5 Things You Didn't Know About Rail Safety

For railroads, safety is an all-year, round-the-clock priority. Every railroader's job starts with a focus on keeping train crews, highway crossings, customers and communities safe. Here are five things you may not have realized about rail safety.

1. There's an app for first responders

More than 25,000 first responders across the U.S. have signed up for an innovative mobile app called AskRail. Launched in 2014 and recently updated with new features, the app is designed to prepare responders for a rail emergency in real-time by providing immediate access to accurate, timely data about what type of hazardous materials a railcar is carrying.

Updates include full integration of all North American Class I railroads and a map feature that provides isolation zones and points of interest. AskRail is included as part of standard emergency responder training from Class I railroads and can only be downloaded by qualified emergency responders who have completed rail emergency training. Railroads can also offer the app to known emergency responders along their routes.

2. Not your grandfather's railroad

Trains have come a long way since the days of the Iron Horse. State-of-the-art technologies like big data, drones, and ultrasound technology are just a few of the innovations railroads use to advance safety. For example, while today's inspection technology currently makes it possible for railroads to identify 90 percent of track defects before they lead to an incident, multidimensional ultrasonic technology aims to identify the remaining 10 percent of track imperfections.

Big data is also helping to identify problems before they happen. Every day, railroads receive and store vast amounts of data gathered from the wayside detectors and other monitors along the rail network. This data — hundreds of trillions of bytes — is then used to identify critical risk factors. For instance, this data has led to a new industry standard for wheel safety and integrity.

3. North American railroads partner to run the world's leading rail research facility

In Pueblo, Colo., railroads jointly support the Transportation Technology Center, Inc., or TTCI, the world's leading rail research and testing facility. Many of rail's new technologies — like the world's first laser-based rail inspection system, or on-board computer systems that analyze track geometry — are developed and tested at TTCI.

Also housed at TTCI, the Security and Emergency Response Training Center (SERTC), trains thousands of first responders every year. SERTC is a collaboration between railroads and the FRA, where responders get hands-on experience with simulated hazmat incidents. The center also offers free, web-based training for those who cannot attend in person.

Additional local opportunities include the Michigan State Police Haz Mat training facility in Lansing that trains hundreds of first responders annually.

4. Positive Train Control is now in operation across the majority of required route miles

Positive train control (PTC) is the largest and most complex safety system in the history of the railroad industry. Congress mandated in 2008 that railroads install the unprecedented technology, a set of advanced systems designed to automatically slow or stop a train before certain incidents occur, across some 60,000 miles of the rail network. Full implementation requires the deployment of hundreds of thousands of technology pieces, the precise geo-mapping of tens of thousands of miles of railroad right-of-way, as well as extensive training and testing to ensure systems are interoperable.

As of end-2018, PTC is in operation on 83.2 percent of required route miles and each of the Class I railroads are on track to have it fully operable by the end of 2020, per the congressionally mandated deadline. Railroads have spent $10.6 billion on PTC development and deployment so far.

5. Private investments correlate with increased safety

The Federal Railroad Administration (FRA)'s 2017 rail safety statistics show that recent years have been the safest on record. The track-caused accident rate is at an all-time low, down 40 percent since 2008. Both the train accident rate and derailment rate are down 23 percent in the last decade. These gains are not anomalies, but examples of how rail's steady private spending pays safety dividends. U.S. freight railroads, which are privately owned, have collectively spent $25 billion annually on their networks and operations in the last several years.