



2025 FTA JOINT STATE SAFETY OVERSIGHT AND RAIL TRANSIT AGENCY WORKSHOP

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Session 16

FTA Safety Research Overview



2025 Joint SSO RTA Workshop

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Agenda

- Safety Research Program Overview
- Safety Demonstration Programs
- FY2020 Safety Research & Demonstration Pilot Program
- Overview of 4 Grade Crossing Safety Pilot Projects



Safety Research Program Overview

Safety Research Programs

Safe People

(Users, Workers and
Public)

Safe Infrastructure

(Assets, Rolling Stocks
and Terminals)

Safe System

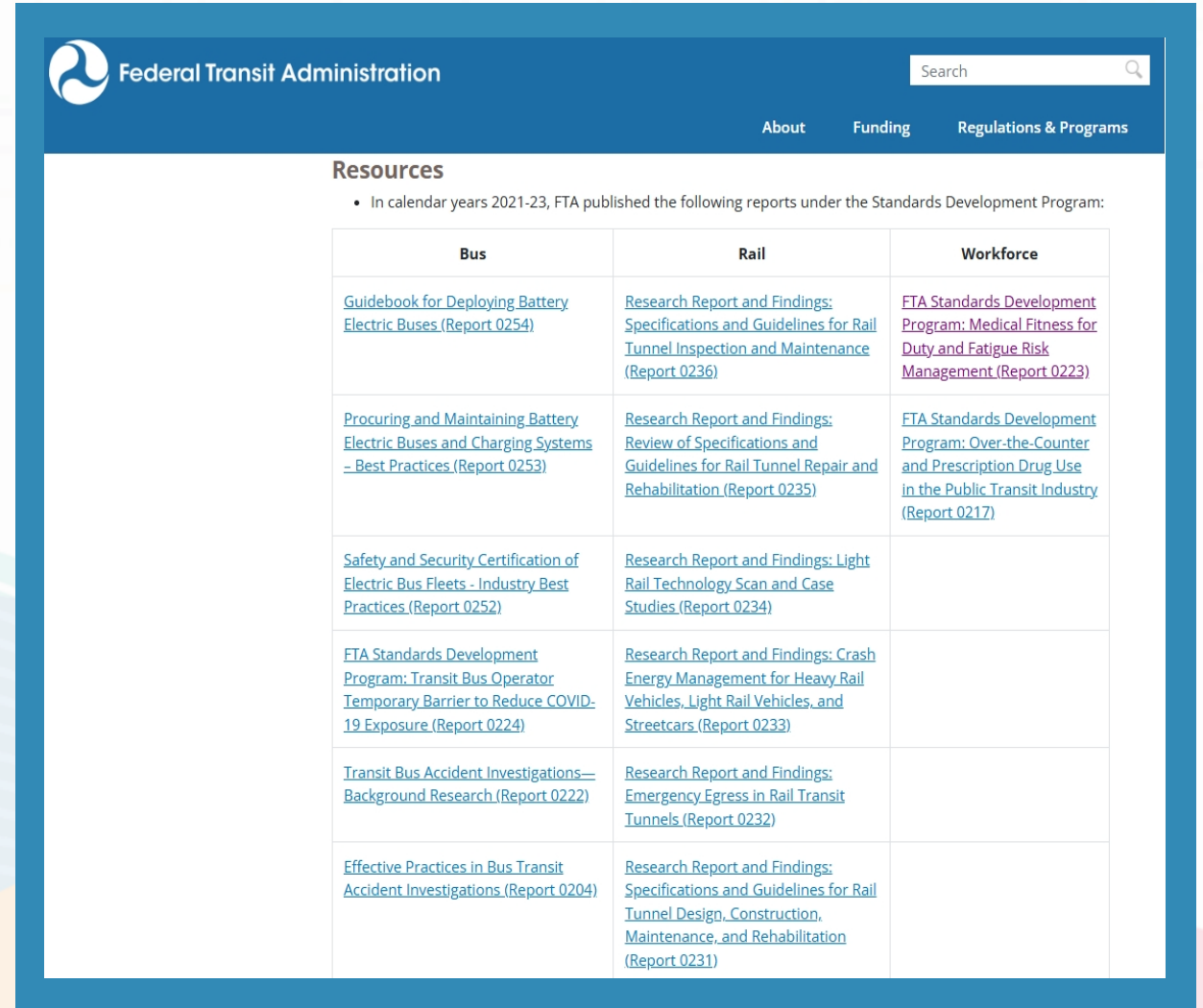
(SMS, Cybersecurity,
Standards)



FTA Standards Research under Sec 49 U.S.C. 5314

FTA Standards Development Program

- 26 standards research reports published
- FY23 Competitive Funding awarded to APTA (\$3 million)
- Develop/Update voluntary standards
- Aligns with FTA/Industry priorities



The screenshot shows the Federal Transit Administration website. The header includes the FTA logo, the text "Federal Transit Administration", a search bar, and navigation links for "About", "Funding", and "Regulations & Programs". The main content area is titled "Resources" and contains a bullet point stating: "In calendar years 2021-23, FTA published the following reports under the Standards Development Program:". Below this is a table with three columns: "Bus", "Rail", and "Workforce". The table lists various research reports published by FTA from 2021 to 2023.

Bus	Rail	Workforce
Guidebook for Deploying Battery Electric Buses (Report 0254)	Research Report and Findings: Specifications and Guidelines for Rail Tunnel Inspection and Maintenance (Report 0236)	FTA Standards Development Program: Medical Fitness for Duty and Fatigue Risk Management (Report 0223)
Procuring and Maintaining Battery Electric Buses and Charging Systems – Best Practices (Report 0253)	Research Report and Findings: Review of Specifications and Guidelines for Rail Tunnel Repair and Rehabilitation (Report 0235)	FTA Standards Development Program: Over-the-Counter and Prescription Drug Use in the Public Transit Industry (Report 0217)
Safety and Security Certification of Electric Bus Fleets - Industry Best Practices (Report 0252)	Research Report and Findings: Light Rail Technology Scan and Case Studies (Report 0234)	
FTA Standards Development Program: Transit Bus Operator Temporary Barrier to Reduce COVID-19 Exposure (Report 0224)	Research Report and Findings: Crash Energy Management for Heavy Rail Vehicles, Light Rail Vehicles, and Streetcars (Report 0233)	
Transit Bus Accident Investigations—Background Research (Report 0222)	Research Report and Findings: Emergency Egress in Rail Transit Tunnels (Report 0232)	
Effective Practices in Bus Transit Accident Investigations (Report 0204)	Research Report and Findings: Specifications and Guidelines for Rail Tunnel Design, Construction, Maintenance, and Rehabilitation (Report 0231)	

FTA Research under Sec 49 U.S.C. 5312

FTA Annual Research Report for FY 2024 (Report 0273)

- 11 active safety research programs
- Independent Evaluation
- Total Funding of \$47 million

https://www.transit.dot.gov/sites/fta.dot.gov/files/2024-12/FTA-Repor...

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Safety

Description:
In FY 2024, FTA prioritized research that addressed the safety of transit workers, riders, and all who are in or near transit systems utilizing technologies such as automation, sensor systems, artificial intelligence, cameras, monitoring real-time video in transit stations/buses, and identifying best practices to address worker and rider assaults.

Objectives:
The FTA safety research program sought to:

- Support research to reduce fatalities and injuries.
- Improve safety culture with the use of technological advancements and innovations.

FTA had 13 active safety programs and projects in FY 2024 (see Table 2).

Table 2 Safety Research Programs and Projects Receiving Assistance from FTA, FY 2024

Safety Programs	
Project Title	FTA Funding
Advanced Driver Assistance Systems (ADAS) for Transit Buses Demonstration & Automated Transit Bus Maintenance and Yard Operations Demonstration	\$7,096,061
Public Transportation COVID-19 Research Demonstration Grant Program	\$14,791,306
Innovations in Transit Public Safety Projects	\$1,892,503
Safety Risk Management (SRM) and Analysis	\$2,000,000
Redesign of Transit Bus Operator Compartment to Improve Safety, Operational Efficiency, and Passenger Accessibility (Bus Operator Compartment) Program	\$1,600,000
FY 2020 Safety Research and Demonstration (SRD) Program	\$7,513,656
FY 2020 Safety Research and Demonstration (SRD) Program Evaluation	\$700,000
FY 2016 Safety Research and Demonstration (SRD) Program	\$5,101,740
FY 2016 Safety Research and Demonstration (SRD) Program Evaluation	\$750,000
Real-Time Transit Infrastructure and Rolling Stock Condition Assessment Demonstration Program	\$1,368,816
Real-Time Transit Infrastructure and Rolling Stock Condition Assessment Research and Demonstration Program Evaluation	\$750,000
MARTA Track Inspection & Asset Management Research and Demonstration	\$4,225,000
Public Safety Awareness Technology Evaluation (PSATE) Project	\$100,000
Total	\$47,889,082

FEDERAL TRANSIT ADMINISTRATION 6

Pilot Demonstration Research Areas

**Bus Collision
Avoidance &
Mitigation**

**Highway-Rail Grade
Crossings Safety**

**Suicide Prevention
& Trespasser
Detection**

**Transit Rail Worker
Safety**

**Asset Condition
Assessment &
Monitoring**

**Operational
Resiliency/
Emergency
Response And
Recovery**

**Transit Worker And
Rider Assault**

**Bus Compartment
Redesign**

VRU Safety



Major Active Safety Research Programs

- Transit Worker and Rider Assault Program
- Real-Time Infrastructure & Rolling Stock Condition Monitoring Program
- Advanced Driver Assistance Systems for Transit Buses Demonstration
- FY20 Safety Research and Demonstration Pilot Program



FY2020 SRD Pilot Program

Topics & Type of Pilots

- **Grade crossing safety**
- Suicide and trespassing prevention
 - Technological innovations
 - Safer Designs & Practices

of Projects and Funding

- 8 projects
- \$7.5 million

Deliverables and Requirements

- Data Management Plan
- Performance Metrics
- Outreach/knowledge sharing
- Independent Evaluators
- Final Technical Reports



Contact Information

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