



AAR Preview Guide to 2023 FRA Rail Safety Data

Reporting with accuracy and the appropriate context.

Background

The Federal Railroad Administration is expected to release comprehensive safety data for the 2023 calendar year on March 1. Below you'll find information to help you analyze and contextualize this information in your reporting, which can be [difficult to interpret](#).

One data point that is already final is employee fatalities which must be reported immediately to FRA. While even one fatality is too many, the data shows that **employee fatalities were at a record low in 2023**.

Even the most well-intentioned attempts to accurately interpret and share this data can contain serious flaws, because the data itself is complicated. And in many instances, context—including changes in reporting thresholds, operating procedures and the definitions of key terms—is critical to accurately portray the current state of freight rail safety. Accurate reporting on this data is important because:

- **Regulators, policymakers and other stakeholders rely on this information** to understand how they can best support rail safety.
- **This information can provide the general public—especially those who live or work near railways—with a deeper understanding of rail safety.** While railroads are ever present in their lives, it is likely not a topic they have deep knowledge of or can contextualize without the thoughtful analysis of reporters and experts.
- **The year-over-year measures inform how rail carriers can focus their efforts to continuously improve rail safety** across their networks, and it provides realistic benchmarks for future progress. However, the better measure of overall rail safety is reflected in the historical trendline.
- **The data will reflect what rail carriers already know – there is still more work to do on rail safety.** While the industry has achieved dramatic safety improvements, especially over the last 20 years, the journey is ongoing. It is fair for straightforward, accurate reporting to point out where the industry can do better.

Making the right comparisons.

It's important to remember that contributing factors—both in operations and reporting—make it challenging to consistently report apples-to-apples data year-over-year.

For example: Train length, composition and freight car contents have changed over time. The total number of trains and rail cars in operation—and what they're carrying—affect how yards operate, operations are managed, and goods move across the network. Additionally, total employee hours also fluctuate year-over-year for a variety of reasons. Rates help control for these variables, but there are still limitations to making meaningful comparisons in some areas.

Effectively evaluating comprehensive safety improvements requires examining historical trends.

For example, year-to-year fluctuations do not necessarily represent a trend. However, looking at the accident rate from a historical perspective shows total accidents have fallen by nearly half since 2000. Rates—rather than absolute numbers—can provide a better sense of historical trendlines.

The use of absolute figures for derailments and accidents does not accurately reflect the tangible improvements made in rail safety.

Since train traffic levels on America's rail networks fluctuate over the years, to effectively gauge safety progress, a better measurement of progress is to compare the rates of derailments per million train-miles traveled.

For equipment-caused accidents, comparison of rates per million car-miles would be more appropriate, however car-mile data is available for only for Class I railroads and has not yet been published for 2023.

Understanding how accidents and derailments are reported.

Most mandatorily reportable rail accidents are the equivalent of a fender bender.

For reporting purposes, reportable accidents are defined as “one or more railroads that have sustained combined track, equipment, and/or structures damage in excess of the reporting threshold.”

Inflation is a factor that has nothing to do with actual safety performance but can influence reportable accidents. The reporting threshold, which is revised annually, was [\\$11,500 in 2023](#) and includes the loss and/or repair of cars and locomotives, track, signal systems and other structures.

Although revised annually, the reporting thresholds do not change by a set amount each year and lag inflation, i.e., the reporting threshold is adjusted for a year by the amount of inflation through the middle of the previous year.

Incidents that would not have been reported previously as an accident are now more easily classified as such due to inflation causing higher equipment and material costs combined with the 24% wage increases after the last contract – a point FRA themselves notes in their [threshold notice](#).

DATA POINTS

For the first 11 months of 2023, data indicates:

- Train accidents per-million miles dropped 6% since 2022 and 27% since 2000.
- Mainline accidents per million miles dropped 41% since 2000.

Most reported derailments are minor incidents that occur in rail yards, away from mainline tracks.

Any time even a single rail car wheel leaves the rail, except when caused by a collision, railroads are legally required to report that data to the FRA as a derailment if the monetary threshold is met.

Most 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 negligible.

Any time there is a single occurrence of \$11,500 (2023 threshold) associated with the repair of rail track or equipment, the derailment must be reported as an accident.

DATA POINTS

Preliminary data indicates:

- The rate of total derailments per million train miles has dropped 60% since 2000 even as freight rail volume grew by nearly 55% — meaning that derailments are happening less frequently despite the seemingly flat trend in the absolute numbers.
- Railroads had 3% fewer derailments per million train miles than in 2022.

Grade-crossing collisions and trespassing incidents.

Grade-crossing and trespassing incidents reflect railroad interactions with the public — not the industry's safety performance. While 2023 preliminary data reflects some improvement over 2022, the most impactful way to make improvements in these areas is to continue enhancing public education efforts through funding and partnerships at the local and federal levels.

Every year the number of trespasser fatalities initially reported will decline as time goes on because many such fatalities will be reclassified as suicides, which are not included in the count. It can take many months for coroners/medical examiners to make final determinations, so this total decreases over time.