

IV. ECONOMIC CHARACTERISTICS OF THE FREIGHT TRANSPORTATION INDUSTRY

The freight transportation industry is an important part of the U.S. economy. It employs millions of people, supports economic activity, and invests in transportation infrastructure and equipment that benefits both passenger travel and freight movement.

Fixed transportation assets reflect the significant role of both public and private sectors in moving freight. Freight railroad facilities and services are almost entirely private,

while private-sector trucks operate over public highways. Air-cargo services in the private sector operate in public airways and mostly public airports, and ships in the private sector serve public waterways and both public and private port facilities. Pipelines are mostly privately owned, although significantly controlled by public regulation. In the public sector, virtually all truck routes are owned and maintained by state or local governments. Airports and harbors are typically owned by public authorities, although terminals are usually owned or managed by private operators. Air and water navigation is mostly controlled by the Federal government, and safety is regulated by all levels of government.

Total private and public fixed assets grew from just over \$26.9 trillion in 2000 to nearly \$46.4 trillion in 2011 (current U.S. dollars). Transportation equipment and structures (private and public) accounted for nearly 12 percent of the total in 2011. The components of transportation fixed assets and their 2011 values are private transportation equipment (\$1.04 trillion), private transportation structures (\$680 billion), and government transportation structures (\$3.77 trillion).¹

Table 4-1. Transportation Fixed Assets: 2000, 2005, and 2009-2011
(billions of current dollars)

	2000	2005	2009	2010	2011	Percent change, 2000 to 2011
Private Sector						
Transportation Equipment ¹	828	980	(R) 1,000	(R) 987	1,037	25.2
Transportation Structures ²	450	557	(R) 638	(R) 657	680	51.3
Public Sector						
Highways	1,435	2,056	2,836	2,939	3,132	118.2
Transportation Structures ²	261	413	564	(R) 590	635	143.6
Federal	6	10	14	14	15	131.3
State and Local	254	403	551	(R) 576	621	143.9

Key: R = revised.

¹Includes trucks, truck trailers, buses, automobiles, aircraft, ships, boats, and railroad equipment.

²Includes physical structures for all modes of transportation.

¹Fixed assets include both passenger and freight transportation. See the Bureau of Economic Analysis at www.bea.gov/national/FA2004/index.asp, tables 2.1, 3.1s, and 7.1b.



The freight industry has many components, encompassing companies large and small. All told there were nearly 220,000 transportation and warehousing establishments in 2007, with more than one-half of those primarily engaged in trucking. Revenue generated by trucking accounted for about 34 percent of transportation and warehousing sector revenue while warehousing accounted for a small percentage of the total.

Table 4-2. Economic Characteristics of Transportation and Warehousing Establishments in Freight-Dominated Modes: 2002 and 2007

NAICS	Establishments		Revenue (millions of current \$)		Payroll (millions of current \$)		Paid Employees	
	2002	2007	2002	2007	2002	2007	2002	2007
Transportation and warehousing	199,618	219,706	382,152	639,916	115,989	173,183	3,650,859	4,454,383
Rail transportation	NA	NA	NA	NA	NA	NA	NA	NA
Water transportation	1,890	1,721	23,331	34,447	3,194	4,544	66,153	75,997
Truck transportation	112,642	120,390	164,219	217,833	47,750	58,266	1,435,210	1,507,923
Pipeline transportation	2,188	2,529	22,031	25,718	2,477	3,219	36,790	36,964
Support activities for transportation	33,942	42,130	57,414	86,596	16,202	24,579	465,616	608,385
Couriers and messengers	12,655	13,004	58,165	77,877	17,175	20,431	561,514	557,195
Warehousing and storage	12,671	13,938	16,548	21,921	17,183	25,526	565,533	720,451

Key: NA = not available; NAICS = North American Industry Classification System.

Notes: Total includes air transportation, transit and ground passenger transportation, and scenic and sightseeing transportation. Data are for establishments in which transportation is the primary business. Data exclude transportation provided privately, such as trucking organized "in-house" by a grocery company. Data are not collected for rail transportation or for governmental organizations even when their primary activity would be classified in industries covered by the census. For example, data are not collected for publicly operated buses and subway systems.

Table 4-3. Economic Characteristics of Freight Railroads: 2000 and 2010

	Class I		Non-Class I		Total	
	2000	2010	2000	2010	2000	2010
Number of railroads	8	7	552	558	560	565
Freight revenue (billions of current dollars)	33.1	56.3	3.2	3.3	36.3	59.6
Operating revenue (billions of current dollars)	34.1	58.4	NA	NA	NA	NA
Employees	168,360	151,854	23,448	17,426	191,808	169,280

Key: NA = not available.

Railroads include Class I (national), Class II (regional), and Class III (local) carriers. Revenue grew while employment declined in national, regional, and local railroads between 2000 and 2010.

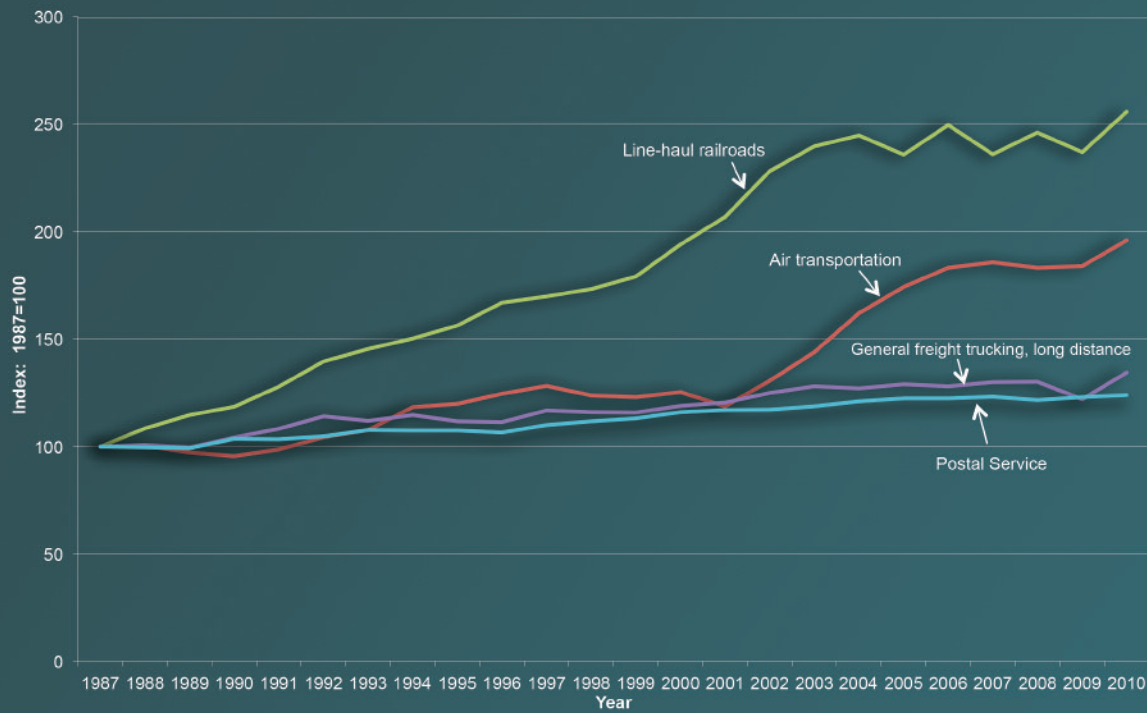
TABLE 4-2. ECONOMIC CHARACTERISTICS OF TRANSPORTATION AND WAREHOUSING ESTABLISHMENTS IN FREIGHT-DOMINATED MODES: 2002 AND 2007

Sources: 2002: U.S. Department of Commerce, Census Bureau, 2002 Economic Census, Transportation and Warehousing, United States (Washington, DC: 2004), available at www.census.gov/econ/census02/data/us/US000_48.HTM as of July 19, 2012; 2007: U.S. Department of Commerce, Census Bureau, 2007 Economic Census, Transportation and Warehousing, United States (Washington, DC: 2010), available at www.census.gov/econ/census07 as of July 19, 2012.

TABLE 4-3. ECONOMIC CHARACTERISTICS OF FREIGHT RAILROADS: 2000 AND 2010

Source: Association of American Railroads, Railroad Facts (Washington, DC: annual issues), p. 3.

**Figure 4-1. Productivity in Selected Transportation Industries: 1987-2010
(Output per Employee¹)**



¹Based on the number of paid hours. Real gross domestic product (GDP) in the business and nonfarm business sectors is the basis of the output components of the productivity measures. These output components are based on and are consistent with the National Income and Product Accounts, including the GDP measure, prepared by the Bureau of Economic Analysis of the U.S. Department of Commerce.

Notes: In 2009, the Bureau of Labor Statistics (BLS) revised its data for air transportation output per hour worked to include both full-time and part-time workers. Prior to 2009, BLS assumed all air transportation workers were full-time employees.

Productivity has been relatively stable after years of improvement. Between 1987 and 2010, output-per-hour worked more than doubled in line-haul railroading and grew by 34 percent in long-distance, general-freight trucking. Line-haul railroads do not include switching and terminal operations or short-distance (or local) railroads. Long-distance, general-freight trucking establishments exclude local trucking and truck operators that require specialized equipment, such as flatbeds, tankers, or refrigerated trailers.

FIGURE 4-1. PRODUCTIVITY IN SELECTED TRANSPORTATION INDUSTRIES: 1987-2010

Source: U.S. Department of Labor, Bureau of Labor Statistics, Industry Productivity, available at www.bls.gov/lpc/ as of September 5, 2012.





Table 4-4. Employment in For-Hire Transportation Establishments Primarily Serving Freight: 1990, 2000, and 2009-2011¹ (thousands)

	1990	2000	2009	2010	2011
Total U.S. labor force²	109,487	131,785	130,807	(R)130,346	132,186
Transportation and warehousing	3,476	4,410	4,236	(R)4,235	4,322
Rail transportation	272	232	218	(R)223	232
Water transportation	57	56	63	63	63
Truck transportation	1,122	1,406	1,268	(R)1,271	1,318
Air Transportation ³	541	628	460	454	456
Pipeline transportation	60	46	43	42	43
Support activities for transportation ⁴	364	537	549	(R)548	574
Couriers and messengers	375	605	546	527	522
Warehousing and storage	407	514	637	(R)643	650

Key: R = revised.

¹Annual averages.

²Excludes farm employment.

³Data for air transportation includes passenger and freight transportation employment.

⁴Industries in the support activities for transportation subsector provide services to transportation carrier establishments or to the general public. This subsector includes a wide array of establishments, including air traffic control services, marine cargo handling, and motor vehicle towing.

Notes: These data include workers employed in transportation industries but not necessarily in a transportation occupation, such as a lawyer working for a trucking company. Moreover, these data exclude workers in transportation occupations employed by non-transportation industries, such as a truck driver employed by a retail company.

Employment in many transportation industries has remained steady or has grown over the past two decades with the notable exception of railroads and pipelines, which have declined by 15 percent and 28 percent, respectively, between 1990 and 2011. Trucking in 2011 accounted for 30 percent of total transportation and warehousing sector employment.

Freight transportation jobs are not limited to for-hire carriers. Truck driving is by far the largest freight transportation occupation in the United States, and many drivers work for retailers and other establishments with shipper-owned trucks. There were approxi-

TABLE 4-4. EMPLOYMENT IN FOR-HIRE TRANSPORTATION ESTABLISHMENTS PRIMARILY SERVING FREIGHT: 1990, 2000, AND 2009-2011

Source: U.S. Department of Labor, Bureau of Labor Statistics, Current Employment Statistics survey, available at www.bls.gov/ces as of July 16, 2012.

Table 4-5. Employment in Selected Freight Transportation and Freight Transportation-Related Occupations: 2000 and 2009-2011

Occupation (SOC code)	2000	2009	2010	2011
Vehicle operators, pipeline operators, and primary support				
Driver/sales worker (53-3031)	373,660	363,050	371,670	387,950
Truck drivers, heavy and tractor-trailer (53-3032)	1,577,070	1,550,930	1,466,740	1,508,620
Truck drivers, light or delivery services (53-3033)	1,033,220	834,780	780,260	771,210
Locomotive engineers (53-4011)	29,390	43,560	40,750	38,790
Rail yard engineers, dinkey operators, and hostlers (53-4013)	4,020	5,360	5,600	5,060
Railroad brake, signal, and switch operators (53-4021)	16,830	24,270	22,760	23,830
Railroad conductors and yardmasters (53-4031)	40,380	41,540	42,700	44,280
Sailors and marine oilers (53-5011)	30,090	31,950	31,690	31,280
Captains, mates, and pilots of water vessels (53-5021)	21,080	30,450	29,280	30,220
Ship engineers (53-5031)	7,370	10,850	9,470	10,010
Bridge and lock tenders (53-6011)	4,790	4,290	3,250	3,420
Gas compressor and gas pumping station operators (53-7071)	6,510	4,160	4,040	3,870
Pump operators, except wellhead pumpers (53-7072)	13,730	10,310	9,440	12,150
Transportation equipment manufacturing and maintenance occupations				
Bus and truck mechanics and diesel engine specialists (49-3031)	258,800	232,810	222,770	222,940
Rail car repairers (49-3043)	10,620	20,910	19,280	19,480
Transportation infrastructure construction and maintenance occupations				
Rail-track laying and maintenance equipment operators (47-4061)	9,940	14,880	15,520	15,590
Signal and track switch repairers (49-9097)	5,540	6,450	7,400	8,300
Dredge operators (53-7031)	3,100	1,990	1,720	1,590
Secondary support service occupations				
Dispatchers, except police, fire, and ambulance (43-5032)	167,180	185,100	180,540	182,310
Postal service mail carriers (43-5052)	354,980	339,030	324,990	315,330
Shipping, receiving, and traffic clerks (43-5071)	864,530	715,130	687,850	687,940
Transportation inspectors (53-6051)	26,520	24,250	24,280	24,810
Tank car, truck, and ship loaders (53-7121)	17,480	11,560	10,390	10,960

Key: SOC = Standard Occupational Classification.

mately 2.67 million truck drivers in 2011; about 57 percent of these professionals drive heavy/tractor trailer trucks, 29 percent drive light/delivery service trucks, and about 14 percent are driver/sales workers. Several industry analysts believe the number of truck drivers is below demand and driver shortages may be an issue in the future.

TABLE 4-5. EMPLOYMENT IN SELECTED FREIGHT TRANSPORTATION AND FREIGHT TRANSPORTATION-RELATED OCCUPATIONS: 2000 AND 2009-2011

Source: U.S. Department of Labor, Bureau of Labor Statistics, National Occupational Employment and Wages, 2010, available at www.bls.gov/oes as of July 16, 2012.

Table 4-6. Producer Price Indices for Selected Transportation Services: 1990, 2000, 2003, and 2006-2010

	1990	2000	2003	2006	2007	2008	2009	2010
Air Transportation (NAICS 481)¹	NA	147.7	162.1	180.4	183.7	203.8	188.5	202.9
Scheduled Air Transportation (NAICS 4811) ²	110.2	180.1	198.5	220.5	224.5	248.9	229.1	247.7
Scheduled Freight Air Transportation (NAICS 481112)	NA	NA	100.0	108.4	109.0	127.8	119.1	130.2
Nonscheduled Air Transportation (NAICS 4812) ³	NA	107.3	117.8	136.8	148.5	165.8	160.4	165.4
Rail Transportation (NAICS 482)³	NA	102.6	108.8	135.9	140.9	157.3	148.5	156.2
Line -Haul Railroads (NAICS 482111) ⁴	107.5	114.5	121.4	151.2	157.2	175.5	165.6	174.3
Water Transportation (NAICS 483)	NA	NA	100.0	111.1	113.5	127.0	116.1	125.5
Deep Sea Freight Transportation (NAICS 483111) ⁵	113.1	155.8	219.9	233.3	230.0	258.3	218.8	244.8
Coastal and Great Lakes Freight Transportation (NAICS 483113)	NA	NA	100.0	119.9	130.2	141.8	137.4	146.7
Inland Water Freight Transportation (NAICS 483211)	100.0	117.9	124.7	182.9	186.1	218.3	211.4	217.4
Truck Transportation (NAICS 484)	NA	NA	100.0	113.2	115.4	123.0	117.3	119.4
General Freight Trucking (NAICS 4841)	NA	NA	100.0	114.1	116.5	123.6	117.5	119.3
General Freight Trucking, Local (NAICS 48411)	NA	NA	100.0	115.3	119.6	130.2	126.0	127.2
General Freight Trucking, Long Distance (NAICS 48412)	NA	NA	100.0	113.8	115.9	122.2	115.5	117.5
Specialized Freight Trucking (NAICS 4842)	NA	NA	100.0	111.4	113.1	122.1	117.4	119.9
Used Household and Office Goods Moving (NAICS 48421)	NA	NA	100.0	107.8	108.8	112.2	112.8	114.7
Specialized Freight (except Used Goods) Trucking, Local (NAICS 48422)	NA	NA	100.0	112.3	114.2	126.7	123.9	126.5
Specialized Freight (except Used Goods) Trucking, Long Distance (NAICS 48423)	NA	NA	100.0	112.8	114.8	123.6	113.2	115.8
Pipeline Transportation (NAICS 486)	NA	NA	NA	NA	NA	NA	NA	NA
Pipeline Transportation of Crude Oil (NAICS 4861)	NA	NA	100.0	112.0	125.4	137.1	141.0	183.4
Other Pipeline Transportation (NAICS 4869) ⁶	NA	NA	100.0	108.2	115.0	121.6	128.7	133.8
Support Activities for Transportation (NAICS 488)	NA	NA	100.0	106.5	108.5	111.7	108.6	110.7
Support Activities for Water Transportation (NAICS 4883) ⁷	NA	NA	100.0	107.7	112.7	117.3	116.8	120.2
Navigational Services to Shipping (NAICS 48833)	NA	NA	100.0	113.9	120.6	133.8	122.9	122.9
Freight Transportation Arrangement (NAICS 4885) ³	NA	98.3	97.9	98.8	100.2	102.5	94.8	95.2
Postal Service (NAICS 491)	100.0	135.2	155.0	164.7	171.9	178.9	185.0	187.7
Couriers and Messengers (NAICS 492)	NA	NA	100.0	121.5	131.5	142.0	141.5	153.4

Key: NA = not available; NAICS = North American Industry Classification System.

¹Base year = 1992.

²Base year = 1989.

³Base year = 1996.

⁴Base year = 1984.

⁵Base year = 1988.

⁶Other pipeline transportation includes pipeline transportation of refined petroleum products (NAICS 48691).

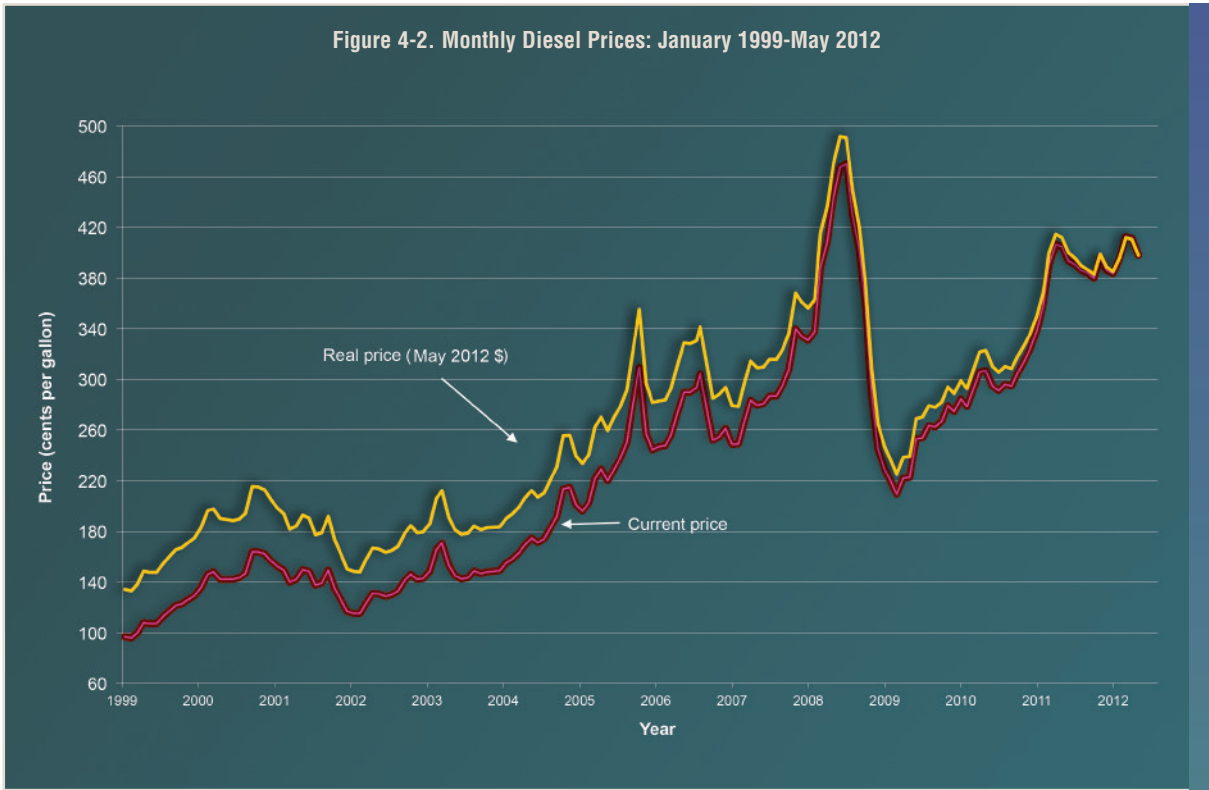
⁷Support activities for water transportation include port and harbor operations (NAICS 48831), marine cargo handling (NAICS 48832), and navigational services to shipping (NAICS 48833).

Notes: Index values start at 100.0 in 1990 unless another year is specified. This table shows annual data, which are calculated by the Bureau of Labor Statistics by averaging monthly indices. Data are reported monthly from January to December. The monthly indices, however, are available for fewer than 12 months for some years. In both cases, a simple average of the available monthly indices is reported for each year. Data are not seasonally adjusted.

From 2009 to 2010, the prices charged for transportation purchased from carriers and support activities have gone up in most industries. Air and water transportation prices both increased by about eight percent, and rail increased by more than five percent.

TABLE 4-6. PRODUCER PRICE INDICES FOR SELECTED TRANSPORTATION SERVICES: 1990, 2000, 2003, AND 2006-2010

Source: U.S. Department of Labor, Bureau of Labor Statistics, Producer Price Index Industry Data, available at www.bls.gov/data/sa.htm as of July 16, 2012.



Diesel prices were about 142 percent higher in May 2012 than 10 years earlier (in inflation-adjusted terms).

FIGURE 4-2. MONTHLY DIESEL PRICES: JANUARY 1999-MAY 2012
 Source: Diesel price: U.S. Department of Energy, Energy Information Agency, U.S. Petroleum Prices, available at www.eia.doe.gov as of July 16, 2012. Consumer price index: U.S. Department of Labor, Bureau of Labor Statistics, Consumer Price Index – All Urban Consumers, Monthly, available at www.bls.gov as of July 16, 2012.

