

# **Pedestrian Crossing Safety**

## **National Highway-Rail Grade Crossing Safety Conference**

Federal Transit Administration

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4/9/2026



U.S. Department of Transportation  
Federal Transit Administration

# Agenda

## 1. Overview:

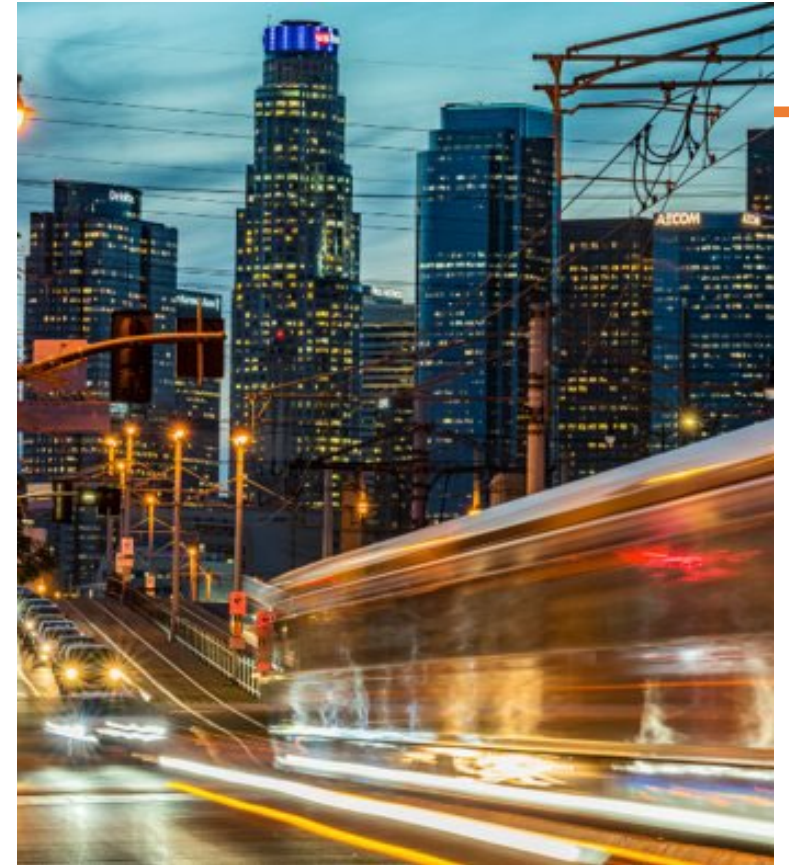
- Rail Collisions in Transit
- Street-Running Rail Modes and Types

## 2. Data and Analysis:

- Street-Running Rail Collisions
- Street-Running Rail-to-Person

## 3. Safety Advisory 24-2

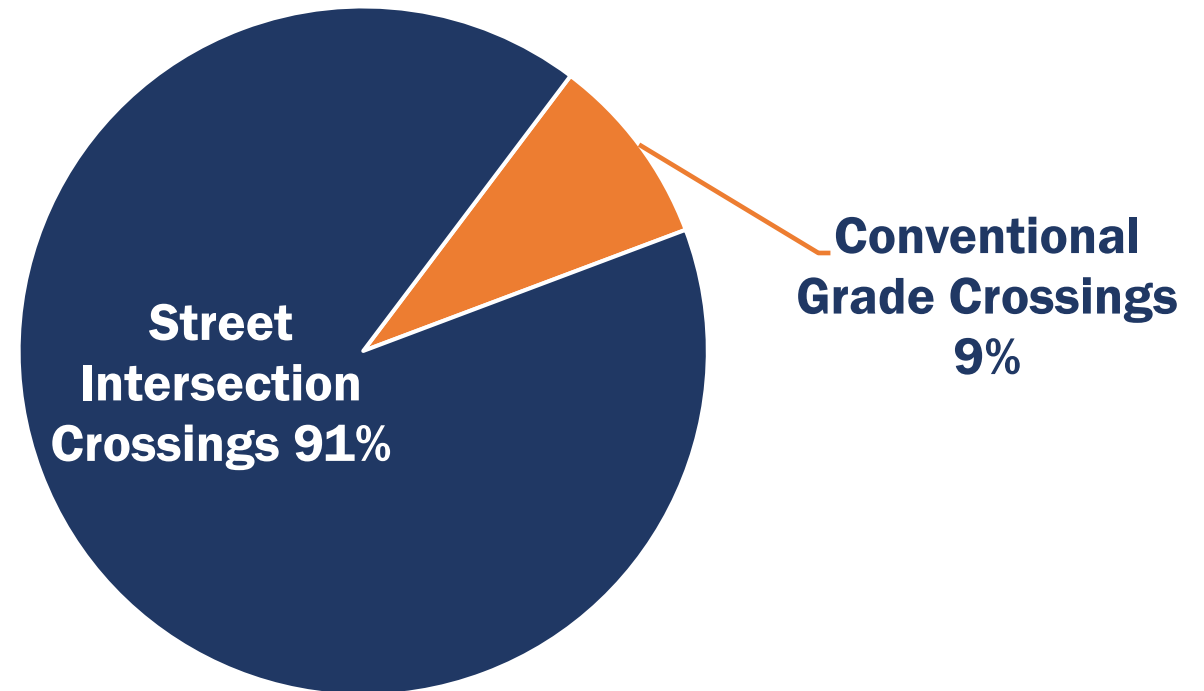
## 4. Transit Research and Resources



# Overview: Rail Collisions in Transit

The number of reported collisions was nearly **10 times higher at street-intersection crossings** than at conventional grade crossings, according to an FTA survey.

**Collisions Reported at Conventional Grade Crossings vs. Street Intersection Crossings**



Source: [FTA Standards Development Program: Rail Transit Roadway/Pedestrian Grade Crossing Exploratory Report](#), May 2022

# Overview: Street-Running Rail Modes and Types

Light rail, streetcar, hybrid rail, and cable car vehicles, with semi-exclusive and non-exclusive alignments, operate in shared rights-of-way and at rail grade crossings among other roadway users.

## Alignments

### Semi-exclusive



### Non-exclusive



## Right-of-Way (ROW)

### Shared ROW street intersections



### Rail ROW in pedestrian malls



## Rail Grade Crossings (RGX)

### Traditional rail grade crossings



### Street intersection grade crossings



# Street-Running Rail Collisions Analysis

FTA examined the following rail vehicle collision types between light rail, streetcar, hybrid rail, or cable car vehicles:

**Persons outside a motor vehicle<sup>1</sup>, including pedestrians, bicyclists, and people using micro-mobility devices, across shared ROW locations**



**Privately-owned vehicles (POVs) at RGX**

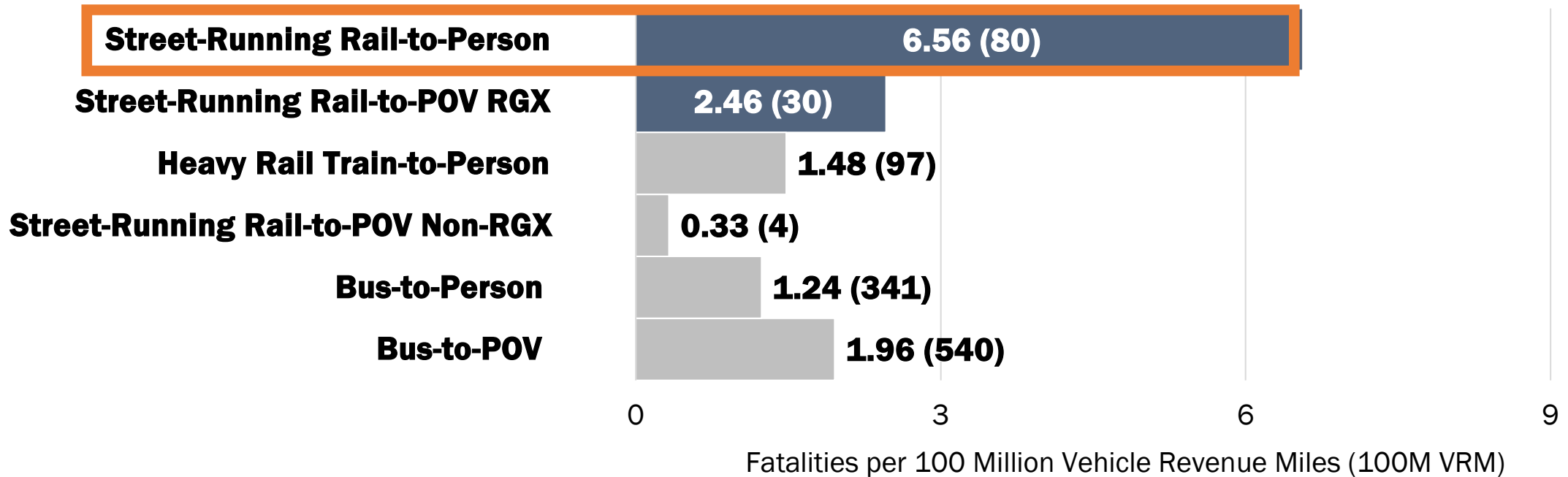


<sup>1</sup> Excludes trespassing and suicides, and rules violations, as these are planned to be examined under a separate, FTA analysis.

# Street-Running Rail Collisions Analysis

Street-running rail collisions result in fatalities at a higher rate than other frequently reported collision types, across all modes, in National Transit Database (NTD) data.

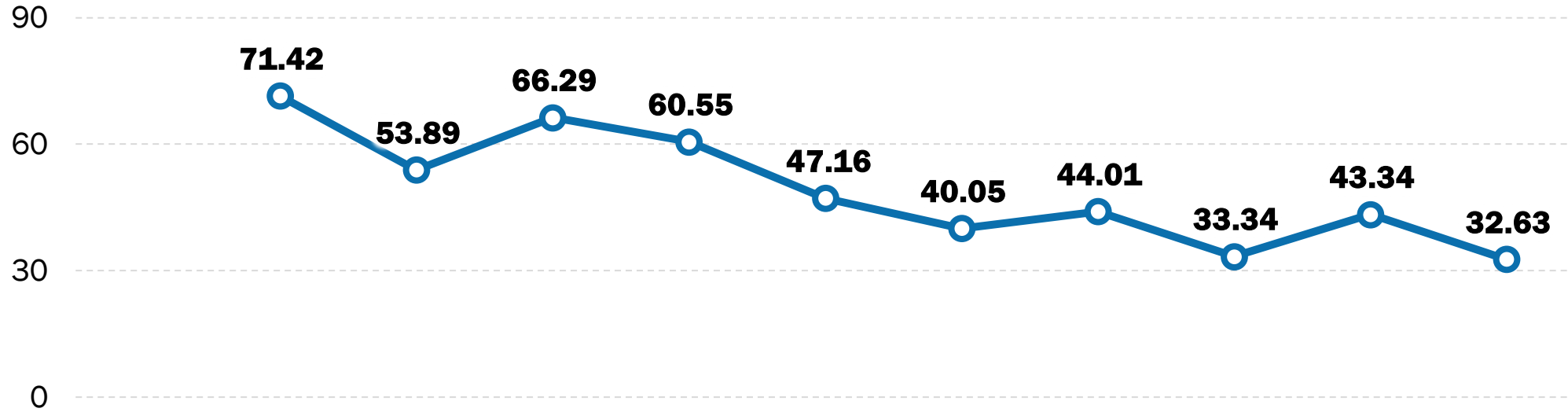
**Fatality Rate for Frequently-Reported Collision Types,  
Fiscal Year (FY) 2016 – 2025**



Source: NTD, State Safety Oversight Reporting (SSOR), and State Safety Oversight Program Legacy Event Data. Causal data subject to minor revision. Total fatalities included in parentheses. Data as of 1/2/26.

# Street-Running Rail-to-Person Collisions: FY 2015–25

**Collision  
Event Rate  
per  
100 Million Vehicle  
Revenue Miles**



**Raw Event,  
Fatality,  
and Injury  
Counts**

FY	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
<b>Collisions</b>	N/A	86	68	85	79	54	43	52	40	53	43
<b>Injuries</b>	N/A	72	59	73	72	48	39	46	36	48	39
<b>Fatalities</b>	N/A	12	12	12	11	7	5	7	4	6	4

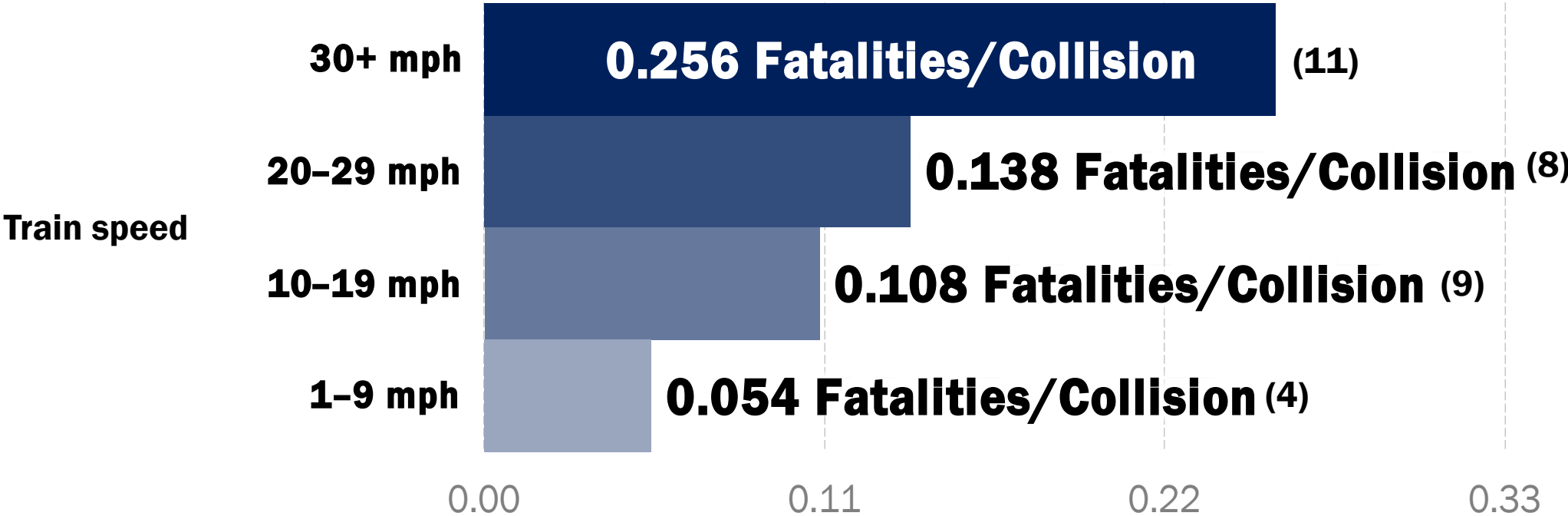
**Source:** National Transit Database (NTD); State Safety Oversight Reporting tool (SSOR), State Safety Oversight Program Legacy Event Data  
**Note:** FY 2025 data is preliminary.

# Rail-to-Person Collision Fatalities by Train Speed



Severity and fatalities increase with increasing train speeds.

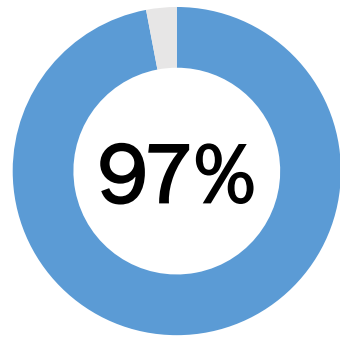
Average Number of Fatalities per Rail-to-Person Collision by Train Speed, CY 2019–23



Source: NTD, data as of 11/1/24; Total fatalities in parentheses

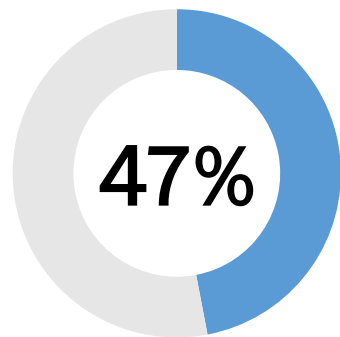
# Rail-to-Person Collisions Causal Analysis

State Safety Oversight Reporting (SSOR) investigation reports from 2020 to 2022 identified:



Of the 64 rail-to-person collisions were due to persons **failure to adhere to the intended roadway design**

NTD reporting data from 2015 to 2021 identified:



Of the 238 rail-to-person collisions at rail grade crossings occurred with **traffic signals as the main traffic control device**

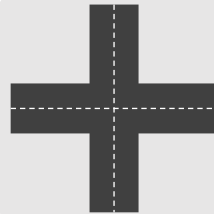


# Safety Advisory 24-2: Recommended Actions

On November 25, 2024, FTA issued a Safety Advisory on Street-Running Rail Collisions which recommended that State Safety Oversight Agencies direct rail transit agencies to consider the following factors when developing safety risk assessments:



**Higher risk locations**



**Roadway and intersection design**



**Queueing space for both POVs and persons**



**Roadways and intersection traffic control devices**



**Factors that may cause signals and other warning methods to be ineffective in encouraging safe behavior at shared ROWs and RGX**



[View the Safety Advisory 24-2 Webpage](#)

# FTA-Sponsored and Industry Research

## FTA Standards Development Program



## Transit Cooperative Research Program (TCRP)



## American Public Transportation Association (APTA) Rail Transit System Voluntary Standards



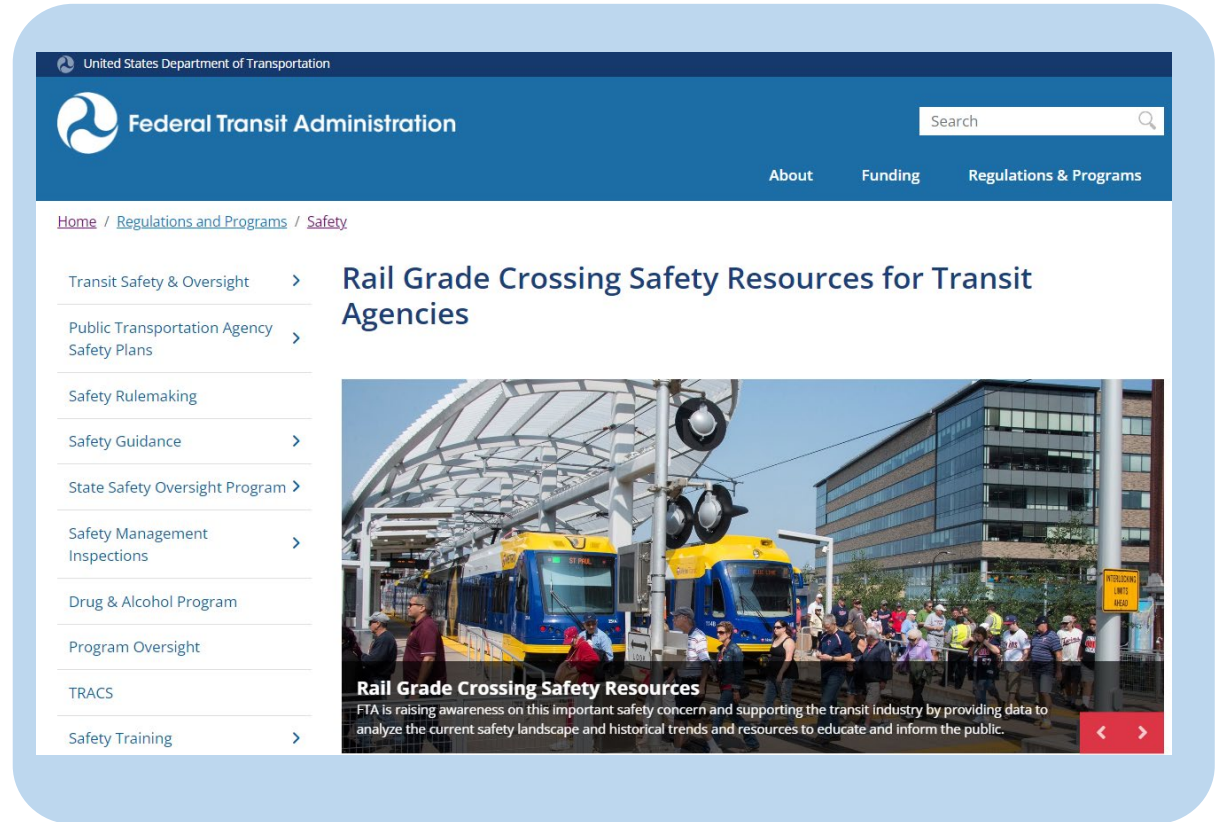
# Transit Rail Grade Crossing Safety Resources

## RGX Safety Resources Webpage provides:

- FTA research and data
- FTA presentations and webinars
- Transit Advisory Committee for Safety (TRACS) Reports
- OLI transit outreach materials
- Transit safety pledges
- Industry resources (FRA, Volpe, APTA, etc.)



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The screenshot shows the Federal Transit Administration website. The header includes the U.S. Department of Transportation logo, the Federal Transit Administration logo, a search bar, and navigation links for About, Funding, and Regulations & Programs. The main content area features a breadcrumb trail: Home / Regulations and Programs / Safety. A sidebar on the left lists various safety-related categories with expandable arrows. The main content area is titled "Rail Grade Crossing Safety Resources for Transit Agencies" and features a large image of a blue and yellow transit train at a grade crossing with pedestrians. Below the image, there is a sub-heading "Rail Grade Crossing Safety Resources" and a brief introductory paragraph.

# Thank you!

**Anna Curtis**

Program Analyst (Safety Promotion), Transit Safety and Oversight  
Federal Transit Administration

[Anna.curtis@dot.gov](mailto:Anna.curtis@dot.gov)



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