



# 2023 FTA JOINT STATE SAFETY OVERSIGHT AND RAIL TRANSIT AGENCY WORKSHOP

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# Session 16

## Managing Safety at Rail Grade Crossing

# 2023 FTA Joint SSO and RTA Workshop

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Office of Safety Review

Federal Transit Administration





# Agenda

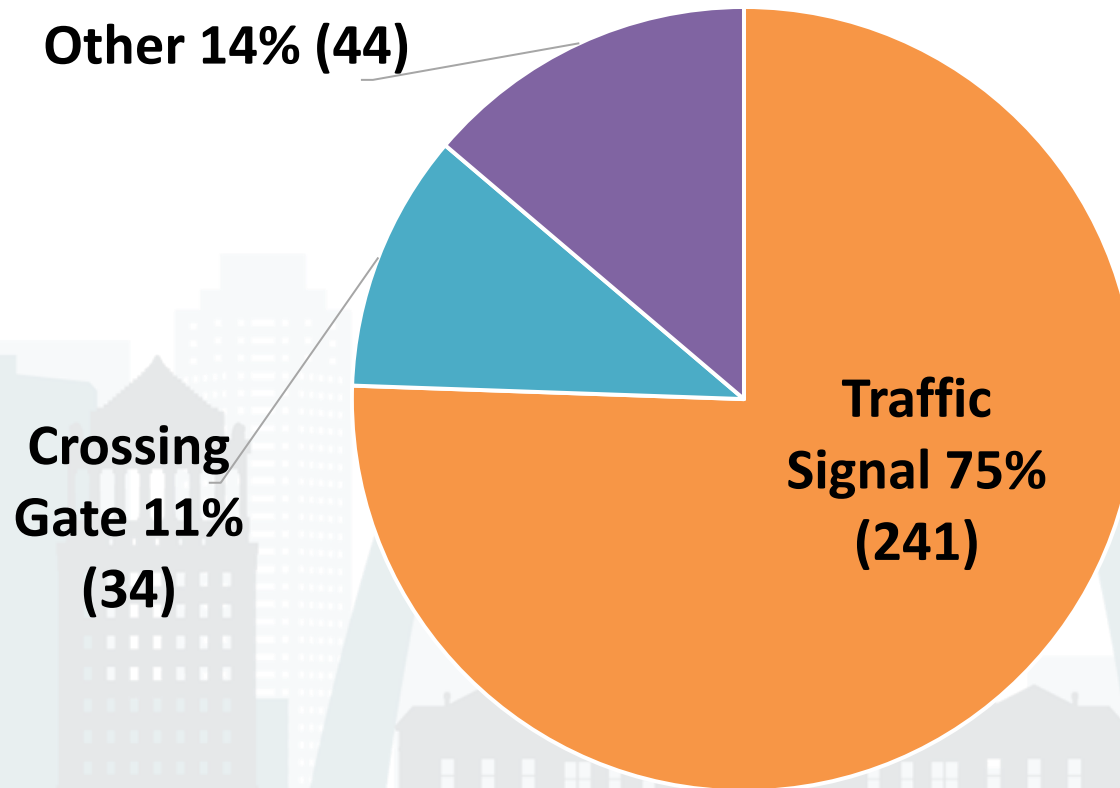
Preventing accidents at grade crossings with light rail vehicles (LRVs) is a critical safety concern



# Train-to-Privately Owned Vehicle (POV) at Rail Grade Crossings (RGX) Analysis Findings

Analysis Sample 2020 – 2021: 319 Events With Investigation Reports Or Narratives

## Train-to-POV Collisions by Control Device



Source: National Transit Database



# RGX Traffic Control Device Examples



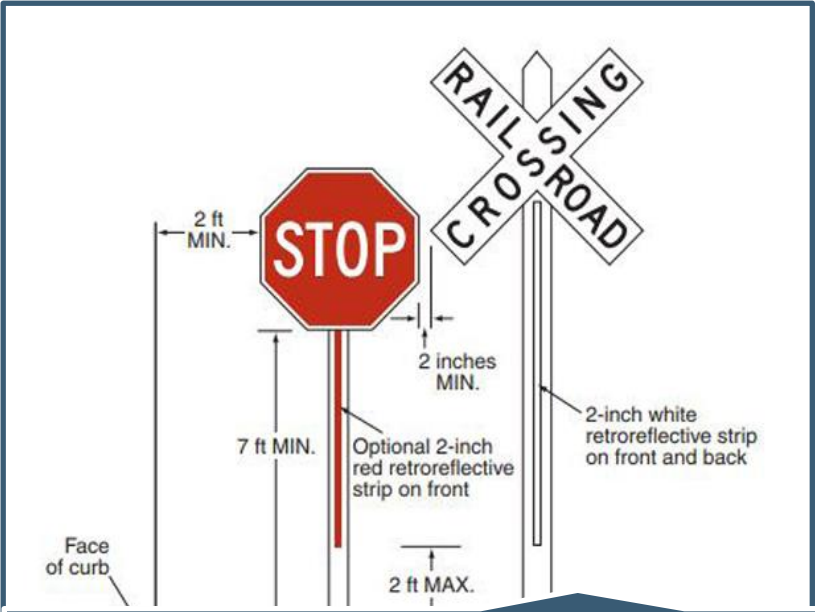
Street Running Traffic Signals

Source: DOT Highway-Rail Crossing Handbook



Rail Crossing Gates

Source: Google Earth



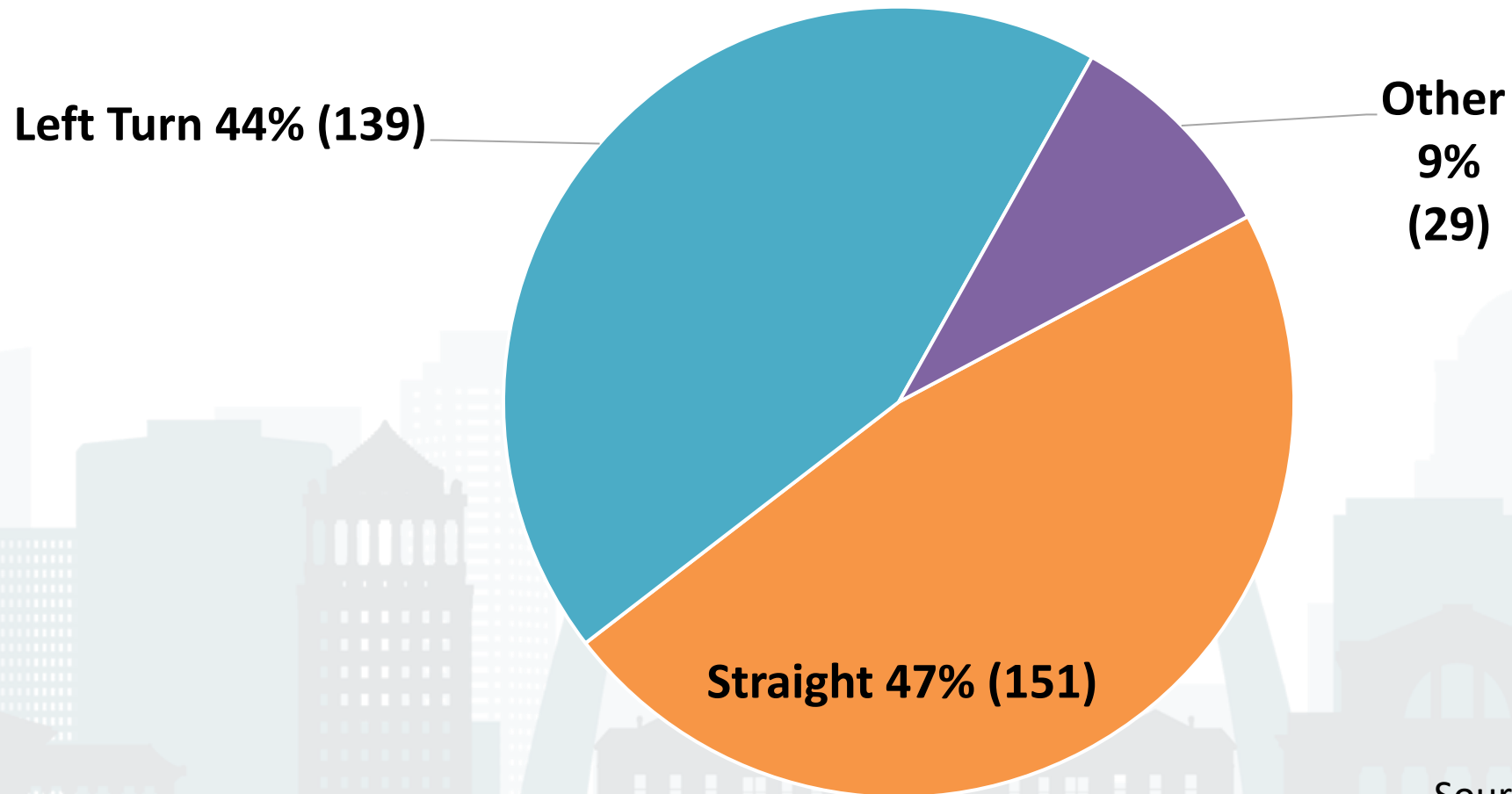
RGX Stop Sign

Source: DOT Highway-Rail Crossing Handbook

# Train-to-POV at RGX Analysis Findings

Analysis Sample 2020 – 2021: 319 events with investigation reports or narratives

## Train-to-POV Collisions by POV Direction



Source: National Transit Database



# RGX Collision Control Examples



Transit Only Spaces

Location: San Francisco, CA



Rail Crossing Gates

Location: Los Angeles, CA



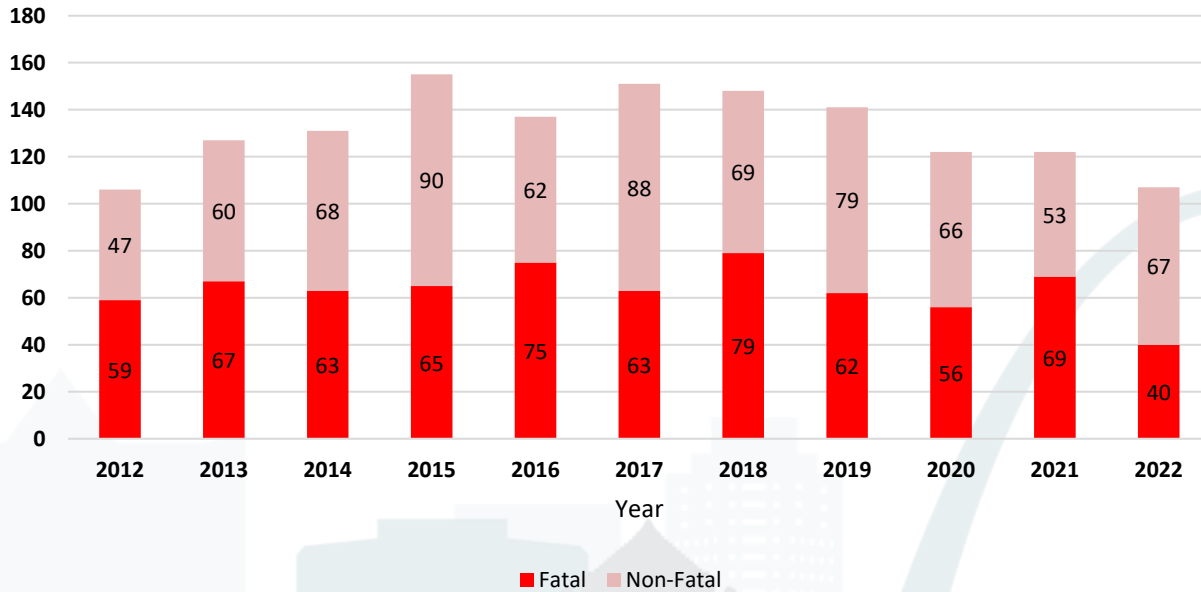
Bicycle and Pedestrian Only Spaces

Location: Portland, OR

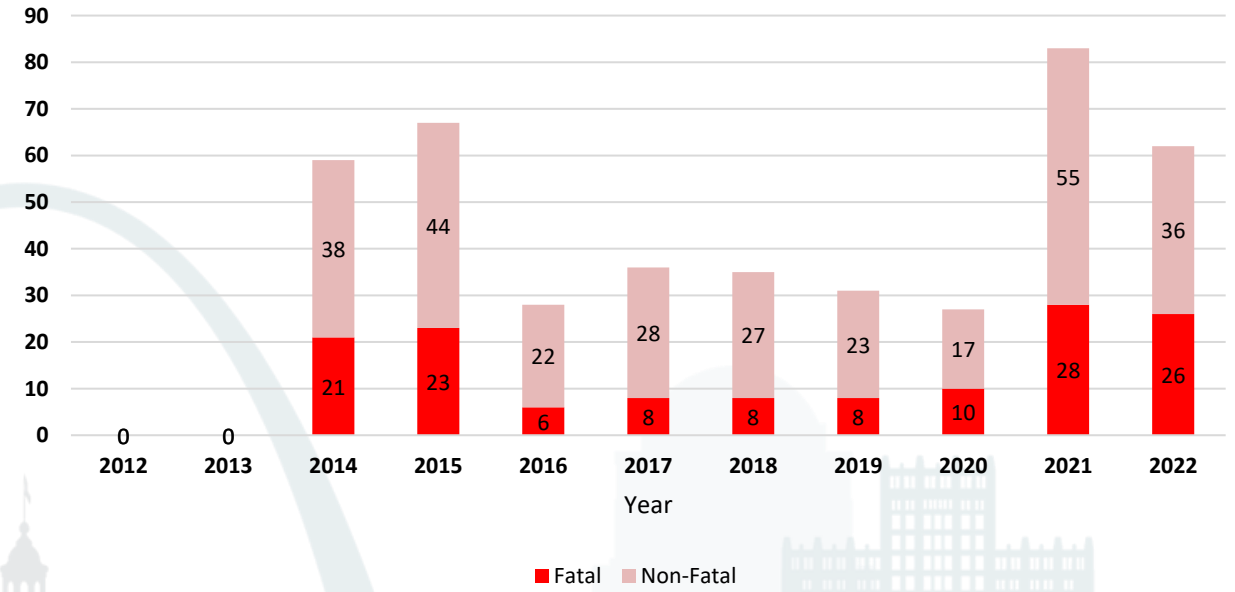


# Trend of Suicides and Trespassers Fatalities

## Fatalities and Non-Fatal Rail Injuries due to Suicide



## Fatalities and Non-Fatal Rail Injuries due to Trespassing

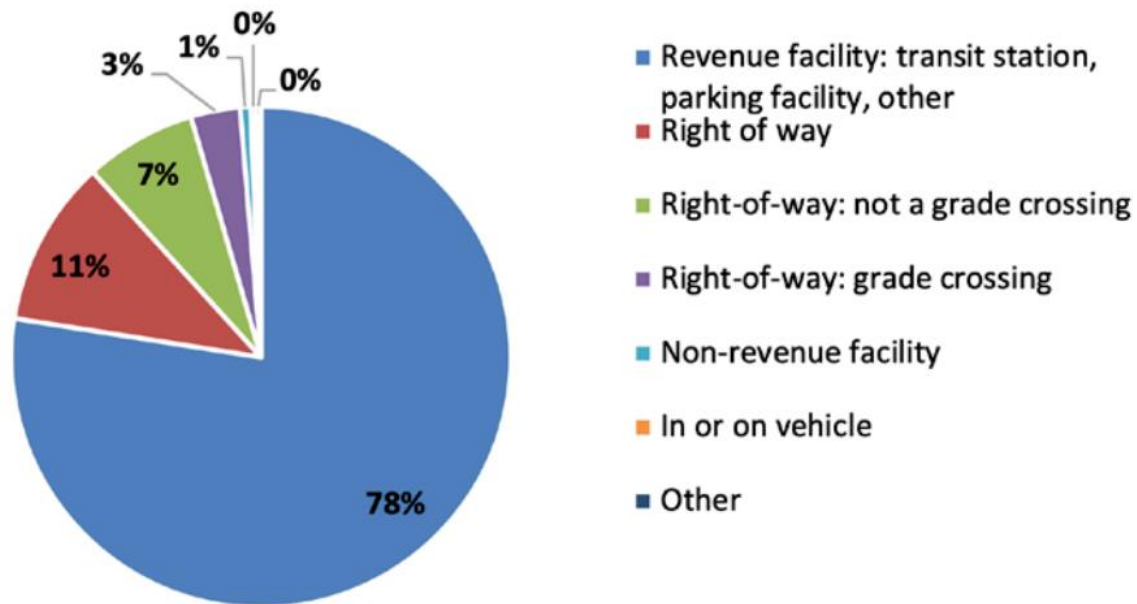


Source: FTA, <https://data.transportation.gov/Public-Transit/Major-Safety-Events/9ivb-8ae9>

- Data includes only rail modes (HR, LR, MG, YR, SR, CC, IP) and the following measures: pedestrians walking along tracks, pedestrians crossing tracks, pedestrians not in crosswalk.

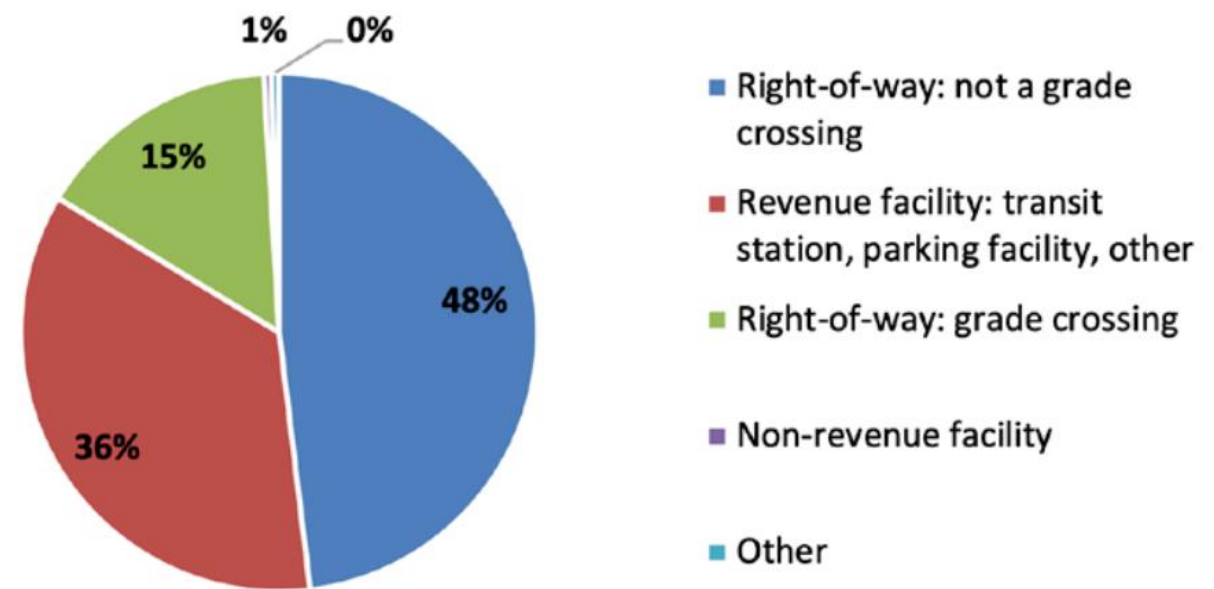
# Suicide vs. Trespasser fatality percentage by location

**Suicide** fatalities by location type for RTAs, 2011–2019



Source: NTD Safety and Security Time-Series Data

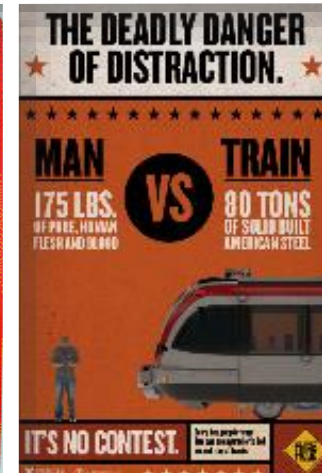
**Trespasser** fatalities by location type for RTAs, 2011–2019



Source: NTD Safety and Security Time-Series Data

# Effective and Promising Practices

- **Fencing** railroad ROW especially at trespassing hotspot locations using cameras for monitoring
- Installing **no trespassing signage** at strategic locations
- Conducting **community educational outreach** activities via collaboration with Operation Lifesaver, rail safety campaigns, and targeted campaigns to vulnerable populations.
- Including **training for rail operators** on how to properly handle various trespassing scenarios





# Future Practices



Thermal detection  
using FLIR thermal  
camera



Trespasser  
detection using a  
fiber-based sensor  
device

# RGX Safety Resources for Transit Agencies

## Rail Grade Crossing Safety Resources for Transit Agencies



### Overview

Rail transit grade crossing (RGX) events, fatalities and injuries remain a concern in the transit industry. Most recently in 2022, there were a total of 592 grade crossing collisions that resulted in 19 fatalities and 133 injuries, based on data reported to FTA's [National Transit Database Data \(NTD\)](#). FTA is raising awareness on this important safety concern and supporting the transit industry by providing data to analyze the current safety landscape and historical trends and resources to educate and inform the public. This webpage includes rail grade crossing safety resources to assist transit agencies in making transit safer for all.

### Rail Safety Week

[Rail Safety Week](#) is an annual observance event in mid-September spearheaded by [Operation Lifesaver, Inc.](#) (OLI) and rail safety partners across the U.S., Canada and Mexico. The goal is to raise awareness for multiple audiences on ways to Stop Track Tragedies. FTA has long supported OLI to spread this important safety message during Rail Safety Week and beyond.

## What's New

### Spotlight on Safety: Transit Rail Grade Crossings Webinar

This webinar will discuss transit rail grade crossing safety from both operational and public education and outreach perspectives. FTA will provide an overview and the Center for Urban Transportation Research and MxV Rail will highlight research on engineering aspects related to rail grade crossing safety, as featured in the FTA Standards Development Program Rail Transit Roadway and Pedestrian Grade Crossings Exploratory Report, and discuss trespassing research results. The webinar will also feature guest speakers from TriMet who will talk about their experiences with rail grade crossings and the non-profit, Operation Lifesaver Inc., who will discuss safety education and outreach to transit riders and available transit agency resources.

- Thursday, September 21 at 2 p.m. ET, [Register Here](#)

### 2023 Rail Safety Week Videos

- [2023 Rail Safety Week Videos](#)

### Operation Lifesaver Safety Pledge

- [OLI Transit Safety Pledge](#)

## Rail Safety and Resource Library

Click below to see list of resources



FTA Resources



Industry Resources



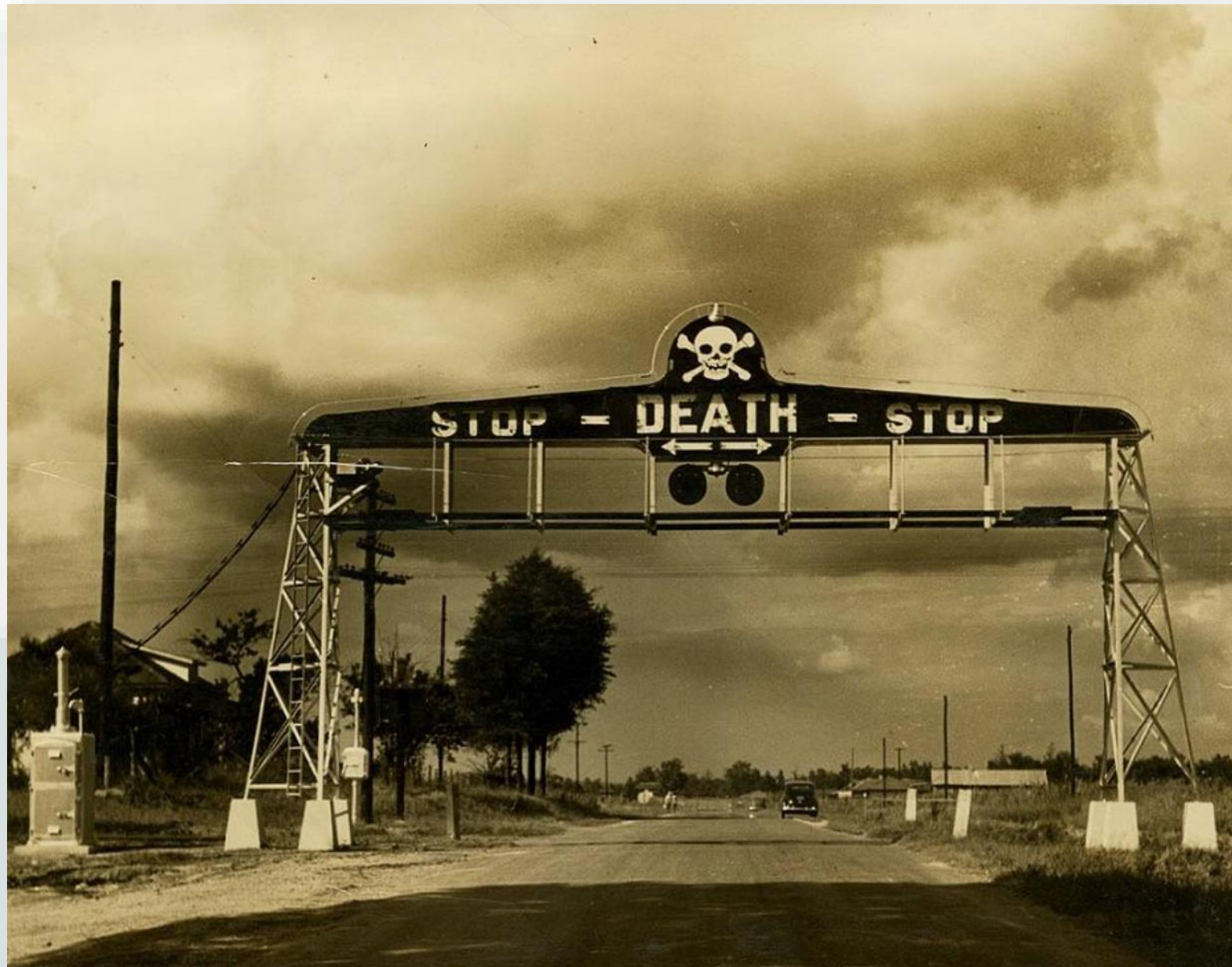
FTA Presentations



Data and Reports

<https://www.transit.dot.gov/RGX>







# Questions?

# Contact Information

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