

<u>Measure Name</u>	Rail safety education in communities
<u>Definition</u>	Educating community members, including those who live or work near the rail system, about rail safety near the right-of-way.
<u>Tags</u>	
<i>Incident Type</i>	Trespass only
<i>Location</i>	Both station and right-of-way
<i>Intervention Strategy</i>	Education: outreach and messaging
<i>Measure Group</i>	Collaboration, training, and education

Description

This measure aims to increase community members' knowledge about the dangers of trespassing, to encourage safe behaviors in the track area, and to educate community members on what to do if they observe others' unsafe behavior. Educational materials can include brochures, pamphlets, presentations, signage, and other written and graphical materials. It is also important to design educational materials to reach all individuals at within the community, including those that conventional public service announcements may not reach [1].

There are a variety of ways to educate adults about rail safety. In addition to distributing materials, rail safety professionals can interact with the public to convey the importance of rail safety and how to improve it. One example is, "See tracks? Think Train! Week", formerly "Rail Safety Week," held annually in the United States and Canada since 2017. This highly visible national campaign promotes activities to directly educate individuals about how to act safely around railroad tracks. Another example is the ongoing efforts of Operation Lifesaver, Inc. (OLI), an organization that plays an important role in educating the public about rail safety and the dangers of trespassing. OLI educational activities have been cited as a factor in reducing highway-rail grade crossing incidents [2]. Materials developed by OLI can be accessed on its website (<https://oli.org/materials>).

Rail regulators, rail carriers, local community leaders, and other stakeholders can also collaboratively organize these types of initiatives for the public. For example, Brightline collaborated with OLI and Florida 211 to launch a safety initiative called Buzz Boxx in several counties throughout southern Florida. The initiative involves a mobile barber shop in communities along the rail corridor that provides barber services and education on both rail safety and mental health, including suicide prevention [3]. Rail, state, or local police can also provide rail safety education to the public through safety blitzes at crossings or stations (see Additional Resources for examples). Refer to the "rail safety education in schools" measure under Related Measures for more details on implementing rail safety education in school settings.

Additional search terms: *community, educate, outreach, public, teaching, workshop*

Advantages

- Educational efforts can help to reduce trespassing behaviors along the right-of-way and at stations throughout the rail system.

- Research shows the effectiveness of education to increase safer behaviors [2] and reduce trespassing at grade crossings [4].
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Drawbacks

- This measure's effectiveness relies on individuals modifying their behaviors to improve safety; therefore, ongoing educational opportunities may be needed.
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Notable Practices

- When planning educational opportunities, identify the target audiences and tailor the approaches and materials to best reach those audiences [5].
 - Education materials and delivery should consider the ethnicities, languages, age groups, and ability status represented in the target audience.
 - Within the community education plan, it is important to identify goals that can be accomplished within available resources and other constraints [5].
 - Community education locations should include (but not be limited to) places near railroad tracks where people gather, such as shopping areas, bars, clubs, soup kitchens, and shelters [1].
 - When starting an educational endeavor include rail safety professionals (e.g., OLI, rail carriers, and law enforcement) and other community stakeholders.
 - Consider focusing on aspects of rail casualties such as debilitating injury, impacts on train crews, and delays, rather than lethality. Emphasizing lethality may inadvertently highlight rail as a method of suicide for vulnerable individuals.
 - Evaluations can include measures of trespass behavior or trespass incidents, as well as surveys to assess rail safety knowledge within the community before and after education activities are completed.
 - Rail safety education may be continued on a regular basis as a refresher for those who have already been through the education, and as initial education for those who are new to the community.
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References

- [1] Savage, I. (2007). Trespassing on the railroad. *Research in Transportation Economics*, 20, 199-224.

Abstract: Greater than half of all the fatal injuries on United States railroads are sustained by trespassers. The paper provides a statistical analysis of the demographics of trespassers, the activities they were engaged in, and the causes of injury. It also analyzes trends over time. The paper finds that the risks of injury and death are particularly acute for males in their 20s and 30s. The annual casualty count has remained relatively stable in recent decades because growing affluence, which tends to reduce risk-taking behavior, has been balanced by increases in railroad activity and the size of the population.

- [2] Horton, S., Carroll, A., Chaudhary, M., Ngamdung, T., Mozenter, J., & Skinner, D. (2009). [*Success factors in the reduction of highway-rail grade crossing incidents from 1994 to 2003*](#) (No. DOT-VNTSC-FRA-09-01). United States. Federal Railroad Administration.

Abstract: Between the years 1994 and 2003, incidents at highway-rail grade crossings declined by 41.2 percent. The reasons for this decline were unknown. The John A. Volpe National Transportation Systems Center was tasked by the Federal Railroad Administration to identify the salient success factors in highway-rail grade crossing incident reduction. The success factors were analyzed and investigated using various qualitative and quantitative methods. Ten factors were identified as the most influential safety factors. The ten factors are: Commercial Driver Safety, Locomotive Conspicuity, More Reliable Motor Vehicles, Crossing Closure and Grade Separation, Sight Lines Clearance, Warning Device Upgrades, the Grade Crossing Maintenance Rule, the Section 130 Program, Operation Lifesaver, and Railroad Mergers. Commercial Driver Safety, Locomotive Conspicuity, More Reliable Motor Vehicles, Sight Lines Clearance, and the Grade Crossing Maintenance Rule were quantitatively analyzed with data from the Railroad Accident Incident Reporting System; they impacted 54 percent of the incidents and accounted for 79 percent of the reduction in incidents.

- [3] Brightline. (2021, September 21). [*Brightline Awarded \\$20,000 Grant by Operation Lifesaver to Continue Award-Winning Buzz Boxx Campaign*](#).

Description: News article describing Brightline's Buzz Boxx initiative.

- [4] Savage, I. (2006). Does public education improve rail-highway crossing safety? *Accident Analysis & Prevention*, 38(2), 310-316.

Abstract: Improvements in rail-highway grade crossing safety have resulted from engineering, law enforcement, and educating the public about the risks and the actions they should take. The primary form of the latter is a campaign called Operation Lifesaver which started in the 1970s. This paper uses a negative binomial regression to estimate whether variations in Operation Lifesaver activity across states and from year-to-year in individual states are related to the number of collisions and fatalities at crossings. Annual data on the experience in 46 states from 1996 to 2002 are used. The analysis finds that increasing the amount of educational activity will reduce the number of collisions with a point elasticity of -0.11, but the effect on the number of deaths cannot be concluded with statistical certainty.

- [5] Operation Lifesaver, Inc. (2018, June). [*Best practices for Rail Safety Education*](#).

Document Excerpt: OLI reviewed reports submitted by grant recipients and conducted a survey of recipients to elicit additional information and insights. The survey was conducted online from April 23, 2018 through May 11, 2018. The survey link was provided to each of the 25 grant recipients over the past three grant cycles, and 15 responses were received, for a response rate of 60 percent.

OLI sought information in the survey about transit agencies' experiences both during and after the grant period. Questions focused on the use of grant-funded materials, plans for future safety campaigns, trends in safety incidents, and an assessment of the effectiveness of various public education tools.

Additional Resources

The webpages below provide examples of community rail safety education efforts implemented by the FRA, OLI, and rail carriers:

- [FRA Highway-Rail Grade Crossing Safety Resources](#)
- [OLI See tracks? Think train! Week campaign](#)
- [Metra Safety Education and Awareness Campaign](#)

Related Measures

- Collaboration with communities and law enforcement
- Identify funding opportunities
- Incident cost estimation
- Public messaging to prevent trespassing
- Rail safety education in schools