



GETTING STARTED

WHO IS THIS GUIDE INTENDED FOR?

This toolkit contains references and a resource guide to help new freight rail users and economic development professionals with basic information about railroad transportation products and access. Railroad transportation is not new, but it is experiencing growth and innovations. According to the Association of American Railroads (AAR), freight railroads spend more than \$20 billion annually to build and maintain the rail network. Since 1980, railroads have invested more than \$525 billion in the North American rail network to improve safety, shipment visibility, and service.

The Iowa Rail Toolkit was developed by the State of Iowa to assist the freight rail user community and those investigating the potential of utilizing or expanding rail freight shipment activities. This guide is intended to provide a basic introduction to rail freight shipping concepts and practices. Many freight rail programs, policies, and practices are updated on a continuing basis. For up to the minute accurate information, use the contacts provided throughout this toolkit to contact the railroads, government agencies, and others directly.

WHY USE RAIL TRANSPORTATION?

As of 2011, there were 185,000 miles of railroad track that supported 1.5 million rail cars and 31,000 locomotives in the United States, Canada, and Mexico. In the United States, there are 568 railroads, seven of which are Class I carriers (the larger railroads), that form an interconnected national network. Rail transportation is enjoying a renaissance in freight transportation in large part due to fuel economy and efficiency when it comes to moving large volumes of freight long distances. Railroads are safe and environmentally friendly. Moving freight by rail helps reduce congestion and highway maintenance cost.

According to the AAR, "Adjusted for inflation, average U.S. rail rates (based on revenue per ton-mile) fell 42 percent from 1981 through 2013. This means that the average rail customer today can ship close to twice as much freight for about the same price as it paid more than 30 years ago ..."

Iowa is home to 18 railroads that operate across 3,854 track miles within the state.

Benefits of using rail

The seven primary benefits of using railroad transportation are:

- 1. Cost savings:** Freight moving by rail often provides lower total delivered cost, depending on available rail access, length of haul, type of commodity, car ownership, competition, and shipping volumes, among other things.
- 2. Fuel savings:** A freight train can move a ton of freight an average of 473 miles on a single gallon of fuel.
- 3. Safety:** Investments in infrastructure, employee training, and new technologies make railroad transportation safer now than it has ever been. According to the AAR, "Roughly 99.998 percent of hazardous material carloads moving by rail arrive at their destination without a release caused by an accident." (Source: AAR Analysis of Federal Railroad Administration's Train Accident Database; carloads from Interstate Commerce Commission/Surface Transportation Board waybill sample)
- 4. Congestion mitigation:** A typical rail car moves the equivalent of three to four semitrailers. An intermodal train diverts more than 300 truckloads from the highway system. A unit train of coal would require more than 416 trucks to move the same amount of cargo.



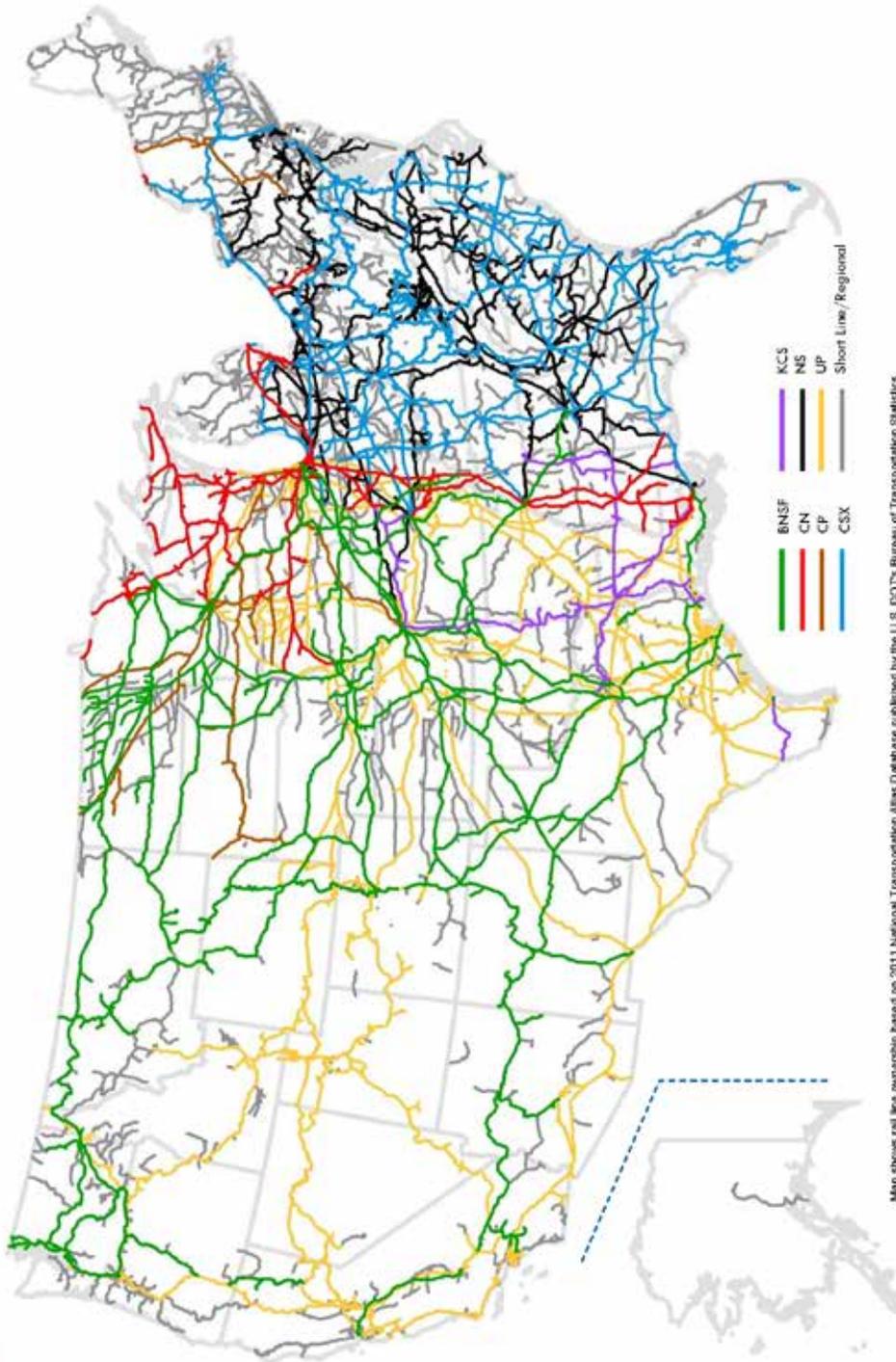
Credit: Brad Grefe

- 5. Reduced greenhouse gas emissions:** Shifting 10 percent of long-haul freight from truck-to-rail would save nearly 1 billion gallons of fuel annually, according to a study by the Federal Railroad Administration (FRA). Replacing over-the-road trucking with intermodal transportation for shipments of more than 1,000 miles reduces greenhouse gas emissions by 65 percent, according to the Environmental Protection Agency.
- 6. Reduced dependence on foreign oil:** Railroads move freight on an efficient, low-friction, steel-wheel network using less fuel per ton of freight moved than truck transportation.
- 7. Reduced pavement maintenance:** Choosing rail for freight transportation greatly decreases the number of trucks on the highway system. Because truck loadings are the most significant cause of wear on highway infrastructure, decreasing the number of trucks leads to a decrease in highway infrastructure maintenance costs.

Where do railroads go?

More than 185,000 miles of railroad connect North American shippers, manufacturers, and consumers. Railroads connect ports, terminals, urban and rural shippers and receivers. The map below shows the Class I rail network (in color) and how shortline railroads (regional and more local railroads) connect to this primary network (in gray scale).

Freight Railroads in United States



Map shows rail line ownership based on 2011 National Transportation Atlas Database published by the U.S. DOT's Bureau of Transportation Statistics.

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