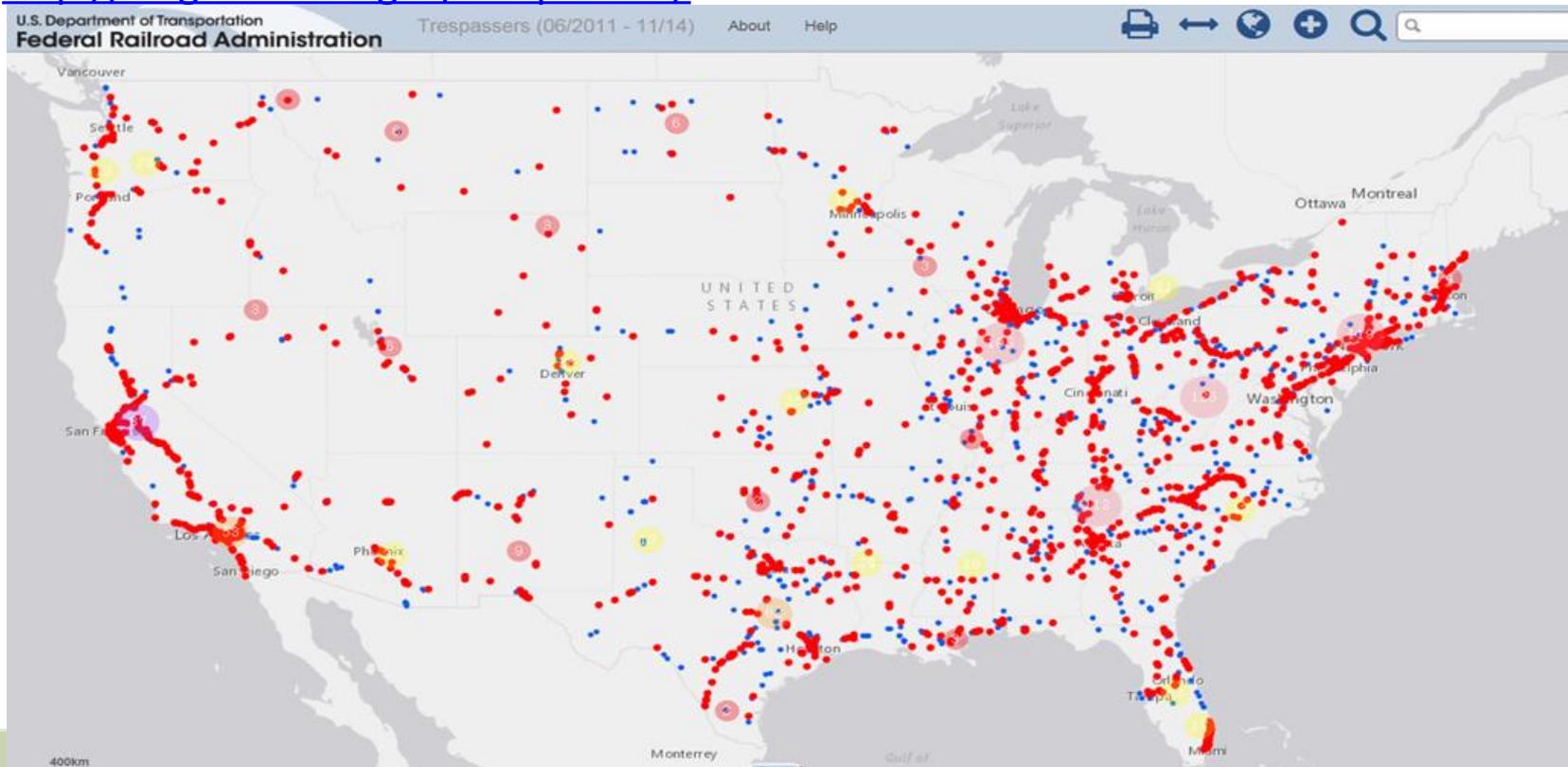


The Problem

- ❑ There were 526 fatalities and 419 injuries due to trespassing on the railroad right-of-way in 2014 (excluding suicides and pedestrian incidents at grade crossings, and transit-related trespass casualties)
- ❑ Casualty map June 2011 - November 2014 (red=fatality, blue=injury)

<http://fragis.fra.dot.gov/Trespassers/>



Trespass Prevention Research

Goal

- ❑ Partner with FRA to analyze crash causation and develop safety countermeasures, programs, and guidance to reduce the number of casualties at grade crossings and along railroad rights-of-way.
- ❑ Contribute to reduction of trespassing and resulting casualties due to trespassing on railroad rights-of-way by developing, demonstrating and evaluating new technologies and strategies that increase safety along rail rights-of-way.

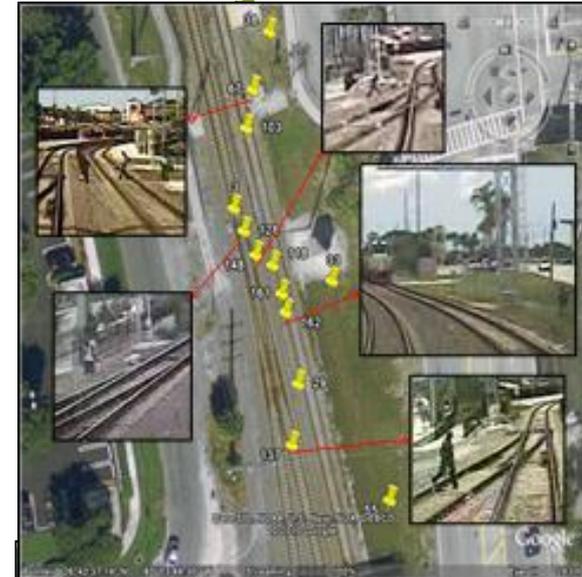
Research Method

- ❑ Research the root cause of incidents and fatalities
- ❑ Engage Stakeholders
- ❑ Identify corrective actions
 - Engineering, Enforcement, Education
- ❑ Deploy and evaluate solutions



Current Trespass Research Projects

- ❑ Trespass Prevention Research Study
- ❑ 2015 Trespass Workshop
- ❑ Trespass Detection and Warning
- ❑ Law Enforcement Strategies
- ❑ Development of Training Aids
- ❑ Pedestrian Overpass Evaluation
- ❑ Fencing Strategies
- ❑ Effects of Closure on Trespass
- ❑ Evaluation of Anti-trespass Ground Treatments
- ❑ Innovative Technologies



Trespass Prevention Research Study

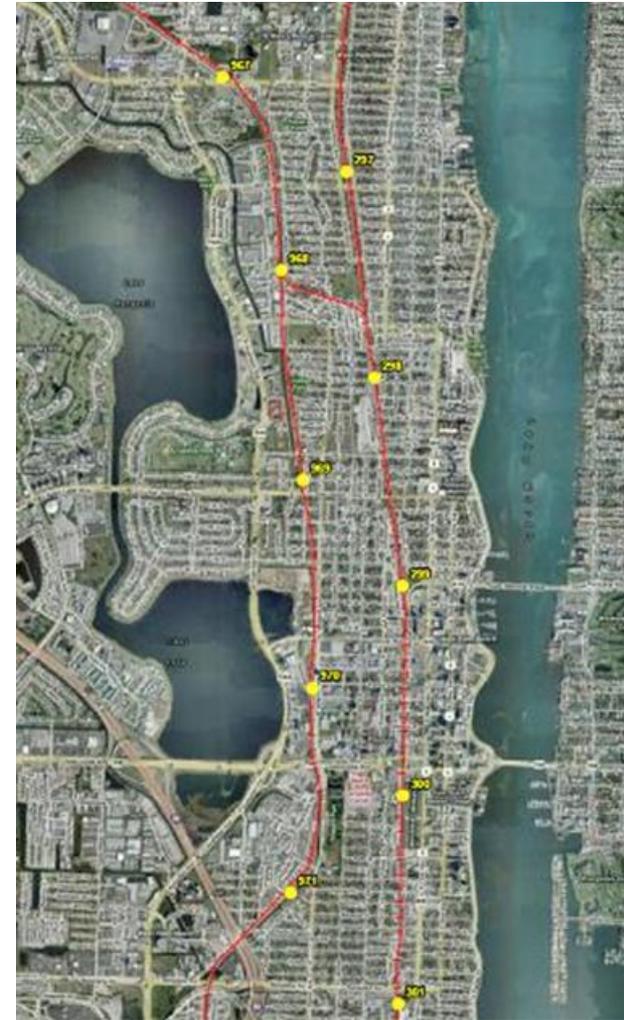
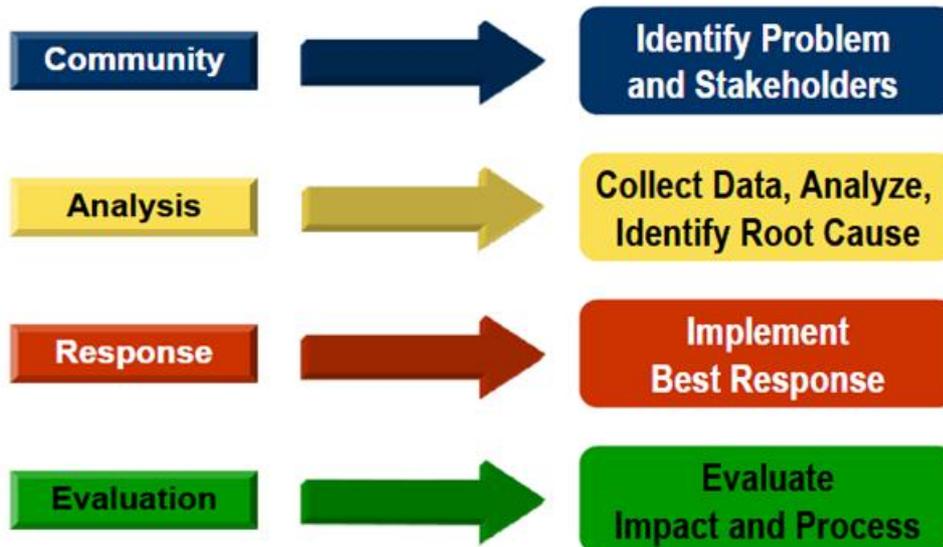
Research Objective

- Reduce trespasser incidents and fatalities
- Provide national guidance on trespass mitigation
- Initiative started in 2009

First Study Area

- City of West Palm Beach, FL (2 corridors)
 - SFRTA, CSX, Amtrak (milepost 966-973)
 - FEC (milepost 296-301)

Approach:

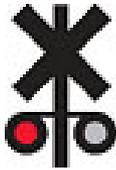


Trespass Prevention Research Study



U.S. Department of Transportation

Federal Railroad Administration



OPERATION LIFESAVER
Florida



PALM BEACH COUNTY SHERIFF'S OFFICE

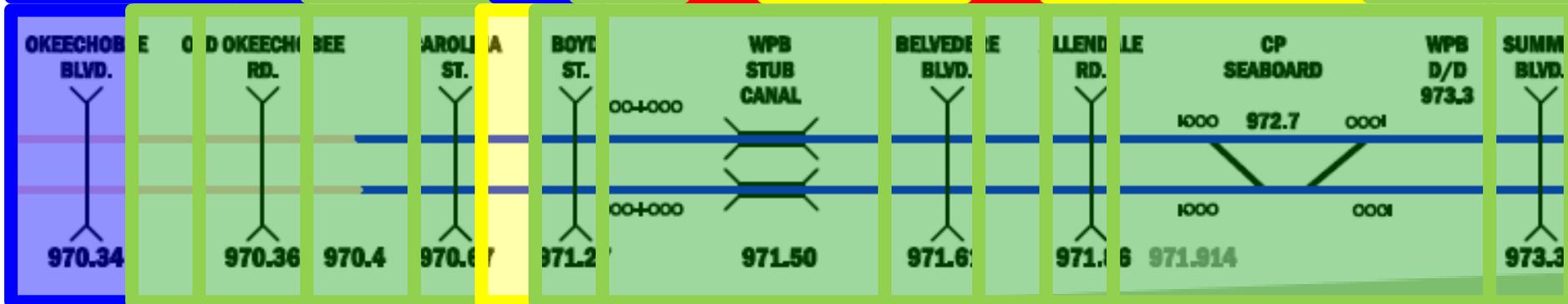
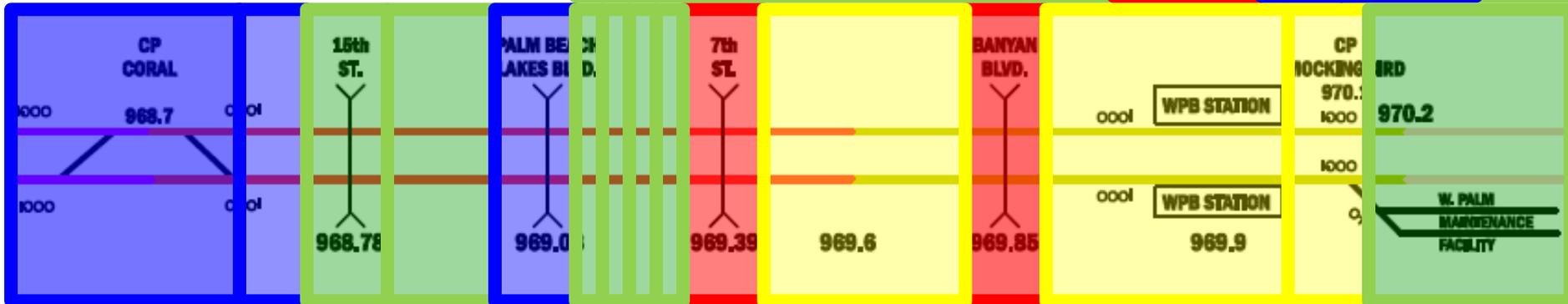
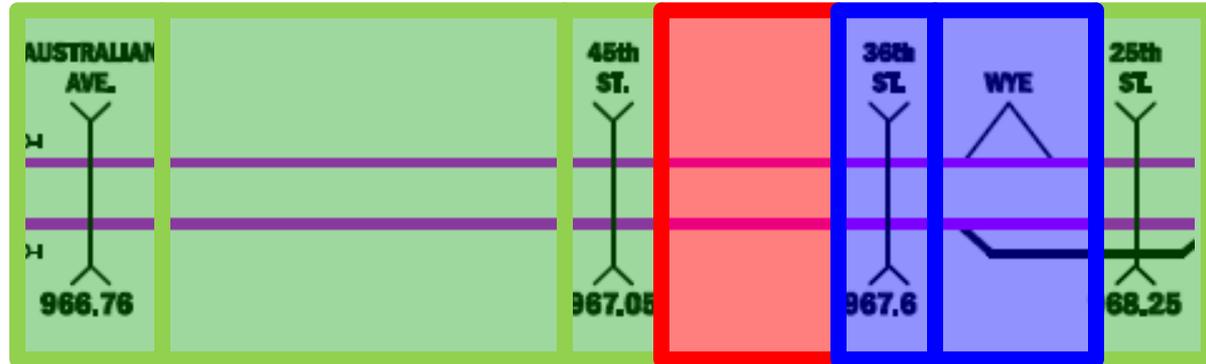


West Palm Beach Neighborhood Associations

Trespass Prevention Research Study

TriRail ROW Map – West Palm Beach, FL

- A (high risk):
- B (medium risk):
- C (low risk):
- D (negligible risk):

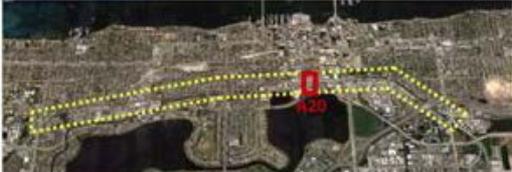


Trespass Prevention Research Study

Recommended Mitigation Strategies

Mockingbird Control Point (South end of West Palm Beach Station)

Location ID: A20
Description: Mockingbird CP
Priority Score: 12.5
Risk Class: B (Medium Risk)



Trespass Characteristics
 Most events involve rail and/or bus system users walking between west side of the ROW and east side station platform or Tamarind Avenue. Many trespassers are students at the Alexander W Dreyfoos Jr School on Tamarind Avenue.

Potential Mitigation Strategies

Engineering

- The creation of a Pedestrian-only Grade Crossing south of the station could provide pedestrians with a safe, closer at-grade alternative to reach destinations south and east of the station.
- The Extension of the Inter-Track Fence could eliminate the hazards of unsafe trespass behavior but could also have negative impacts on the rail system users.
 - The Extension of the Existing Fence west of the ROW could also reduce access to the ROW at this location.
- The Continuation of a Tri-Rail Operational Change, whereby southbound trains are routed to the East track for afternoon service, could also be maintained as a solution to minimize unsafe behavior.

Education

- A Targeted Pedestrian Blitz aimed at Tri-Rail, Amtrak, Palm Tran riders, and Dreyfoos students could be implemented to enhance pedestrian awareness.

Enforcement

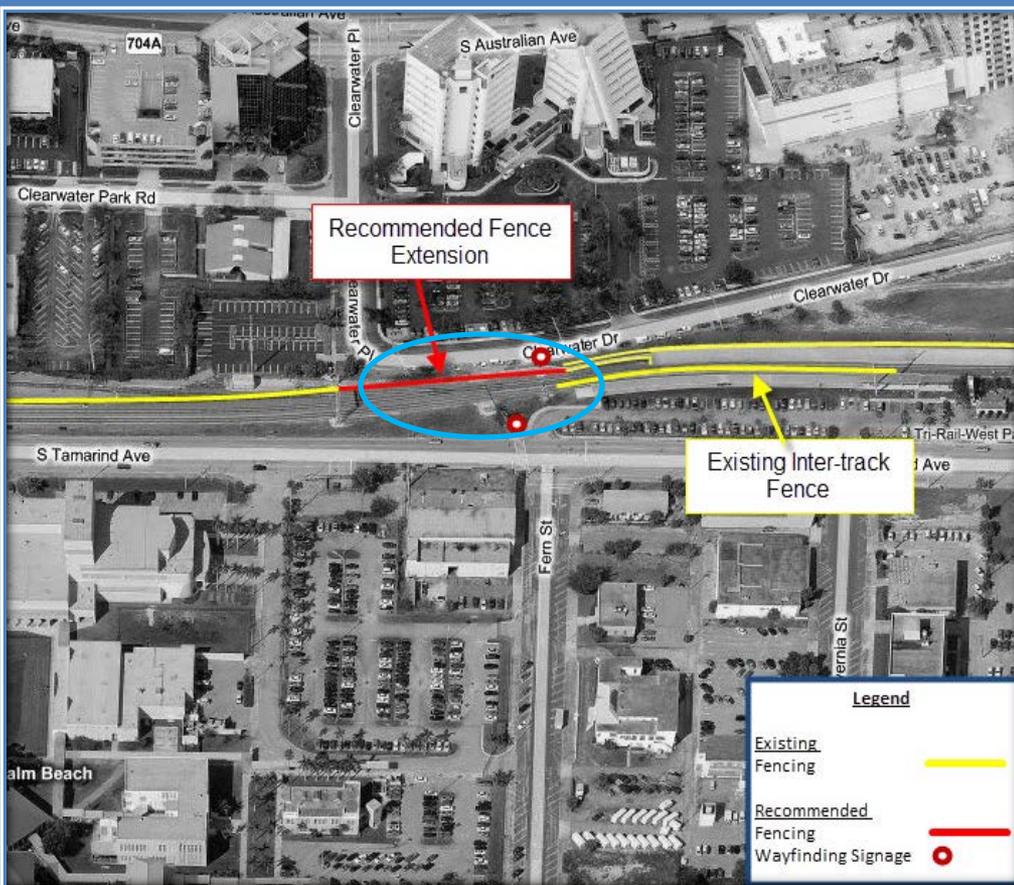
- A Targeted Enforcement Campaign at the station could support an education campaign while gaining further publicity for safe crossing practices. Stiff penalties such as delayed or denied boarding after a trespass violation could help deter future unsafe behavior.
- Better Display of Penalties, including posted signs with signal-violation penalties, can also serve as an effective deterrent.

SUG Recommended Risk Control Measures

The SUG recommended an extension of the inter-track fence, and the installation of a "Trespass Guard" near Mockingbird CP to prevent pedestrians from walking on the ROW and crossing the track. The SUG recommended a targeted pedestrian blitz aimed at Tri-rail, Amtrak, Palm Tran riders and Dreyfoos students along with an enforcement campaign with penalties such as delayed or denied boarding for trespassers.

John A. Volpe National
 Transportation Systems Center



Recommended Fence Extension

Existing Inter-track Fence

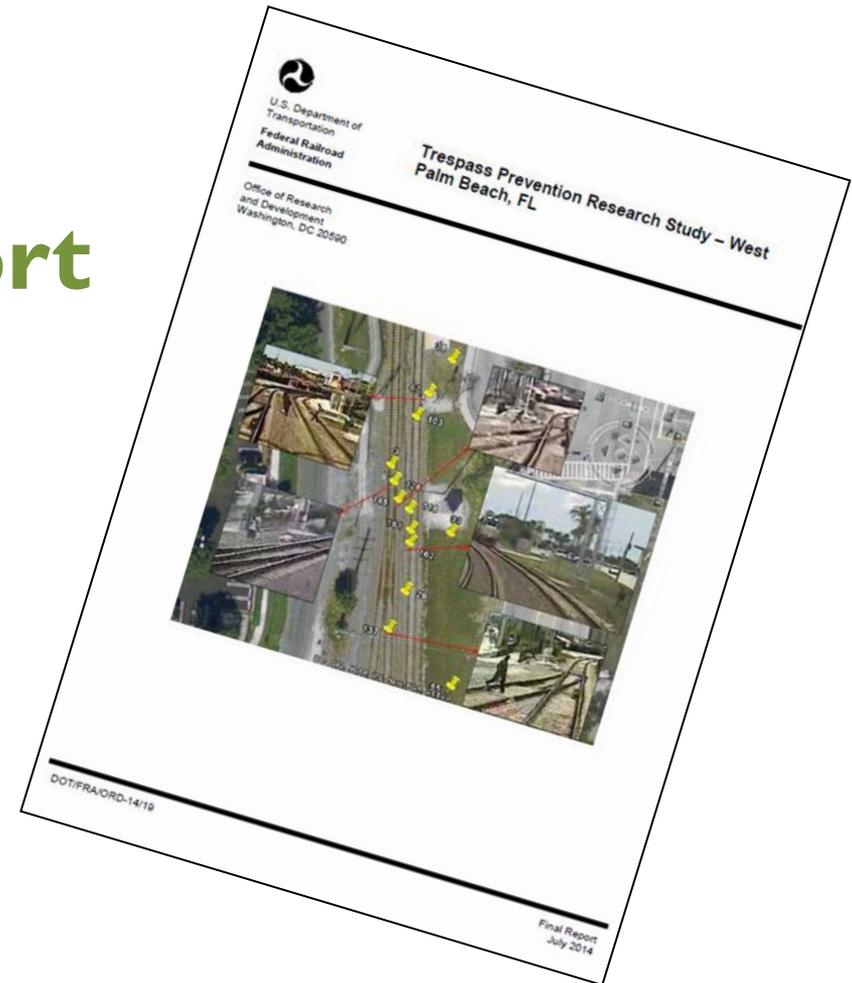
Legend

- Existing Fencing — Yellow line
- Recommended Fencing — Red line
- Wayfinding Signage — Red circle

Trespass Prevention Research Study

Final Technical Report

<http://www.fra.dot.gov/eLib/details/L05307>



Trespass Prevention Research Study – West Palm Beach, FL (DOT/FRA/ORD-14/19), July 2014

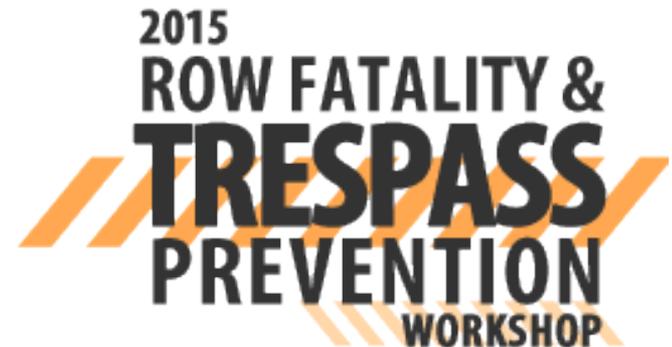
2015 ROW Fatality & Trespass Prevention Workshop

Objectives:

- Foster an exchange of information on research priorities on trespassing mitigation
- Encourage future partnerships on shared research topics of interest
- Create additional research need areas and/or specific projects.

Topic Areas:

- Community Outreach and Education
- Enforcement
- Design, Technology, and Infrastructure
- Intentional Acts/Deaths
- Pedestrian Safety



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<http://www.fra.dot.gov/Page/P0612>

Trespass Prevention Research

□ Recent Publications

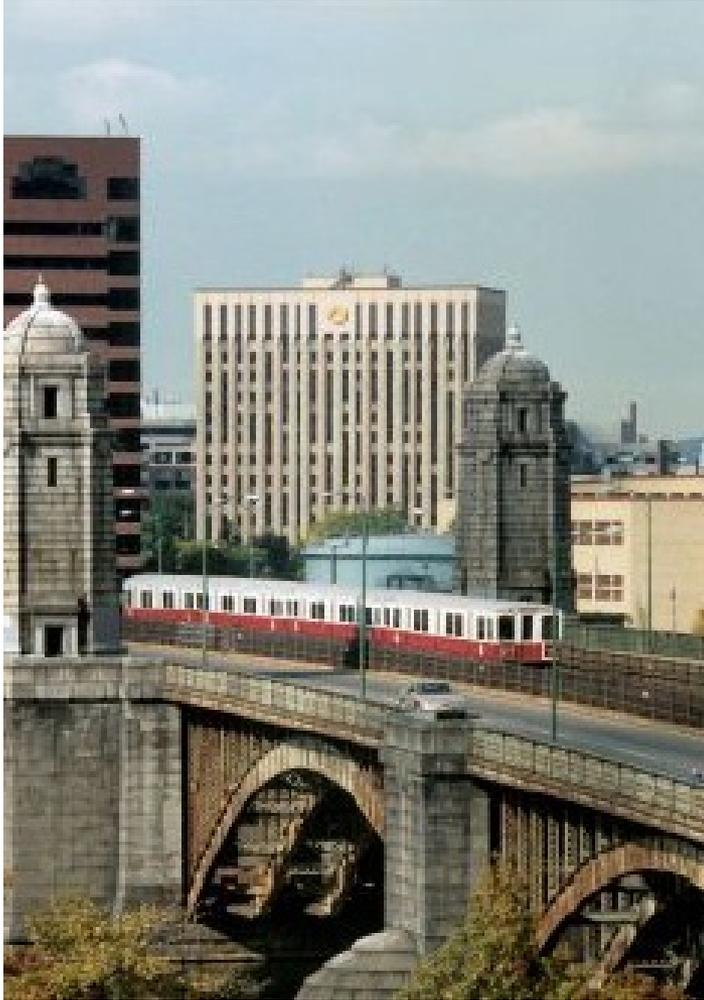
- Trespass Prevention Research Study – West Palm Beach, FL (DOT/FRA/ORD-14/19, July 2014)
- 2012 Right-of-Way Fatality and Trespass Prevention Workshop (DOT/FRA/ORD-13/18, April 2013)
- Development and Implementation of a Trespass Location Severity Analysis on a Commuter Rail Right of Way (2013 ASME Joint Rail Conference Paper # JRC2013-2532)



□ Upcoming Deliverables

- Law Enforcement Strategies for Rail Right-of-Way Trespass Prevention
- Engineering Design for Pedestrian Safety
- Rail Right-of-Way Fencing Strategies





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