



Transportation in the United States Highlights from 2015 Transportation Statistics Annual Report



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The analysis contained in this report is taken from the Bureau of Transportation Statistics' *Transportation Statistics Annual Report*.





National Transportation Statistics includes a comprehensive, extended time series for much of the data presented in this report.



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The data used throughout this document reflect the latest numbers available at the time of publication.



Overview

The U.S. transportation system serves nearly 319 million Americans, 7.5 million businesses, and 75 million foreign visitors through a network of more than 4 million miles of roads, more than 19,000 public and private use airports, about 140,000 miles of freight and passenger railroads, 25,000 miles of navigable waterways, and nearly 2 million miles of oil and gas pipelines.

The estimated value of U.S. transportation assets in 2014 was \$7.7 trillion. The public owns 51.3 percent of the total transportation asset value, mostly highways and streets, but also publicly held transit facilities, airports, and numerous seaports, inland ports and terminals, and other facilities related to water transportation. Private companies own 30.6 percent of transportation assets, including railroads, pipelines, trucks, planes, and ships. Personal motor vehicles account for the remaining 18.1 percent.

The average person travels about 13,000 miles per year, and domestic businesses ship and receive an average of 63 tons of freight per capita per year in the United States.

The transportation sector accounts for:

- nearly \$1.4 trillion in purchases and investments in transportation goods and services—or 8.6 percent of U.S. Gross Domestic Product in 2013,
- \$125.7 billion in public and private expenditures on transportation construction in 2014,
- 12.3 million jobs in transportation related industries—or 8.8 percent of the U.S. labor force in 2014,
- about \$9,000 average expenditures for each household—or 17.6 percent of household expenditures in 2013,
- about 34,500 lives lost and roughly 2.3 million nonfatal injuries in 2013,
- 70.5 percent of total petroleum consumption in the United States, and
- about 27 percent of total U.S. greenhouse gas emissions.

TABLE 1Extent of the United States Transportation
System: 2000, 2010, and 2013

	• • •				Percer chang	nt e	
Mode	System component	2000	2010	2013	2000-20	13	
way	Roads and bridges						
	Public road and street mileage	3,936,222	4,067,076	4,115,462	4.6%		
	Bridges	587,135	604,460	607,708	3.5%		
	Lane-miles	8,224,245	8,581,158	8,656,070	5.3%		
High	Vehicles and use						
	Registered vehicles	225,821,241	250,070,048	255,876,822	13.3%		
	Highway vehicle-miles traveled	4,550,574	4,244,157	4,306,717	-5.4%	\mathbf{V}	
	Highway passenger-miles traveled	2,746,925	2,967,266	2,988,323	8.8%		
	Airports and pilots						
	Airports	19,281	19,802	19,453	0.9%		
	Pilots	625,581	627,588	599,086	-4.2%	$\pmb{\nabla}_{i}$	
	Aircraft and use						
Air	General aviation aircraft	217,533	223,370	199,927	-8.1%	$\pmb{\nabla}_{i}$	
	Commercial aircraft	7,826	7,185	6,733	-14.0%	\mathbf{V}	
	Passenger enplanements	U	720,500,000	743,200,000	3.2%		ר
	Air revenue passenger-miles	U	798,000,000	840,400,000	5.3%		2000–10
	Enplaned revenue ton-miles	U	65,000,000	62,000,000	-4.6%	$\pmb{\nabla}_{i}$	J
	Transit vehicles						
	Rail transit vehicles	17,114	20,374	20,372	19.0%		
Transit	Non-rail transit vehicles	89,022	115,300	116,609	31.0%		
	Transit use						
	Rail transit passenger-miles traveled	24,583	29,353	32,305	31.4%		
	Non-rail transit passenger-miles traveled	20,517	23,274	24,162	17.8%		
	Rail transit unlinked passenger trips	3.36	4.47	4.81	43.1%		
	Non-rail transit unlinked passenger trips	5.36	5.49	5.60	4.5%		
							1



TABLE 1 continued

Mode	System component	2000	2010	2013	Percent change 2000–2013	
	Amtrak/passenger rail and use					
	Locomotives	378	282	418	10.6% 🔺	
	Passenger cars	1,894	1,274	1,447	-23.6% 🔻	
	System mileage	23,000	21,178	U	-7.9% 🔻	2000–10
	Stations	515	519	U	0.6% 🔺	2000–12
	Passengers (millions)	20.9	28.7	30.9	47.6% 🔺	
Rail	Passenger-miles travelled (millions)	5,498	6,420	6,810	23.9% 🔺	
	Class I/freight rail and use					
	Locomotives	20,028	23,893	25,033	25.0% 🔺	
	Freight cars	560,154	397,730	373,838	-33.3% 🔻	
	Car companies and shippers freight cars	688,194	809,544	873,679	27.0% 🔺	
	System mileage	99,250	95,700	95,235	-4.0% 🔻	
	Ton-miles (trillion)	1.47	1.69	1.74	18.7% 🔺	
	Seaports and waterways					
	Seaports (handling over 250,000 tons)	197	178	182	-7.6% 🔻	
	Waterway facilities (including cargo	0.000	0.000	0.004	44.00/	
	nandling docks)	9,309	8,060	8,231	-11.6%	
ter	Miles of navigable waterways	25,000	25,000	25,000	0.0%	
Wa	Domestic vessels	10.0	10.4	12.0	6.00/	
	Recreational boats, minions	12.0	12.4	12.0	-0.2 %	
	(1,000 GT or over)	282	221	187	-33.7% 🔻	
	Barge/non-self-propelled vessels	33,152	31,412	31,081	-6.2% 🔻	
	Self-propelled vessels	8,202	9,078	8,918	8.7% 🔺	
	Mileage					
Pipeline	Gas distribution	1,788,100	2,101,921	2,149,382	20.2% 🔺	
	Transmission	298,957	304,775	302,811	1.3% 🔺	
	Gathering	27,561	19,640	17,437	-36.7% 🔻	
	Hazardous liquid or CO ₂ systems	U	181,974	192,388	5.7% 🔺	since 2010

KEY: U = Data are unavailable.

SOURCE: Various sources as cited in U.S. Department of Transportation, Bureau of Transportation Statistics, National Transportation Statistics, available at http://www.bts.gov/ as of November 2015.



Extent and Physical Condition of the U.S. Transportation System

- The Nation's transportation assets were valued at approximately \$7.7 trillion in 2013, a 13.6 percent increase over 2010 estimates. Publicly owned infrastructure and equipment accounted for over one-half of transportation capital stock.
- Highway lane-miles increased slightly less than 1 percent between 2010 and 2013. Highway person-miles traveled and vehicle-miles traveled increased by 1.5 and 0.7 percent, respectively, over that period.
- The condition of the U.S. transportation infrastructure is improving, but additional work is needed. The percentage of structurally deficient bridges declined from 12.0 percent in 2010 to 10.5 percent in 2013.
- One impact of bridge deterioration is reduced load limits. In 2013, 11.8 percent of all bridges had reduced load limits, which caused commercial vehicle operators to use smaller trucks or take circuitous routes, increasing their costs.
- The average age of the highway light-duty vehicle fleet increased by 28 percent over the 2000 to 2013 period and stood at about 11.4 years in 2013. The average age of commercial trucks is now 14.7 years, up from 12.5 years in 2007.
- The majority of airport runways (commercial service, reliever, and select general aviation) are in good condition; only 2 percent are considered poor.
- Railroad capital expenditures totaled \$13.1 billion in 2013, more than double the spending in 2000.
- The average age of inland waterway navigation locks, adjusted for the date of the most recent rehabilitation, is more than 50 years.
- There is a general lack of data on vehicle and traffic control system condition, regardless of mode, and on most aspects of intermodal connections.

FIGURE 1a Bridge Condition by Age Group: 2013



Total bridges = 607,749

	Years old (as of 12/31/2013)					
	0–24	25–49	50-74	75–99	>99	All years
Total bridges	175,702	215,605	140,696	64,083	11,663	607,749
Total deficient bridges						
Number	18,680	41,231	49,646	30,445	7,867	147,869
Percent	10.6	19.1	35.3	47.5	67.5	24.3%
Structurally deficient						
Number	2,576	16,200	22,491	17,388	4,866	63,521
Percent	1.5	7.5	16.0	27.1	41.7	10.5%
Functionally obsolete						
Number	16,104	25,031	27,155	13,057	3,001	84,348
Percent	9.2	11.6	19.3	20.4	25.7	13.9%

SOURCE: U.S. Department of Transportation, Federal Highway Administration, National Bridge Inventory, available at https://www. fhwa.dot.gov/bridge/nbi.cfm as of June 2015.

FIGURE 1b NPIAS Runway Condition: 2000 and 2013



NOTE: National Plan of Integrated Airport Systems (NPIAS) identifies nearly 3,400 existing and proposed airports that are significant to national air transportation and thus eligible to receive Federal grants under the Airport Improvement Program (AIP).

SOURCE: U.S. Department of Transportation, Federal Aviation Administration, as cited in U.S. Department of Transportation (USDOT), Bureau of Transportation Statistics (BTS), National Transportation Statistics (NTS), table 1-25, available at www.bts.gov as of July 2015.

Moving People

- In 2013 total domestic person-miles of travel (PMT) was about 4.7 trillion. Nearly four-fifths of PMT was in cars or other personal vehicles, while domestic air travel accounted for 11 percent.
- In 2013 PMT on highways remained below the prerecession peak in 2007; annual data for 2014 are not yet available, but a monthly indicator of highway vehicle-miles of travel (VMT) suggested strong growth in 2014. PMT and VMT often rise in tandem.
- In 2014 new peaks were set for the number of commercial airline passengers (about 850 million) and revenue passenger-miles (1.2 trillion). In contrast to previous years, U.S. air carrier's international revenue passenger-miles exceeded domestic miles in both 2013 and 2014. In 2014 passengers filled more seats per flight than a decade earlier.
- International visitors to the United States rose from 60 million in 2010 to nearly 75 million in 2014, generating \$221 billion in revenue—the highest in this century.
- Between 1990 and 2013, the number of people who drove alone to work increased by 25 million, while nearly 2 million fewer people carpooled to work.
- About 9 percent of households (about 9.8 million) had no vehicle in 2009. However, only 4 percent of households with a worker were without a vehicle, underscoring the critical role the personal vehicle plays in getting employees to and from work.
- About 14.8 percent of workers with no available vehicle walked to work, roughly four times the percentage for workers with one available vehicle. Similarly, 2.8 percent of those without a vehicle biked to their workplace, compared with 0.8 percent for workers with one available vehicle
- Transit use for the trip to work has slowly increased since reaching a low point in the mid-1990s. Transit now accounts for 5 percent of work trips, with higher levels in some metropolitan areas (the highest being New York City, San Francisco, CA, and Washington, DC).

- Walking and biking are important components of commuting to work in many cities. Regionally, walking to work is highest in Eastern cities. Over 10 percent of commuters in Boston, MA, Pittsburgh, PA, Washington, DC, and New York City walk to work. Biking to work is highest in the West and Midwest. Over 6 percent of commuters in Portland, OR, bike to work, as do over 5 percent of commuters in Madison, WI, and 4 percent in Minneapolis, MN.
- Working exclusively at home increased by about 82 percent from 1990 to 2013, growing from 3.4 million to 6.2 million.





FIGURE 2a Foreign Visits by Major Markets: 2000–2014

SOURCE: U.S. Department of Commerce, Office of Travel and Tourism Industries, U.S. Monthly Arrivals Trend Line: Overseas, Canada, Mexico & International, available at http://travel.trade.gov as of March 2015.

FIGURE 2b Workers Net Change by Mode of Transportation: 1990–2013



SOURCES: 1990: U.S. Department of Commerce (USDOC), Census Bureau (CB), Decennial Census. About Commuting (Journey to Work). Available at http://www.census.gov/ as of June 2015. 2013: USDOC/CB as cited in U.S. Department of Transportation, Bureau of Transportation Statistics, National Transportation Statistics, Table 1-41, available at http://www.bts.gov as of June 2015.

Moving Goods

- The U.S. freight transportation system moved 55.0 million tons of goods valued at more than \$49.3 billion each day in 2013—about 63.4 tons of freight per capita per year. This was an increase of 2.0 percent from 2012.
- In 2013 freight tonnage and value rose by 6.3 and 8.0 percent, respectively, over 2007 levels, fully rebounding from the 2008–2009 recession decline.
- The trend continued of trucks carrying the largest shares by value, tons, and ton-miles for shipments moved 750 or fewer miles. Rail is the dominant mode by tons and ton-miles of shipments ranging from 750 to 2,000 miles, while air, multiple, and other/unknown modes accounted for a majority of the value of shipments moved more than 2,000 miles, according to the latest available Freight Analysis Framework data.
- The value of U.S.-international trade increased from \$2.6 trillion in 2000 to nearly \$4.0 trillion in 2014 (adjusted for inflation using the Consumer Price Index), a 44.5 percent increase. Trade with Canada and Mexico increased by 32.8 percent over the same period. The growth in trade has created additional traffic between international gateways and domestic destinations.
- More than 400 freight transportation gateways, including airports, border crossings, and seaports, handled international cargo in 2013, but the top 25 gateways handled nearly \$2,406 billion (62.3 percent) of total U.S.-international trade.
- Shifts in oil production have affected transportation patterns of energy commodity movements in recent years. Class I railroads carried almost 500 thousand carloads of crude oil in 2014, a 50-fold increase from 9,500 carloads in 2008.



FIGURE 3 Freight Flows by Highway, Railroad, and Waterway: 2011

SOURCES: Highways: U.S. Department of Transportation, Federal Highway Administration, Freight Analysis Framework, Version 3.5, 2015; Rail: Based on Surface Transportation Board, Annual Carload Waybill Sample and rail freight flow assignments done by Oak Ridge National Laboratory; Inland Waterways: U.S. Army Corps of Engineers, Institute or Water Resources, Annual Vessel Operating Activity and Lock Performance Monitoring System data, September 2015.

Transportation System Performance

- The average annual delay per commuter rose from 26 hours in 1990 to 42 hours in 2014—a 62 percent increase. The total number of hours of delay experienced by all commuters across the Nation reached 6.9 billion hours in 2014—more than twice the 1990 total.
- Urban highway congestion cost the economy \$160 billion in 2014, of which 17.5 percent, or \$28 billion, was due to the effects of congestion on truck movements. Highway traffic congestion levels have increased over the past 30 years in all urban areas, from the largest to the smallest.
- On average in 2014, to assure an on-time arrival frequency of 95 percent, drivers had to compensate for congestion by allowing 241 percent more travel time over that needed during free flow conditions.
- Amtrak's on-time performance increased from 70 percent in 2005 to a record high 83 percent in 2012. On-time improvement was more prominent on long-distance routes.
- Barge tows on the inland waterways experienced an average delay of 2 hours navigating a lock in 2014, the largest delay on record and nearly double the delay in 2000.
- At inland waterway locks in 2014, scheduled maintenance and unexpected stoppages due to weather and operational issues resulted in more than 135,000 hours of lock shutdowns to traffic, almost 80 percent higher than the level in 2000.
- Over 21 percent of domestic scheduled airline flights (or 1.2 million flights) arrived at the gate at least 15 minutes late in 2014. Almost 10 percent (or 576 thousand) arrived at the gate more than 2 hours late.



FIGURE 4a Percent of Congestion by Time of Day: 2011 and 2014

SOURCE: Texas A&M University, Texas Transportation Institute, 2015 Urban Mobility Report (August 2015: full report with exhibits), Exhibit 5. Available at http://tti.tamu.edu/ as of October 2015.

FIGURE 4b Billion-Dollar Weather and Climate Disasters: 2014



SOURCE: U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Climatic Data Center (NCDC), 2014 Billion-Dollar Weather and Climate Disasters, available at https://www.ncdc.noaa.gov/billions/ as of November 2015.

Transportation Economics

- Total spending on transportation fell in 2008 after the onset of the 2007–2009 economic recession and returned to the pre-recession level in 2014.
- In total, the public and private sectors spent \$125.7 billion on transportation construction in 2014.
- The transportation revenues of federal, state, and local governments totaled \$180.2 billion in 2012, while government transportation expenditures totaled \$319.8 billion—a deficit of \$139.6 billion, down from \$152.3 billion in 2009.
- Personal, business, and government purchases of transportation goods and services accounted for 8.9 percent of U.S. gross domestic product in 2014.
- All freight traffic and passenger travel, as measured by the Transportation Services Index (TSI), declined during the 2007–2009 economic recession, but rebounded in 2014. The passenger TSI lagged the freight TSI in recovery.
- Transportation and related sectors employed over 12.3 million workers in 2014, representing 8.8 percent of the Nation's labor force.
- The highest wage transportation-related occupations employ relatively few workers while the lower wage occupations employ millions. Air traffic controllers, airline pilots, and aerospace engineers had an annual median wage of more than \$100,000 in 2014 and employed 167,000; while the largest transportation-related occupation, heavy truck and tractor-trailer truck drivers, had an annual median wage of \$39,520 and employed over 1.6 million.
- American households spent, on average, about \$9,000 per year on transportation in 2014, representing 17.0 percent of household expenditures. Transportation expenditure is the second largest household spending category, next to housing.
- Annual household expenditures on transportation differ in dollar amount by income quintile, with the highest income quintile spending on average 4.7 times as much (\$16,788) as the lowest income quintile (\$3,555). However, as a percent of average annual total household expenditures, transportation spending was similar across income quintiles.

FIGURE 5a Household Expenditures by Category: 2014



^a Includes alcoholic beverages, cash contributions, education, entertainment, personal care products and services, reading, tobacco products and smoking supplies, and other items.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, Consumer Expenditure Survey, available at www.bls.gov/cex as of September 2015.

FIGURE 5b Transportation Services Index: Jan. 2000 to July 2015





Transportation Safety

- In 2013, on average, throughout the United States about 95 people were killed and nearly 6,400 people were injured each day in transportation-related crashes.
- Transportation safety has been improving in recent decades, averaging 27 fewer fatalities and nearly 2,400 fewer injuries per day in 2013 than in 2000.
- Almost 95 percent of transportation fatalities and more than 99 percent of transportation injuries involved highway motor vehicles. In 2013 there were more than 32,700 fatalities and 2,313,000 injuries on the Nation's highways.
- In 2013 nearly 4,700 pedestrians and more than 740 pedalcyclists were killed. Alcohol involvement either by the driver or the pedestrian was reported in 49 percent of all pedestrian crashes in 2013.
- Motor vehicle crashes caused an estimated \$242 billion, or nearly \$784 per person, in economic costs in 2010.
- Comparing injury rates, crash victims in cars and other light-duty vehicles were 10 times more likely to be injured than crash victims in large trucks. A motorcyclist is five times more likely to be injured than a passenger car occupant when involved in a crash.
- Almost 600 people were killed when they were struck by trains at public highway-rail grade crossings or while trespassing on railroad property. Recreational boating and general aviation accounted for more than 550 and about 400 fatalities, respectively.
- Human factors, such as operating a vehicle while under the influence of alcohol or while distracted, are some of the more common contributing factors to transportation fatalities. Cellphone use contributed to 71 thousand motor vehicles crashes. Many people also fail to use safety equipment, such as seat belts or DOT-compliant motorcycle helmets.

FIGURE 6 Fatalities Number by Age and Sex: 1990 and 2013



SOURCE: U.S. Department of Transportation, National Highway Traffic Safety Administration, Fatality Analysis Reporting System, available at http://ttp.nhtsa.dot.gov as of March 2015.

Transportation Energy Use and Environmental Impacts

- Despite transportation's continued dependence on petroleum, recent trends show decreasing import dependence, sharply reduced emissions of air pollutants, and small reductions in greenhouse gas emissions. U.S. dependence on imported oil decreased from a high of 60.3 percent in 2005 to 26.5 percent in 2014, largely as a result of increased domestic oil production.
- Transportation continues to rely almost entirely on petroleum to move people and goods. However, the sector's dependence on petroleum decreased from a peak of 97.3 percent of transportation energy use in 1978 to 91.5 percent in 2014. This is due in part to increased blending of domestically produced ethanol in gasoline and improved fuel economy.
- The highway mode continues to dominate transportation energy use. Highway vehicles used 83.2 percent of total transportation energy in 2013, with personal vehicles accounting for 71.1 percent of highway energy use and 59.2 percent of total transportation energy use.
- Transportation is the second largest producer of greenhouse gas emissions (GHG), accounting for 27 percent of total U.S. emissions in 2013. Aside from greenhouse gases, the six most widespread or common air pollutant emissions from transportation fell below their 1990 levels and continued to decline from 2009 to 2014 due to many factors, including motor vehicle emissions controls that have contributed to considerable reductions.
- Across the 169 continuously monitored urban areas, the total number of very unhealthy air quality days that could trigger heath emergences warnings rose from 291 in 1990 to 361 in 2014.
- Significant pipeline oil spill incidents involved annual average spillage of about 69,000 barrels of oil (or 2,898,000 gallons) and other hazardous liquids each year for the three-year period 2012 through 2014. Between 2010 and 2013, derailments of oil tank cars released, on average, slightly less than 600,000 gallons per year.
- The energy required to move one person one mile or one ton of freight one mile has generally declined over time.

FIGURE 7a Transportation Energy Use by Energy Source: 1950–2014



KEY: Btu = British thermal unit

SOURCE: U.S. Department of Energy, Energy Information Administration, Monthly Energy Review, table 2.5. Available at http://www.eia.gov as of June 2015.



FIGURE 7b Energy Use by Mode of Transportation: 2013

KEY: Btu = British thermal unit

NOTES: The following conversion rates were used: Jet fuel = 135,000 Btu/gallon. Aviation gasoline = 120,200 Btu/gallon. Automotive gasoline = 125,000 Btu/gallon. Diesel motor fuel = 138,700 Btu/gallon. Compressed natural gas = 138,700 Btu/gallon. Distillate fuel = 138,700 Btu/gallon. Residual fuel = 149,700 Btu/gallon. Natural gas = 1,031 Btu/f33. Electricity 1kWh = 3,412 Btu, negating electrical system losses. To include approximate electrical system losses, multiply this conversion factor by 3.

SOURCE: Air-Bureau of Transportation Statistics, Office of Airline Information. Rail–Association of American Railroads. Transit–Federal Transit Administration. Amtrak–National Railroad Passenger Corporation (Amtrak), personal communication with Energy Management Department and Government Affairs Department. Water–U.S. Department of Energy, Energy Information Administration and U.S. Department of Transportation, Federal Highway Administration. Pipeline–U.S. Department of Energy, Energy Information Administration. Highway–Federal Highway Administration as cited in U.S. Department of Transportation, Bureau of Transportation Statistics, National Transportation Statistics, table 4-6, available at www.bits.gov as of March 2015.

State of Transportation Statistics

- Extensive data are available on local passenger travel and most long-distance freight movement, but data gaps exist for long-distance travel, domestic movement of international trade, and local freight movement.
- Cost data are available for most forms of passenger travel but are limited for freight movement, and the contributions of transportation to the economy have not adequately been quantified and are poorly articulated.
- Substantial data are available on crashes related to transportation, but the availability of data on causation of safety problems varies by mode of transportation, and the integration of data on motor vehicle crashes, the conditions surrounding each crash, and consequences of the crash remains elusive.
- "Big data" and other alternative data sources may offer ways to update and improve the detail of traditional statistics, but research is needed to determine the reliability and validity of statistics from these sources, to establish institutional arrangements for access to large proprietary databases, and to integrate these new data sources with traditional forms of data and analysis to provide effective information for decision makers. Real-time data may offer ways to validate traditional statistics.
- BTS strives to create increasingly robust, credible statistics that support evidence-based decision making that are useful and used throughout the Nation.



References

U.S. Department of Transportation (USDOT). Bureau of Transportation Statistics (BTS):

—2016. *Transportation Statistics Annual Report* (forthcoming). Will be made available at http://www.bts.gov/.

—2015a. *National Transportation Statistics* (October 2015), available at http://www.bts.gov/ as of November 2015.

—2015b. Two Decades of Change in Transportation Reflections from Transportation Statistics Annual Reports 1994–2014. (December 2015), available at http://www.bts.gov/ as of November 2015.



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