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

Michael Martino – AAR
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Project Partners

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• Dr. Anne Doucette (GWU)
• Dr. Lanny Berman (AAS)
• Michael Martino (AAR/RRF)
AGENDA

• Motivation & Process
• Benefits & Disadvantages
• Complications
• Lessons Learned
• Next Steps
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 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
Between 6/1/2006 and 5/31/2007, 268 confirmed suicides on railroad rights-of-way were identified.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Retrospective(%), N=268</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>72%</td>
</tr>
<tr>
<td>Female</td>
<td>28%</td>
</tr>
<tr>
<td>&lt;25 Years</td>
<td>20%</td>
</tr>
<tr>
<td>25-50 years</td>
<td>72%</td>
</tr>
<tr>
<td>&gt;50 years</td>
<td>8%</td>
</tr>
</tbody>
</table>
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

- 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

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Cases included in FRA Psychological Autopsy study (% of N = 55)</th>
<th>All reported suicides during study timeframe (% of N = 466)</th>
<th>U.S. Suicides by all means, 2007 (% of N = 34,598)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>84</td>
<td>81</td>
<td>79</td>
</tr>
<tr>
<td>Female</td>
<td>16</td>
<td>19</td>
<td>21</td>
</tr>
<tr>
<td>Age &lt;30 years</td>
<td>33</td>
<td>18</td>
<td>22</td>
</tr>
<tr>
<td>Age 31-50 years</td>
<td>40</td>
<td>47</td>
<td>39</td>
</tr>
<tr>
<td>Age &gt;51 years</td>
<td>27</td>
<td>35</td>
<td>39</td>
</tr>
</tbody>
</table>
Not All Trespasser Incident Result in a Fatality

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?