

Freight Railroads Move America Safely

Freight railroads take a holistic approach to safety through ongoing private investments, employee training, implementation of technology and community outreach. Working together with their employees, suppliers, customers and government partners such as the Federal Railroad Administration (FRA), railroads are constantly implementing new technologies and operating practices to meet the industry's ultimate goal of zero accidents.

Employee Safety

In 2020, the employee injury rate was at an all-time low.

The rail industry has lower employee injury rates than most other sectors, including trucking, airlines, manufacturing and construction. State-of-the-art training centers with simulators and virtual reality enable employees to practice real-life skills in a controlled environment, while daily employee meetings emphasize teamwork and continual learning on the job. New technologies, like drone-based bridge inspections, help keep employees out of harm's way while giving them the tools to excel at their jobs. With the ongoing COVID-19 pandemic, railroads are taking comprehensive steps to safeguard their employees, who are appropriately considered "essential" rail workers.

Network Safety

In recent years, America's freight railroads have been pouring record amounts back into their infrastructure and equipment, which has helped improve safety.

In fact, the American Society of Civil Engineers (ASCE) awarded America's rail network the highest grade in its most recent Infrastructure Report Card, a B. Since 2010, America's Class I railroads have spent more than \$250 billion on track equipment while the train accident rate dropped 33% between 2000 and 2020.

Technology

Innovations have driven safety gains over the last two decades.

Today's highly skilled rail workforce use technology — from new design specifications for rail cars and track components to smart sensors to big data and drones — to monitor network and equipment health in real-time. These technologies help guide maintenance planning, which has led to greater safety, accuracy and productivity than ever before. Automated technologies will allow further progress in challenging areas like reducing human error and improving grade crossing safety. Many of these rail-related technological advancements are developed at the Transportation Technology Center, Inc. (TTCI) in Pueblo, Colorado, a subsidiary of the AAR that is widely considered the best rail research facility in the world.

For example, Positive Train Control (PTC) is technology that reduces the number of human error-caused accidents by automatically stopping or slowing a train to prevent four specific types of accidents. These include train-to-train collisions; derailments caused by excessive speed; accidents that can occur if trains are routed down the incorrect track; and unauthorized train movements on tracks undergoing maintenance. Today, PTC is fully implemented and in operation on 100% of Class I PTC route-miles network wide.

Key Takeaways

- Railroads are a very safe way to move freight and are working hard to improve infrastructure and equipment safety, reduce human error and protect the rail network every day.
- Since 2000, train accident and hazmat accident rates are down 33% and 64%, respectively, while the rail employee injury rate in 2020 was at an all-time low.



Preparedness & Response

Railroads work with public and private partners daily to monitor and protect the nearly 140,000-mile freight rail network.

Natural disasters, physical and cybersecurity threats, and pandemics have the potential to disrupt railroad operations and hamper federal and state response and recovery efforts. To help ensure continued operations, railroads employ cyber and physical security experts, police officers and intelligence professionals to monitor, identify and respond to threats. Working together with federal, state, local, and industry partners, railroads maintain and implement comprehensive response plans based on past experiences such as Hurricane Katrina, 9/11 and the 2009 H1N1 pandemic. Through collaboration and daily intelligence sharing, railroads stay ahead of emerging threats.

Hazardous Materials (Hazmat) Safety

More than 99.99% of all hazmat moved by rail reaches its destination without a release caused by a train accident.

Railroads work with customers, suppliers, communities and federal regulators to move hazardous materials safely and mitigate the rare accidents that do occur. Along with calling for rigorous tank car design standards, railroads train more than 20,000 first responders each year; created the AskRail mobile app that gives emergency responders immediately access to information on what is in a particular rail car and how to respond to it; and developed software with the FRA that determines the safest rail routes for hazmat. These efforts — coupled with ongoing investment, technology, employee training, improved operating practices and community outreach efforts — have lowered hazmat accident rates 64% since 2000.

Pedestrians & Motorists

Railroads work with state, local and federal officials, safety organizations, technology companies and the public to reduce accidents and injuries at highway-rail grade crossings and along railroad tracks.

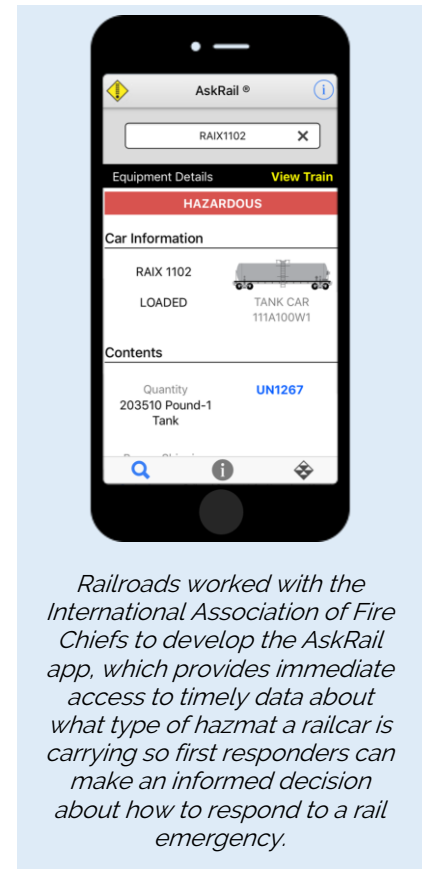
Collisions at grade crossings, along with incidents involving trespassers on railroad property, account for well over 90% of rail-related fatalities. These incidents usually arise from factors outside railroad control, but railroads are committed to reducing their frequency.

Railroads invest heavily in grade crossing safety, spending hundreds of millions of dollars each year to close, improve and maintain crossings and millions more on educational programs, including Operation Lifesaver, a non-profit dedicated to improving safe behavior at grade crossings. Thanks to these efforts — as well as the federal Section 130 program, which allocates approximately \$230 million per year to states for grade crossing improvements — the grade crossing collision rate was down 46% between 2000 and 2020. Despite this progress, much work remains.

Performance-based Regulations

Forward-thinking regulations allow railroads to use technology to better achieve shared safety goals.

The FRA oversees virtually every aspect of freight rail operations, including track and equipment inspections, employee certification, operating speeds and signaling systems. Freight railroads often exceed FRA regulations while also advocating for even tougher safety standards. In the years to come, new regulations should be performance-based, rather than prescriptive. This will focus industry attention and effort on the outcome, rather than on how that outcome is achieved, which will allow railroads to innovate with the latest technologies that will bring them closer to an accident-free future.



Railroads worked with the International Association of Fire Chiefs to develop the AskRail app, which provides immediate access to timely data about what type of hazmat a railcar is carrying so first responders can make an informed decision about how to respond to a rail emergency.

