

# Countermeasures for the Prevention of Suicides in Railway Rights-of- Way

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ASSOCIATION OF  
AMERICAN RAILROADS



# Acknowledgements & Project Partners

## Acknowledgements

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- Railroad Research Foundation
- American Association of Suicidology
- George Washington University
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- Volpe Center

## Project Partners

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- Michael Martino (AAR/RRF)



# AGENDA

- **Motivation & Process**
- **Benefits & Disadvantages**
- **Complications**
- **Lessons Learned**
- **Next Steps**



## Description of Project

- Suicides on railroad rights-of-way are relatively rare events, yet have great impact on witnesses, railroad employees, and surviving loved ones.
- Suicide incidents cause significant consequences to both the railroads and larger society.
- Are there unique characteristics of individuals who choose to die on railroad rights-of-way to which can help inform countermeasure or intervention strategy development?



## Motivation/Reasons for Project

- Establish the prevalence of suicides on railroad rights-of-way.
- Develop countermeasures to prevent these suicides.
- Understand interacting characteristics of person and site to determine why people die by suicide in this manner.
- In ALL RR safety categories there have been significant reduction in statistics except trespasser incidents.



## Previous Methods/Processes

- Previous research has primarily been conducted outside of the U.S. Work conducted in the U.S. has been limited to epidemiological or demographic information.
- This is the first study in the United States that tries to understand the risk factors and warning signs of individuals who die by suicide on railroad rights-of-way.



## Background

- Previous research studies have primarily used highly urbanized railroad systems – no clear discrimination between freight and transit lines.
- While transit tracks are mostly in urban and suburban areas, freight tracks also cover rural areas.
- Rural areas are known to experience different types of issues (e.g., higher suicide rates and lower likelihood of treatment for substance abuse) – thus different patterns may emerge surrounding suicides on each type of track.



# Overview

- **Retrospective**
  - Snapshot of the past
- **Prospective**
  - Ongoing data collection
- **Defining Characteristics**
  - Psychological autopsies
- **Plan & Implement Pilot Test**
  - Plan, implementation and evaluation



## Retrospective Prevalence Estimate

- Between 6/1/2006 and 5/31/2007, 268 confirmed suicides on railroad rights-of-way were identified.

<b>Characteristic</b>	<b>Retrospective(%), N=268</b>
Male	72%
Female	28%
<25 Years	20%
25-50 years	72%
>50 years	8%



## Defining Characteristics

- Between 10/1/2007 and 9/30/2010, 466 cases of suicide on railroad rights-of-way were identified.
- 55 of these were investigated further via “psychological autopsy”.
  - Psychological autopsy involves interviewing next of kin or other individuals familiar with the decedent.



# Defining Characteristics

- In general, very similar to suicides by other means
- Some notable findings:
  - 87% of decedents lived within 2 miles of the railroad rights-of-way.
  - 96% of decedents were reported by next of kin to have had a mental disorder.
  - Very few were reported to have had a cell phone in their possession at time of death



# Benefits & Disadvantages

## Benefits

- RR industry would have better way to address overt trespasser acts
- Identify “Hotspots”
  - Strategically focus on next signage project
  - Examine why these “hotspots” exist
- FRA regional grade crossing personnel can collect additional data

## Disadvantages

- No definitive means to identify the number of suicides
- Unknown location of “hotspots”
- Funding
- Railroads do not have personnel to devote more time to identify suicide cases



# Project Complications

- **Availability of data**
  - Lack of systematic data collection system
  - Missing data fields
  - Absence of basic, e.g. demographic, information
  - Unavailability of key informants
- **Autopsy findings by coroners/medical examiners**
  - Coroners/ME's less likely to rule a suicide without clear evidence (i.e., a note)
- **Willingness to share**
  - Lack of information from healthcare providers
  - Incomplete record-keeping
- **Conflicting information from different sources**
- **Insufficient time allotted for the signage project**



# Lessons Learned

- **Coroner/Medical Examiner Education**
  - Generally rule blunt force trauma, rarely confirm suicide
- **Educating Claims/Liability Railroad Representatives**
  - Do not mention the word suicide when dealing with the media
- **Media**
  - Appropriately report that suicides on railroad rights-of-way to be determined by coroner/ME
  - Limited usage of “suicide” by media mitigates copycat events
- **Mental Healthcare Provider**
  - To be made aware that not all trespasser incidents result in fatality
- **Public Awareness**
  - To be made aware that not all trespasser incidents result in a fatality
- **Signage**
  - Limited number of cases had cell phones
  - Numerical message preferred over alphabetical
  - Message may be misconstrued



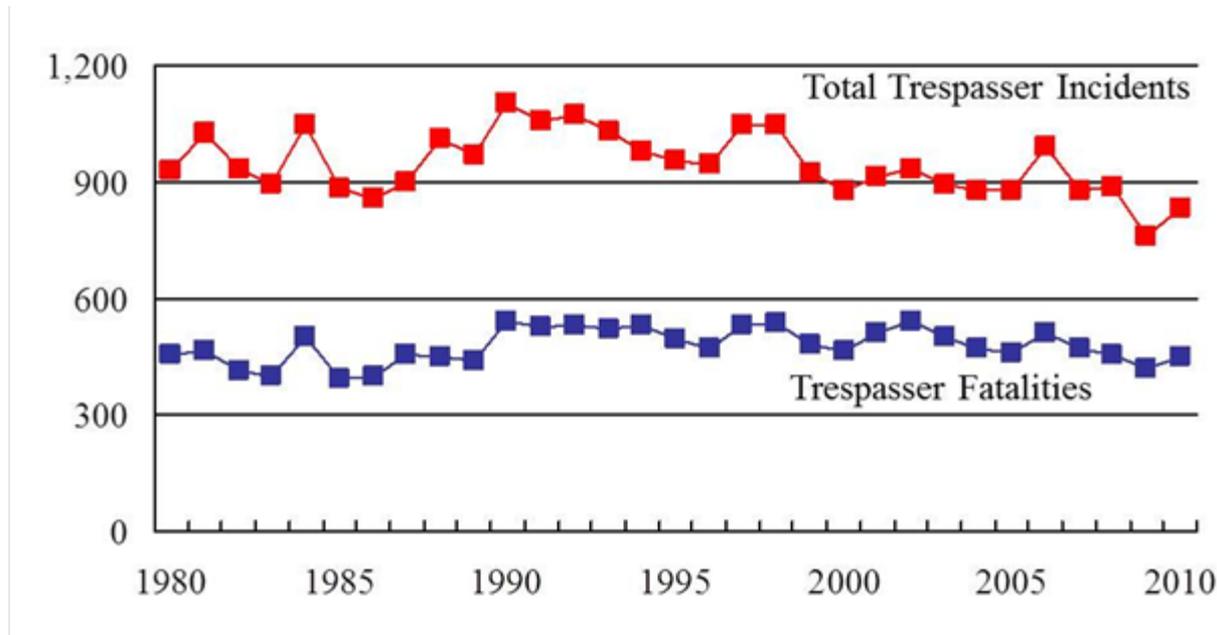
# Comparison of Gender and Age of Study Population, Confirmed Cases, and U.S. Suicides

<b>Characteristic</b>	<b>Cases included in FRA Psychological Autopsy study (% of N = 55)</b>	<b>All reported suicides during study timeframe (% of N = 466)</b>	<b>U.S. Suicides by all means, 2007 (% of N = 34,598)</b>
Male	84	81	79
Female	16	19	21
Age <30 years	33	18	22
Age 31-50 years	40	47	39
Age >51 years	27	35	39



# Not All Trespasser Incident Result in a Fatality

Number of  
People Struck



Sources: <http://safetydata.fra.dot.gov/officeofsafety/publicsite/summary.aspx> (2010 data).

FRA, [Railroad Safety Statistics Annual Report](#), 1997-2010, Tables 1-2, 10-3.

FRA [Accident/Incident Bulletin](#), 1980-1996, Table 13.

Note: Excludes "trespasser" fatalities at grade crossings.

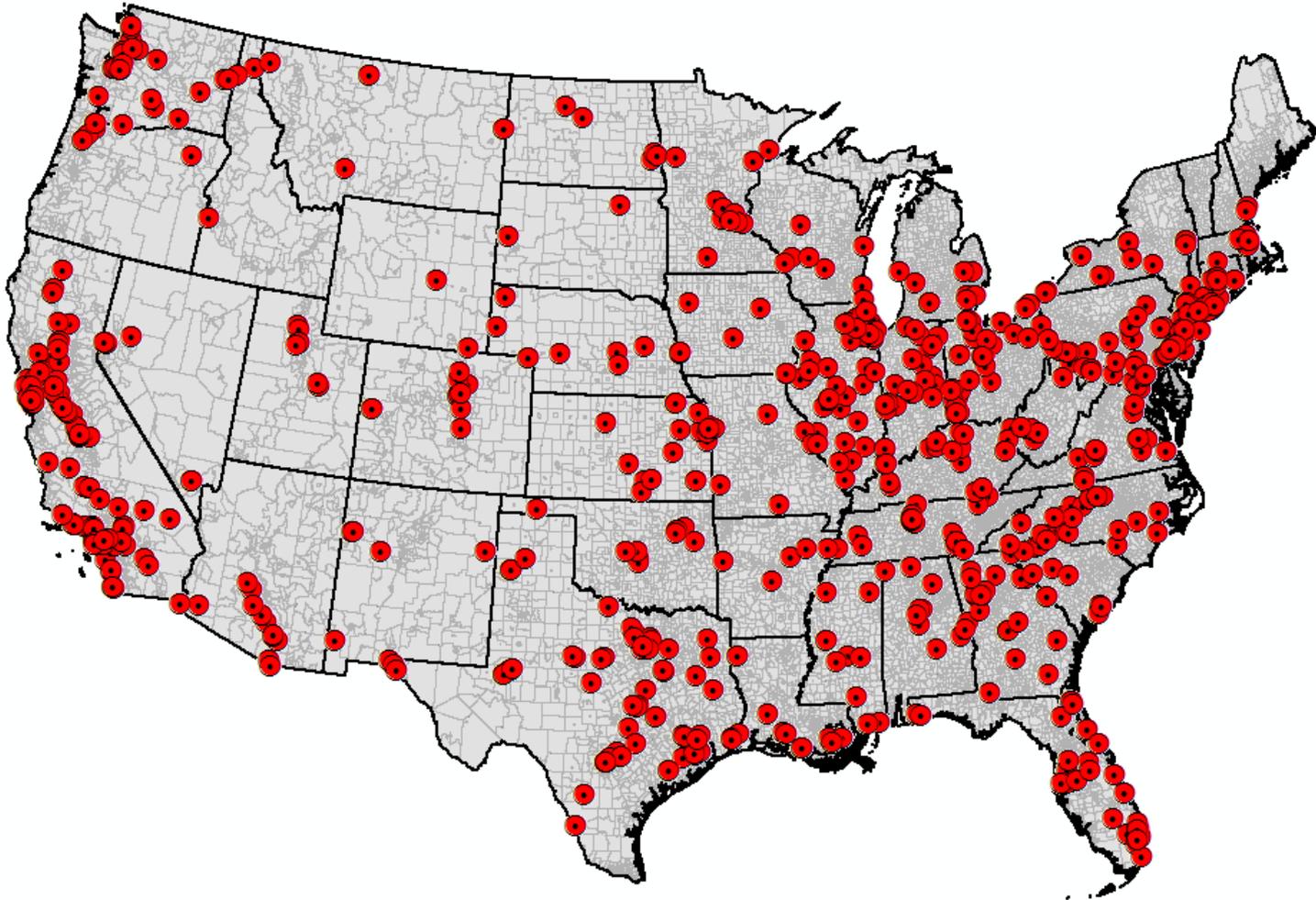


# Mapping will Show Hotspots





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# Key Success Factors

- The US is now on par with other leading countries in addressing suicide issues
- New suicide study is about to begin in Australia
- More awareness of “Hotspots”
- Better communication with the media at a trespasser incident
- Better focus for next steps
- Realizing no one has developed a “Best Practices” listing of suicide preventative programs on rail/transit in the US



## NEXT STEPS

- Mapping of trespasser incidents
- Can suicides be identified from these trespasser incidents?
- New signage effort
  - Use mapping information to determine rights-of-way where signs may be useful
  - Inquire existing signage programs
    - What works and why?
    - What does not work and why?



Thank You

Questions?