

NATIONAL TRANSPORTATION SAFETY BOARD
Public Meeting of September 24, 2014
(Information subject to editing)

Special Investigation Report:
Railroad Roadway Worker Safety
September 24, 2014

This is a synopsis from the NTSB's Special Investigation Report and does not include the Board's rationale for the conclusions and safety recommendations. NTSB staff is currently making final revisions to the report from which the attached conclusions and safety recommendations have been extracted. The attached information is subject to further review and editing.

INTRODUCTION

As defined by Title 49 *Code of Federal Regulations* (CFR) 214.7, *roadway worker* means

any employee of a railroad, or of a contractor to a railroad, whose duties include inspection, construction, maintenance or repair of railroad track, bridges, roadway, signal and communication systems, electric traction systems, roadway facilities or roadway maintenance machinery on or near track or with the potential of fouling a track, and flagmen and watchmen/lookouts as defined in this section.¹

Throughout this special investigation report, the term roadway worker will mean the definition above as well as all engineering employees who are on or near the tracks, regardless of their duties.²

Railroad and rail transit roadway workers are subject to on-the-job risks and hazards markedly different from those faced by other railroad employees. The jobs of railroad engineers and conductors include risks primarily related to moving trains—derailments, collisions with other trains; the jobs of roadway workers involve hazards that include moving rolling stock and other equipment and vehicles, as well as falls, electrocution, and natural hazards.

During 2013, 11 railroad roadway workers died while doing their jobs, which is nearly 80 percent of the total number of railroad employees who died in 2013 (14). (See figure 1.) This represents the largest number of railroad roadway workers killed while on duty in 1 year since 1995, when 12 died (FRA 2014c). Also in 2013, four rail transit roadway workers died. (See figure 2.) Figure 2 illustrates the number of employee fatalities that occurred on rail transit

¹ *Roadway* means the strip of land on which railroad tracks are constructed. A roadway also may be referred to as right-of-way and wayside; As defined by 49 CFR 214.7, *fouling a track* means the placement of an individual or an item of equipment in such proximity to a track that the individual or equipment could be struck by a moving train or on-track equipment, or in any case is within 4 feet of the field side of the near running rail.

² Roadway workers are also referred to as maintenance-of-way workers.

properties between 2008 and 2013 and notes an increase in fatal accidents over previous years. The types of accidents in which roadway workers lost their lives in 2013 included falls from bridges, incidents involving bucket lifts, and a mudslide, as well as strikes by moving equipment.³ The number of roadway worker deaths in 2013, the findings from investigations of those deaths, and the increasing number of these fatalities prompted the National Transportation Safety Board (NTSB) to initiate this special investigation to identify safety issues facing roadway workers and to recommend actions to address these issues.

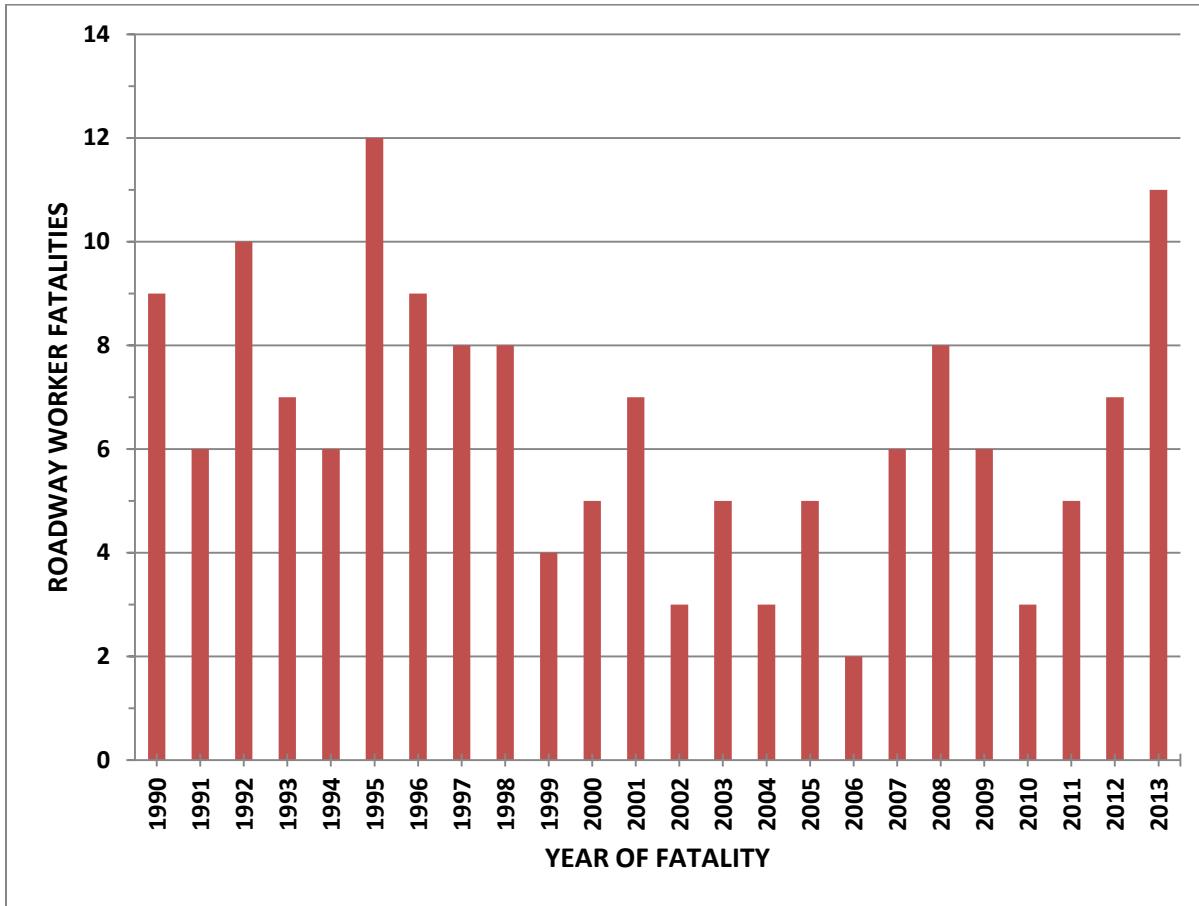


Figure 1. Railroad roadway worker fatalities annually from 1990 through 2013 as reported to FRA.

³ Bucket lifts are also known as aerial lifts, telescopic boom lifts, and manlifts.

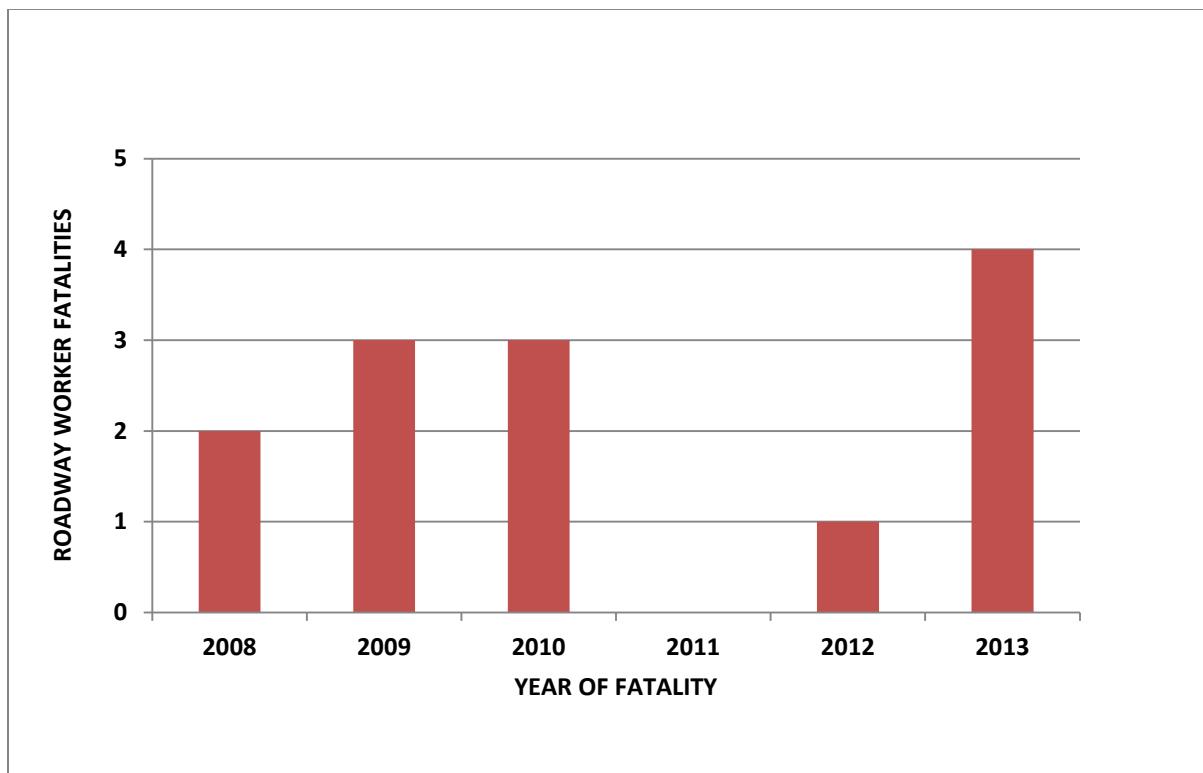


Figure 2. Rail transit roadway worker fatalities annually from 2008 through 2013 as reported to FTA.

The NTSB examined the roadway worker fatalities reported for 2013. For some accidents, the NTSB performed limited investigations either on scene or through reviews of the accident records. For other accidents, the NTSB used information prepared by other investigative agencies, including the Federal Railroad Administration (FRA), the Federal Transit Administration (FTA), and the Occupational Safety and Health Administration (OSHA), as well as railroads and rail transit agencies.⁴ The purpose of these NTSB examinations was to identify the circumstances in which the accidents occurred and to discover any deficiencies or limitations—in operating procedures and regulations or adherence to those procedures and regulations—that suggested causes and remedies.

Of the roadway worker fatalities in 2013, 11 resulted from 11 accidents on railroads regulated by the FRA, and 4 resulted from 3 accidents on rail transit properties with FTA oversight. Figure 1 shows that the number of railroad worker fatalities has fluctuated but has averaged about 6.4 per year from 1990 to 2013. Because roadway worker fatalities have been increasing over the past 4 years, careful examination of the causes of these recent fatal accidents is warranted.

⁴ Title 49 CFR Part 659, Rail Fixed Guideway Systems; State Safety Oversight: designated state safety oversight agencies are responsible for investigating accidents meeting prescribed criteria; OSHA has safety regulations that apply to employees of some rail transit agencies through approved state plans developed by 25 states, the Virgin Islands, and Puerto Rico.

Findings

1. Roadway workers are exposed to diverse hazards in their expected work environments.
2. A comprehensive job briefing that could reasonably expect to prevent accidents should include specific criteria as do the Occupational Safety and Health Administration standards at Title 29 *Code of Federal Regulations* Parts 1910 and 1926.
3. Regulations for rail transit similar to those for railroads establishing roadway worker protection and ensuring job safety briefings that include hazard recognition and mitigation would harmonize rules and procedures and incorporate lessons learned from railroad regulation.
4. National inspection protocols for roadway work activities are necessary to ensure the safety of roadway workers on transit properties.
5. Safety would be enhanced if all rail transit agencies were required to comply with Occupational Safety and Health Administration standards.
6. As the bucket lift accidents illustrate, the differences between Federal Railroad Administration regulations and Occupational Safety and Health Administration standards may lead to confusion for those planning and executing work.
7. The Fatality Analysis of Maintenance-of-Way Employees and Signalmen Committee has not reviewed fatalities in “related incidents” because those employees did not meet the Federal Railroad Administration definition of “roadway worker.”
8. To recognize dangerous tasks and activities, roadway workers need to know what to look for to identify these workplace hazards.
9. Every railroad and rail transit work site contains risks beyond those associated with on-track protection and those risks should be managed.
10. Union representation brings operations-specific knowledge to the investigative team and helps facilitate the cooperation of employees.

New Safety Recommendations

To the Federal Railroad Administration:

1. Revise the portions of 49 Code of Federal Regulations (CFR) Part 214 for comprehensive job briefings for roadway workers to include the best practices in the Occupational Safety and Health Administration standards contained in 29 CFR Parts 1910 and 1926.

2. Revise your national inspection program to include specific emphasis on roadway worker activities, including emphasizing hazard recognition and mitigation in job briefings.
3. Work with Occupational Safety and Health Administration (OSHA) to establish clear guidelines for use by railroads and railroad workers detailing when and where OSHA standards are to be applied.

To the Federal Railroad Administration and the Federal Transit Administration:

4. Require initial and recurring training for roadway workers in hazard recognition and mitigation. Such training should include recognition and mitigation of the hazards of tasks being performed by coworkers.
5. Include union participation in accident investigations similar to that allowed by the Occupational Safety and Health Administration. Seek authority from Congress to allow such participation, if necessary.

To the Federal Transit Administration:

6. With assistance from the Federal Railroad Administration and the Occupational Safety and Health Administration, establish roadway worker protection rules, including requirements for job briefings.
7. Once the action specified in the previous safety recommendation is completed, update the state safety oversight program to ensure that rail transit systems are meeting the safety requirements for roadway workers.
8. Establish a national inspection program that specifically includes roadway worker activities.
9. Revise Title 49 *Code of Federal Regulations* (CFR) Part 659 to require all federally funded rail transit properties to comply with 29 CFR Parts 1904, 1910, and 1926.
10. Establish an agreement with the Occupational Safety and Health Administration to collaborate on any investigation of the fatality of an on-duty rail transit employee.
11. Establish a committee for rail transit, similar to the Fatality Analysis of Maintenance-of-Way Employees and Signalmen Committee, that includes participation from interested parties, that analyzes all rail transit employee fatalities and makes recommendations that, when implemented, will prevent future accidents.

To the Federal Railroad Administration and the Occupational Safety and Health Administration:

12. Assist the Federal Transit Administration in establishing roadway worker protection rules, including requirements for job briefings.

To the Occupational Safety and Health Administration:

13. Work with the Federal Railroad Administration to establish clear guidelines for use by railroads and railroad workers detailing when and where Occupational Safety and Health Administration standards are to be applied.
14. Establish an agreement with the Federal Transit Administration to collaborate on any investigation of the fatality of an on-duty rail transit employee.

To the Fatality Analysis of Maintenance-of-Way Employees and Signalmen Committee:

15. Include in your publications data on all roadway worker fatalities, regardless of whether the employee is performing roadway worker tasks as defined by the Federal Railroad Administration.

Previously Issued Recommendation Reiterated and Reclassified in This Report

As a result of this investigation, the National Transportation Safety Board reiterates and reclassifies from “Open-Acceptable Response” to “Open-Unacceptable Response” the following safety recommendation:

To the Washington Metropolitan Area Transit Authority:

1. Promptly implement appropriate technology that will automatically alert wayside workers of approaching trains and will automatically alert train operators when approaching areas with workers on or near the tracks. (R-08-04)