Freight railroads are dedicated to safeguarding the communities they serve, their employees and the products they ship. That's why they privately invest an average of $23 billion each year in safety technologies, employee training and infrastructure and equipment maintenance and improvements. Thanks in large part to these investments, the Class I mainline accident rate per million train miles has dropped 48% since 2000.

The vast majority of train derailments happen in rail yards where the average train speed is about five MPH — not on mainline track running across the country. With rail yard derailments, injuries are rare, property damage is minimal and the impact on the local community is little to none. According to Federal Railroad Administration (FRA) data, for all of 2022, there were 952 Class I railroad train derailments, with about 77% occurring in rail yards and 23% on the mainline tracks. Of that 23%, four derailments resulted in four injuries, while seven resulted in a hazmat release.

What is a train derailment?

Any time even a single rail car wheel leaves the rail, whatever the reason, railroads are legally required to report that data to the FRA as a derailment. Any time there is a single occurrence of $11,500 in damage to rail track or equipment, the derailment must be reported as an accident.

Examples of common rail yard train derailments.

Two typical examples of derailments in rail yards that result in little or minor damage include shoving movement derailments and passed couplers.

A rail switch is a mechanism installed in the track that guides a train from one track to another. A shoving movement is when a locomotive is pushing a group of cars during a switching operation. During the shoving movement, the lead car could inadvertently go past the intended stopping point and run through a switch and damage it, or it could pass through the switch and strike another railcar. This event would be logged as a derailment.

Each rail car has a coupler on either end, which allows it to connect to another car. If the couplers are misaligned when trying to connect the rail cars, rather than coupling, they could pass each other. The resulting lateral force could be enough for a wheel to go off the track, which would also be logged as a derailment.

KEY TAKEAWAY

The vast majority of train derailments happen in rail yards. As the safest way to move freight over land, freight railroads are committed to driving down train derailments through ongoing investments into track, infrastructure, technology and operations.
Railroads are working to get safer every day.

As the safest way to move freight over land, freight railroads are committed to driving down train derailments, especially on the mainline. With that goal in mind, railroads take a strategic approach to where they make network investments.

For example, track and equipment failures are two of the leading causes of mainline derailments. Thanks in large part to freight rail's consistent investments in network maintenance and capital expenditures and deployment of advanced inspection technologies that identify wheel and track issues before they become problems, the equipment-caused accident rate has dropped 21%, and track-caused accident rate has dropped 55% since 2000.

The Vast Majority of Class I Train Derailments Happen in Rail Yards

**222 MAINLINE DERAILMENTS**
(24% of total)
- 212 with no hazmat release, injuries or fatalities
- 7 with hazmat
- 3 with injuries

**731 RAIL YARD DERAILMENTS**
(76% of total)
- 725 with no hazmat release, injuries or fatalities
- 4 with injuries
- 1 with hazmat
- 1 with a fatality

The vast majority of train derailments happen in rail yards where the average train speed is about five MPH — not on mainline track where there is the most potential for serious harm. Injuries are rare, property damage is minimal and the impact on the local community is little to none for rail yard derailments. Freight railroads privately invest an average of $23 billion each year in safety technologies, employee training and infrastructure and equipment improvements. Thanks in part to these investments, the Class I mainline accident rate per million train miles has dropped 48% since 2000.

Source: Federal Railroad Administration. *One accident with no hazmat release, fatality, or injury impacted both mainline and yard track, so it is counted one time in each above category. **Mainline includes “sidings” derailments: Sidings are stretches of track on the mainline that allow trains to pull off for passing or to stop. ***Yard includes “industry” derailments, which are ones that happen on the tracks at customer facilities.*