

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 2019, rail employee fatalities matched 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 2000, America's Class I railroads have spent \$429 billion on network maintenance and capital expenditures while the train accident rate dropped 30%.

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 will reduce 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. PTC is in operation across 100% of the required Class I route miles nationwide and will be fully interoperable by the end of 2020.

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 30% and 64%, respectively, while rail employee fatalities in 2019 matched an all-time low.



Freight Railroad PTC Status

As of August 2020

 Locomotives equipped	100%
 Wayside units installed	100%
 Radio towers installed	100%
 Employees trained	100%
 PTC-required route miles operational	100%

By the end of 2020

 Fully implemented	100%
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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.

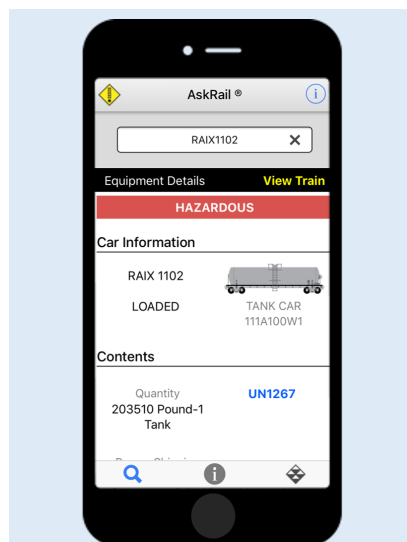
Pedestrians & Motorists: Railroads work with state, local and federal officials, safety organizations, technology companies and the public to reduce accidents and injuries at rail grade crossings and along railroad tracks.

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 — grade crossing collisions were down 32% between 2000 and 2019. Despite this progress, much work remains.

Performance-based Regulations: Forward-thinking regulations allow railroads to use new technologies 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, it will be even more important that policymakers embrace performance-based regulations, which allow railroads to innovate with the latest technologies that will further even more progress towards 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.

