

FREIGHT RAILROADS BACKGROUND

Office of Policy Office of Rail Policy and Development Federal Railroad Administration April 2015

In 2013, the Class I railroad freight industry generated a record \$72.9 billion in revenue. The seven Class I railroad systems account for nearly 95 percent of the industry's total revenue.¹ The railroad industry produced 1.7 trillion revenue ton-miles, a unit of measurement that incorporates both weight and distance, reflecting an increase of 1.6 percent over last year and its highest level since the 2008 peak.

Flexibilities from the Staggers Rail Act of 1980 initially led to reduced rates for shippers, adjusting for inflation. Staggers also led to enhanced railroad maintenance and capital expenditures on track and rolling stock. Railroad productivity increased substantially as more freight moves over a smaller network with a smaller workforce.

Structure. In 2013, in addition to the seven Class I freight railroad systems (systems with annual operating revenue of \$467.1 million or more, operating in the United States), there were 21 regional railroads (line-haul railroads operating at least 350 miles of road and/or earning revenue between \$40 million and the Class I threshold), and over 500 local railroads (line-haul railroads smaller than regional railroads).²

U.S. Freight Rail Industry 1990 vs 2012

	Class I RRs		Regional RRs		Local RRs	
	1990	2012	1990	2012	1990	2012
Number	14	7	30	21	486	546
Employment	209,708	163,464	11,578	5,507	14,257	12,293

Class I employment fell by 24 percent between 1990 and 2008 because the railroads stopped replacing retirees. Railroads sustained traffic levels without additional hires. However, faced with growing traffic levels and an aging workforce, the railroad industry ended its decades-long goal of reducing the number of workers and added nearly 13,000 employees in 2006. With demand for rail service declining in late 2007, the average annual employment level remained unchanged after the 2006 boost. In 2008 the employment level declined by nearly 3,000, which then the recession of 2009 accelerated, shedding another 13,000 employees. The employment levels remained

¹ The "Railroad Facts: 2014 Edition" published by AAR did not include revenue for non-Class I railroads in 2013, the 95 percent reflects the proportion from 2012.

² While these numbers reflect the AAR definition of regional and local railroads, the Surface Transportation Board in 2013 in its annual update of revenue thresholds for railroads defined Class II carriers with revenues ranging from \$37.4 million to under \$467.1 million. Class III carriers have revenues under \$37.4 million. All switching and terminal carriers regardless of revenues are Class III carriers. (See 49 CFR 1201.1-1) FRA estimates that there are 11 Class II railroads and over 550 Class IIIs in operation.

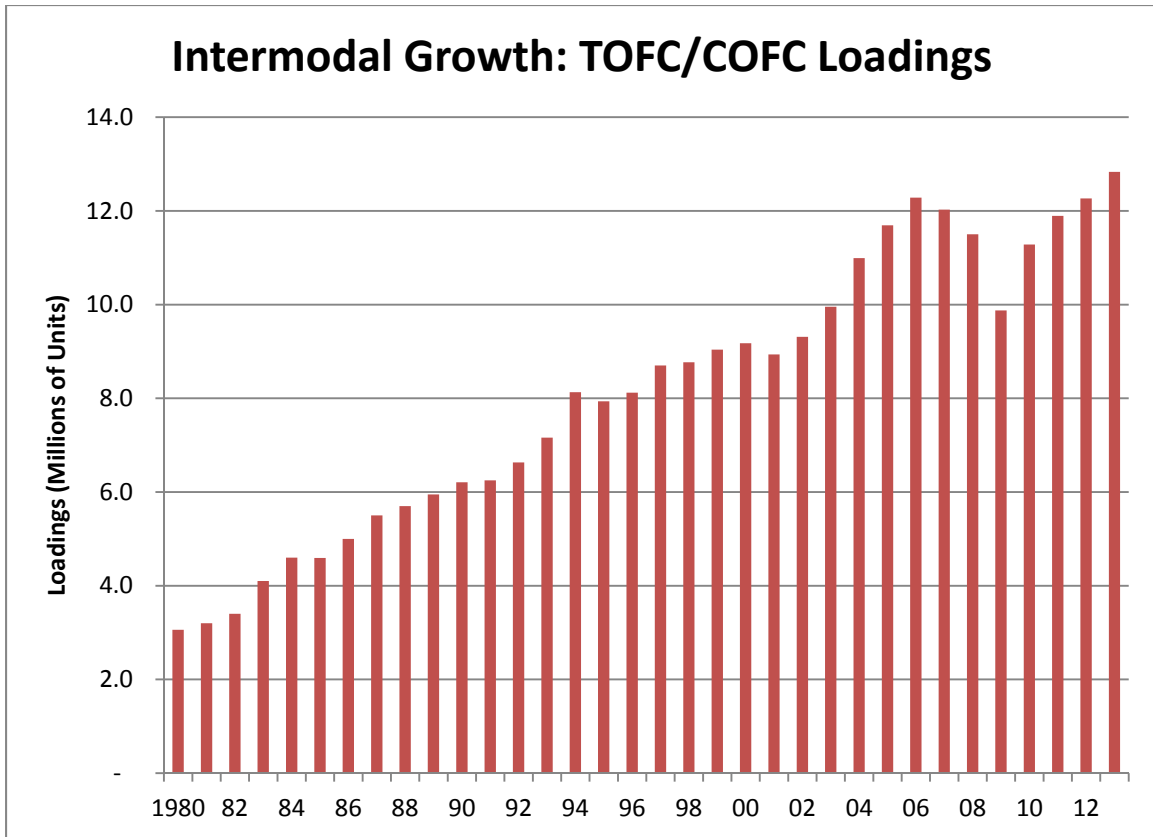
substantially unchanged in 2010 but rose by nearly 7,000 by 2012. In 2013, employment dropped slightly (0.4 percent) from 2012 levels.

Not only is the workforce aging, but changes in the Railroad Retirement Act reduced the age and time-in-service requirements for retirement. Nearly one-quarter of the work force will be eligible to retire in 2015. The railroad industry faces challenges with recruiting and retaining the vast number of employees to replace these large numbers, while simultaneously meeting the forecasted demand for freight service.

Between 1990 and 2012, regional railroad employment declined 52 percent, due in part as a result of mergers, such as the Canadian National's acquisition of the Wisconsin Central and the Canadian Pacific's acquisition of the Dakota, Minnesota and Eastern. Local railroad employment declined by 14 percent due in part to mergers and the consolidation of other functions, such as purchasing.

Commodities. In 2013, the major rail-carried commodities in terms of tons originated included coal (39 percent), other commodities (23 percent), chemical products (10 percent), non-metallic minerals (8 percent) and farm products (predominantly grain and soybeans) (7 percent).

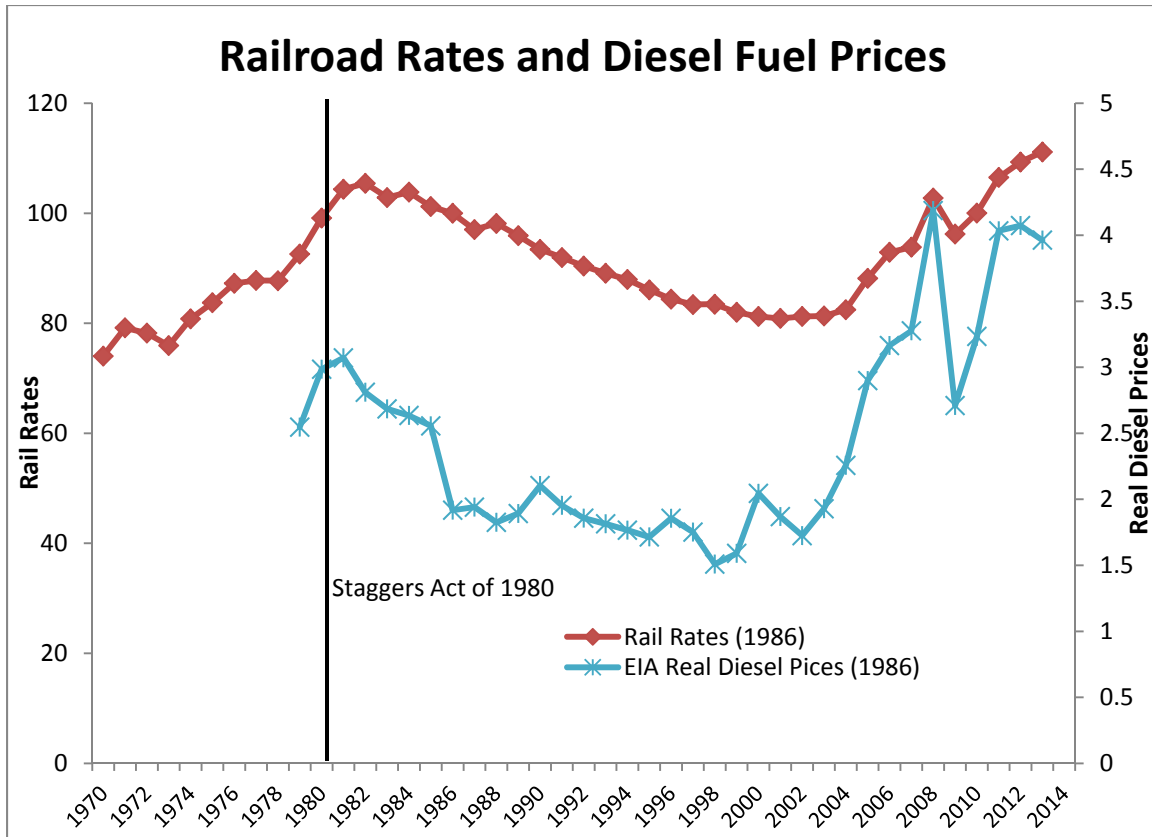
Intermodal traffic grew, and continues to grow, faster than any other rail traffic segment. The number of trailers and containers increased substantially from an average of 3.4 million loadings in the early 1980's, when railroads first introduced double-stack container trains, to a peak of 12.3 million in 2006. In 2008, intermodal units were down by more than 4 percent from 2007 and down another 14 percent during the recession in 2009. In 2010, there were 11.3 million units, wherein intermodal loadings continued to show strong growth over the next 3 years. For the first time since the recession, intermodal traffic in 2013 surpassed the 2006 peak loadings, with 12.8 million loadings, 4 percent higher than the 2006 peak. Preliminary estimates for 2014 show continued growth, at 13.4 million loadings. The California and Illinois traffic corridor transports the highest amounts of intermodal traffic, reflecting the land portion of container shipments of goods moved from Asia to the U.S.



Source: Association of American’s Railroad’s “Railroad Facts, 2014 Edition”

With the opening of the Powder River Basin (PRB) in Wyoming in the late 1970s, U.S. coal shipments grew dramatically as the railroads delivered low sulfur coal to help electric utilities achieve Clean Air Standards. The U.S. ships the largest amount of rail coal movements from the PRB to generating plants in Illinois, Missouri, and Texas.

Rates. Freight rates adjusted for inflation surpassed the 1981 peak in 2011. The period of declining rates after the enactment of the Staggers Act ended in 2002. Through late 2007, due to increased demand and little excess capacity, freight rates began to move higher. Much of the increase in 2008 can be attributed to a run-up in fuel prices. The decline in 2009 was associated with a fall in fuel prices, while the increase in 2010 and 2011 were driven by increasing fuel prices. The graphic shows the trend line for both the real rail rates and the real diesel prices (right axis).



Sources: U.S. Department of Labor, Bureau of Labor Statistics, Producer Price Index of Line-Haul Operating Railroads; U.S. Department of Commerce, Bureau of Economic Analysis, Implicit Price Deflator for Gross Domestic Product; U.S. Energy Enforcement Administration, Annual On-Highway Diesel Prices, Dollars per gallon. .

The Class I freight railroads received a 13.1 percent return on their net investment, over 3 times the rate of return in 1980. The Surface Transportation Board's estimate of the cost of capital for the railroad industry averaged 12 percent from 1980 to 2013, with the 2013 cost of capital at 11.3 percent.

Productivity. The railroads' responsibilities include maintaining their track, rights of way, and locomotives. Over the years, through mergers and rationalization of their plant, railroads abandoned or sold numerous low density or redundant lines. Since 1980, the Class I railroads increased their traffic (revenue ton-miles) by 89 percent (93 percent through 2008) while their network (miles of road owned) declined by 42 percent. These actions increased traffic density by concentrating traffic over a smaller network. However, sustained increases in traffic since the turn of the decade reversed the trends of the 80s and 90s whereby railroads now expand capacity in their highest density corridors by double-tracking major routes.

Between 1981 (a few months after the Staggers Rail Act partially deregulated rail rates and services) and 2013, the railroads spent \$593 billion on capital and maintenance of their track and equipment. From 1990 to 2013 capital expenditures more than tripled, starting at \$3.6 billion and climbing to \$13.1 billion, while the price level of railroad purchases of inputs rose by only 130 percent. Over the same time period, capital expenditures on roadway and structures more than tripled, going from \$2.6 billion to \$9.2

billion, as railroads increased the percentage of rail weighing 130 pounds per yard or more from 50 to 72 percent of mileage. These updates accommodate heavier loadings, such as increased coal shipments.

In terms of the capacity of railroad equipment, the industry reported that from 1990 to 2013, total horsepower of the railroad-owned locomotive fleet increased by 85 percent. This increased horsepower enabled the railroads to haul heavier trains, particularly trains moving coal out of the PRB, and high speed long distance intermodal trains. Of the 1,335,639 freight cars in service at the end of 2013, car companies and shippers owned the majority (873,679) followed by Class I railroads (373,838), and non-Class I railroads (88,122).

Between 1990 and 2013, freight railroads made major strides in improving productivity; revenue ton-miles per employee more than doubled, from 4.8 to 10.7 million, as traffic increased and employment dropped. Because of smaller crew sizes and the need for fewer interchanges between railroads due to mergers, the railroad industry needed less labor. In addition, technology and the elimination of duplicative administrative jobs reduced the amount of labor. More traffic, as measured by revenue ton-miles, resulted from more frequent and heavier traffic moving longer distances. For example, increased coal shipments from Wyoming now move further east to electric utility plants.

Freight railroads are also making more efficient use of fuel. Between 1990 and 2013, revenue ton-miles per gallon of fuel consumed rose from 332 to 473. To make their operations more fuel efficient, the railroads moved longer trains, longer distances between interchanges; rebuilt equipment and bought more fuel-efficient locomotives; used innovative equipment (for example, aluminum freight cars and double-stack cars); and reduced locomotive idling time.