



U.S. Department  
of Transportation

Federal Railroad  
Administration



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## 2015 ROW FATALITY & TRESPASS PREVENTION WORKSHOP

### SUMMARY

Trespassing along railroad rights-of-way (ROW) is the leading cause of rail-related deaths. More than 500 preventable trespass fatalities and nearly as many injuries occur each year in the United States, and most of these incidents involve pedestrians.

Based on the successful 2008<sup>[1]</sup> and 2012 ROW Fatality and Trespass Prevention Workshops<sup>[2]</sup>, the U.S. Department of Transportation (US DOT) Federal Railroad Administration (FRA) sponsored a third ROW Fatality and Trespass Prevention Workshop from August 4-6, 2015 in Charlotte, NC.

The workshop's program was presented by rail experts and safety professionals who shared their ideas on key issues, best practices, technical developments, human behavior, law enforcement, and public education and awareness outreach methods and techniques related to trespass prevention. The participants represented Federal, State, and local governments, freight and passenger railroads, transit agencies, labor unions, academia, non-profit organizations, and consultants. Other nations were represented including the UK and Canada. The workshop concluded with the development of 24 high priority recommended actions across five topic areas.

### BACKGROUND

The 2008 and 2012 workshops gathered constituents to focus on ROW fatality and trespass prevention common solutions. FRA sponsored a follow-on workshop on August 4-6, 2015 in Charlotte, NC to continue this effort.



Figure 1. 2015 ROW Fatality & Trespass Prevention Workshop Opening Session

### OBJECTIVES

1. Provide FRA and stakeholders with update on ROW fatality and trespass prevention activities.
2. Solicit the workshop attendees' ideas on prospective future action and research priorities.

### WORKSHOP STRUCTURE

A steering committee composed of representatives of US DOT and stakeholder organizations was nominated by FRA to develop the agenda, topic areas and speakers, and participate in the workshop.

The workshop commenced with a recorded welcome address by FRA Acting Administrator Sarah Feinberg. This was followed by 23 technical presentations across the following five topic areas: 1. Pedestrian Safety Issues, 2. Design, Technology, and Infrastructure, 3. Community Outreach and Education, 4. Enforcement, and 5. Intentional Deaths/Acts.

The workshop concluded with the development of prioritized recommended actions within each topic area developed by working groups, each composed of 30 to 50 workshop attendees.



## FINDINGS

The topic area groups generated over 80 ideas ranging from expanded initiatives to new research projects, and four to five recommended actions were put forth by each group. The 24 high priority recommended actions as reported and described by the working groups are outlined below.

### Pedestrian Safety Issues

1. *Signage*: Framework for identification and rotation of signage to maintain currency; crisp, effective messaging can be a cheaper alternative; issues -cost, local buy-in, ongoing administration and maintenance.
2. *Crossing Guards*: Control pedestrian movement at large events; prevent pedestrians from entering outside the crossing envelope, eyes to monitor train traffic; inexpensive, effective and immediate, augment safety blitzes; need to determine who will staff and pay associated costs.
3. *Clearinghouse*: Provide grade crossing safety info, ideas, best practices; via a website, and eventually a live person; wide dissemination of practices, theories; local experiences, wider audience; costly, requires resources and maintenance.
4. *Pedestrian Safety Workshop*: Best practices, engineering solutions, etc.; provide local ideas to national audience through case studies, information exchange, lessons-learned; networking, new innovations, ideas; Challenges include travel restrictions, mix of participants, and need existing scheduled seminars.
5. *Best Practices Guide*: Signage, channelization, geometry, local characteristics, etc.; technology transfer; save lives, reduce incidents and accidents, facilitate proven crossing treatments nationally; establish team of SME's to capture various designs, approaches.

### Design, Technology and Infrastructure

1. *Unmanned Aerial Vehicle (UAV)*: Research and develop UAV or satellite to capture corridor

anomalies, trespassers or obstructions along railroad, should provide communication to locomotive engineer; high potential; identify trends, risk areas for enforcement, real time notification; need FAA to allow for use.

2. *Develop automated or operator-based technology to detect trespasser or ROW obstructions*: Including locomotive-mounted, operator controlled or wayside apparatus, warn trespasser and distribute information between locomotive engineer, railroad dispatcher or integrate with PTC; real-time to deter the trespasser, notify railroad and law enforcement of the trespasser; technology is extant, need to determine how to implement.

3. *Research Technologies to Influence Human Behavior*: Alert trespassers of hazards; multiple technologies such as light (color, brightness, stimulation), and microwave, infra-red; new/better ways to deter trespasser behavior; inform trespassers of hazards or high risk locations; difficult and costly to implement.

4. *Mitigation Measures, Various Environments or Conditions*: Research technologies and methods relative to environment or condition; need understanding of varying conditions; standardize application across rail carriers or public agencies; will vary by location.

5. *Standardized Data*: for the collection and reporting of trespassing, near-misses and issues; hot spots or incidents, define enforcement zones; need stakeholder participation to obtain good data.

### Community Outreach and Education

1. *Target National Associations to Raise Trespass Awareness*: Utilize existing anti-trespassing program, safety messages via national associations, (e.g., AAR, APTA, AASHTO, Assoc. of Fire Chiefs, etc.); spread messages through their membership, reach broader audience; increased efficiency; buy-in from associations may be challenging, may need incentives.



2. *National Railroad Safety Day/Week*: Uniform trespass and crossing safety messages; governors more likely to make a priority (and provide funding), Federal agencies, railroads and others can blitz communities and media outlets; unified message to communities, lessen fatalities, injuries, and raise public awareness; Executive Branch support for Presidential proclamation, communication and pre-planning.

3. *Community Outreach with the Big Leagues*: Create partnerships with sport outlets/leagues, host volunteer efforts, PSAs played in arenas, handouts, logo/signage on team uniforms; provide social media and other high-visibility outreach. Start with one organization. How much associated costs can be shifted to the professional sports partner, and how much will be borne by federal partners, railroads?

4. *Nationwide Media Buy Campaign*: unified PSA funded by railroads, federal and state DOTs; purchase PSA time versus earned media allows targeting; use existing profiles and research to determine networks, times, messages for PSA; utilize National and State Broadcasting Associations multi-outlet buys; utilize Ad Council with 501(c)(3) designation (English & Spanish); name recognition for sponsoring organization, change perception that trespassing is acceptable; most PSA campaigns are based on earned media, purchasing ad time will be expensive. Coordination with partners and stakeholder is required.

5. *Rail Safety Question on Driver's Ed and CDL Licensing Test*: States to include a Grade Crossing Safety message or question in drivers and CDL license applications; increase driver awareness of rail crossing safety; motor carrier organizations, US DOT, AASHTO, and others.

## Enforcement

1. *Model Trespass Statute*: Develop trespass laws for states; currently no consistency; uniform law would facilitate enforcement; large fines may hinder buy-in. Need to educate the judicial system to garner support.

2. *Grant Program for Railroad Enforcement*: Establish federal grant programs for enforcement of railroad violations; local enforcement has limited resources; engage community; data required for grant program, an agency to manage the grant will be necessary.

3. *Model Railroad Law Enforcement Authority*: federal guidance for state statutes for railroad law enforcement; railroad police authority differs between states, consistency between them to carry out missions more effectively; better enforce trespasser and other railroad violations regardless of jurisdiction or ability to appropriately enforce the state laws; states will be resisting passage of necessary statute and/or modify the existing language to make this happen.

4. *Use Technology to Detect, Deter and Apprehend*: RRs and local law enforcement lack manpower; technology would cover greater area and also reveal worn paths, homeless camps, and illegal dumping; can be expensive. Sharing data with law enforcement partners might be difficult. Data for prosecution might require additional effort/investigation.

## Intentional Deaths/Acts

1. *Talk to suicide survivors for best practices*: Understand why they chose RR's, what might have prevented their attempt. Examine best practices from other suicide prevention campaigns; better messaging needed; find survivors to participate.

2. *Develop Rail Media Guidelines*: Work with rail carriers to develop guidelines and encourage responsible reporting; discourage sensational reporting; fewer copycat suicides; distribution information to media.

3. *Coroner Education*: Educate Coroners/CMEs on rail deaths; current determination is slow and inconsistent; better quality data faster; cooperation of the coroners/CMEs.

4. *Universal Rail Phone Number*: Easy to remember number to report emergencies because the call would be tagged with a GPS



location; better incident location, and easier reporting by public; quicker response to emergencies; would need to fund the phone center.

5. *Secondary Probable Suicide Statistics*: Add another category in FRA reporting for probable cause of death at the scene; to reduce the time and inconsistency of suicide determinations; quicker and more reliable data to identify hot spots; FRA manpower and legal issues.

## CONCLUSIONS

The goal of this workshop was to share existing leading practices and explore new ideas and strategies to reduce the number of ROW trespasser incidents and fatalities. The FRA anticipates that the results of this workshop will be used by US DOT modal administrations and their stakeholders to enhance safety on the nation's rail network.

## REFERENCES

- [1] Adduci et al. (2009) ROW Fatality and Trespass Reduction Workshop 2008—Summary of Results (Publication No. DOT/FRA/ORS-09/001). Washington, DC, FRA.
- [2] Harrison et al. (2013) 2012 Right-of-Way Fatality and Trespass Prevention Workshop (Publication No. DOT/FRA/ORD-13-18). Washington, DC, FRA.

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