

Resilient Rail: How Freight Railroads Prepare For & Respond to Winter Weather

Operating 24/7 over more than 140,000 miles of track, freight rail's infrastructure and equipment are essentially an outdoor production line. Snow drifts can cover tracks, moisture can freeze in airbrake hoses and frigid temperatures can affect steel rails. Year-round planning, private investments and advanced technology help ensure railroads are prepared to continue safely and efficiently delivering for customers during winter.

- **Investing:** Included in the roughly \$25 billion freight rail privately spends annually on its network, railroads restore, upgrade and/or purchase new winter equipment and technology.
- **Ongoing Inspections:** As part of ongoing track and equipment inspections, railroads use advanced technologies, including smart sensors alongside tracks that help identify potential track and equipment defects before problems arise.
- **Advanced Planning & Forecasting:** All Class I railroads have winter plans. Many also have a private weather forecasting service that can issue warnings earlier than the National Weather Service, which allows railroads to make informed operational decisions ahead of a storm.
- **Staged Resources:** By late fall, railroads have snow fighting resources such as plows and heavy duty blowers in place. Planning teams meet frequently to adjust resource locations and ensure other equipment such as locomotives and vehicles are ready for changing weather patterns.
- **Rapid Deployment Teams:** From signal and track repair crews to mechanical engineers, railroads deploy specially-trained, rapid response teams to remove snow and resolve equipment issues. With specialized machinery and years of experience, these employees are well-equipped to handle weather-related challenges and keep the railroad open and operating safely.
- **Rerouting Trains:** To reduce customer impact, railroads will shift shipments onto unaffected lines or leverage pre-determined rerouting agreements to move traffic onto another company's line. Railroads keep customers updated on any service changes throughout the duration of the weather event.
- **Specialized Equipment:** When there is too much snow for a locomotive's plow to handle, railroads use on-track machinery, massive bulldozers and specialized cars to move tons of snow at once. Railroads also keep trains moving from one track to another using specialized heaters that prevent switches from freezing.
- **High-tech Locomotives:** Locomotives contain air dryers that keep mainline train brake systems from freezing and heated headlights that melt snow and ice. They also have Automatic Start Stop systems and auxiliary power units that keep the engine systems warm when powered down. Railroads may place an additional locomotive in the middle or the end of a train to help maintain air pressure for brakes.

Collaboration & Technology Keep Chicago Open



Winter weather can be especially challenging in Chicago, where 500 freight and 760 passenger trains pass each day. In response to the 1999 blizzard — the second worst in the 20th century — the rail industry established the Chicago Integrated Rail Operations Center (CIROC). Working together, freight, passenger and commuter railroads use this high-tech, 24/7 command center to monitor and manage regional rail operations through real-time information from across the network.



Photo Credit: CSX



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