Overview of America's Freight Railroads

ASSOCIATION OF AMERICAN RAILROADS — OCTOBER 2018

Summary

From one end of the country to the other, America is connected by the **best freight rail system in the world**. The seven large "Class I" railroads, working with hundreds of smaller railroads and tens of thousands of rail customers, **deliver economic growth**, **support job creation**, and **provide crucial environmental benefits** such as reduced highway gridlock and cleaner air. America's freight railroads are almost entirely privately owned and operated: unlike trucks and barges, **freight railroads operate overwhelmingly on infrastructure that they own, build, maintain, and pay for themselves**. In recent years, railroads have been spending more than ever before on maintaining and growing their nearly 140,000-mile U.S. freight rail network. Railroads are getting ready today to meet the freight transportation challenges of tomorrow.

Delivering the Goods Across the Country and to the World

Close to **600 freight railroads** operate in the United States. The seven "Class I" railroads — railroads with 2016 revenue of at least $447.6 million — account for around 69 percent of freight rail mileage, 90 percent of employees, and 94 percent of revenue. Each Class I railroad operates in multiple states over thousands of miles of track. Total operating revenue for Class I railroads in 2017 was approximately $70 billion.

Non-Class I railroads (also known as short line and regional railroads) range in size from tiny operations handling a few carloads a month to multi-state operators not far from Class I size. Collectively, they earn several billion dollars in revenue each year.

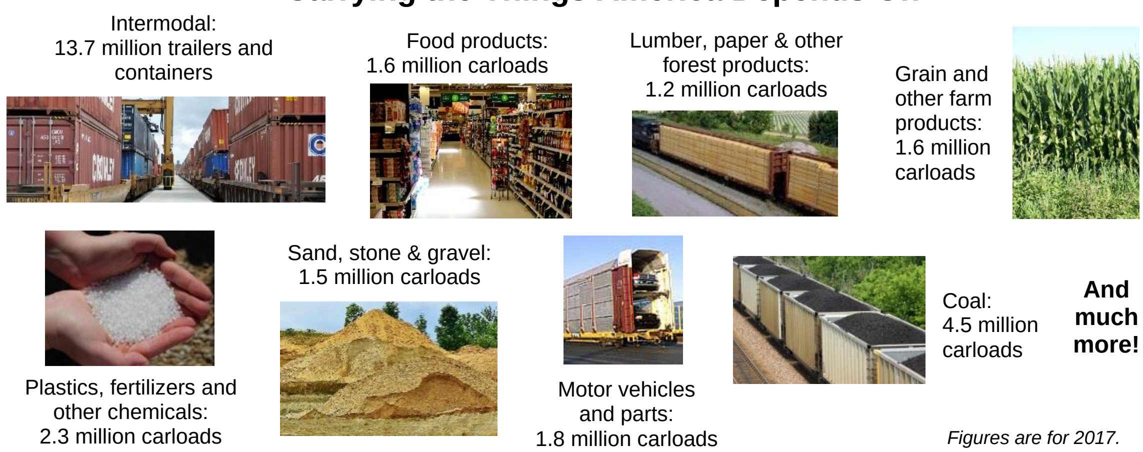
Together, freight railroads operating in the United States form an integrated, nearly 140,000-mile system that earned close to $74 billion in revenue in 2017 and that provides the **world's safest**, **most productive**, **and lowest-cost freight rail service**.

From the food on our tables to the cars we drive to the shoes on our children's feet, **freight railroads carry the things America depends on**:

- Historically, **coal** has generated more electricity than any other fuel, and railroads deliver around 70 percent of coal delivered to power plants. Railroads also carry enormous amounts of **corn, wheat, soybeans**, and other grains; fertilizers, plastic resins, and a vast array of other **chemicals**; **cement**, **sand**, and **crushed stone** to build our highways; **lumber** and **drywall** to build our homes; **autos** and **auto parts**; animal feed, canned goods, corn syrup, flour, frozen chickens, beer, and countless other **food products**; steel and other **metal products**; crude oil, asphalt, liquefied gases, and many other **petroleum products**; newsprint, paperboard, and other **paper products**; **iron ore** and **scrap metal** for steelmaking; and much more.

- **Rail intermodal** is the movement of shipping containers and truck trailers by rail. It's been the fastest growing major rail traffic segment over the past 25 years. Just about everything you find on a retailer's shelves may have traveled on an intermodal train. Around half of rail intermodal consists of imports or exports, reflecting the vital role intermodal plays in international trade.

Carrying the Things America Depends On



Figures are for 2017.

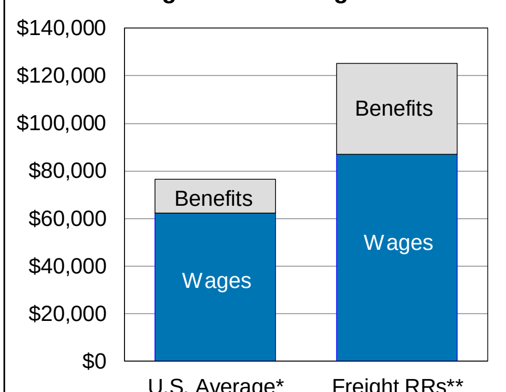
The Right Track for the Economy

Since the industry's founding more than 185 years ago, freight railroads have been indispensable to America's economic development.

- America's freight railroads **connect producers and consumers across the country and the world**, expanding existing markets and opening new ones.

- The approximately 170,000 freight railroad employees are among America's most highly compensated workers. In 2017, the average U.S. Class I freight railroad employee earned wages of $87,100 and fringe benefits of $38,300, for total average compensation of $125,400. By contrast, according to the Bureau of Economic Analysis, the average wage per full-time equivalent U.S. employee in domestic industries in 2017 was $62,100 (just 71 percent of the comparable rail figure) and average total compensation was $76,500 (just 61 percent of the rail figure).

Annual Compensation: U.S. Average vs. U.S. Freight Railroads



*Average full-time employee equivalent in domestic industries.
**Average Class I freight railroads. Data are 2017. Source: BEA, AAR

- **A June 2016 study from Towson University's Regional Economic Studies Institute found that, in 2014 alone, the operations and capital investment of America's major freight railroads supported approximately 1.5 million jobs** (1.1 percent of all U.S. workers — nearly nine jobs for every railroad job), nearly **$274 billion in economic output** (1.6 percent of total U.S. output), and **$88 billion in wages** (1.3 percent of total U.S. wages). Railroads also generated nearly **$33 billion in tax revenues**. These impacts include direct, indirect, and induced effects across the U.S. economy. In addition, millions of Americans work in industries that are more competitive in the tough global economy thanks to the affordability and productivity of America's freight railroads.

- **Without railroads, American firms and consumers would be unable to participate in the global economy anywhere near as fully as they do today.** In 2014, international trade accounted for an estimated 35 percent of U.S. rail revenue, 27 percent of U.S. rail tonnage, and 42 percent of the carloads and intermodal units U.S. railroads carried.

International Trade as a Share of Rail Traffic in 2014

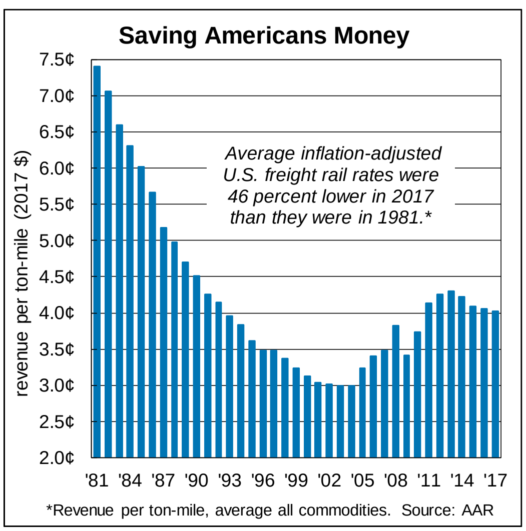
	Rail Total	Trade Share	Trade % of Total
Revenue ($ bil)	$75.1	$26.4	35.2%
Tons (millions)	1,879.4	511.0	27.2%
Units (millions)*	32.2	13.4	41.6%

*carloads and intermodal containers and trailers
Source: AAR analysis of government and other data

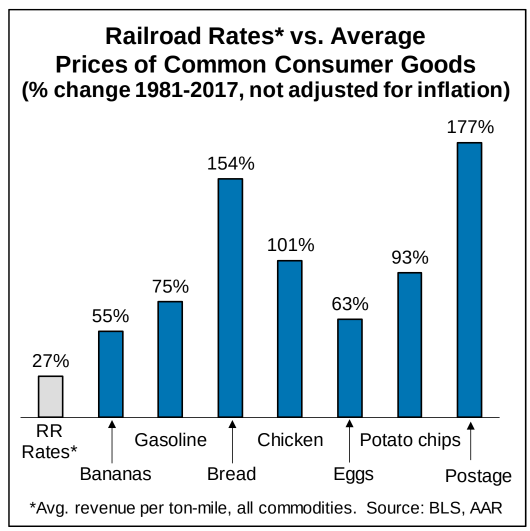
Affordable and Efficient

The affordability of freight rail saves rail customers (and, ultimately, American consumers) billions of dollars each year and enhances the global competitiveness of U.S. goods:

- **Average rail rates** (measured by inflation-adjusted revenue per ton-mile) **were 46 percent lower in 2017 than in 1981**. This means the average rail shipper can move close to twice as much freight for about the same price it paid more than 35 years ago.



*Revenue per ton-mile, average all commodities. Source: AAR



*Avg. revenue per ton-mile, all commodities. Source: BLS, AAR

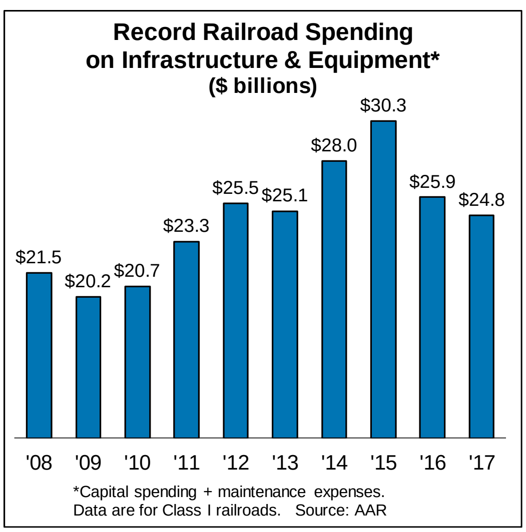
- U.S. freight railroads, along with their counterparts in Canada, are the **most affordable among the world's major countries**. According to the most recent available data from the World Bank and other sources, U.S. freight rail rates (measured by revenue per ton-mile) are less than half those in major European countries and well below China and Japan as well.

- Several years ago, the American Association of State Highway and Transportation Officials (AASHTO) estimated that if all freight rail traffic were shifted to trucks, rail customers would have to pay an additional $69 billion per year. Adjusted for increased freight volume and inflation, it's probably close to $100 billion today.

Investing for the Future

As America's economy grows, the need to move more freight will grow too. The Federal Highway Administration recently forecast that total U.S. freight shipments will rise from an estimated 17.7 billion tons in 2016 to 24.2 billion tons in 2040 — a 37 percent increase. Railroads are getting ready today to meet this challenge:

- America's freight railroads operate overwhelmingly on infrastructure that they **own, build, maintain, and pay for themselves**. By contrast, trucks, airlines, and barges operate on highways, airways, and waterways that are publicly funded.
- From 1980 to 2017, America's freight railroads spent more than $660 billion — their own funds, not taxpayer funds — on capital expenditures and maintenance expenses related to locomotives, freight cars, tracks, bridges, tunnels and other infrastructure and equipment. That's more than 40 cents out of each revenue dollar. **America's freight railroads have been spending more in recent years than ever before** on a network that keeps our economy moving.
- Over the past decade, the average U.S. manufacturer has spent about **3 percent** of revenue on capital expenditures. The comparable figure for U.S. freight railroads is close to **19 percent**, or about six times higher.



*Capital spending + maintenance expenses.
Data are for Class I railroads. Source: AAR

Capital Spending as % of Revenue*

Average all manufacturing	**2.9%**
Food	2.2%
Petroleum & coal products	2.4%
Machinery	2.6%
Fabricated metal products	3.1%
Primary metal products	3.1%
Wood producs	3.1%
Motor vehicles & parts	3.2%
Chemicals	3.4%
Plastics & rubber products	3.6%
Paper	4.0%
Nonmetallic minerals	4.8%
Computer & electr. products	5.1%
Class I Railroads	**19.1%**

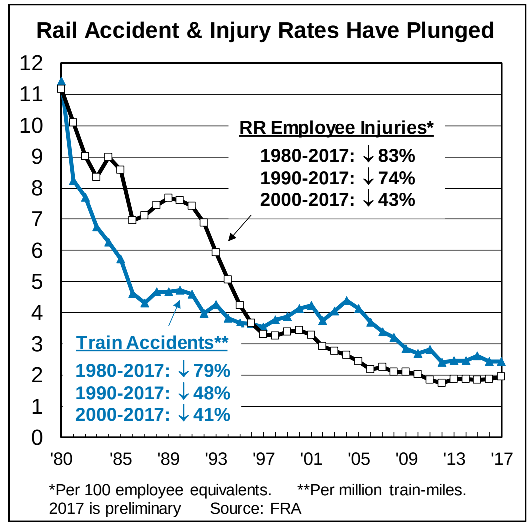
*Avg. 2007-2016
Source: Census Bureau, AAR

Always Looking to Improve Safety

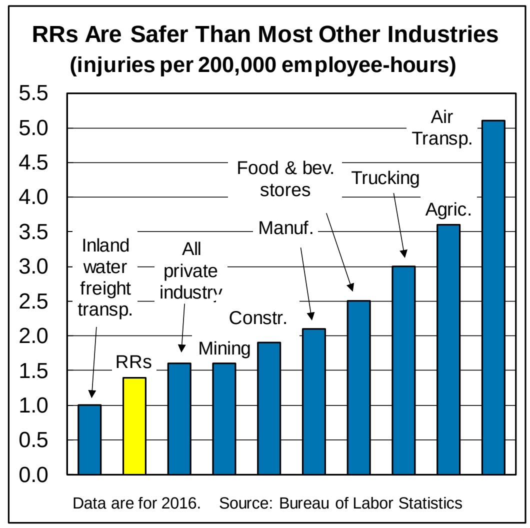
Nothing is more important to railroads than safety, and railroads know that the safety challenge never ends. That's why railroads, in cooperation with policymakers, their employees, suppliers, and customers, are constantly looking for new technologies, operational enhancements, improved training, and other ways to further improve their already excellent safety record.

- The train accident rate in 2017 was down 79 percent from 1980 and down 41 percent from 2000; the employee injury rate in 2017 was down 83 percent from 1980 and down 43 percent from 2000; and the grade crossing collision rate in 2017 was down 80 percent from 1980 and down 38 percent from 2000. **By all these measures, recent years have been the safest in history.**

- **Railroads today have lower employee injury rates than most other major industries**, including trucking, airlines, agriculture, mining, manufacturing, and construction — even lower than food stores.



- **Virtually every aspect of rail operations is subject to FRA safety oversight**. For example, stringent FRA regulations cover track and equipment inspections, employee certification, operating speeds, and signaling systems. FRA safety inspectors travel the country evaluating rail facilities and operations. In many states, FRA inspectors are supplemented by state inspectors. Railroads are also subject to safety oversight by the Occupational Safety and Health Administration, the Pipeline and Hazardous Materials Safety Administration, and the Department of Homeland Security.



- Railroads are constantly incorporating new technologies to improve safety. Just a few examples include **sophisticated detectors along tracks** that identify defects on passing rail cars; **ground-penetrating radar** that identifies problems below ground, such as excessive moisture, that could destabilize track; and **specialized rail cars** that use sophisticated instruments to identify defects in tracks.

Essential to a Greener, Less-Congested Future

- In 2017, U.S. railroads moved a ton of freight an average of **479 miles per gallon** of fuel. On average, railroads are **four times more fuel efficient than trucks**. Because greenhouse gas emissions are directly related to fuel consumption, moving freight by rail instead of truck reduces greenhouse gas emissions by an average of **75 percent**. In addition, emissions of particulate matter and nitrogen oxides are significantly lower for railroads than for trucks.

- Because **a single train can replace several hundred trucks**, railroads help reduce highway gridlock and the need to spend scarce taxpayer dollars on highways.

A Need for Reasonable Regulation

- Largely because of decades of excessive regulation, **by the 1970s U.S. freight railroads were on the brink of ruin**. Railroad bankruptcies were common, and tracks and equipment were falling apart because railroads couldn't afford the cost of maintenance. The economy suffered greatly because railroads could not provide the quality service their customers needed.

- Recognizing the need for reform, in 1980 Congress passed the **Staggers Rail Act**. The Staggers Act put in place a **more reasonable regulatory system** under which railroads could largely decide for themselves — rather than have Washington decide for them — what routes to use, what services to offer, and what prices to charge. Railroads today don't have unlimited freedom to charge whatever they want, though. If a railroad faces no effective competition for its services, the Surface Transportation Board can limit what the railroad can charge.

- Unfortunately, some shortsighted groups are calling for a return to the days of unbalanced and unreasonable rail regulation. **Policymakers should reject these calls**. America needs a common-sense regulatory system that provides effective oversight but gives railroads the opportunity to earn enough to provide the rail system our economy needs to grow. Rail investment should be encouraged, and regulations and legislation should not harm railroads' ability or willingness to make those investments.