

 Hollywood, FL

 June 13-14, 2024

# 2024 TRANSPORTATION SYMPOSIUM



## Meeting the Challenge of Rail Safety in Florida

Presented by

Central Office Freight & Rail Office    Brian Owens

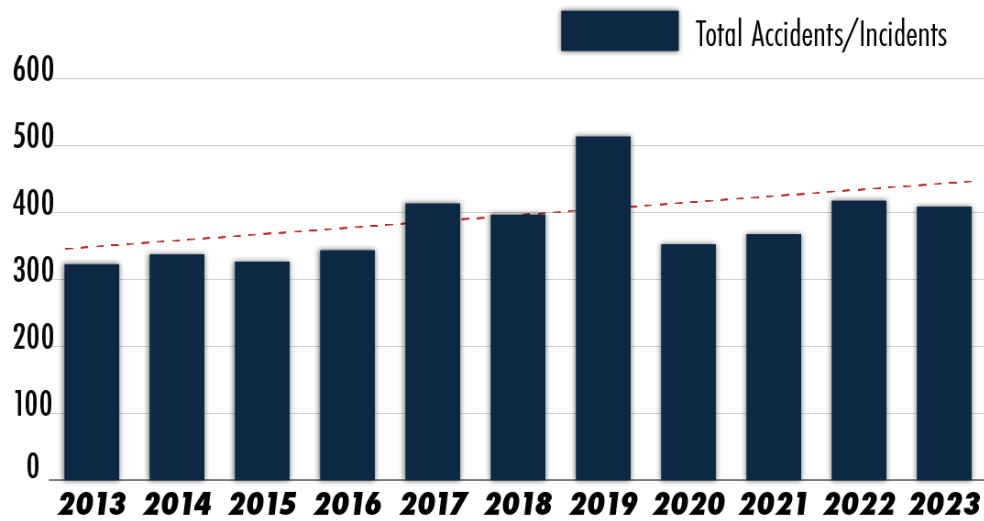
District 4 Office of Modal Development -Rail    Ana Quero



# The Problem

# Rail Incident Data

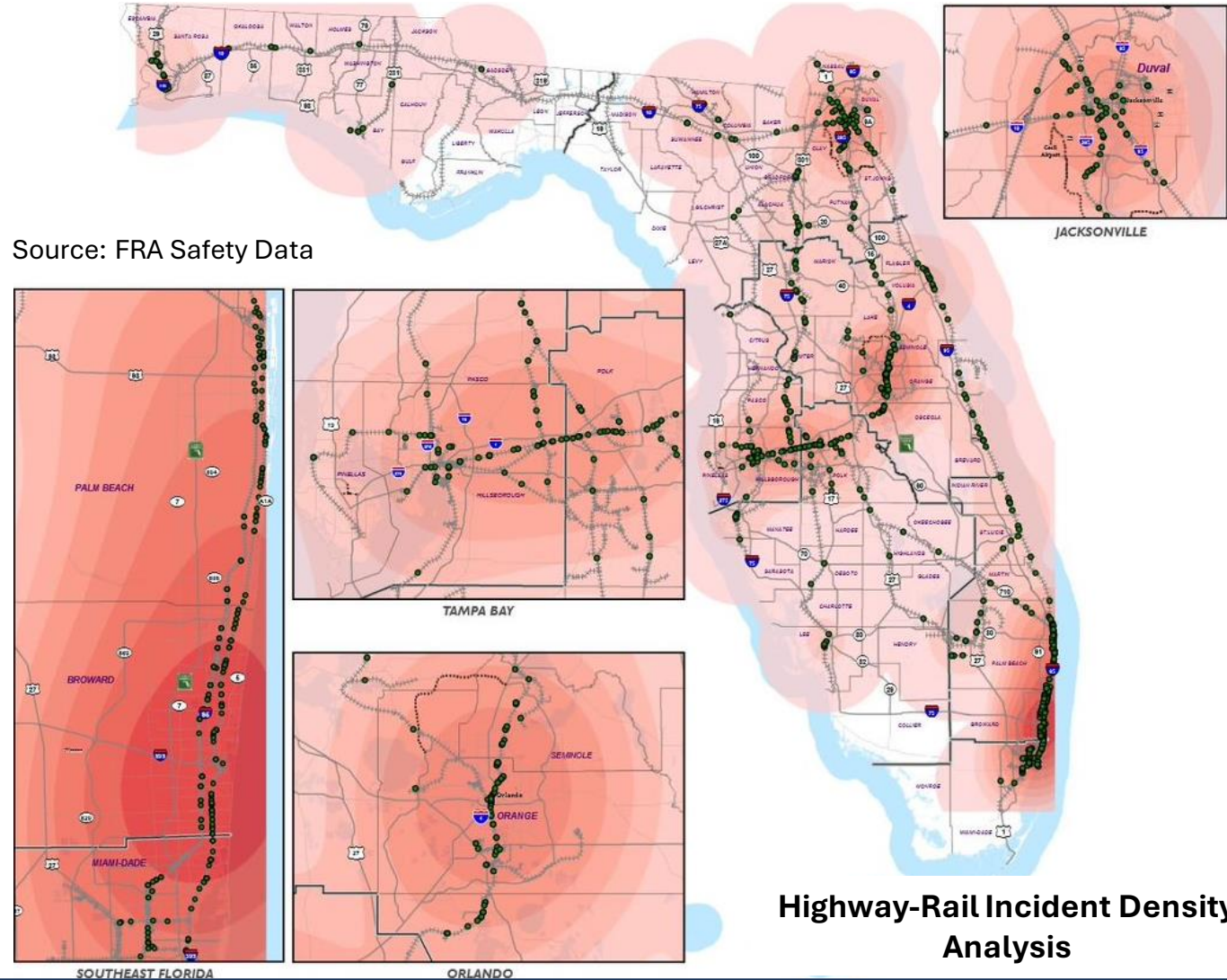
## Total Rail Incidents in Florida, 2013-2023



There were **4,200** total rail incidents and **1,000** at-grade crossing incidents between 2013 and 2023.

Florida ranked **4th** in highest number of grade-crossing incidents in the US, just behind California, Texas, and Illinois in 2023.

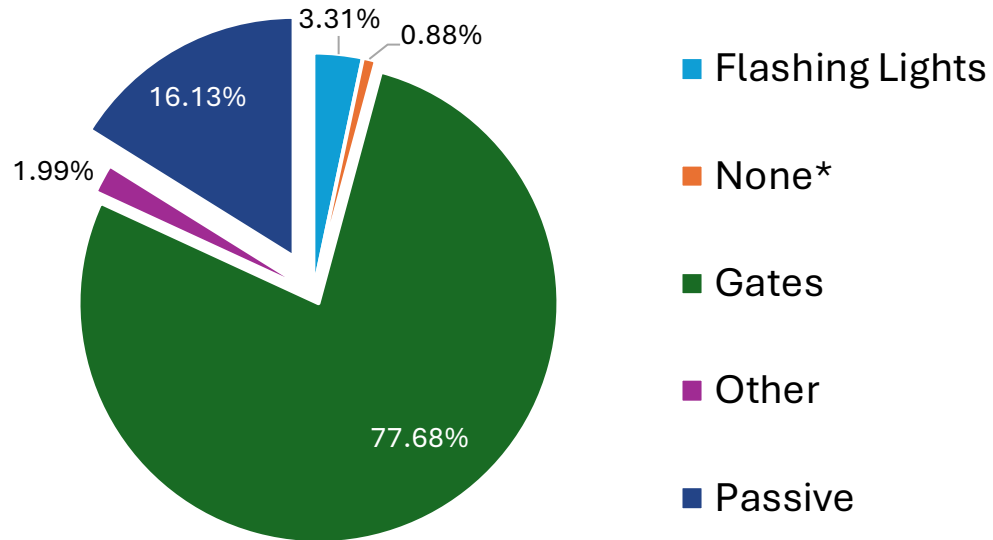
Source: FRA Safety Data



Highway-Rail Incident Density Analysis

# Crossing Data

## % of Collisions by Warning Device



**81%** of collisions between 2013 and 2022 happened at crossings **with flashing lights/gates**, vs **19%** at crossings with **passive/other devices**

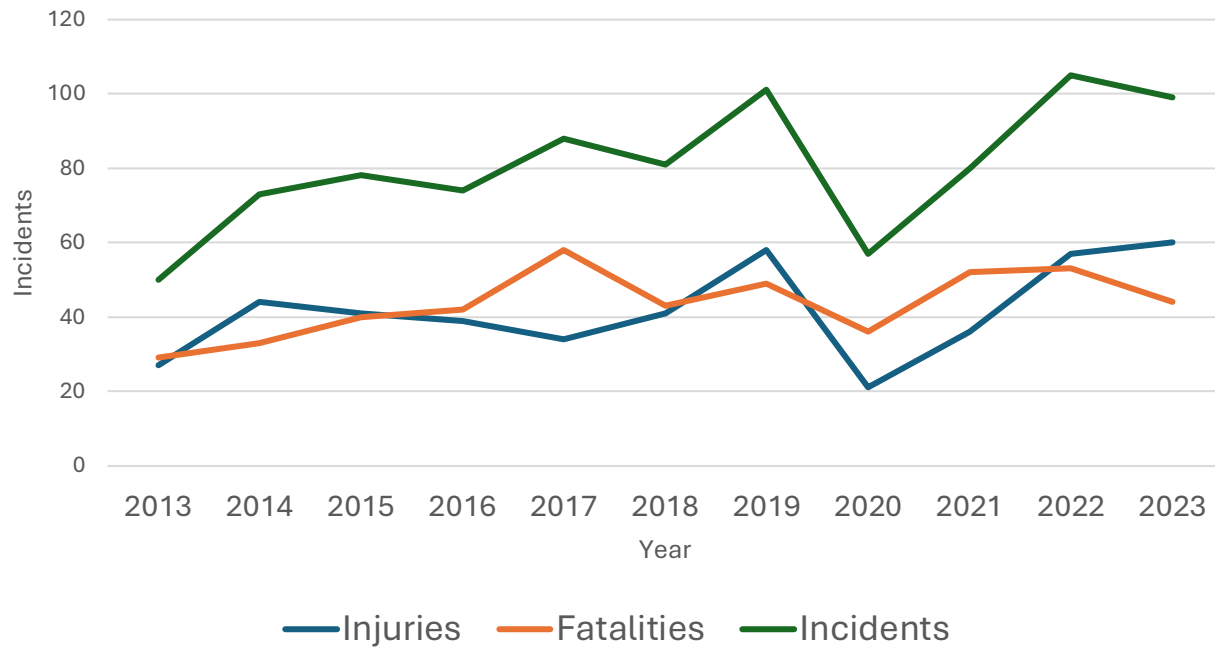
## Driver Behavior/Compliance

	Motorist	% of Total Collisions	Number of Collisions
76%	Stopped on crossing	37.24%	337
	Went around the gate	22.98%	208
	Did not stop	15.58%	141
	Other	8.84%	80
	Went through the gate	8.51%	77
	Stopped and then proceeded	3.43%	31
	Suicide/Attempted Suicide	3.20%	29
	Went around/through temporary barricade	0.22%	2

*FRA Florida crossing data from 2013-2022\**

# Trespasser Data

## Trespass Incidents by Year w/Injury & Fatal



In 2023, **Florida ranked 4th** in highest number of rail trespass casualties, after California, Texas, and New York.



Trespassing along a train’s right-of-way is the **leading cause** of all rail-related fatalities nationwide. Trespassing accounted for **over 60%** of rail fatalities in 2023.



# The Challenge

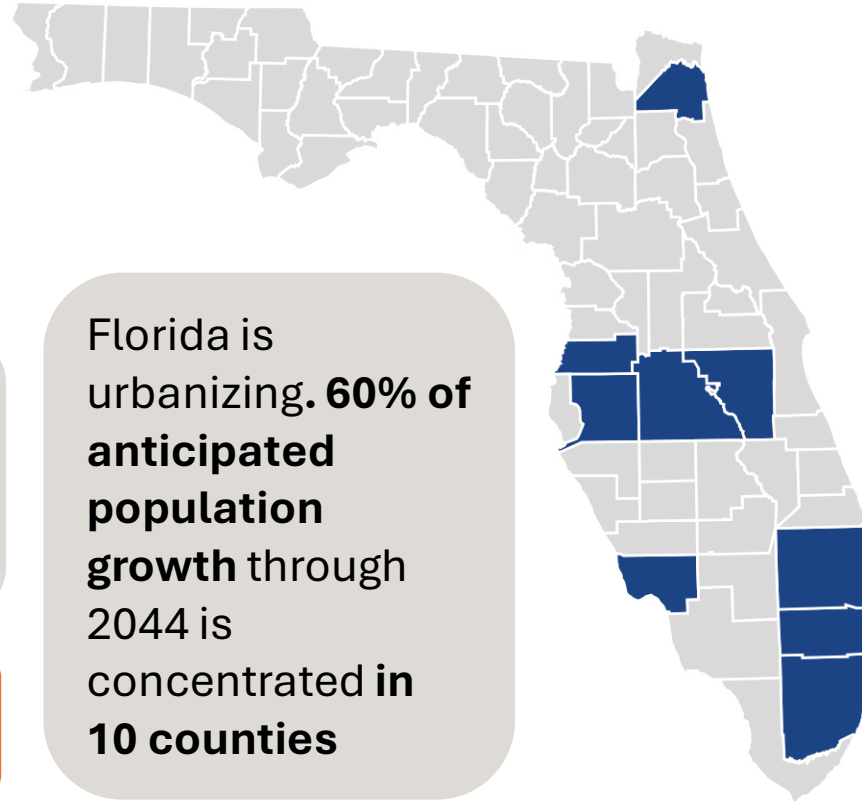
# Florida Urban Expansion



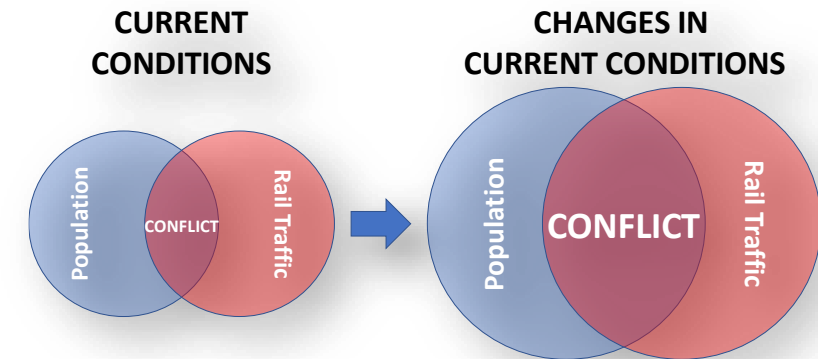
22.2 M 25 M 27.1 M

Florida has the third highest population among the states. Its population is expected to reach **27.1 million** by **2044**.

Florida At-Grade Crossings:  
+4,000 (SE = +20%)



**Population growth + Urbanization trends + Increased rail speeds + Increased rail capacity = increased human interactions with railroads**



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# Changing Dynamics in Urbanized Areas

- **Grade Crossing Incidents:** Increase in crashes involving vehicles and trains
- **Pedestrian Traffic:** Higher volume of pedestrian traffic in the vicinity of railroad tracks
- **Emergency Response Access:** Challenges for emergency responders in accessing accident sites quickly and efficiently
- **Noise and Vibration:** Residents in proximity to rail lines may experience noise and vibration from passing trains, impacting their quality of life



Source: FRA Safety Data





# Taking Action

# Florida is Taking Action



**Opening-Closure Program**



**Rail Safety Coalition**



**Dynamic Envelopes**



**Rail Safety Improvement Program**



**Education Campaigns**



**Law Enforcement**



**Rail Safety Inspection Program**



**Additional Safety Countermeasures**

**TRANSPORTATION SYMPOSIUM**

# Opening/Closure Program

- Per Florida Statute 341.302, “the Department is directed to address the opening and closing of public grade crossings....”
- FDOT aims to close five crossings a year while reducing net crossing openings to zero
- Takes proactive approach to eliminate humped crossings
- Diagnostic Team Safety Review



# Rail Safety Improvement Program

FDOT's Railroad-Highway Grade Crossing Safety Improvement Program have funded 818 projects (2014-2023).

- ▶▶ Incidents Decreased **49%**
- ▶▶ Fatal Incidents Decreased **69%**
- ▶▶ Serious Injury Incidents Decreased **55%**



# Rail Safety Inspection Program

State Rail Inspectors inspect track, locomotives, equipment, highway grade crossing warning devices, as well as confirm railroads and shippers are operating within federal and state standards

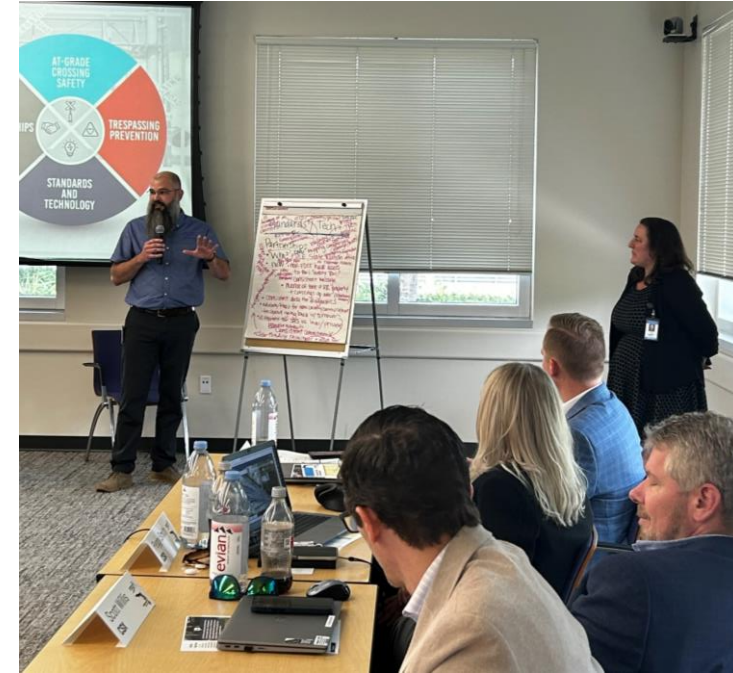


# Rail Safety Coalition

*Florida's Rail Safety Coalition aims to implement strategies and action steps that help improve rail safety, by reducing rail collisions and related fatalities and serious injuries through infrastructure and beyond infrastructure outreach*

## Participants

- Public Road Agencies
- Publicly Owned Rail Agencies
- Privately Owned Rail Companies
- Rail Advocacy Groups
- State Rail Inspectors
- Law Enforcement
- Human Services Agencies



# Rail Grants

## Rebuilding American Infrastructure with Sustainability and Equity (RAISE) discretionary grant program East Coast Corridor Trespassing and Intrusion Mitigation Project



FDOT was awarded a \$25 million federal RAISE Grant to enhance safety between Miami-Dade and Brevard counties

- Federal Grant Funding: \$25 million
- Brightline & FDOT match: \$10 million each
- Estimated Total Project Costs: \$45 million

The project mitigations aim to reduce the two primary types of crashes

- Vehicle collisions
- Trespasser strikes

The supplemental safety measures to be installed include are:

- Rail Dynamic Envelopes
- Delineators, Raised Pavement Markers, and Edge Striping
- Fencing and/or Landscaping
- "Do Not Stop on Tracks" and Crisis Support Signage

# Rail Grants

Commuter Authority Rail Safety Improvement (CARSI) program

## On Site Signal Safety Improvements

FDOT was awarded \$12.9 million

FDOT match: \$5.59 million

Estimated Total Project Costs: \$18.51 million

- The project is located on the South Florida Rail Corridor (SFRC) spanning from Miami-Dade to Palm Beach County
- The project will modernize 25 critical, dated, at-grade railroad crossings by replacing:
  - 35 signal houses
  - 34 gate mechanisms
  - 7 cantilevers
  - more than 70 light assemblies at the most traveled crossings along the South Florida Rail Corridor



# Rail Countermeasures



*US 17 signal mast arm pole used for smart sensor evaluation*

- Engineering countermeasures can help combat driver behavior issues
- FDOT reviewed crash data at crossings statewide to determine where certain types of incidences are over-represented, and developed specific countermeasures to address those behavioral issues

- Tubular markers
- Pavement markings
- Signage
- Smart sensors/detection
- Anti-trespass panels



*Anti-trespassing panels in Ft. Lauderdale, FL.*

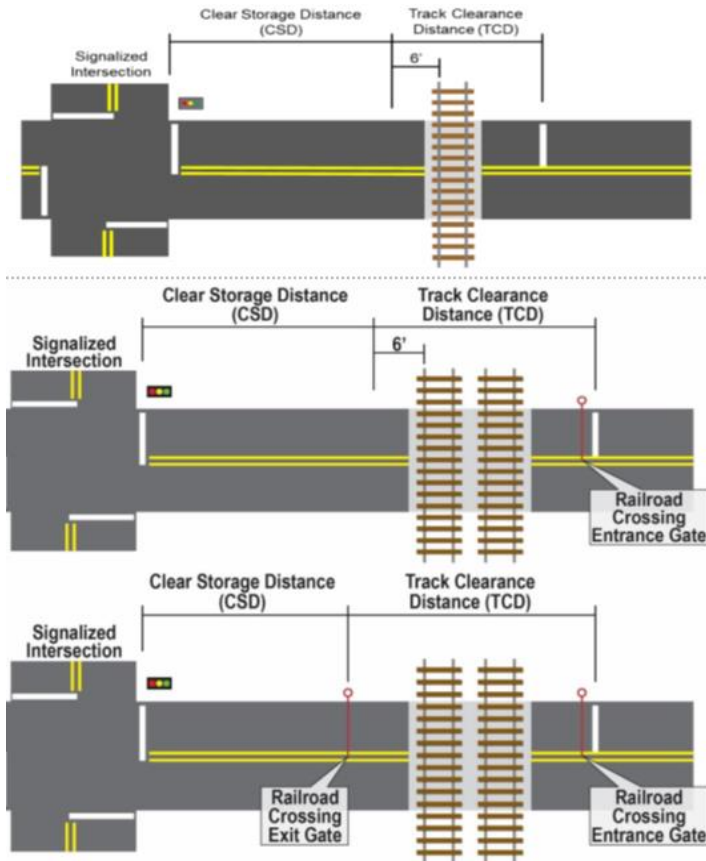
# Traffic Signal Preemption

Preemption required if any of the following:

- Traffic Signal within 200 ft. of railroad crossing
- Highway traffic queues have potential to extend across railroad crossing
- Traffic backed up from nearby downstream RR crossing could interfere with a signalized intersection

A study to determine the need for preemption is required for a signal within 500 ft of a railroad crossing

- Currently three proposed locations in FEC/Brightline corridor
  - Indiantown Road (SR 706)
  - Blue Heron Blvd. (SR 708)
  - Dr. MLK Jr. Blvd. (SR 710)



# Education Campaigns



# Education Campaigns

## 2023 Be Rail Smart Campaign Metrics / Impact



Successful Media Buy Campaign with an estimated **19M+ impressions**



**Tens of thousands** of printed educational/materials were distributed throughout the District



**51 events**



Compared to 2022...in 2023 there was about **2X the number of events and 4X the amount of impressions**

# Education Campaigns



ANA QUERO

TOOK THE OPERATION LIFESAVER RAIL SAFETY PLEDGE ON JUNE 13, 2024.

I PLEDGED TO:

- ✓ I will make safe choices around railroad tracks and trains by obeying warning signs and always expecting a train.
- ✓ I will stay off the tracks including when taking photographs or filming videos and never walk on or too close to railroad tracks (it's dangerous and illegal).
- ✓ I will walk, ride or drive across railroad tracks only at designated crossings.
- ✓ I will share the rail safety message with my friends and family.

I WILL HELP #STOPTRACKTRAGEDIES



[www.oli.org](http://www.oli.org)

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TRANSPORTATION SYMPOSIUM



# Florida is Taking Action

“Too often, families and communities experience the heartbreak of losing a loved one in a preventable rail incident,”

“As FDOT actively works to reduce these tragedies through increased engineering countermeasures and education, all Floridians – whether driving, walking, or biking – must be safe and sensible around trains and tracks.”

Secretary Jared W. Perdue, P.E.



***Addressing Rail Safety is crucial, and this Vision helps guide solutions while aligning with the FDOT compass***



**At the tracks, know when and where to cross.**

**LIVE  
TO TELL**

