

# RAILROAD SAFETY

## Technology

### Wayside detectors

- Hot Box Detectors
- Wheel Temperature Detectors
- Acoustic Bearing Detectors
- Wheel Impact Detectors
- Wheel Profile Detectors
- Machine Vision Systems

### AI and Machine Learning

### Automated Track Inspection

### Track Inspection Vehicles

### Positive Train Control

## Is it Safe to Ship Hazardous Materials by Rail?

>99.9%

More than **99.9%** of hazmat shipments arrive without incident.

78%

The hazmat incident rate is **down 78%** since 2000.

10%

Railroads have approximately **10%** of the hazmat incidents as trucks.

From **1980 to 2021**, railroads invested **>\$260,000** per mile of track on network improvements.

## RAILROAD SAFETY GAINS

- Class I railroads' mainline incident rate is at an all-time low and down 49 percent since 2000.
- For all railroads, the derailment rate is down 31 percent since 2000.

- Track-caused incidents are down 55 percent since 2000 and are at their lowest-ever rate across the entire rail industry.
- Per carload, the hazardous materials (hazmat) incident rate is down 78 percent since 2000 and is the lowest ever based on preliminary Bureau of Explosives data.