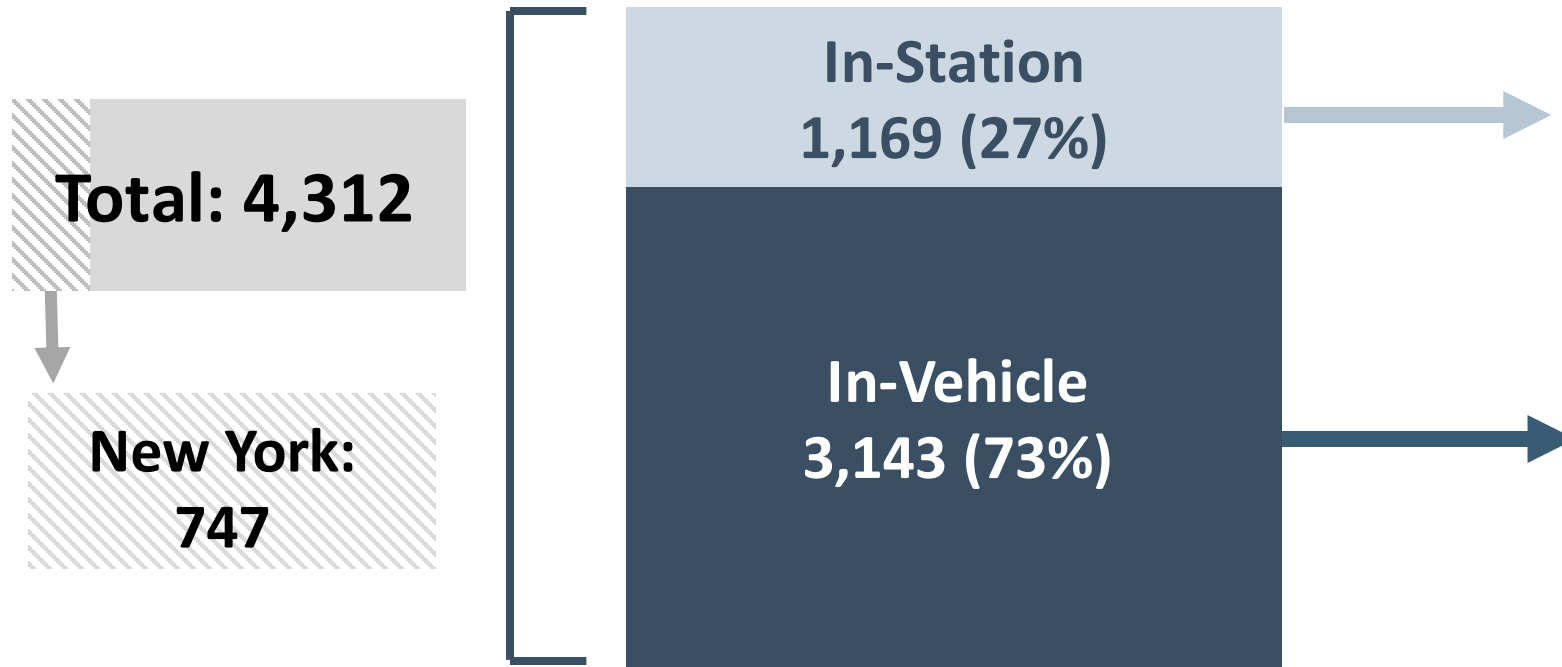
Safety Advisory 23-1: Bus-to-Person Collisions



# Transit Worker Assaults Summary

In-vehicle assaults account for 73% of reportable transit worker assaults

## Total Reportable Assaults by Location (2008-2020)



Source: NTD August 2021 Release

# Transit Worker Assaults In-Vehicle



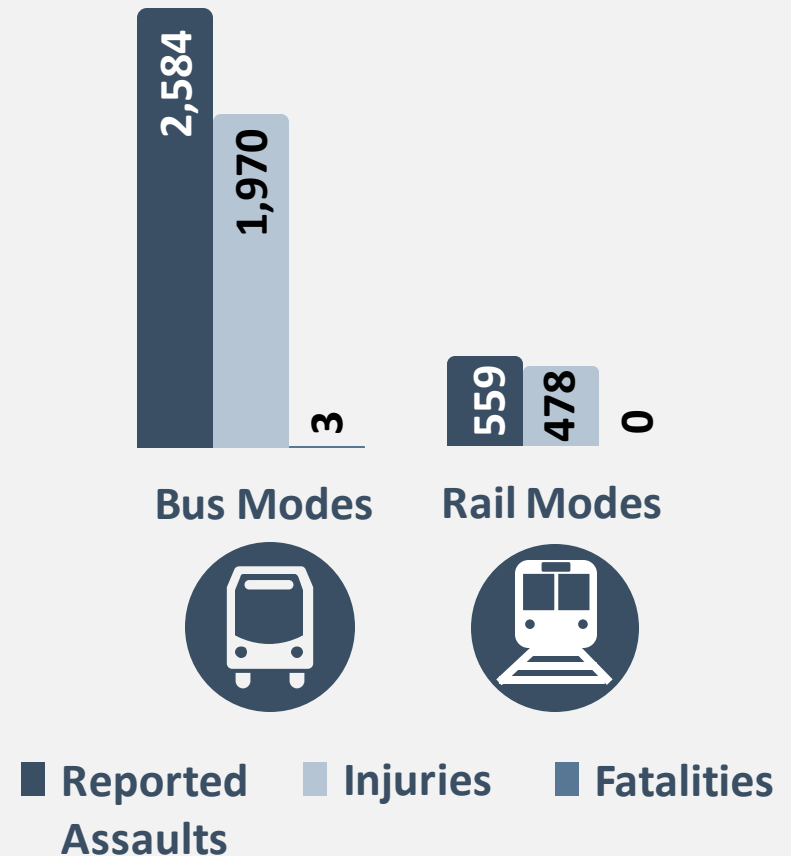
**73%** (3,143 of 4,312) of reported assaults occurred **in-vehicle**



**82%** (2,584 of 3,143) of in-vehicle assaults occurred on **bus modes**

Source: NTD, August 2021 release  
Data spans 2008 -2020

## In-Vehicle Assaults by Mode (2008-2020)



# Transit Worker Assaults In-Station



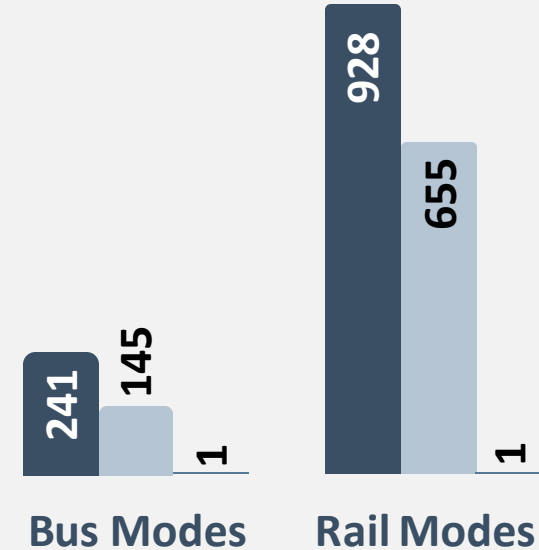
**27%** (1,169 of 4,312) of reported assaults occurred **in-station or other revenue facility**



**79%** (928 of 1,169) of reported station worker assaults occurred **in rail mode stations or revenue facilities**

Source: NTD, August 2021 release  
Data spans 2008 -2020

## In-Station Assaults by Mode (2008-2020)



■ Reported Assaults   ■ Injuries   ■ Fatalities



# FTA Safety Risk Management Overall Risk Rating

Given the overall risk rating, FTA will implement risk mitigations at the national level

<b>Likelihood</b>	5	Very High			<b>5C</b>		
	4	High					
	3	Moderate					
	2	Low					
	1	Very Low					
			<i>Negligible</i>	<i>Could cause minor first aid treatment</i>	<i>May cause minor injury, or minor property damage</i>	<i>May cause severe injury or major property damage</i>	<i>May cause death or permanent injury or destruction of property</i>
			<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>
<b>Severity</b>							

# Transit Worker Safety Actions to Date

2019

- FTA publishes [Public Transportation Agency Safety Plans \(PTASP\) 49 CFR 673](#) Regulation
- [PTASP](#) Final Rule Becomes Effective

2020

- FTA publishes Federal Register Notice: [Protecting Public Transportation Operators From Risk of Assault](#)
- FTA launches [Bus Operator Compartment Redesign Program](#)
- FTA launches [Enhanced Transit Safety and Crime Prevention Initiative](#)

2021

- National Transit Institute begins offering [Assault Awareness and Prevention for Transit](#) training course sponsored by FTA
- FTA issues Special Directives: [Required Actions Regarding Transit Worker Assault](#)

2022

- FTA launches [Transit Worker and Rider Safety Best Practices Research Project](#)
- FTA [expands NTD reporting](#), as required by the Bipartisan Infrastructure Law, related to assaults on transit workers and fatalities that result from an impact with a bus

2023

- FTA publishes proposed new [PTASP](#) requirements for public comment
- FTA publishes proposed updates to the [National Public Transportation Safety Plan \(NSP\)](#), FTA's primary guidance document to improve transit safety performance



FTA Safety Risk Management Program Overview

Transit Customer Assault Data Insights and Research

FTA Safety Risk Management: Transit Worker Assault Risk Assessment

**Safety Advisory 23-1: Bus-to-Person Collisions**



# Safety Advisory 23-1: Bus-to-Person Collisions

- **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

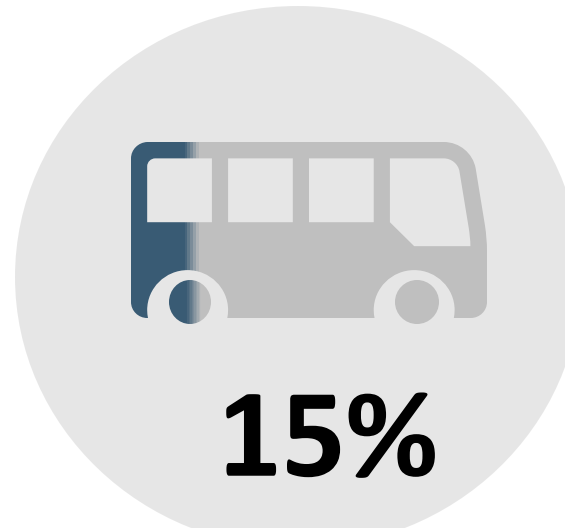


# Purpose of Safety Advisory 23-1: The Data



From 2008 to 2021, transit agencies reported **7,298 bus-to-person collisions** to the National Transit Database, which resulted in **537 fatalities** and **7,329 injuries**

Bus-to-Person collisions accounted for:



Of All Transit Fatalities



Of Bus-Transit Fatalities



New York reported **1,871 bus-to-person collisions**, which resulted in **73 fatalities** and **2,013 injuries**

# Bus-to-Person Collisions Definition

Safety Advisory 23-1 defines bus-to-person collisions as collisions between buses and:



**Pedestrians**



**Bicyclists**



**People using micromobility devices**



# Injuries and Fatalities by Location

## Injuries and Fatalities

Location of Bus-to-Person Collision injuries and fatalities from 2017 to 2021:

**Roadway Intersections**

**42%**

**Mid-Block of Roadway**

**38%**

**Bus Stops**

**15%**

**All Other Locations**

**5%**

Source: National Transit Database, 2017–2021



# Roadway Intersection Collisions

Between 2017 and 2021, **42%** (948) of bus-to-person collisions occurred at **roadway intersections**, resulting in **957 injuries and fatalities**

Let's have a closer look...





# Roadway Intersection Injuries and Fatalities

Injuries and Fatalities

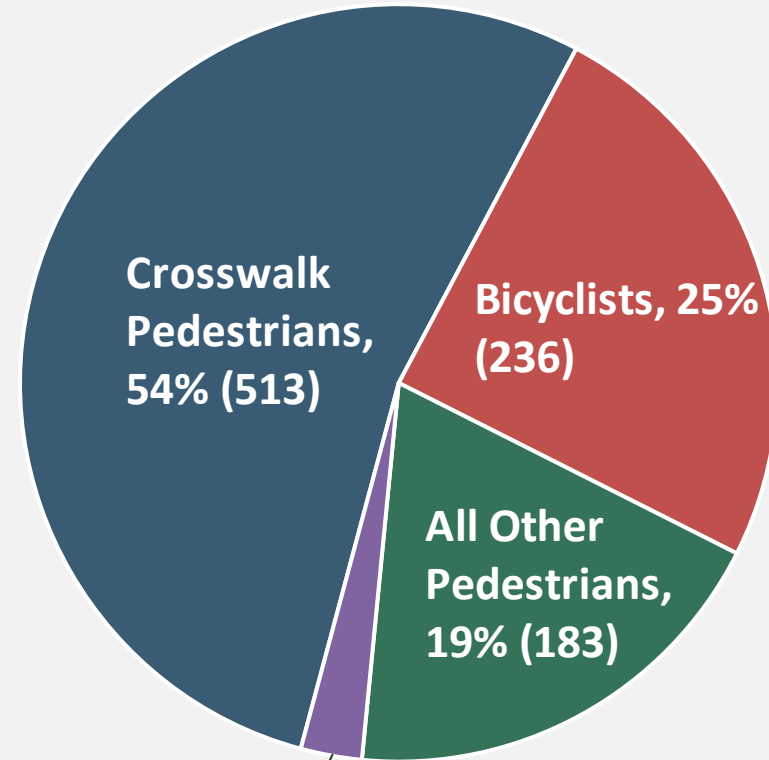
Roadway Intersections

## 54%

of Roadway Intersection Injuries and Fatalities were with Crosswalk Pedestrians



### Intersection Bus-to-Person Collision Injuries and Fatalities (957) by Type



Other Non-Pedestrians, ~2% (25)

Source: NTD, 2017-2021



# Crosswalk Pedestrian Injuries and Fatalities

Injuries and Fatalities

Roadway Intersections

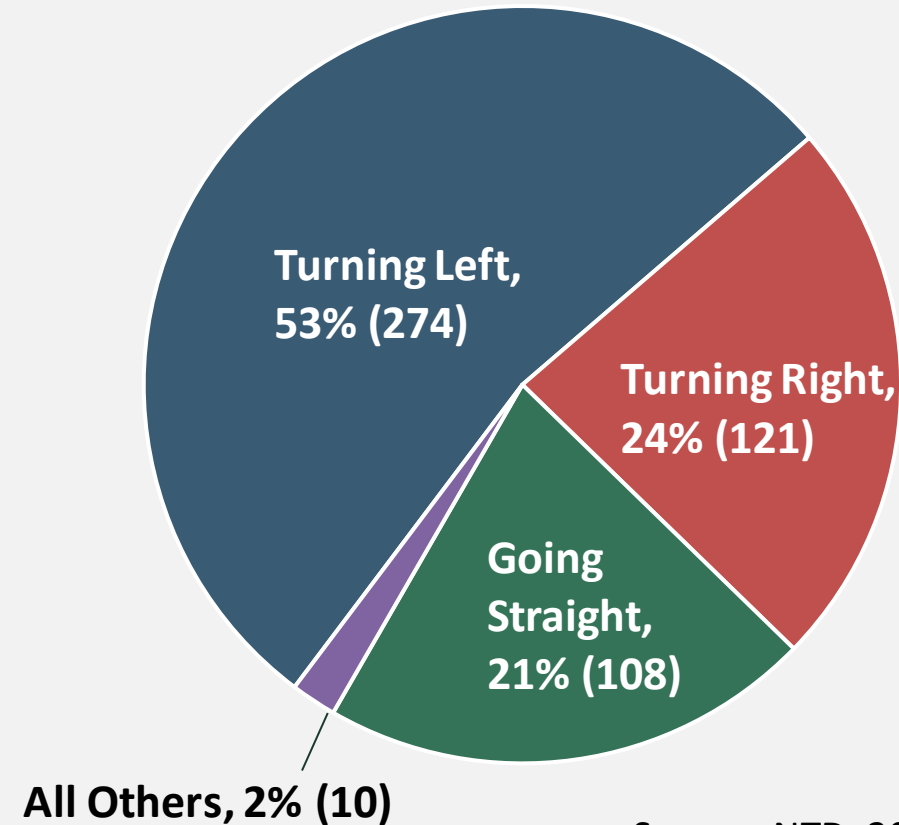
Crosswalk Pedestrian

## 53%

of Crosswalk Pedestrian Injuries and Fatalities occur when Buses are Turning Left



## Crosswalk Pedestrian Injuries and Fatalities (513) from Intersection Collisions



Source: NTD, 2017-2021



# Mid-Block of Roadway Collisions

Between 2017 and 2021, **38%** (868) of bus-to-person collisions occurred at the **mid-block of roadways**, resulting in **862 injuries and fatalities**

Let's have a closer look...

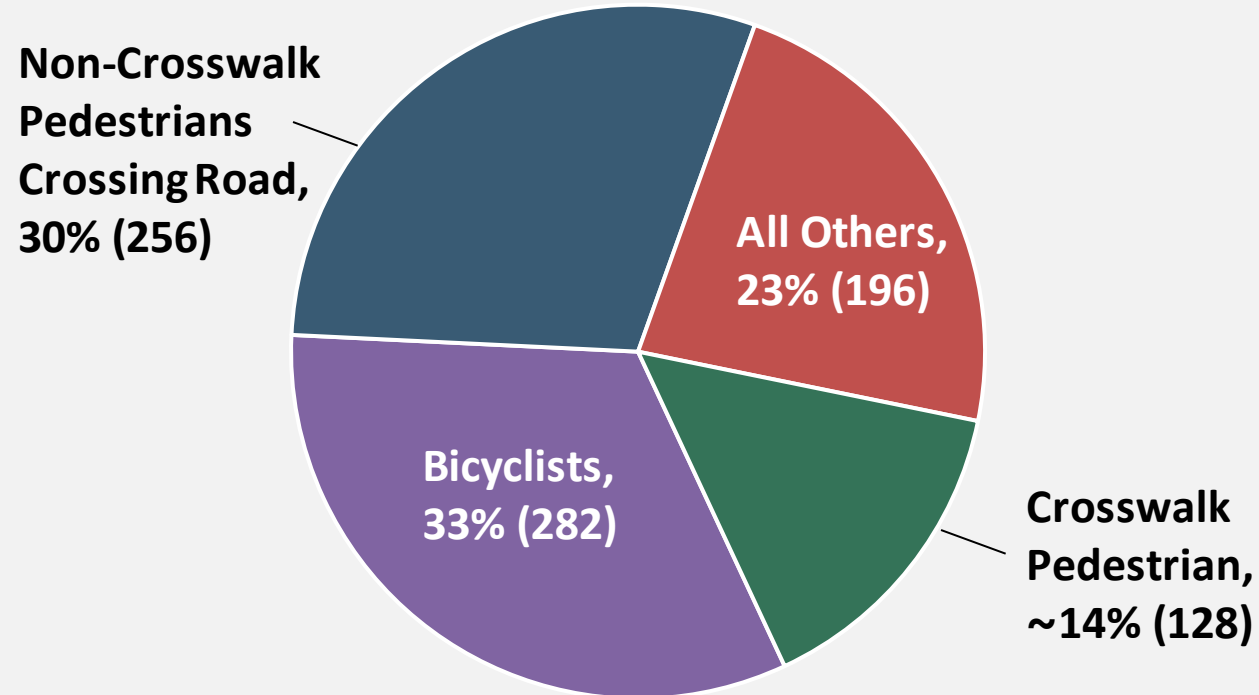


# Mid-Block of Roadway Injuries and Fatalities

Injuries and Fatalities

Mid-Block of Roadway

## Mid-Block Bus-to-Person Collision Fatalities and Injuries (862)



Source: NTD, 2017-2021



# Bicyclists at the Mid-Block of Roadway

Injuries and Fatalities

Mid-Block of Roadway

Bicyclists

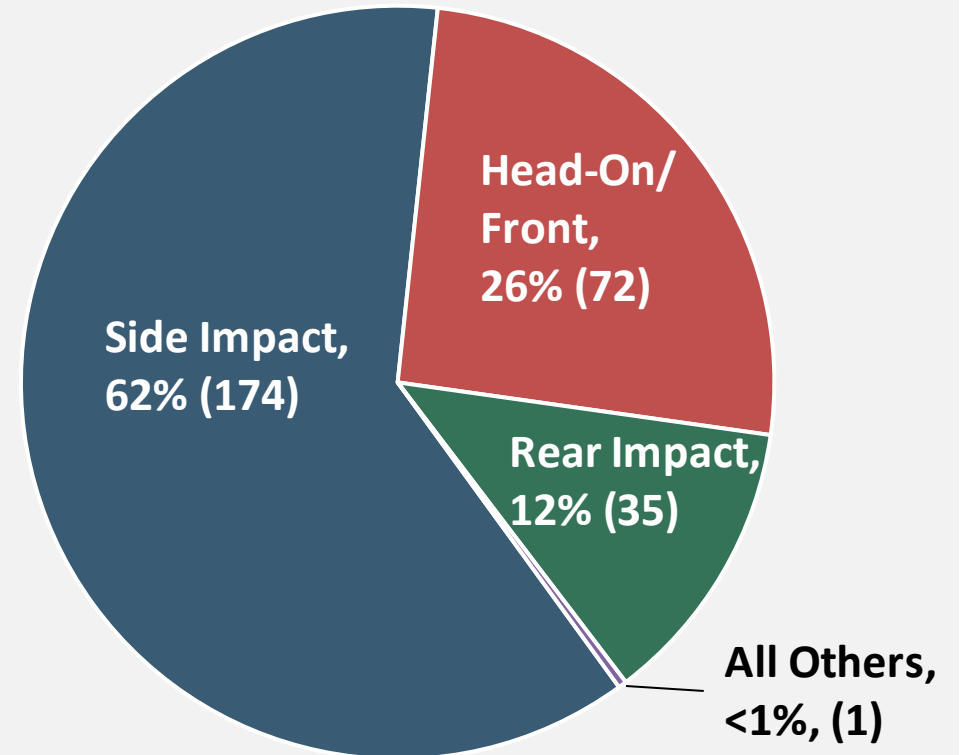
## 62%

of Bicyclist Injuries and Fatalities from Mid-Block Collisions resulted from

## Side Impact



## Bicyclist Injuries and Fatalities (282) from Mid-Block Collisions with Buses



Source: NTD, 2017-2021

# Non-Crosswalk Pedestrians Injuries and Fatalities

Injuries and Fatalities

Mid-Block of Roadway

Non-crosswalk pedestrians

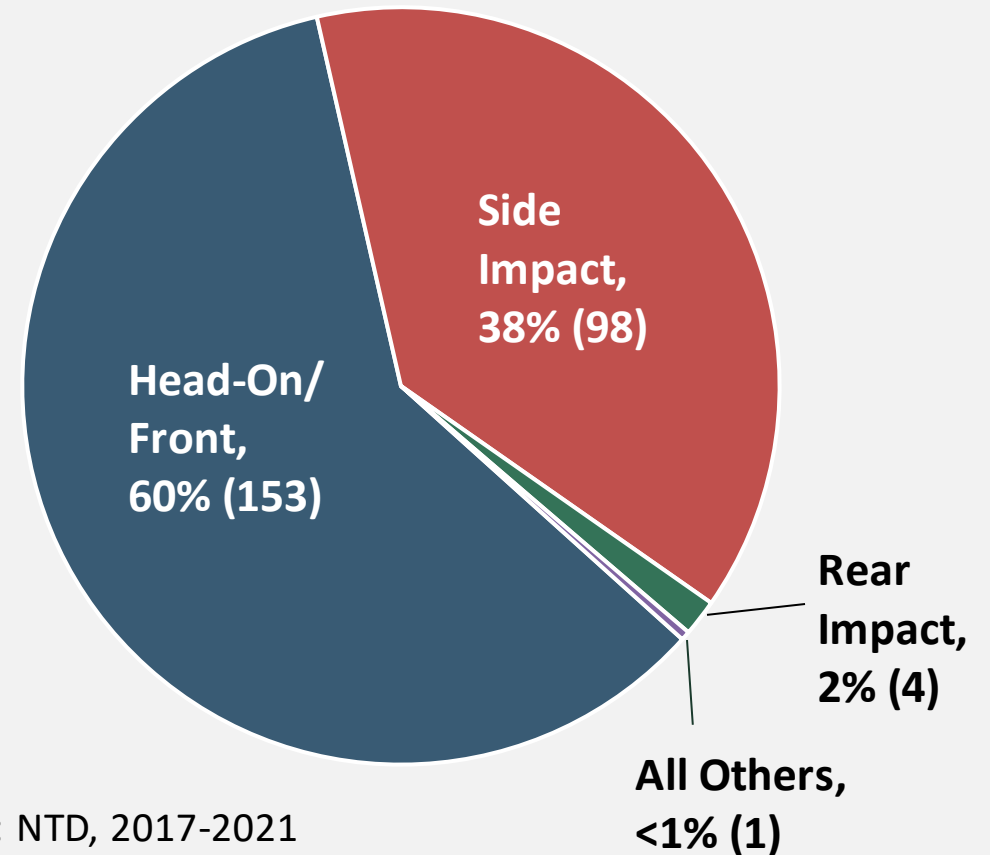
## 60%

of Non-Crosswalk Pedestrian Injuries and Fatalities from Mid-Block Collisions occurred

## Head-On or in the Front



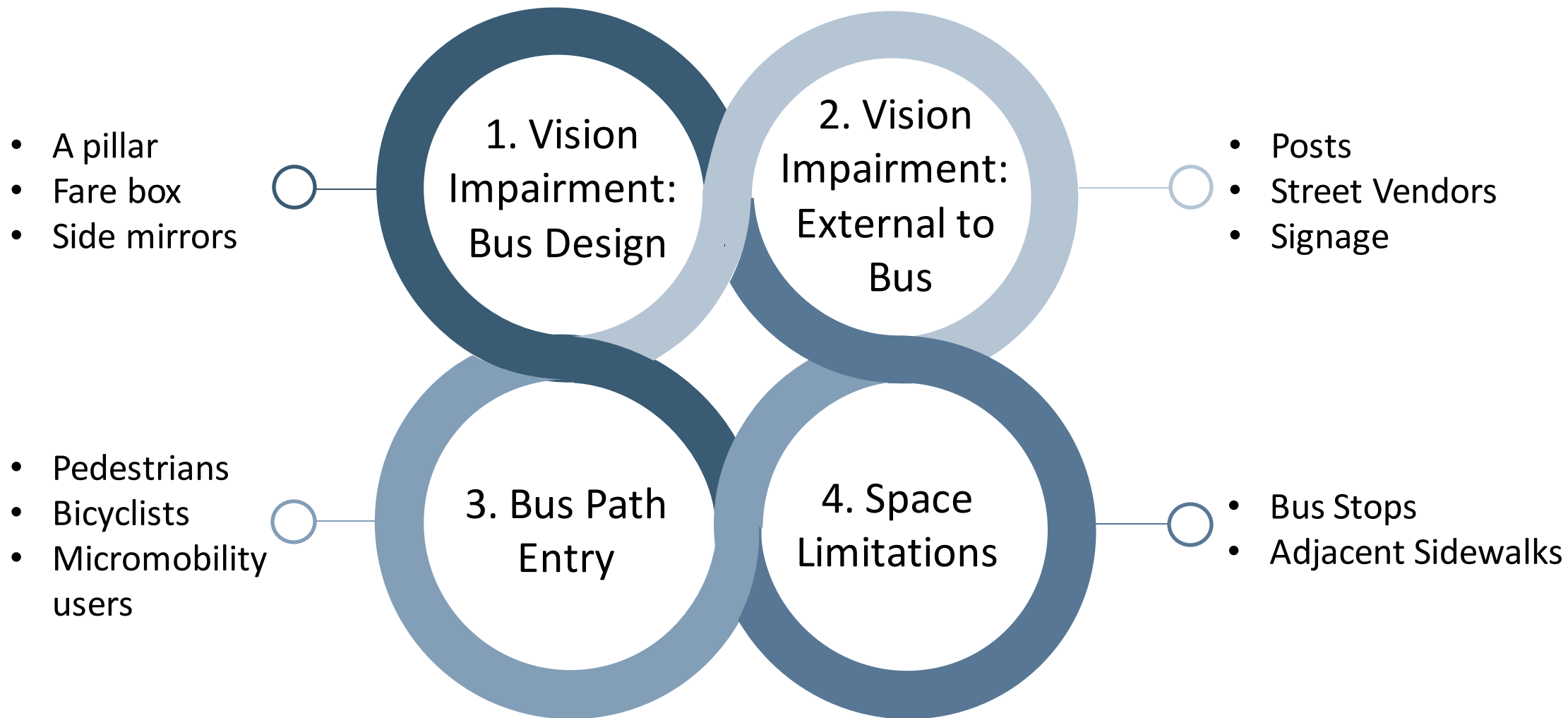
## Non-Crosswalk Pedestrian Injuries and Fatalities (256) from Mid-Block Collisions



Source: NTD, 2017-2021



# Bus-to-Person Collisions Hazards



# Recommended Actions

## Follow Safety Advisory 23-1 Guidance:

- **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**
- **Consider safety risk mitigations**

FTA also recommends that transit agencies identify and assess additional hazards **unique to their agency's operating environment.**





# Discussion and Additional Resources

## Questions? Please Contact:

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## Additional Resources

- [FTA's Dedicated Bus-to-Person Collisions Webpage](#)
- [Safety Advisory 23-1: Bus-to-Person Collisions Webinar](#)





[TRANSIT.DOT.GOV](https://www.transit.dot.gov)