Measure Name: Plan for expedited incident response

Definition: Coordinate a plan for incident management and response among all parties.

Tags:

Type of Incident:

- ☐ Non-Motorized Users Only
- ☐ Motor Vehicles Only
- ☒ Both

Intervention Strategy:

- ☐ Data: application and planning
- ☒ Education: outreach and messaging
- ☐ Enforcement: policy development and rulemaking
- ☐ Engineering: technological and physical deterrents

Type of Problem:

- ☒ Non-Motorized Users Violating Warning Devices
- ☒ Motor Vehicles Violating Warning Devices
- ☒ Vehicle ROW Incursion
- ☒ Vehicle Congestion
- ☒ Blocked Crossing
- ☒ Vehicle Hang-up

Measure Category:

- ☐ Risk Assessment
- ☐ Policy and Enforcement
- ☒ Collaboration, Training, and Education
- ☒ Public Communication
- ☐ Physical Barriers
- ☐ Detection and Lighting
- ☐ Infrastructure Modification
- ☐ Post-Incident Management
- ☐ Warning Devices

Description

After a train-person or train-vehicle collision at a grade crossing, several parties are typically involved in managing the site of the collision, including rail police, local police, other emergency responders, train crews, and other rail employees. Clear communication and coordination among all parties is important to ensure that all parties understand their roles and responsibilities following a train strike. These roles and responsibilities can include:

- Care of the train crew and individual involved
- Security of the site
- Collection of physical evidence and other information
- Site cleanup
- Arranging alternative transportation for passengers
- Managing other train traffic
- Restoring service

Rapid incident response is critical to reduce delays and quickly and efficiently resume service and traffic flow on the roadways. Actions that can help to facilitate the rapid arrival of emergency responders include identifying the precise incident location and the pathways with the most direct access to the final resting place of those involved in the incident, which could be away from the initial impact at the grade crossing, as well as accurately communicating that information to emergency responders. Using commercially available mapping software and web-based tools that use Global Positioning System (GPS) data or Geographic Information Systems (GIS) data can help to quickly provide critical location information to emergency responders [1]. It is also important to communicate the presence of obstacles that could hinder arrival to the incident site, including fencing, vegetation, or other physical features. In addition, consider if roadway vehicle will need to be cleared and whether responders will need to clear a footpath. Checklists for each party's roles and responsibilities can also help to efficiently respond to and manage incidents, for example securing the site, collecting information, cleanup, and talking points for media inquiries.

The FRA and others have developed grade crossing safety training and other informational resources targeting law enforcement and other emergency personnel responding to an incident on the tracks [2]. These resources should be used to train first responders on how to operate in the rail environment when responding to an incident.

Additional measures can be included as part of the response plan or implemented in parallel. Examples include: collaboration with local government and communities, improved data collection after an incident, and support rail staff after traumatic events (see Related Measures).

Additional search terms: *emergency response, planning, recovery*

Advantages

- Collaboration is relatively low-cost. The cost of this measure is primarily associated with the amount of time needed for staff to participate in plan development. [3]
- In-house staff can conduct tasks associated with post-incident management.
- Incident response plans can help to expedite incident response and restoration of road and rail service.
- Having designated roles and responsibilities can ensure quick coordination during emergencies.
- Coordinated incident response plans can help to increase local law enforcement's awareness of the need to address grade crossing safety within their communities.
- Rapid incident response benefits rail carriers, ridership, and the community by reducing interruptions in services and minimizing road closures.

Drawbacks

- When coordinating plans among multiple stakeholders, it may take time to receive and incorporate input from each party and to resolve any planning differences.
- Plan will need to be reviewed and updated on a regular basis and agreed by all parties. This may take time depending on if involvement changes or staff turnover for members of any separate group.

Notable Practices

- Make sure that the terminology used is understood by all stakeholders to avoid confusion. [3]
- Ensure that emergency responders receive location information in a format that is easy to understand and follow. [3]
- Use consistent location information, for example, GPS coordinates, milepost, or latitude/longitude format when communicating the location of the incident. [1]
- Consider how emergency responders will access the tracks (e.g., by foot, vehicle, or both) and any special equipment that may be required.
- Clarify roles and responsibilities of all stakeholders while allowing for flexibility within the post-incident management plan.

References

[1] RESTRAIL. (2014). *Evaluation of measures, recommendations and guidelines for further implementation: Pilot test #7, Societal collaboration to prevent railway suicide – TrV & KAU*.

Description: This document describes a pilot test of societal collaboration to prevent rail suicide as part of the RESTRAIL project.

[2] Federal Railroad Administration. (2022, September 2). Law Enforcement/First Responders Resources.

Description: Website contains resources and training for first responders to better prepare them for a rail emergency.

[3] daSilva, M., & Ngamdung, T. (2014). Trespass Prevention Research Study – West Palm Beach, FL. Technical Report No. DOT/FRA/ORD-14/19. Washington, DC: U.S. Department of Transportation, Federal Railroad Administration.

Abstract: The United States Department of Transportation's (U.S. DOT) Research and Innovative Technology Administration's John A. Volpe National Transportation Systems Center (Volpe Center), under the direction of the U.S. DOT Federal Railroad Administration's (FRA) Office of Research and Development (R&D), conducted a Trespass Prevention Research Study (TPRS) in the city of West Palm Beach, FL. The main objective of this research was to demonstrate potential benefits, including best practices and lessons learned, of implementation and evaluation of trespass prevention strategies following FRA's and Transport Canada's existing trespassing prevention guidance on the rail network in West Palm Beach, FL, and all of its rights-of-way.

This report documents the results of the implementation of the guidance discussed in this study. The results of the trespass prevention strategies will be analyzed to help determine areas of potential risk, develop solutions to prevent and minimize risk exposure, and implement successful countermeasures in the future. The ultimate objective of the research is to aid in the development of national recommendations or guidelines to reduce trespass-related incidents and fatalities.

Additional Resources

Caltrain. (2016, September 6). *Behind the Scenes of a Major Service Disruption*.

Description: Website includes information on incident investigation, mechanical issues, and police activity, medical emergency and fire.

Wilson, J. R., Norris, B., & Mills, A. (Eds.). (2007). *People and rail systems: human factors at the heart of the railway*. CRC Press.

Description: Following on from 2005's Rail Human Factors: Supporting the Integrated Railway, this book brings together an even broader range of academics and practitioners from around the world to share their expertise and experience on rail human factors. The content is both comprehensive and cutting-edge, featuring more than 55 chapters addressing the following topics: Passengers and public, Driver performance and workload, Driving and cognition, Train cab and interfaces: simulation and design Routes, signage, signals and drivability, Signalling and control of the railway, Planning for the railway, Engineering work and maintenance, Level crossings, Accidents and safety, Human error and human reliability, SPADs: signals passed at danger, Human factors integration and standards, Impairments to performance and Staff competencies and training. People and Rail Systems: Human Factors at the Heart of the Railway will be invaluable for all those concerned with making railways safer, more reliable, of higher quality and more efficient. It will be essential reading for policy-makers, researchers and industry around the world.

Association of American Railroads. (2025, June 12). Freight Rail: First Responders Support.

Description: Website includes information on first responder training for rail incidents.

CSX. (2022, September 2). Emergency Responder Training and Education.

Excerpt: Online training program to educate emergency personnel on how to safely respond to incidents on and around railroad property and equipment.

Norfolk Southern. (2022, September 2). Rail Safety and Emergency Response Training.

> Excerpt: Emergency preparedness training to first responders as part of TRANSCAER (Transportation Community Awareness and Emergency Response), a nationwide program that assists communities prepare for and respond to a hazardous materials transportation incident.

Related Measures

- Collaboration with local government and communities
- Improved data collection after an incident
- Support rail staff after traumatic events

Images

No image available