

Railroads: Moving America Safely

ASSOCIATION OF AMERICAN RAILROADS

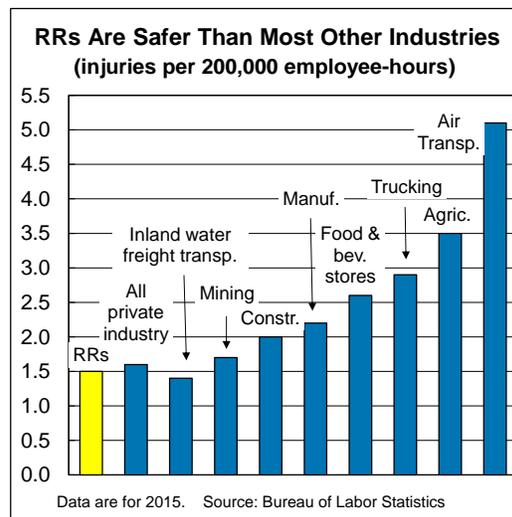
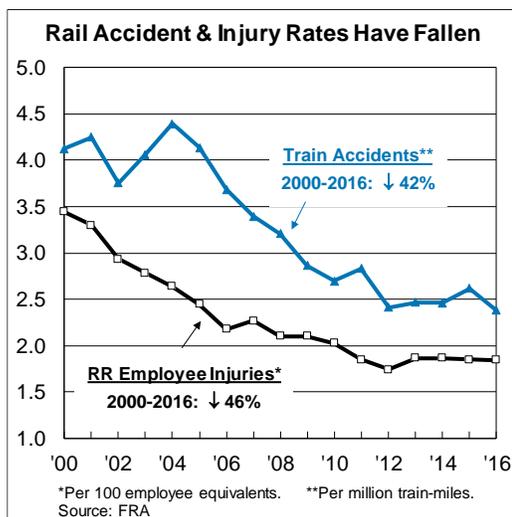
AUGUST 2017

Summary

Freight railroading is a safe industry now, but railroads are always looking for ways to make tomorrow safer than today. The rail industry's commitment to safety is reflected in safety statistics from the Federal Railroad Administration (FRA). Based on the three most common safety measures used by the FRA — train accident rates, employee injury rates, and grade crossing collision rates — recent years have been the safest in rail history. Railroads are proud of their safety improvements, but they know the safety challenge never ends. Working together with their employees, suppliers, and customers, and with officials at the FRA and elsewhere in government, railroads are constantly developing and implementing new technologies and operating practices to further improve rail safety.

Railroads Are A Safe Way to Move Freight

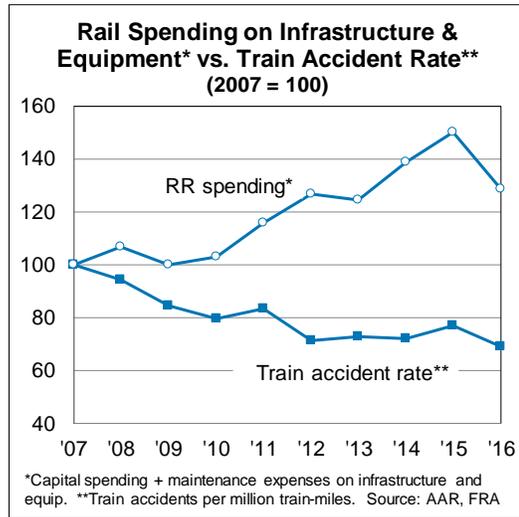
- Nothing is more important to railroads than safety, and **the industry's commitment to safety is reflected in safety statistics from the FRA.** The train accident rate in 2016 was the lowest in history and down 42 percent from 2000; the employee injury rate in 2016 was down 46 percent from 2000; and the grade crossing collision rate in 2016 was down 39 percent from 2000. **By all of these measures, recent years have been the safest in rail history.** The train derailment rate, the train collision rate, and the rate of accidents caused by defective track were the lowest ever in 2016.
- America's railroads today have lower employee injury rates than most other major industries, including trucking, airlines, agriculture, mining, manufacturing, and construction —even lower than food stores.



Working to Ensure Rail Safety Continues to Improve

Railroads devote enormous resources to a multi-pronged strategy aimed at further improving rail safety:

- In recent years, America’s freight railroads have been pouring record amounts **back into their infrastructure and equipment**, improving safety as they do so.
- Railroads are constantly employing **new technologies** to improve safety, such as **sophisticated detectors** along tracks that identify defects on passing rail cars; **specialized vehicles** that detect defects in tracks and the ground underneath tracks; and advanced information technology systems that combine data from a variety of sources to produce “**vehicle condition reports**” on individual rail cars so that poorly performing cars can be identified and repaired before accidents occur. Many of these advancements are developed at the Transportation Technology Center, Inc. in Pueblo, Colorado, a subsidiary of the AAR that’s widely considered the best rail research facility in the world.
- **Virtually every aspect of rail operations is subject to FRA oversight.** For example, stringent FRA regulations cover track and equipment inspections, employee certification, operating speeds, and signaling systems. FRA safety inspectors travel the country evaluating rail facilities and operations. In many states, FRA inspectors are supplemented by state inspectors. Railroads are also subject to safety oversight by the Occupational Safety and Health Administration, the Pipeline and Hazardous Materials Safety Administration, and the Department of Homeland Security.



Improving Safety at Grade Crossings and on Railroad Property

Collisions at grade crossings, along with incidents involving trespassers on railroad rights-of-way, are critical safety problems. They typically account for well over 90 percent of rail-related fatalities. Although these incidents usually arise from factors that are largely outside of railroad control, railroads are committed to reducing their frequency.

- In 2016, the number of grade crossing collisions was down 42 percent from 2000; injuries from collisions were down 31 percent from 2000; and fatalities from collisions were down 38 percent from 2000. The grade crossing collision rate has fallen most years since 1980; in 2016, it was near its all-time low and was down 39 percent from 2000.
- These huge improvements are due in part to the federal **Section 130 program**, which allocates more than \$230 million per year to states for grade crossing improvements, and to the work of **Operation Lifesaver**, a non-profit organization dedicated to improving public awareness about safe behavior around grade crossings and on railroad property.
- Unfortunately, too many people use railroad property for short cuts, recreation, or other inappropriate purposes — sometimes with tragic results. Railroads work with Operation

Lifesaver and others to educate the public that, for their own safety, they should stay off railroad property.

- Railroads themselves spend **hundreds of millions of dollars each year** on grade crossing improvements and maintenance. They also work with local authorities to close unneeded or redundant grade crossings.

Moving Hazardous Materials Safely

U.S. railroads transport (depending on the year) approximately 2.3 million carloads of hazardous materials each year, including approximately 70,000 carloads of “toxic inhalation hazard” (TIH) materials.

Railroads are the safest mode for transporting hazardous materials.

- In 2016, more than 99.999% of rail hazmat shipments reached their destination without a release caused by a train accident. Rail hazmat accident rates in 2016 were down approximately 80 percent from 2000.
- Railroads have long been taking concrete steps to make hazmat transportation safer. Just a few examples:
 - ✓ Railroads and a number of federal agencies have jointly developed the **Rail Corridor Risk Management System (RCRMS)**, a sophisticated statistical routing model designed to aid railroads in analyzing and identifying the overall safest and most secure rail routes for transporting TIH materials and crude oil.
 - ✓ Around half of all hazardous materials, and nearly all TIH materials, are transported in tank cars. Tank cars built today are vastly improved over earlier generations, with higher grade steel, better thermal protection, improved valves and fittings, often thicker tanks, and other improvements. PHMSA has set **tougher standards for new tank cars** used to transport flammable liquids and ordered that existing tank cars that carry flammable liquids **be retrofitted with enhanced safety features** or, if no upgrades are made, phased out. The rail industry has been calling for tougher tank car standards for years.
 - ✓ Since October 2014, major railroads have had in place a web-based system — called **AskRail** — that allows emergency responders to input the identification number of a particular rail car and immediately determine the commodity contained in that car, its hazard class, emergency response information associated with the commodity, and other key information.
 - ✓ **All major railroads have teams devoted to emergency response** and maintain networks of hazmat response contractors and environmental consultants, located throughout their service areas, on call 24/7. Railroads also work closely with state and local emergency first responders. In fact, each year, **railroads train more than 20,000 emergency responders** throughout the country.

