How America's Freight Railroads Can Relieve Traffic Congestion

Shifting 25% of projected truck traffic to freight rail would result in the following savings in time, commuting costs, fuel consumption, pollution emissions and trucks removed.

	Hours Saved per peak Hour per Traveler	Commuter Cost Savings per Household	Gallons of Fuel Saved per Commuter	Annual Air Pollution Tons Saved	Trucks Removed Each Daily Peak Period
Year	**2025**	**2025**	**2025**	**2025**	**2025**
Atlanta, GA	50.7	$675	33	3,400	73,000
Austin, TX	47.1	$651	228	6,900	20,000
Baltimore, MD	33.3	$470	174	8,900	29,000
Boston, MA	33.2	$470	177	12,800	44,000
Buffalo-Niagara Falls, NY	34.0	$485	201	5,400	25,000
Chicago, IL-Northwestern, IN	80.7	$1,103	494	98,500	454,000
Cincinnati, OH-KY	60.5	$842	523	17,600	65,000
Cleveland, OH	62.7	$867	502	20,500	88,000
Columbus, OH	62.9	$872	521	15,000	62,000
Dallas-Fort Worth, TX	44.0	$614	256	36,700	94,000
Denver, CO	22.7	$319	95	6,500	24,000
Detroit, MI	56.0	$781	387	38,500	162,000
Ft. Lauderdale, FL	53.7	$738	241	13,800	50,000
Honolulu, HI	5.3	$75	19	400	1,000
Houston, TX	44.1	$614	244	29,500	79,000
Indianapolis, IN	68.0	$946	674	20,300	69,000
Jacksonville, FL	48.7	$682	315	9,100	25,000
Kansas City, MO-KS	31.0	$443	228	9,300	24,000
Las Vegas, NV	51.7	$716	240	11,500	42,000
Los Angeles, CA	34.6	$488	162	63,500	198,000
Louisville, KY-IN	49.2	$698	417	8,900	27,000
Memphis, TN-AR-MS	34.9	$494	219	5,900	19,000
Miami, FL	51.2	$703	213	15,200	62,000
Milwaukee, WI	42.9	$607	292	10,100	37,000
Minneapolis-St. Paul, MN	23.9	$342	150	10,300	29,000
Nashville, TN	34.5	$496	280	5,800	12,000
New Orleans, LA	53.3	$727	210	6,200	39,000
New York, NY-Northeastern NJ	52.9	$734	254	79,500	297,000
Norfolk-Virginia Beach, VA	42.3	$594	267	10,900	39,000
Oklahoma City, OK	30.2	$426	187	6,200	19,000
Orlando, FL	55.2	$768	329	15,100	40,000
Philadelphia, PA-NJ	46.8	$654	275	25,300	97,000
Phoenix, AZ	106.5	$1,441	630	67,400	409,000
Pittsburgh, PA	45.9	$643	264	10,900	47,000
Portland-Vancouver, OR-WA	44.8	$622	205	11,600	45,000
Providence-Pawtucket, RI-MA	20.6	$297	114	2,600	8,000
Sacramento, CA	38.5	$537	159	8,800	28,000
Salt Lake City, UT	28.5	$407	172	4,900	15,000
San Antonio, TX	36.9	$518	218	8,700	27,000
San Bernardino-Riverside, CA	49.2	$679	182	11,500	31,000
San Diego, CA	32.4	$463	176	15,800	46,000
San Francisco-Oakland, CA	36.5	$511	160	20,900	65,000
San Jose, CA	33.1	$471	176	9,400	27,000
Seattle, WA	30.2	$430	182	10,400	26,000
St. Louis, MO-IL	31.7	$450	219	11,200	31,000
Tampa-St. Petersburg, FL	44.4	$621	261	15,900	53,000
Tucson, AZ	43.1	$602	230	4,900	19,000
Tulsa, OK	31.0	$436	184	4,300	13,000
West Palm Beach-Boca Raton, FL	51.5	$715	280	10,900	34,000
Washington, DC-MD-VA	50.5	$702	238	25,200	74,000
Average/Total	Average: 44.0	Average: $613	Average: 257	Total: 882,800	Total: 3,343,000

Base Year: 2004

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How America's Freight Railroads Can Relieve Traffic Congestion

Traffic congestion is significant, and getting worse in urban areas throughout the United States. The Texas Transportation Institute (TTI) just reported that the amount of time the average commuter spends in traffic congestion has nearly tripled in just 20 years. This converts to more than $60 billion in congestion costs and more than 5.5 million gallons of wasted fuel due to idling in traffic jams.

At the same time, there is every reason to believe that traffic will continue to grow along with the population and economy. The problem is that the nation is no longer adding sufficient capacity to urban freeway and arterial street systems to accommodate traffic growth. This means that, even as bad as traffic congestion has become, it is likely to get much worse.

While the nation's trucks perform a vital role in the economy, their volume is increasing at an even faster rate than automobile travel. Because trucks take up more space, this exacerbates the shortage of highway space that is the root cause of urban traffic congestion. According to the Federal Highway Administration, the average large truck ("combination" truck with one or two trailers) takes up the space of approximately 3.8 average-sized cars on an urban freeway. With truck traffic projected to double in the next 20 years, sufficient road space is simply not likely to be available.

The Potential of Freight Rail: Our nation's freight railroads can reduce gridlock by taking trucks off the road. One intermodal container train can carry up to 280 truck trailers, while a conventional train can carry the volume of 500 truck trailers. This carrying capacity is an important potential resource in the battle against traffic congestion. Indeed, some trucking firms have already entered into partnerships with freight rail companies to transport their trailers over longer distances on intermodal trains.

Scenarios: This report reviews the potential for reducing future traffic congestion by moving more of the long, heavy trailers that take up so much space on our urban highways to intermodal freight trains that bypass busy urban streets and freeways.

If by 2025, 25 percent of truck traffic were to be shipped instead by freight trains, the following benefits could be achieved:

- By 2025, the average person traveling during peak periods would save 44 hours per year (equal to more than to five 8-hour days) during peak travel periods as the reduced truck volume eases traffic congestion. In the most congested urban areas, this delay savings could exceed 100 annual hours. The overall hours of delay would be 3.2 billion hours less in 2025.

- The savings in travel time would also mean lower costs (congestion costs and fuel cost savings) for the economy. It is estimated that the annual economic cost per household during peak periods would be $620 in 2025. This represents a savings in major urban areas of $44 billion in 2025.

- Fuel consumption would be reduced as a result of less truck traffic and faster automobile speeds on the less congested roadways. It is estimated that more than 17 billion gallons of gasoline and diesel fuel would be saved in 2025. This is more than 250 gallons of fuel annually per commuter.

- Fewer trucks and higher average vehicle speeds would improve air quality. The transfer of freight volumes from truck to rail is estimated to result in a reduction of nearly 900,000 tons of air pollution in 2025 (Carbon Monoxide, Volatile Organic Compounds and Nitrogen Oxide (NOx)).

Methodology

1. Future traffic volumes are estimated using US Census population projections and Federal Highway Administration traffic volume projections.

2. The extent of future traffic congestion is estimated by assuming continuation of 1990-2001 highway construction rates, while using a large-truck passenger car equivalency factor of 3.8, based upon Federal Highway Administration data.

3. Hours of future delay are estimated based upon the average US urban area relationship between Texas Transportation Institute (TTI) Travel Time Index and the percentage change in traffic levels relative to the percentage increase in highway capacity (1990-2001).

4. The cost per hour of delay is multiplied by the Texas Transportation Institute factor. The cost gallon of change in consumer fuel consumption is added, using the Texas Transportation Institute local estimate.

5. The fuel impacts include the net reduction in fuel usage from using freight rail instead of trucks and the reduction in automobile fuel usage from faster flowing traffic. The truck figure is estimated based upon the relative fuel efficiency of trucks and rail as calculated from US Bureau of Transportation Statistics data (rail fuel consumption is approximately 87 percent less per ton-mile than trucks). The change in automobile fuel consumption is estimated using the Texas Transportation Institute formula, which uses the change in average speed (in urban areas, fuel efficiency tends to improve as speeds rise).

6. The air pollution impacts include changes in both truck, rail and automobile emissions. Truck and rail impacts are estimated using differentials calculated per ton-mile from US Environmental Protection Agency data (rail emissions are from 75 to 96 percent lower per ton-mile than trucks) for three criteria pollutants (carbon monoxide, volatile organic compounds and NOx). The change in automobile pollution is estimated for the same three pollutants using EPA's Mobile5 speed correction factors (in urban areas, emissions tend to decline as speed increases). Because virtually all transport modes are becoming less polluting, the pollution factors were reduced consistent with Environmental Protection Agency estimates.