

2019

# Pocket Guide to Transportation



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# Pocket Guide to Transportation



U.S. Department of Transportation  
**Office of the Secretary of Transportation**  
Bureau of Transportation Statistics

# ACKNOWLEDGMENTS

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# ABOUT THE *POCKET GUIDE TO TRANSPORTATION*

The BTS *Pocket Guide to Transportation* is a quick reference guide that provides transportation statistics at your fingertips. It provides key information and highlights major trends on the U.S. transportation system.

This year features an updated *Pocket Guide* mobile app, which includes improved navigation and dynamic data updates to highlight the most recent up-to-date statistics. Download now to access all the popular features of the classic *Pocket Guide* (available for most devices and phones on the App Store and on Google Play).

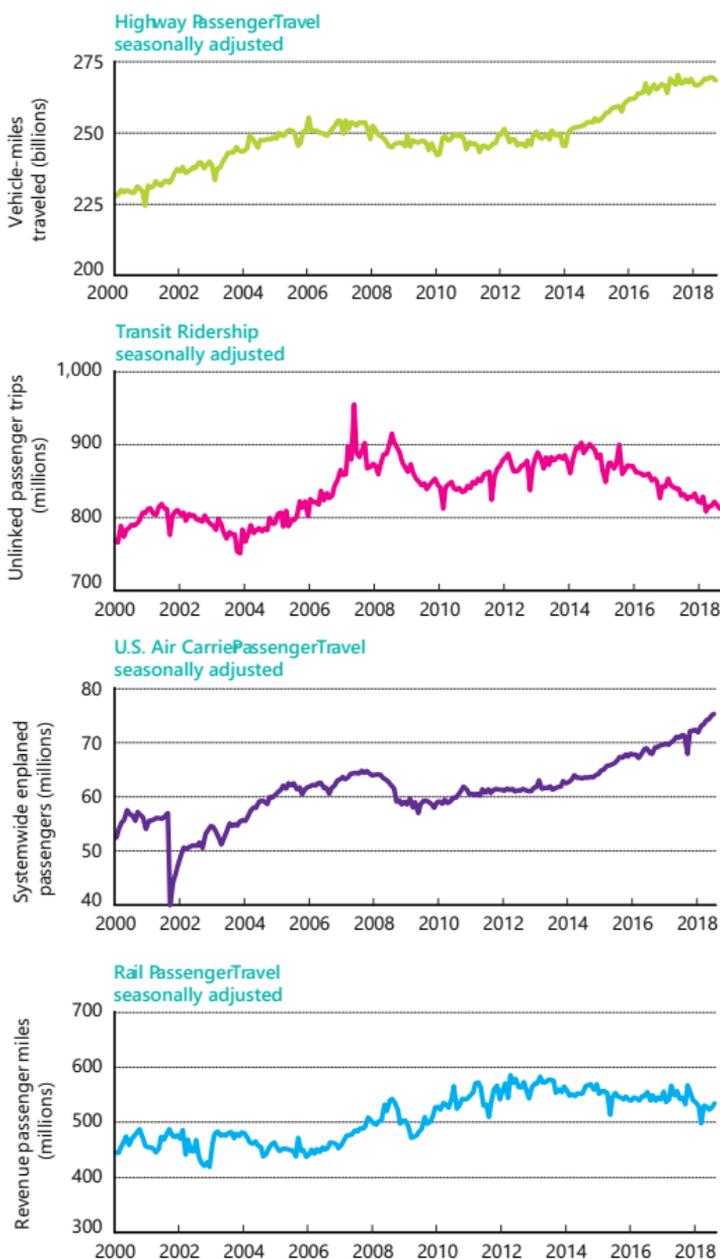
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## Major Trends

### Moving People: January 2000–September 2018

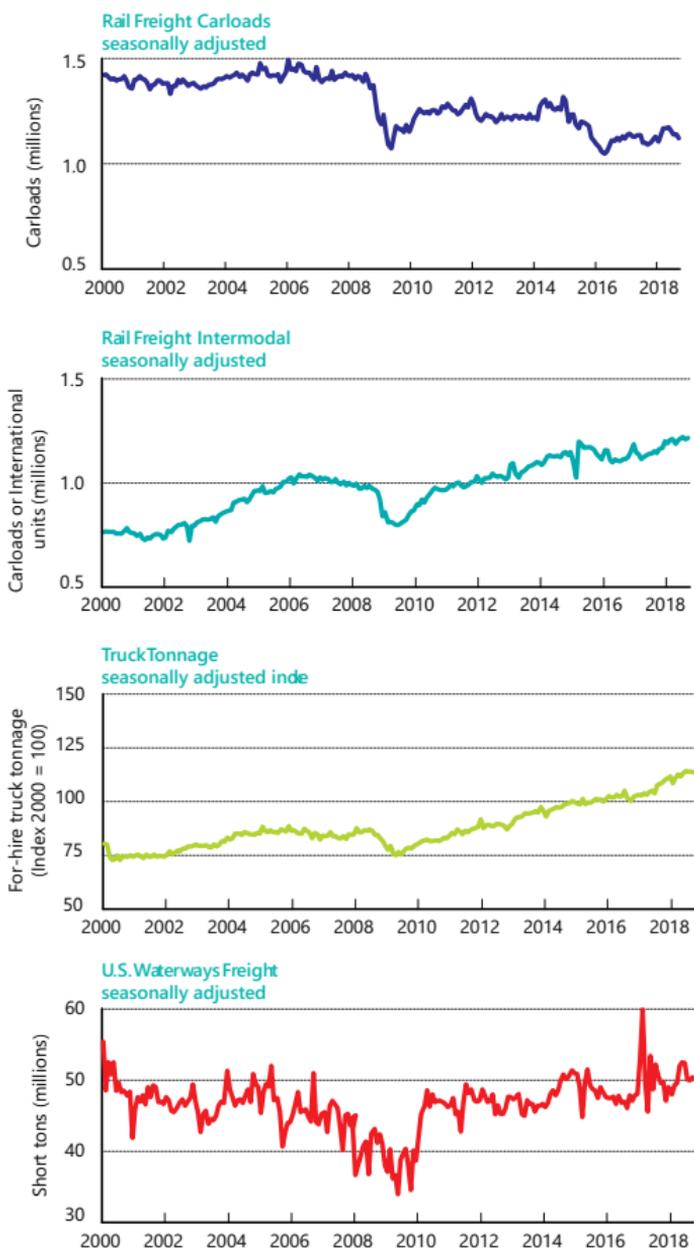


**Notes:** Graph scales are not comparable. Seasonally adjusted data measure the real differences in data trends by adjusting for seasonal factors, such as the change in the number of days, weekends, holidays, or other seasonal activity in a month such as vacation travel.

**Source:** **Seasonally adjusted transportation data**—U.S. Department of Transportation, Bureau of Transportation Statistics, available at [www.bts.gov](http://www.bts.gov) as of November 2018.

## Major Trends

Moving Freight: January 2000–September 2018



**Notes:** Graph scales are not comparable. **Rail freight intermodal**—Rail intermodal traffic includes shipping containers and truck trailers moved on rail cars. **U.S. waterways freight**—Includes tonnage carried on internal U.S. waterways.

**Source:** **Seasonally adjusted transportation data**—U.S. Department of Transportation, Bureau of Transportation Statistics, available at [www.bts.gov](http://www.bts.gov) as of November 2018.



# 1 INFRASTRUCTURE

The U.S. transportation system consists of a network of roads, bridges, airports, railroads, transit systems, ports, waterways, and pipelines, connecting the Nation to the rest of the world.

## 1-1 Transportation Network Length miles

Mode	2006	2016
Highway		
Public roads	4,016,741	4,140,108
Public road lanes <sup>a</sup>	8,420,589	8,711,076
Pipeline		
Gas distribution	2,343,696	2,528,560
Gas transmission and gathering	321,222	318,207
Rail		
Class I freight railroad	94,801	93,339
Amtrak	21,708	21,358
Transit		
Commuter rail <sup>b</sup>	6,972	7,745
Heavy rail <sup>b</sup>	1,623	1,646
Light rail <sup>b,c</sup>	1,280	1,958
Water		
Navigable waterways <sup>d</sup>	25,000	25,000

<sup>a</sup>Measured in lane-miles. <sup>b</sup>Measured in directional route-miles. <sup>c</sup>Light Rail was revised beginning in 2011 and includes light rail, street car rail, and hybrid rail. <sup>d</sup>Estimated length of domestic waterways.

Sources: Highway, Pipeline, Rail, Transit, Water—As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, tables 1-1, 1-6, and 1-10, available at <https://www.bts.gov/> as of November 2018.

## 1-2 Transportation Facilities

number

Mode	2006	2016
<b>Air</b>		
Certificated airports <sup>a</sup>	604	531
General aviation airports	19,379	19,005
<b>Highway</b>		
Bridges	597,339	614,386
<b>Pipeline</b>		
LNG facilities	U	156
<b>Rail</b>		
Amtrak stations	510	520
<b>Transit rail</b>		
Commuter rail stations	1,169	1,261
Heavy rail stations	1,042	1,051
Light rail stations <sup>b</sup>	764	871
<b>Water</b>		
Ports <sup>c</sup>	190	181
Cargo handling docks <sup>d</sup>	*	8,227
Lock chambers	257	239

<sup>a</sup>Certificated airports serve air carrier operations with aircrafts seating more than nine passengers. <sup>b</sup>Light Rail was revised beginning in 2011 and includes light rail, street car rail, and hybrid rail. <sup>c</sup>Ports handling over 250,000 short tons. <sup>d</sup>Data for 2006 and 2016 are not comparable due to changes in data coverage.

**Key:** \*2006 cargo handling docks number is omitted because it is not comparable to 2016 number due to a change in data collection methodology. LNG = liquified natural gas; U = Data are unavailable.

**Sources:** **Air, Highway, Rail**—As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, tables 1-3, 1-7, and 1-28, available at <https://www.bts.gov/> as of July 2018. **Pipeline**—U.S. Department of Transportation, Pipeline and Hazardous Materials Administration, available at <https://www.phmsa.dot.gov> as of July 2018. **Transit**—U.S. Department of Transportation, National Transit Database, available at <https://www.transit.dot.gov/ntd/> as of July 2018. **Water**—U.S. Army Corps of Engineers, Navigation Data Center, Transportation Facts and Information, available at <http://www.navigationdatacenter.us/> as of July 2018.

## 1-3 Transportation Vehicles

number

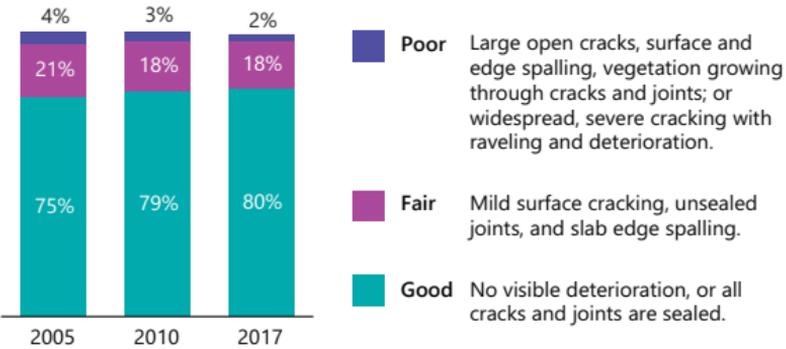
Mode	2006	2016
<b>Air</b>		
Air carrier aircraft	7,637	7,034
General aviation aircraft	221,943	211,793
<b>Highway</b>		
Light-duty vehicle <sup>a</sup>	234,524,720	247,644,981
Truck	8,819,007	11,498,561
Motorcycle	6,678,958	8,679,380
<b>Rail</b>		
Class I freight locomotive	23,732	26,716
Class I freight car	475,415	315,227
Amtrak locomotive	319	434
Amtrak car	1,191	1,402
<b>Transit rail</b>		
Commuter rail <sup>b</sup>	6,300	7,190
Heavy rail <sup>b</sup>	11,052	10,775
Light rail <sup>b, c</sup>	1,801	2,553
<b>Water</b>		
Nonselv-propelled vessel	32,211	32,354
Self-propelled vessel	8,898	8,974
Oceangoing vessel	229	169
Recreational boat	12,746,126	11,861,811

<sup>a</sup>Includes passenger cars, light trucks, vans, and sport utility vehicles. <sup>b</sup>Includes revenue vehicles available for maximum service. <sup>c</sup>Light Rail was revised beginning in 2011.

**Source:** As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 1-11, available at <https://www.bts.gov/> as of July 2018.

## 1-4 Airport Runway Pavement Condition

percent of NPIAS runways

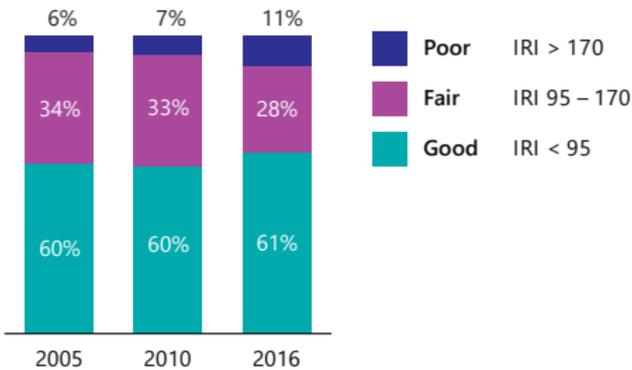


**Notes:** National Plan of Integrated Airport Systems (NPIAS) airports include commercial service airports, reliever airports, and selected general aviation airports.

**Source:** As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 1-25, available at <https://www.bts.gov/> as of October 2018.

## 1-5 National Highway System Pavement Condition

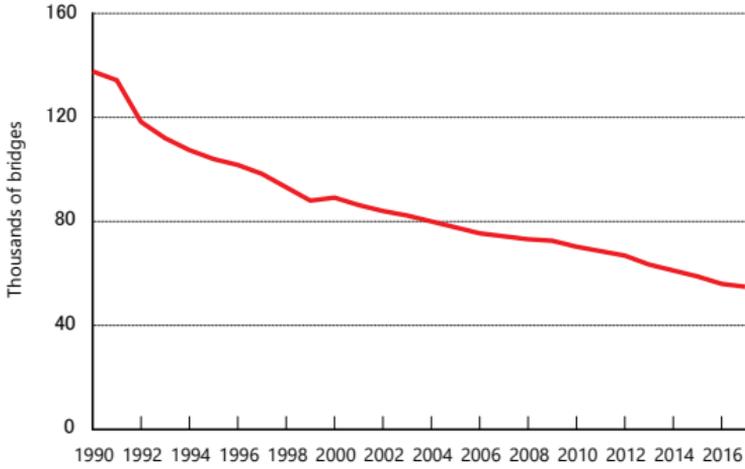
percent of NHS facility miles



**Notes:** Pavement condition is measured by the International Roughness Index (IRI) which takes a longitudinal profile of pavement roughness based on one-way facility centerline miles. A lower IRI indicates smoother highway conditions and a higher IRI indicates rougher highway conditions.

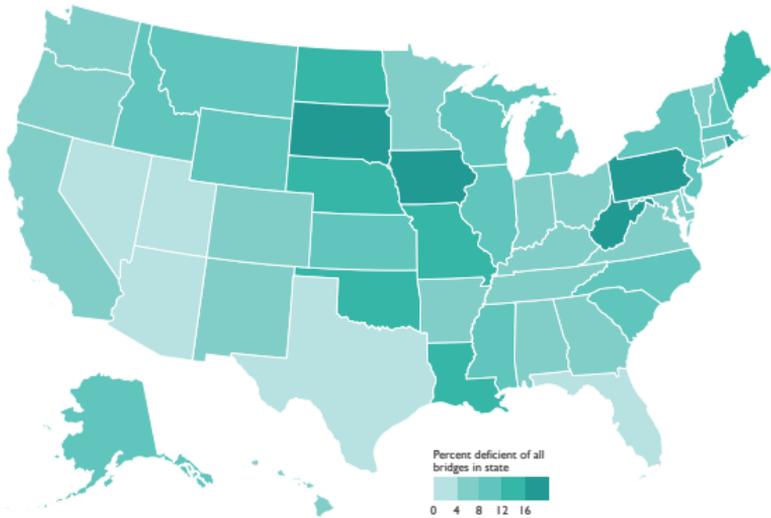
**Source:** U.S. Department of Transportation, Federal Highway Administration, Highway Statistics, table HM-47, available at <https://www.fhwa.dot.gov/policyinformation/statistics.cfm> as of October 2018.

## 1-6 Structurally Deficient Bridges: 1990–2017



**Source:** As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, tables 1-28, available at <https://www.bts.gov/> as of October 2018.

## 1-7 Structurally Deficient Bridges by State: 2017



**Source:** U.S. Department of Transportation, Federal Highway Administration, National Bridge Inventory, available at <http://www.fhwa.dot.gov/bridge/deficient.cfm> as of October 2018.



## 2 MOVING PEOPLE

The U.S. transportation system makes personal mobility possible. Every day people use the transportation system to get to and from work, school, and shopping and for recreation, social, and personal purposes.

### 2-1 Vehicle-Miles Traveled

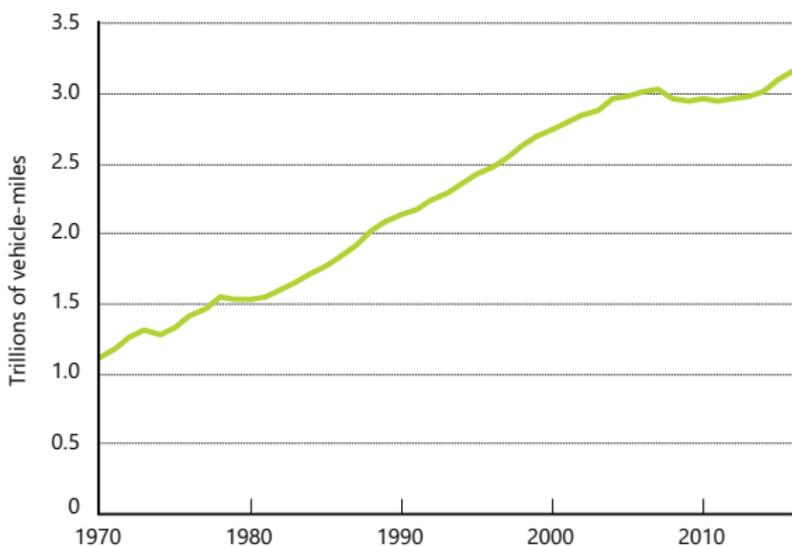
millions

Mode	2008	2016
<b>Air</b>		
U.S. air carrier, domestic <sup>a</sup>	6,446	6,227
<b>Highway</b>		
Light-duty vehicle <sup>b</sup>	2,630,213	2,849,718
Motorcycle	20,811	20,445
Truck	310,680	287,895
Bus	14,823	16,350
<b>Passenger rail</b>		
Amtrak <sup>c</sup>	272	316
Commuter rail <sup>c</sup>	337	374
Heavy rail <sup>c</sup>	674	701
Light rail <sup>c,d</sup>	88	124

<sup>a</sup>Measured in revenue aircraft-miles. <sup>b</sup>Includes passenger cars, light trucks, vans, and sport utility vehicles. <sup>c</sup>Measured in passenger car-miles. <sup>d</sup>Light rail was revised beginning in 2011 and includes light rail, street car rail, and hybrid rail.

**Source:** As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 1-35, available at <https://www.bts.gov/> as of October 2018.

## 2-2 Highway Travel: 1970–2016



**Note:** Data for 2007 and later years may not be comparable to previous years due to changes in methodology.

**Source:** U.S. Department of Transportation, Federal Highway Administration, Highway Statistics, available at <https://www.fhwa.dot.gov/policyinformation/statistics.cfm> as of November 2018.

## 2-3 Passenger-Miles Traveled

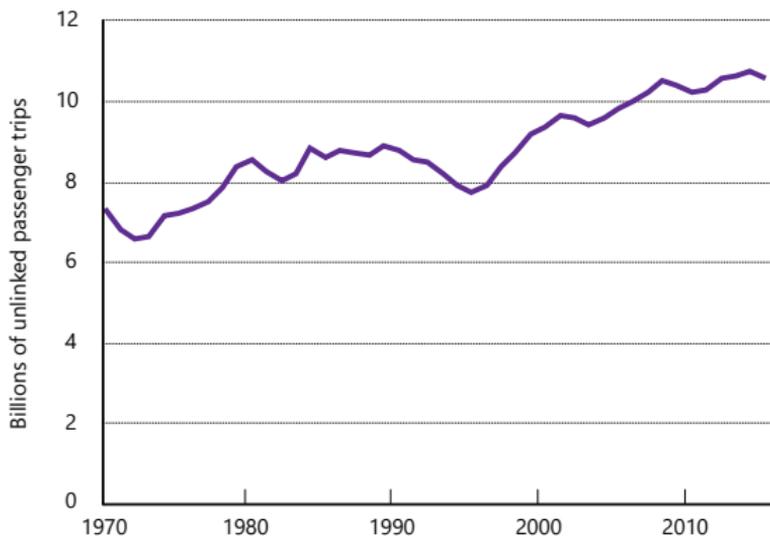
millions

Mode	2007	2016
<b>Air</b>		
U.S. air carrier, domestic	607,564	670,437
<b>Highway</b>		
Light-duty vehicle <sup>a</sup>	4,341,984	3,924,199
Motorcycle	27,173	22,022
Truck	304,178	287,895
Bus	307,753	346,610
<b>Passenger rail</b>		
Amtrak <sup>b</sup>	5,784	6,520
Commuter rail	11,137	11,840
Heavy rail	16,138	18,474
Light rail <sup>c</sup>	1,930	2,775

<sup>a</sup>Includes passenger cars, light trucks, vans, and sport utility vehicles. <sup>b</sup>Measured in revenue passenger-miles. <sup>c</sup>Light rail was revised beginning in 2011 and includes light rail, street car rail, and hybrid rail.

**Source:** As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 1-40, available at <https://www.bts.gov/> as of October 2018.

## 2-4 Transit Ridership: 1970–2015



**Note:** Includes bus, commuter rail, demand response, heavy rail, light rail, trolley bus, ferry boat, aerial tramway, automated guideway, cable car, inclined plane, monorail, and other.

**Source:** American Public Transportation Association, *Public Transportation Fact Book, Appendix*, available at <https://www.apta.com/Pages/default.aspx/> as of October 2018.

## 2-5 Daily Passenger Travel

	2001	2009	2017 <sup>a</sup>
<b>Travel per person</b>			
Daily person trips	3.7	3.8	3.4
Daily person-miles	36.9	36.1	36.1
<b>Travel per driver</b>			
Daily vehicle trips	3.4	3.0	2.7
Daily vehicle-miles of travel	32.7	29.0	25.8
<b>Average commute</b>			
Length in miles	12.1	11.8	11.5
Travel time in minutes	23.3	23.9	26.6
<b>Percent of work trips by usual mode</b>			
Private vehicles	90.8	89.4	87.5
Public transit <sup>b</sup>	5.1	5.1	6.9
Walk	2.8	2.8	2.9
Other <sup>c</sup>	1.3	2.7	2.7

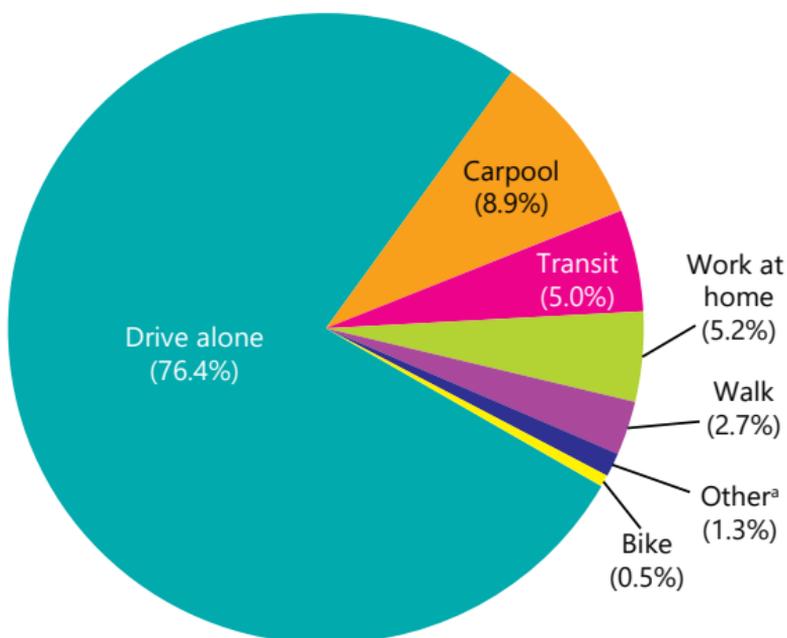
<sup>a</sup>The 2017 NHTS includes a different methodology compared to previous years such as an address-based sample including more urban and cell phone only households. <sup>b</sup>Public transit includes local bus, commuter bus, commuter train, subway, trolley, and streetcar. <sup>c</sup>“Other” includes travel modes not specifically cited, such as motorcycle, taxi, bike, truck, and other.

**Note:** The usual mode is defined as the means of transportation usually used to go to work in the week prior to the travel day.

**Source:** U.S. Department of Transportation, Federal Highway Administration, *2017 National Household Travel Survey*, Summary of Travel Trends, available at <https://nhts.ornl.gov/> as of September 2018.

## 2-6 Commute Mode Share: 2017

percent of workers age 16 and older

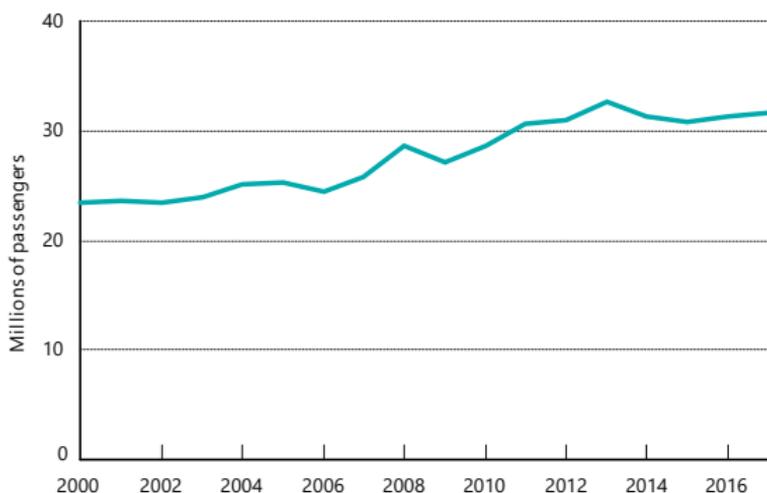


<sup>a</sup> Includes motorcycle, taxi, and other means.

**Notes:** Percents may not add to 100 due to rounding. The *American Community Survey* asks for the mode usually used by the respondent to get to work. For more than one mode of transportation, respondents select the mode used for most of the distance traveled.

**Source:** U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 1-41, available at [www.bts.gov](http://www.bts.gov) as of October 2018.

## 2-7 Amtrak Ridership: FY2000–FY2017



**Source:** U.S. Department of Transportation, Federal Railroad Administration, available at <http://safetydata.fra.dot.gov/officeofsafety/default.aspx/> as of October 2018.

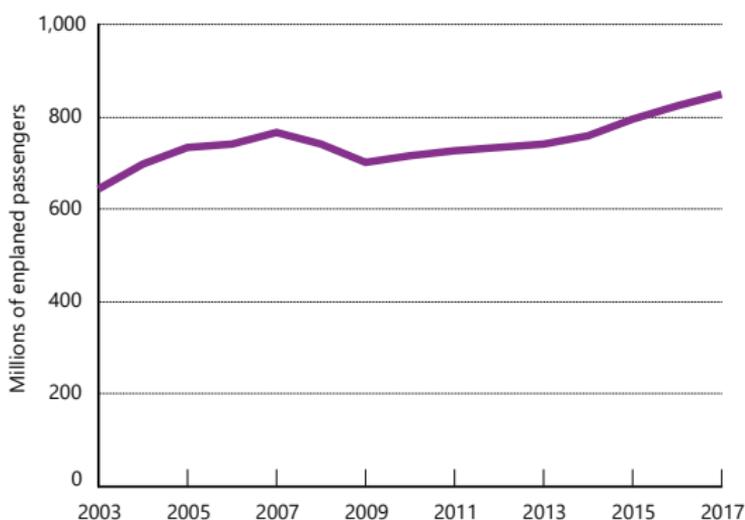
## 2-8 Top 10 Amtrak Stations: FY2017 by passengers

Rank	Station	FY '16–FY '17 change	Millions of passengers
1	New York Penn Station, NY	▼ -0.4%	10.4
2	Washington, DC	▲ 2.5%	5.2
3	Philadelphia 30th St, PA	▲ 1.9%	4.4
4	Chicago, IL	▲ 4.3%	3.4
5	Los Angeles, CA	▲ 5.0%	1.7
6	Boston South Station, MA	▼ -0.4%	1.6
7	Sacramento, CA	▲ 2.2%	1.1
8	Baltimore, MD	▲ 3.3%	1.1
9	Albany-Rensselaer, NY	▼ -6.1%	0.8
10	San Diego, CA	▲ 0.1%	0.8

**Note:** Includes passenger boardings and alightings.

**Source:** Amtrak, *National Fact Sheet and State Fact Sheet*, available at <https://www.amtrak.com/home.html> as of October 2018.

## 2-9 U.S. Air Carrier Passenger Traffic: 2003–2017



**Note:** Includes passenger enplanements on scheduled services only (domestic and international flights).

**Source:** U.S. Department of Transportation, Bureau of Transportation Statistics, Office of Airline Information, T-100 Market data, available at <https://www.bts.gov/> as of October 2018.

## 2-10 Top 10 U.S. Airports: 2017 by enplaned passengers

Rank	Airport	'16-'17 change	Millions of passengers
1	Atlanta, GA	▼ -0.5%	50.3
2	Los Angeles, CA	▲ 3.9%	41.2
3	Chicago O'Hare, IL	▲ 2.6%	38.6
4	Dallas/Fort Worth, TX	▲ 1.7%	31.8
5	Denver, CO	▲ 5.2%	29.8
6	New York JFK, NY	▲ 1.0%	29.5
7	San Francisco, CA	▲ 4.4%	26.9
8	Las Vegas, NV	▲ 2.3%	23.2
9	Seattle, WA	▲ 3.3%	22.6
10	Charlotte, NC	▲ 2.3%	22.0

**Note:** Includes passenger enplanements on U.S. carrier scheduled domestic and international service and foreign carrier scheduled international service to and from the United States.

**Source:** U.S. Department of Transportation, Bureau of Transportation Statistics, Office of Airline Information, T-100 Market data, available at <https://www.bts.gov/> as of October 2018.

## 2-11 Top 10 World Airports: 2017

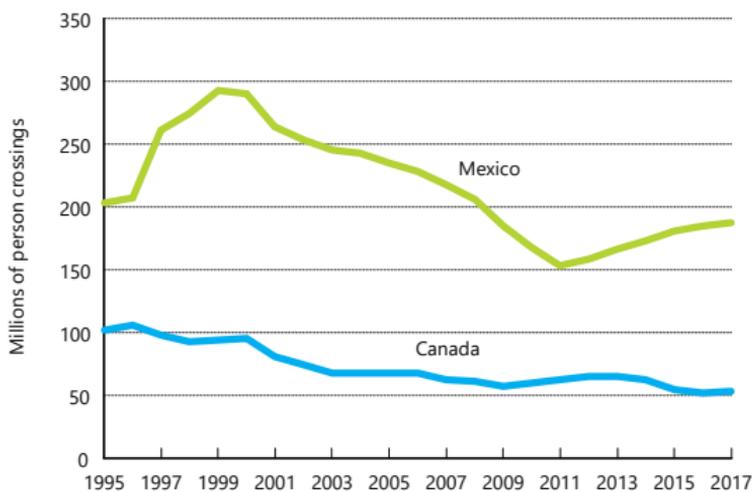
by enplaned, deplaned, and in-transit passengers

Rank	Airport	'16-'17 change	
1	Atlanta, USA	▼ -0.3%	103.9
2	Beijing, China	▲ 1.5%	95.8
3	Dubai, United Arab Emirates	▲ 5.5%	88.2
4	Tokyo Haneda, Japan	▲ 6.5%	85.4
5	Los Angeles, USA	▲ 4.5%	84.6
6	Chicago O'Hare, USA	▲ 2.4%	79.8
7	London LHR, United Kingdom	▲ 3.0%	78.0
8	Hong Kong, China	▲ 3.4%	72.7
9	Shanghai, China	▲ 6.1%	70.0
10	Paris CDG, France	▲ 5.4%	69.5

**Note:** Preliminary data for passengers enplaned, deplaned, and passengers in transit.

**Source:** Airports Council International, available at <https://www.aci.aero/> as of October 2018.

## 2-12 Incoming Land Border Person Crossings: 1995–2017



**Note:** Excludes drivers and passengers in commercial trucks.

**Source:** U.S. Department of Transportation, Bureau of Transportation Statistics, Border Crossing Entry Data, available at <https://www.bts.gov/content/border-crossingentry-data/> as of October 2018.

## 2-13 Top 5 Land Ports of Entry: 2017

by incoming person crossings

### U.S. - Mexico ports of entry

Rank	Port	'16-'17 change	Millions of person crossings
1	San Ysidro, CA	▲ 1.7%	32.2
2	El Paso, TX	▲ 4.0%	29.1
3	Otay Mesa, CA	▼ -0.8%	17.0
4	Laredo, TX	▼ -7.3%	14.2
5	Brownsville, TX	▲ 6.9%	12.9

### U.S. - Canada ports of entry

Rank	Port	'16-'17 change	Millions of person crossings
1	Buffalo-Niagara Falls, NY	▲ 1.4%	11.3
2	Blaine, WA	▲ 1.3%	8.1
3	Detroit, MI	▼ -1.8%	6.8
4	Port Huron, MI	▲ 0.6%	3.1
5	Champlain-Rouses Pt., NY	▼ -0.1%	2.6

**Note:** Excludes drivers and passengers in commercial trucks.

**Source:** U.S. Department of Transportation, Bureau of Transportation Statistics, Border Crossing Entry Data, available at <https://www.bts.gov/content/border-crossingentry-data/> as of October 2018.



## 3 MOVING GOODS

The freight transportation network links natural resources, manufacturing facilities, labor markets, and customers across the nation and with international trading partners.

### 3-1 Freight Shipments Within the U.S. by Mode

Value of shipments (billions of constant 2012 dollars)

Mode	2012	2016	2045
Truck	12,216	12,579	24,001
Rail	721	837	1,629
Water	431	477	872
Air and truck-air	674	539	3,208
Pipeline	1,325	1,339	1,901
Multiple modes <sup>a</sup>	2,122	2,230	4,970
Other <sup>b</sup>	241	141	484
<b>Total</b>	<b>17,729</b>	<b>18,142</b>	<b>37,064</b>

Weight of shipments (millions of tons)

Mode	2012	2016	2045
Truck	10,711	11,619	16,435
Rail	1,828	1,835	2,277
Water	658	740	945
Air and truck-air	7	5	26
Pipeline	3,031	2,904	4,766
Multiple modes <sup>a</sup>	418	486	800
Other <sup>b</sup>	342	97	273
<b>Total</b>	<b>16,996</b>	<b>17,686</b>	<b>25,521</b>

Ton-miles of shipments (billions of ton miles)

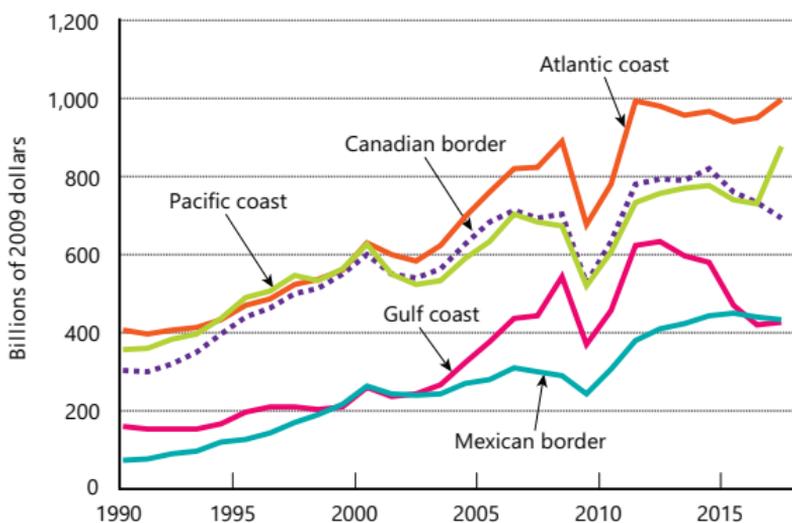
Mode	2012	2016	2045
Truck	1,891	2,023	3,282
Rail	1,481	1,427	1,776
Water	323	354	419
Air and truck-air	6	6	21
Pipeline	857	896	1,414
Multiple modes <sup>a</sup>	339	398	765
Other <sup>b</sup>	7	3	16
<b>Total</b>	<b>4,903</b>	<b>5,108</b>	<b>7,692</b>

<sup>a</sup>Includes mail. <sup>b</sup>Includes other, unknown, and imported crude oil with no domestic mode.

**Notes:** Details may not add to totals due to rounding. Includes domestic trade and the domestic portion of imports and exports.

**Source:** U.S. Department of Transportation, Bureau of Transportation Statistics and Federal Highway Administration, Freight Analysis Framework, Version 4.4.1, available at [www.bts.gov](http://www.bts.gov) as of November 2018.

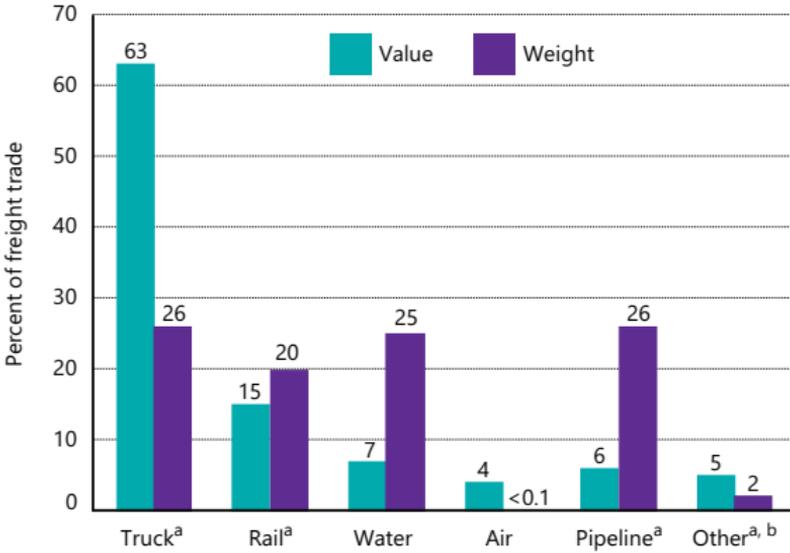
## 3-2 U.S. Trade by Coasts and Borders: 1990–2017



**Note:** Includes U.S.-international merchandise trade only.

**Sources:** **Value**—U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, available at [www.census.gov](http://www.census.gov) as of October 2018. **Implicit GDP Deflator**—U.S. Department of Commerce, Bureau of Economic Analysis, available at [www.bea.gov](http://www.bea.gov) as of October 2018.

### 3-3 U.S. Trade with Canada and Mexico by Mode: 2017

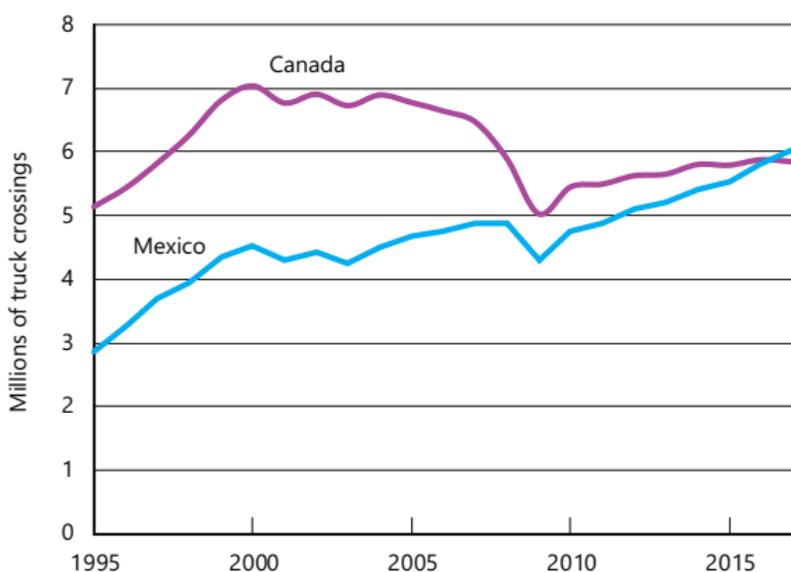


<sup>a</sup>Export weights for land modes are estimated by the Bureau of Transportation Statistics using value-to-weight ratios derived from import data. <sup>b</sup>Includes mail, other, unknown, and shipments through Foreign Trade Zones.

**Note:** Percents may not add to 100 due to rounding.

**Source:** U.S. Department of Transportation, Bureau of Transportation Statistics, North American Transborder Freight Data, special tabulation, available at [www.bts.gov](http://www.bts.gov) as of November 2018.

### 3-4 Incoming Truck Border Crossings: 1995–2017



**Source:** U.S. Department of Transportation, Bureau of Transportation Statistics, *Border Crossing Entry Data*, available at <https://data.transportation.gov/> as of October 2018.

## 3-5 Top 5 Truck Ports of Entry: 2017

by incoming truck crossings

### U.S. - Canada ports of entry

Rank	Port	'16-'17 change	Millions of truck crossings
1	Detroit, MI	▼ -1.5%	1.6
2	Buffalo-Niagara Falls, NY	▲ 0.3%	1.0
3	Port Huron, MI	▼ -1.0%	0.8
4	Blaine, WA	▲ 1.2%	0.4
5	Champlain-Rouses Pt, NY	▲ 6.4%	0.3

### U.S. - Mexico ports of entry

Rank	Port	'16-'17 change	Millions of truck crossings
1	Laredo, TX	▲ 4.8%	2.2
2	Otay Mesa, CA	▲ 3.4%	0.9
3	El Paso, TX	▲ 2.0%	0.8
4	Hidalgo, TX	▲ 9.2%	0.6
5	Calexico East, CA	▲ 3.2%	0.4

**Source:** U.S. Department of Transportation, Bureau of Transportation Statistics, Border Crossing Entry Data, available at <https://data.transportation.gov/> as of October 2018.

## 3-6 Top 10 U.S. Water Ports: 2017

by short tons

Rank	Port	'16-'17 change	Millions of short tons
1	South Louisiana, LA	▲ 5.0%	275.1
2	Houston, TX	▲ 4.9%	260.1
3	New York, NY and NJ	▲ 1.9%	135.9
4	New Orleans, LA	▲ 6.7%	96.3
5	Beaumont, TX	▲ 5.8%	89.4
6	Corpus Christi, TX	▲ 6.5%	87.3
7	Long Beach, CA	▲ 10.5%	86.0
8	Baton Rouge, LA	▲ 5.5%	77.0
9	Virginia, VA	▲ 24.4%	67.3
10	Los Angeles, CA	▲ 5.1%	65.8

Rank	Port	'16-'17 change	Millions of TEU
1	Los Angeles, CA	▲ 4.7%	6.3
2	Long Beach, CA	▲ 3.7%	5.2
3	New York/New Jersey	▲ 5.6%	4.9
4	Savannah, GA	▲ 9.2%	3.2
5	Port of Virginia, VA	▲ 4.6%	2.2
6	Houston, TX	▲ 10.8%	2.0
7	Oakland, CA	▼ -3.4%	1.8
8	Charleston, SC	▲ 6.6%	1.7
9	Tacoma, WA	▼ -16.5%	1.5
10	Seattle, WA	▼ -4.3%	1.2

**Key:** TEU = twenty-foot equivalent unit.

**Note:** Includes domestic and foreign waterborne trade. Excludes foreign empty TEUs.

**Sources:** U.S. Army Corps of Engineers, Waterborne Commerce Statistics Center, available at [www.navigationsdatacenter.us](http://www.navigationsdatacenter.us) as of November 2018.

## 3-7 Top 10 World Container Ports: 2016

by TEUs, including full and empty containers

Rank	Port	'15-'16 change	Millions of TEU
1	Shanghai	▲ 1.7%	37.1
2	Singapore	▼ -0.1%	30.9
3	Shenzhen	▼ -0.8%	23.9
4	Ningbo-Zhoushan	▲ 4.6%	21.6
5	Hong Kong	▼ -1.3%	19.8
6	Busan	▼ -1.2%	19.2
7	Guangzhou	▲ 7.1%	18.3
8	Qingdao	▲ 3.9%	18.0
9	Jebel Ali	▲ 1.0%	15.7
10	Tianjin	▲ 2.8%	14.3
16	Los Angeles	▲ 8.5%	8.9
20	Long Beach	▼ -5.8%	6.8
24	New York/ New Jersey	▼ -1.9%	6.3

**Key:** TEU = twenty-foot equivalent unit.

**Source:** American Association of Port Authorities, World Port Rankings, available at [www.aapa-ports.org](http://www.aapa-ports.org) as of November 2018.

## 3-8 Top 10 International Trade Gateways: 2017 by value of shipments

Rank	Port	Mode	'16-'17 change	Billions of dollars
1	Los Angeles, CA		▲ 2.4%	214.8
2	Laredo, TX		▲ 7.7%	208.0
3	New York/New Jersey, NY		▲ 3.1%	193.0
4	New York JFK Airport, NY		▼ -0.6%	182.8
5	Long Beach, CA		▲ 12.7%	169.3
6	Chicago, IL		▲ 11.4%	159.9
7	Detroit, MI		▲ 2.6%	133.5
8	Houston, TX		▲ 16.9%	130.7
9	Los Angeles Airport, CA		▲ 11.7%	113.0
10	Savannah, GA		▲ 8.7%	89.9

Key:  = airport,  = land port,  = water port.

**Notes:** Air gateways include a low level (generally less than 3% of the total value) of freight shipped through small user-fee airports located in the same area as the gateways listed. Air gateways not identified by airport name (e.g., Chicago, IL) include major airport(s) in the area and small regional airports.

**Source:** As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 1-51, available at [www.bts.gov](http://www.bts.gov) as of November 2018.

## 4 SAFETY

Transportation safety is the top priority of the U.S. Department of Transportation.

### 4-1 Transportation Fatalities by Mode

Mode	2006	2016	2017
<b>Air</b>	<b>774</b>	<b>413</b>	<b>346</b>
U.S. air carrier	50	0	0
Commuter carrier	2	8	1
On-demand air taxi	16	19	15
General aviation	706	386	330
<b>Highway</b>	<b>42,708</b>	<b>37,806</b>	<b>37,133</b>
Passenger car occupants	17,925	13,508	13,363
Motorcyclists	4,837	5,337	5,172
Light-truck occupants	12,761	10,369	10,188
Heavy-truck occupants	805	725	841
Bus occupants	27	64	44
Pedestrians	4,795	6,080	5,977
Pedalcyclists	772	852	783
Other	786	871	765
<b>Pipeline</b>	<b>19</b>	<b>16</b>	<b>8</b>
<b>Rail</b>	<b>903</b>	<b>760</b>	<b>824</b>
Train Accidents	6	7	6
Highway-rail grade crossing <sup>a</sup>	369	255	271
Trespassers	511	467	513
Other	17	31	34
<b>Transit<sup>b</sup></b>	<b>162</b>	<b>257</b>	<b>241</b>
<b>Water</b>	<b>883</b>	<b>737</b>	<b>706</b>
Freight vessel and Industrial/Other	82	29	39
Passenger vessel and Recreational boating	801	708	667

<sup>a</sup>Individual modes don't add up to totals due to double counting in highway, rail, and transit grade crossings. <sup>b</sup>Includes transit employee, contract worker, passenger, people waiting or leaving (revenue facility occupant), and other fatalities for all modes reported to the National Transit Database.

**Source:** As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 2-1, available at [www.bts.gov](http://www.bts.gov) as of November 2018.

## 4-2 Transportation Injuries by Mode

Mode	2006	2016	2017
<b>Air</b>	<b>286</b>	<b>238</b>	<b>U</b>
U.S. air carrier	9	19	U
Commuter carrier	1	11	U
On-demand air taxi	11	9	U
General aviation	265	199	U
<b>Highway<sup>a</sup></b>	<b>2,575,000</b>	<b>3,144,000</b>	<b>U</b>
Passenger car occupants <sup>a</sup>	1,475,000	1,739,000	U
Motorcyclists <sup>a</sup>	88,000	105,000	U
Light-truck occupants <sup>a</sup>	857,000	1,071,000	U
Heavy-truck occupants <sup>a</sup>	23,000	38,000	U
Bus occupants <sup>a</sup>	10,000	24,000	U
Pedestrians <sup>a</sup>	61,000	85,000	U
Pedalcyclists <sup>a</sup>	44,000	60,000	U
Other <sup>a</sup>	17,000	20,000	U
<b>Pipeline</b>	<b>36</b>	<b>87</b>	<b>35</b>
<b>Rail</b>	<b>8,797</b>	<b>8,670</b>	<b>8,724</b>
Train Accidents	220	430	305
Highway-rail grade crossing <sup>b</sup>	1,070	850	833
Trespassers	481	483	508
Other	7,026	6,907	7,075
<b>Transit<sup>c</sup></b>	<b>20,060</b>	<b>24,405</b>	<b>22,776</b>
<b>Water</b>	<b>4,223</b>	<b>U</b>	<b>U</b>
Freight vessel and Industrial/Other	509	U	U
Passenger vessel and Recreational boating	3,714	U	U

<sup>a</sup>2016 Crash Reporting Sampling System (CRSS) estimates for injuries are not comparable with 2015 and earlier NASS GES estimates because of different sampling designs. <sup>b</sup>Excludes injuries involving motor vehicles at public highway-rail grade crossings, which are assumed to be counted under Highway categories.

<sup>c</sup>Includes transit employee, contract worker, passenger, people waiting or leaving (revenue facility occupant), and other injuries for all modes reported to the National Transit Database. Other transit injuries are assumed to be counted under Highway or Rail categories.

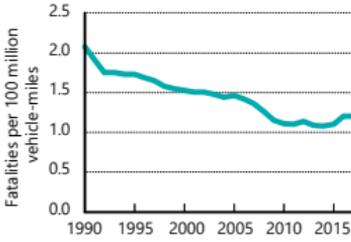
**Notes:** Highway numbers are estimates rather than actual counts. The estimates are calculated from data obtained from a nationally representative sample of crashes. NHTSA redesigned the nationally representative sample of police-reported traffic crashes, which estimates the number of police-reported injury and property-damage-only crashes in the US. The new system, CRSS, replaced the NASS GES in 2016 and has a different sample design. Thus, the 2016 persons injured estimates are not comparable to 2015 and earlier year estimates.

**Key:** U = Data are unavailable.

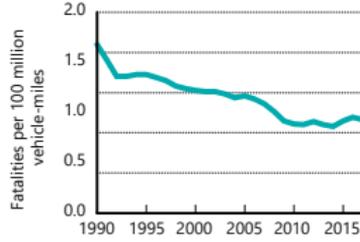
**Source:** As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 2-2, available at [www.bts.gov](http://www.bts.gov) as of November 2018.

## 4-3 Fatality Rates by Mode

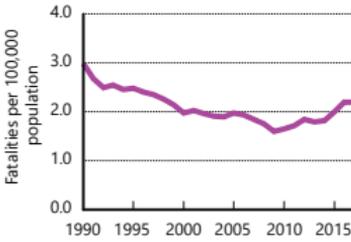
Highway: 1990–2017



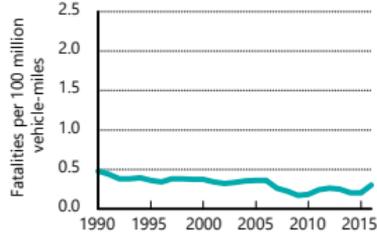
Passenger car and light truck occupants: 1990–2017



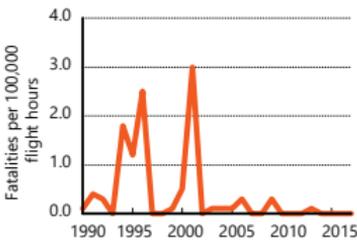
Highway nonoccupants: 1990–2017



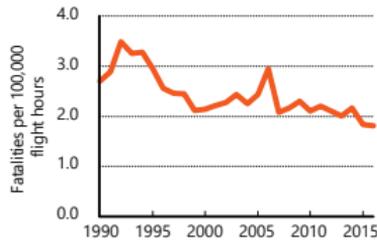
Large-truck occupants: 1990–2016



U.S. air carriers: 1990–2017



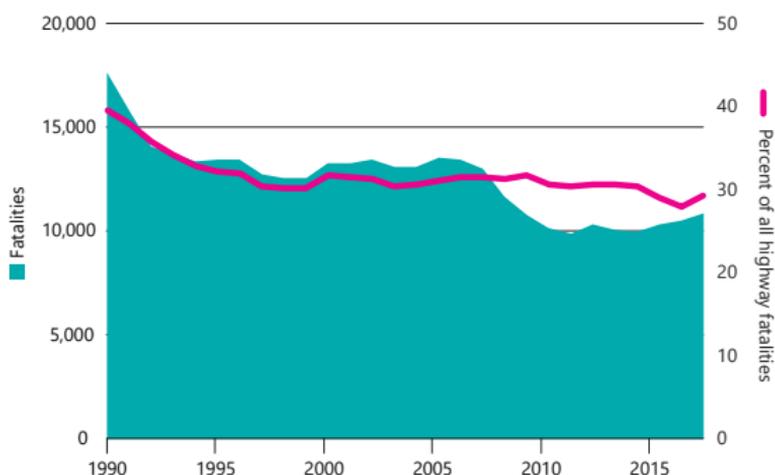
General aviation: 1990–2016



**Note:** Graphs with same color trend lines have identical scales.

**Source:** As cited in or calculated from U.S. Department of Transportation, Bureau of Transportation Statistics, National Transportation Statistics, tables 2-9, 2-14, 2-17, 2-19, 2-21, 2-23, and 3-10 available at [www.bts.gov](http://www.bts.gov) as of October 2018.

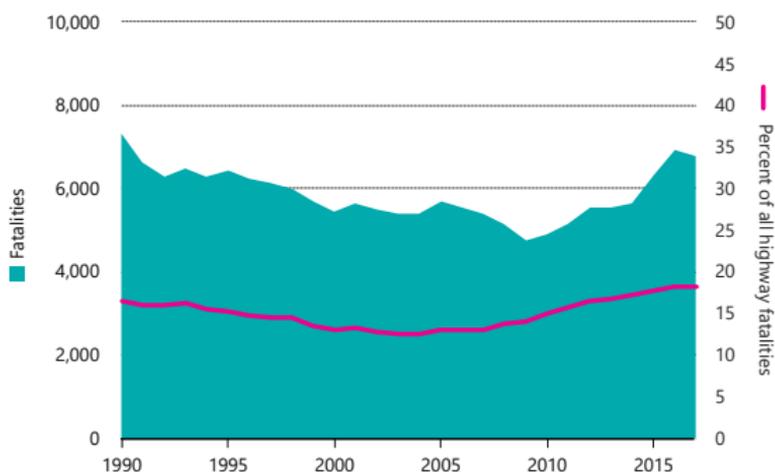
## 4-4 Alcohol-Impaired Driving Fatalities: 1990–2017



**Note:** Includes fatalities occurring in any crash involving a driver with a blood alcohol concentration (BAC) of 0.08 grams per deciliter or higher.

**Source:** U.S. Department of Transportation, National Highway Traffic Safety Administration, Traffic Safety Facts: Alcohol-Impaired Driving (Annual Issues) as of October 2018.

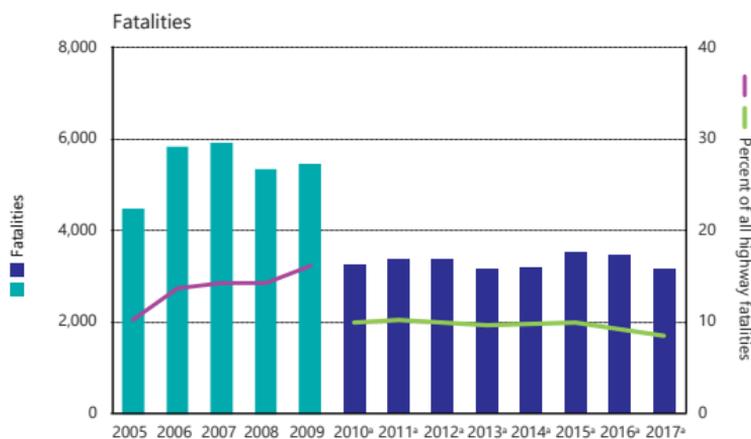
## 4-5 Pedestrian and Bicyclist Fatalities: 1990–2017



**Note:** Includes pedestrians and riders of nonmotorized bicycles and other pedal-powered vehicles.

**Source:** As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 2-1, available at [www.bts.gov](http://www.bts.gov) as of October 2018.

## 4-6 Distracted Driving Fatalities and Injuries: 2005–2017



**Note:** Distracted driving fatality data for 2010–2017 and later are not comparable with previous years due to changes in methodology.



<sup>a</sup>Distracted driving fatality data for 2010 and later are not comparable with previous years due to changes in methodology. <sup>b</sup>2016 Crash Reporting Sampling System (CRSS) estimates for injuries are not comparable with 2015 and earlier NASS GES estimates because of different sampling designs.

**Note:** Distracted driving involves any activity that could divert a person’s attention away from the primary task of driving, such as texting, using a cell phone, eating and drinking, grooming, using a navigation system, adjusting a radio, etc.

**Source:** U.S. Department of Transportation, National Highway Traffic Safety Administration, available at [www.nhtsa.gov](http://www.nhtsa.gov) as of October 2018.



# 5 PERFORMANCE

The physical capacity of the U.S. transportation system has not kept pace with growth in travel and commerce. The resulting congestion and delays have significant impacts on passengers and freight shippers.

## 5-1 Top 10 Metropolitan Area Congestion Rankings: 2017

by calendar year average minutes of congestion

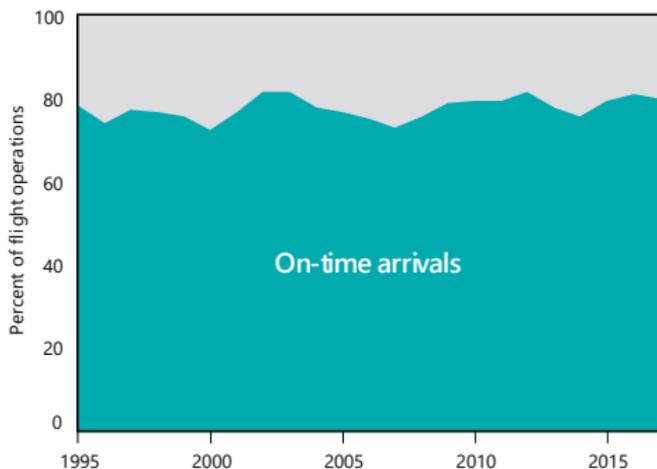
Rank	Urban area	Minutes of delay
1	Los Angeles, CA	562
2	Portland, OR	460
3	Seattle, WA	436
4	San Francisco, CA	428
5	New York, NY	423
6	Washington, DC	414
7	Denver, CO	371
8	Miami, FL	368
9	Baltimore, MD	361
10	Houston, TX	350
	Average of 52 MSAs	257

**Key:** MSA = Metropolitan Statistical Area.

**Notes:** **Minutes of delay** - the amount of time when freeways operate at less than 90 percent of free-flow freeway speeds. Calculated by calendar year for an average duration of daily congestion.

**Source:** U.S. Department of Transportation, Federal Highway Administration, Urban Congestion Report, available at [https://ops.fhwa.dot.gov/perf\\_measure-ment/ucr/](https://ops.fhwa.dot.gov/perf_measure-ment/ucr/) as of September 2018.

## 5-2 U.S. Airport On-time Performance: 1995–2017

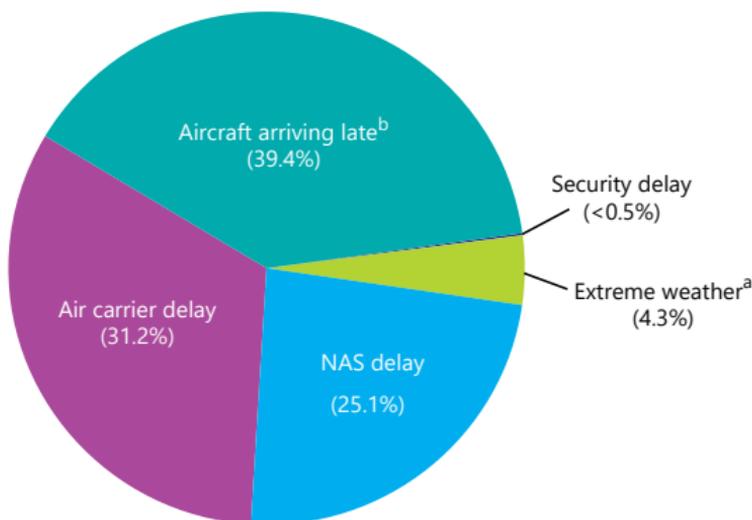


**Note:** Flights arriving at the gate within 15 minutes of scheduled arrival time are on time.

**Source:** U.S. Department of Transportation, Bureau of Transportation Statistics, *Airline On-Time Performance*, available at [www.bts.gov](http://www.bts.gov) as of October 2018.

## 5-3 U.S. Airport Delays by Cause: 2017

percent of delayed time



<sup>a</sup>Includes weather events that prevent flying. Other weather delays that slow operations are included under other categories. <sup>b</sup>Delay resulting from a previous flight with the same aircraft arriving late.

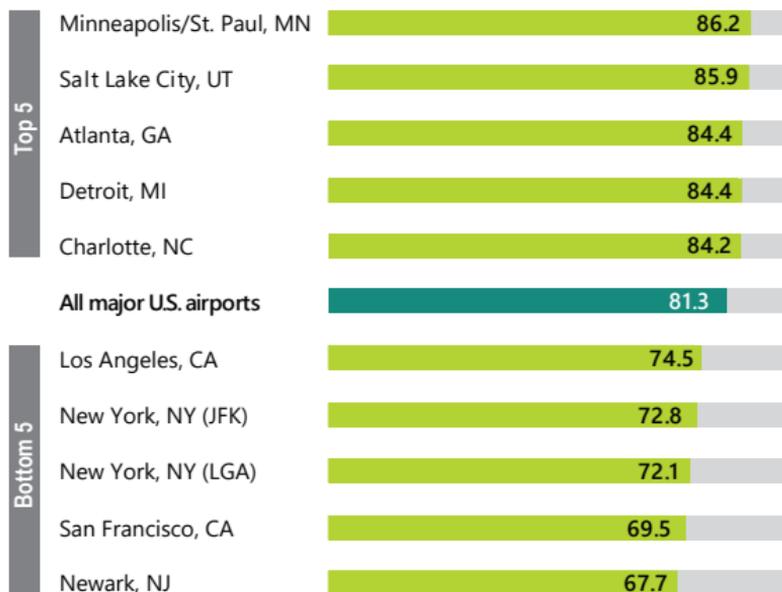
**Key:** NAS = Delays attributable to the national aviation system (NAS) that refer to a broad set of conditions, such as non-extreme weather, airport operations, heavy traffic volume, and air traffic control.

**Note:** Percents may not add to 100 due to rounding.

**Source:** U.S. Department of Transportation, Bureau of Transportation Statistics, *Airline On-Time Performance*, available at [www.bts.gov](http://www.bts.gov) as of October 2018.

## 5-4 U.S. Major Airport Performance Rankings: 2017

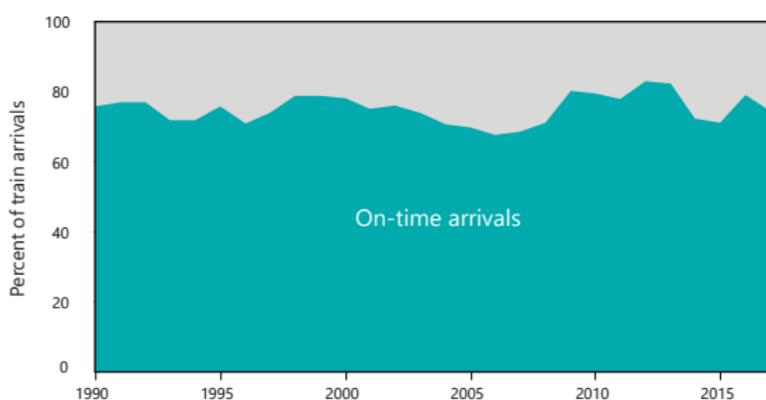
by percent of on-time arrivals



**Note:** Flights arriving at the gate within 15 minutes of scheduled arrival time are on time.

**Source:** U.S. Department of Transportation, Bureau of Transportation Statistics, *Airline On-Time Performance*, available at [www.bts.gov](http://www.bts.gov) as of October 2018.

## 5-5 Amtrak On-time Performance: FY1990–FY2017



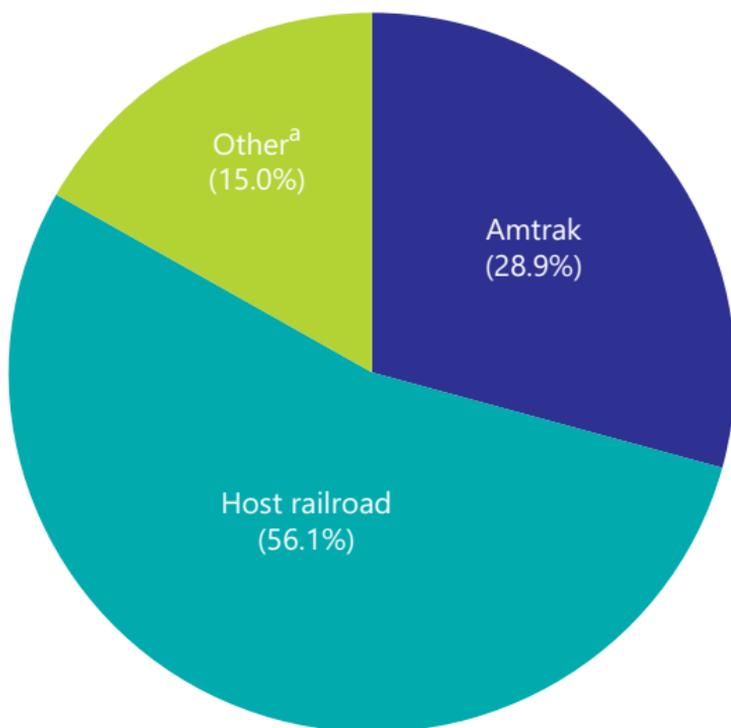
**Note:** On-time performance is a percentage measure of train performance. A train is considered on-time if it arrives at the final destination, or end-point, within an allowed number of minutes, or tolerance, of its scheduled arrival time. Trains are allowed a certain tolerance at the end-point based on the number of miles traveled.

Trip length	Train arrives at endpoint within
0-250 miles	10 minutes
251-350 miles	15 minutes
351-450 miles	20 minutes
451-550 miles	25 minutes
>551 miles	30 minutes

**Source:** As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 1-73, available at [www.bts.gov](http://www.bts.gov) as of November 2018.

## 5-6 Amtrak Delays by Cause: FY2017

percent of delayed time



<sup>a</sup>Delays not attributable to Amtrak or other host railroads, such as customs and immigration, law enforcement action, weather, or waiting for scheduled departure time.

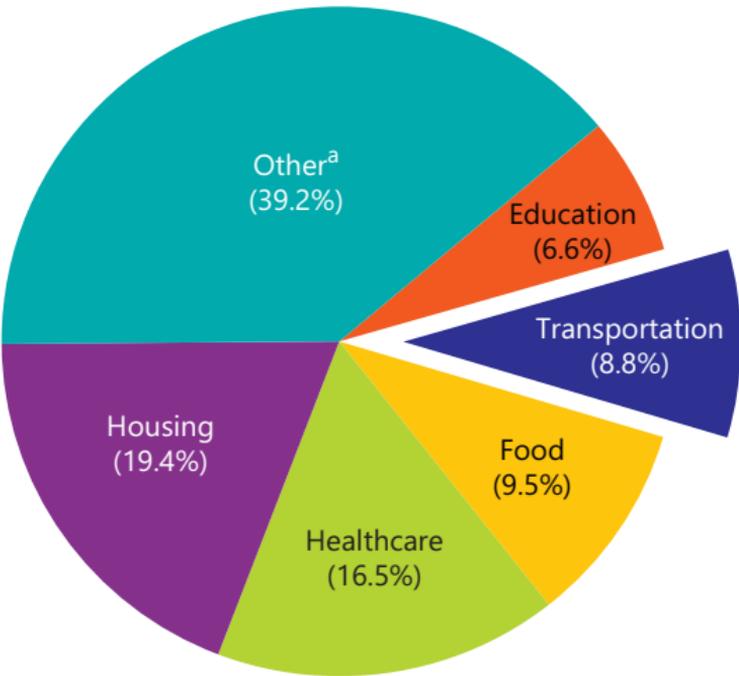
**Source:** As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 1-73, available at [www.bts.gov](http://www.bts.gov) as of November 2018.



# 6 ECONOMY

Transportation is a major sector of the U.S. economy. The transportation system moves people and goods, employs millions of workers, generates revenue, and consumes resources and services provided by other sectors.

## 6-1 U.S. GDP by Spending Category: 2017 percent of GDP



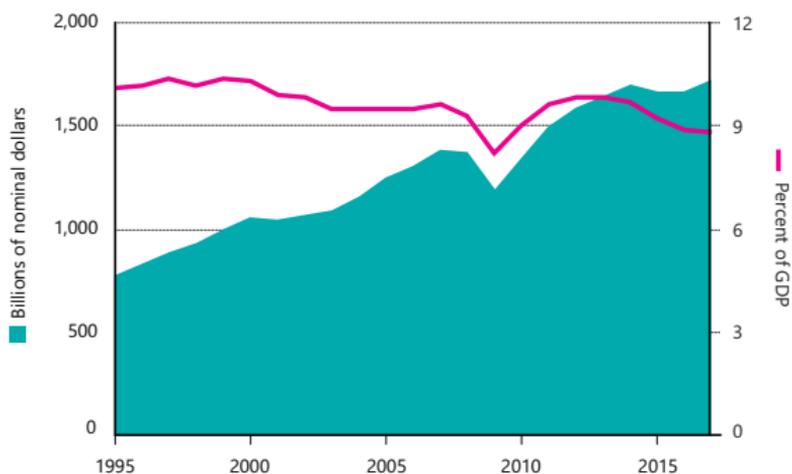
<sup>a</sup> Includes all other categories (e.g. entertainment, personal care products and services, and payments to pension plans).

**Key:** GDP = gross domestic product.

**Note:** Percents may not add to 100 due to rounding.

**Source:** As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 3-9, available at [www.bts.gov](http://www.bts.gov) as of November 2018.

## 6-2 U.S. Transportation Spending: 1995–2017



**Key:** GDP = gross domestic product.

**Source:** As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 3-9, available at [www.bts.gov](http://www.bts.gov) as of November 2018.

## 6-3 Transportation-Related Final Demand

billions of chained 2012 dollars

Category	2007	2017
<b>Personal consumption of transportation</b>	<b>1,205</b>	<b>1,346</b>
Motor vehicles and parts	427	507
Motor vehicle fuels, lubricants, and fluids	420	421
Transportation services	358	418
<b>Gross private domestic investment</b>	<b>208</b>	<b>278</b>
Transportation structures	10	13
Transportation equipment	198	264
<b>Government transportation-related purchases</b>	<b>324</b>	<b>310</b>
Federal purchases	35	40
State and local purchases	266	257
Defense-related purchases	23	14
<b>Exports ( + )</b>	<b>296</b>	<b>357</b>
<b>Imports ( - )</b>	<b>422</b>	<b>524</b>
<b>Total transportation-related final demand</b>	<b>1,612</b>	<b>1,778</b>
<b>U.S. GDP</b>	<b>15,626</b>	<b>18,051</b>

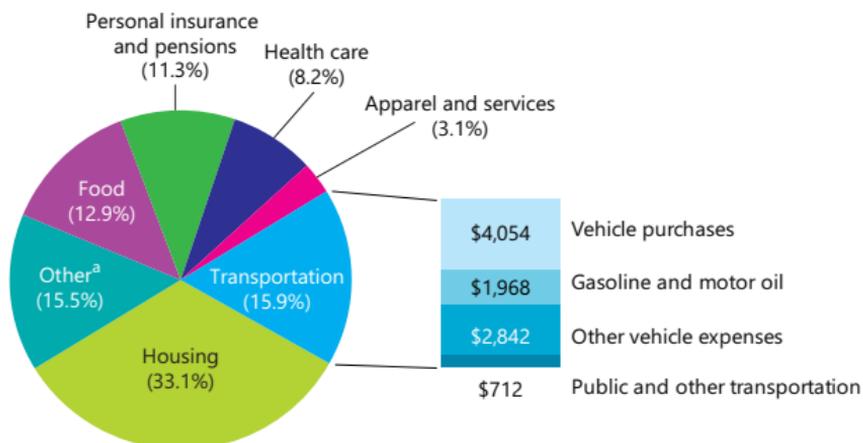
**Key:** GDP = gross domestic product; U = unavailable.

**Notes:** Data may not add to totals due to rounding. Transportation-related final demand measures the size of transportation functions in relation to the GDP. It includes the transportation portion of the four components of the GDP: personal consumption, gross private domestic investment, government purchases, and net exports of goods and services.

**Source:** As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 3-4, available at [www.bts.gov](http://www.bts.gov) as of November 2018.

## 6-4 Household Expenses by Category: 2017

percent of average annual household expenses

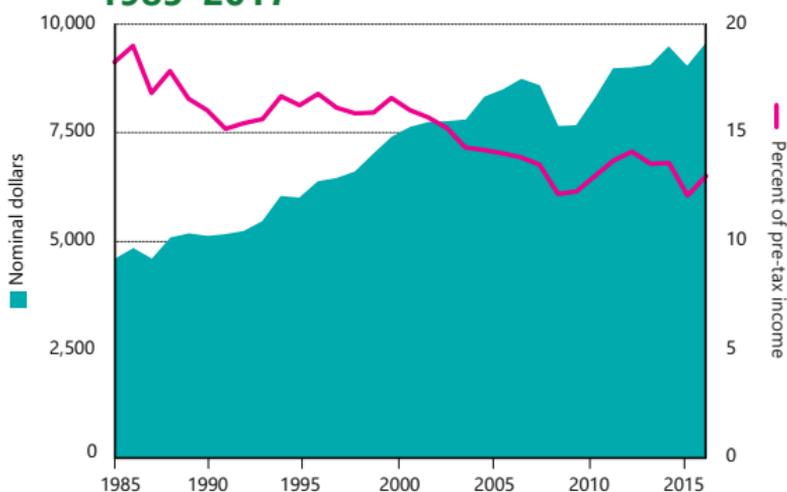


<sup>a</sup> Includes alcoholic beverages, cash contributions, education, entertainment, personal care products and services, reading, tobacco products and smoking supplies, and other miscellaneous items.

**Note:** Percents may not add to 100 due to rounding.

**Source:** U.S. Department of Labor, Bureau of Labor Statistics, *Consumer Expenditure Survey*, available at [www.bls.gov/cex](http://www.bls.gov/cex) as of November 2018.

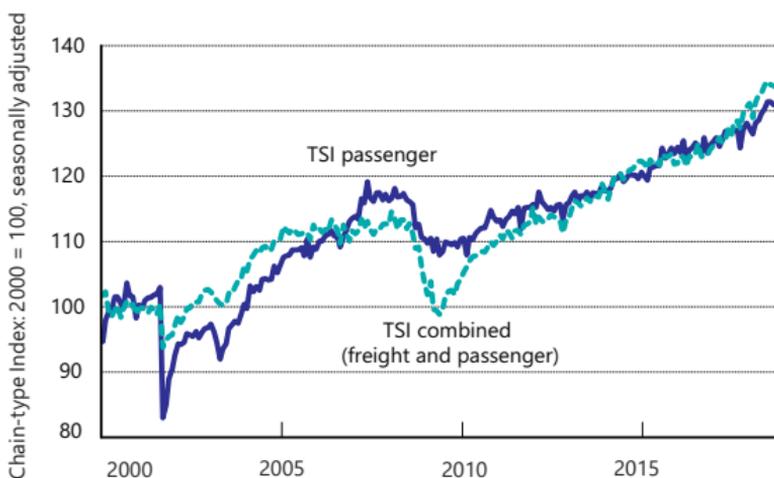
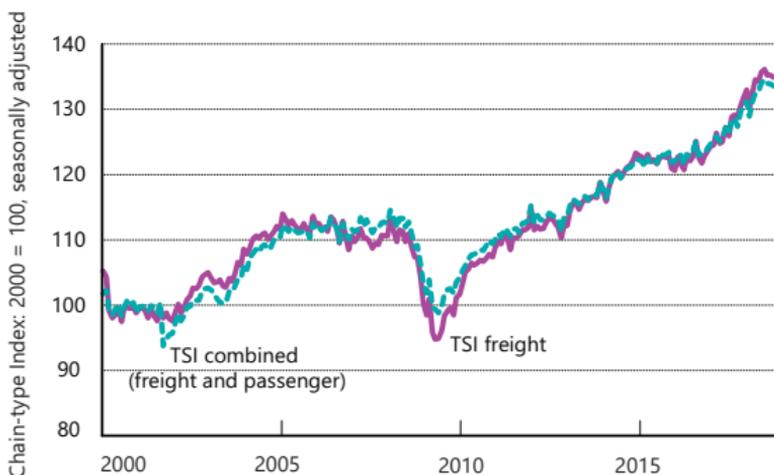
## 6-5 Household Transportation Expenses: 1985–2017



**Source:** U.S. Department of Labor, Bureau of Labor Statistics, *Consumer Expenditure Survey*, available at [www.bls.gov/cex](http://www.bls.gov/cex) as of November 2018.

## 6-6 Transportation Services Index: Jan. 2000–Sept. 2018

chain-type index: 2000 = 100, seasonally adjusted



**Notes: TSI combined**— The TSI combined index includes the freight and passenger index components and described below. The TSI, created by the U.S. Department of Transportation, Bureau of Transportation Statistics, is a measure of the month-to-month changes in the output of services provided by the for-hire transportation industries. TSI data change monthly due to the use of concurrent seasonal analysis, which results in seasonal analysis factors changing as each month's data are added. **TSI freight**—Includes freight railroad services (including rail-based intermodal shipments such as containers on flat cars); inland waterway traffic; pipeline movements (including principally petroleum and petroleum products and natural gas); and air freight. **TSI passenger**—The passenger transportation services index consists of: local mass transit; intercity passenger rail; and passenger air transportation.

**Source:** U.S. Department of Transportation, Bureau of Transportation Statistics, available at [www.bts.gov](http://www.bts.gov) as of November 2018.

## 6-7 Employment in Transportation-Related Industries

thousands

Category	2007	2017
For-hire transportation and warehousing	4,541	5,166
Air	487	493
Rail	234	215
Water	66	65
Truck	1,439	1,454
Transit and ground passenger	412	492
Pipeline	40	48
Scenic and sightseeing	29	36
Support activities	584	690
Couriers and messengers	581	682
Warehousing and storage	665	993
Transportation-related manufacturing <sup>a</sup>	2,071	1,923
Other transportation-related industries	5,246	5,532
Postal service	769	615
Government employment <sup>b</sup>	890	U
<b>Total transportation-related labor force</b>	<b>13,512</b>	<b>13,276</b>
<b>Total U.S. labor force</b>	<b>137,999</b>	<b>146,624</b>

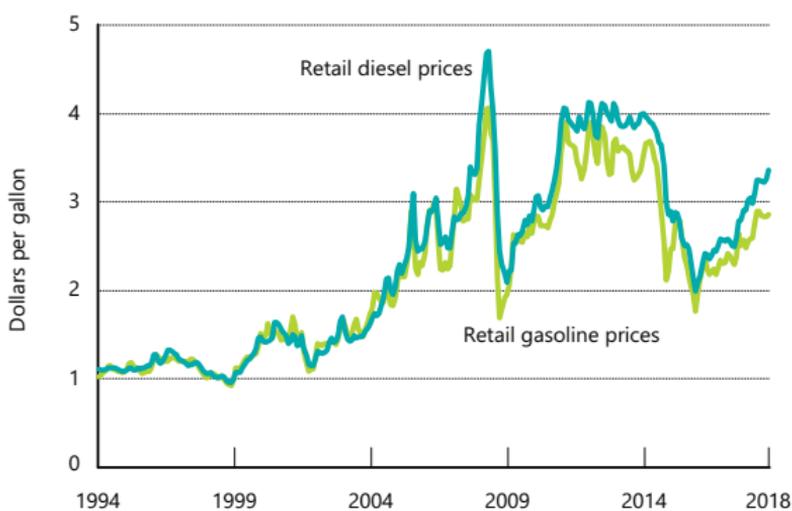
<sup>a</sup>Includes transportation equipment; petroleum products; tires; rubber; plastics; search, detection, navigation, guidance, aeronautical, and nautical systems; and instrument manufacturing. <sup>b</sup>Fiscal year data for federal, state, and local personnel.

**Key:** U=data are unavailable.

**Notes:** Annual averages based on NAICS data. Details may not add to totals due to rounding.

**Source:** As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 3-23, available at [www.bts.gov](http://www.bts.gov) as of September 2018.

## 6-8 Motor Vehicle Fuel Prices: Apr. 1994–Oct. 2018



**Notes:** Retail gasoline prices include average nominal monthly prices of U.S. Regular All Formations retail gasoline. Retail diesel prices include average nominal monthly prices of U.S. No. 2 retail diesel prices.

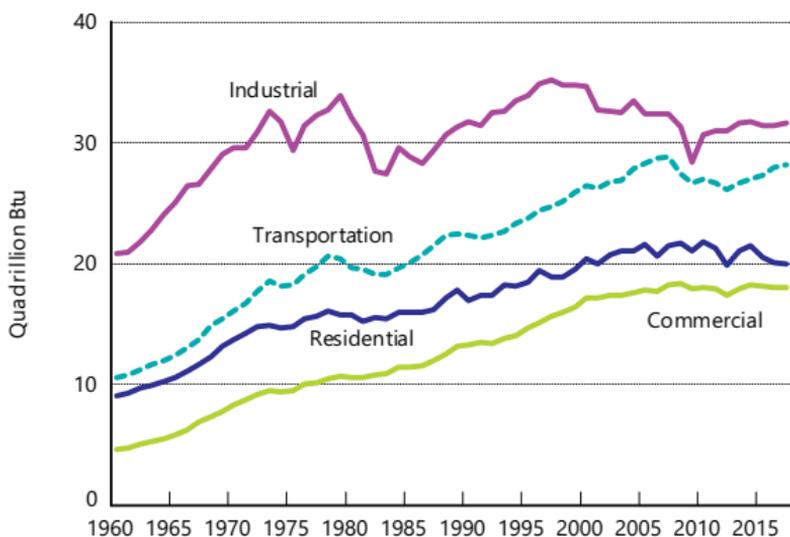
**Source:** U.S. Department of Energy, Energy Information Administration, available at [www.eia.doe.gov](http://www.eia.doe.gov) as of November 2018.



## 7 ENVIRONMENT

The U.S. transportation system is a major consumer of energy and generates environmental impacts.

### 7-1 Energy Consumption by Sector: 1960–2017



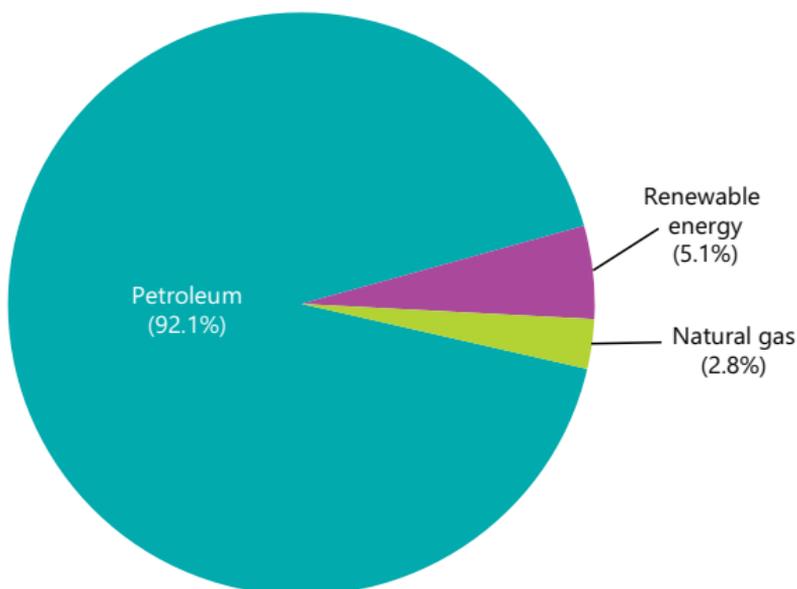
**Key:** Btu = British thermal unit.

**Note:** Includes primary energy consumption, electricity retail sales, and electrical system energy losses.

**Source:** U.S. Department of Energy, U.S. Energy Information Administration, *Monthly Energy Review*, available at [www.eia.gov/totalenergy/data/monthly](http://www.eia.gov/totalenergy/data/monthly) as of November 2018.

## 7-2 Transportation Energy Consumption by Source: 2017

percent of Btu consumed

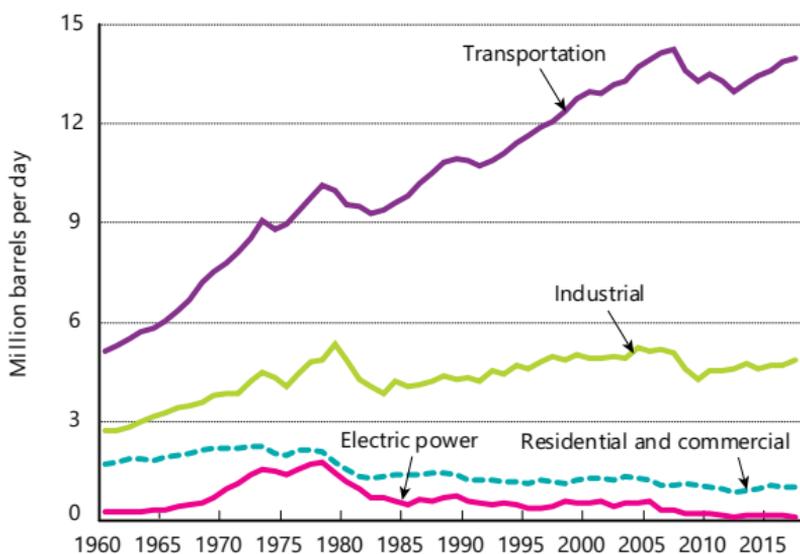


**Key:** Btu = British thermal unit.

**Notes:** Includes primary energy consumed. Excludes electricity retail sales and electrical system energy losses.

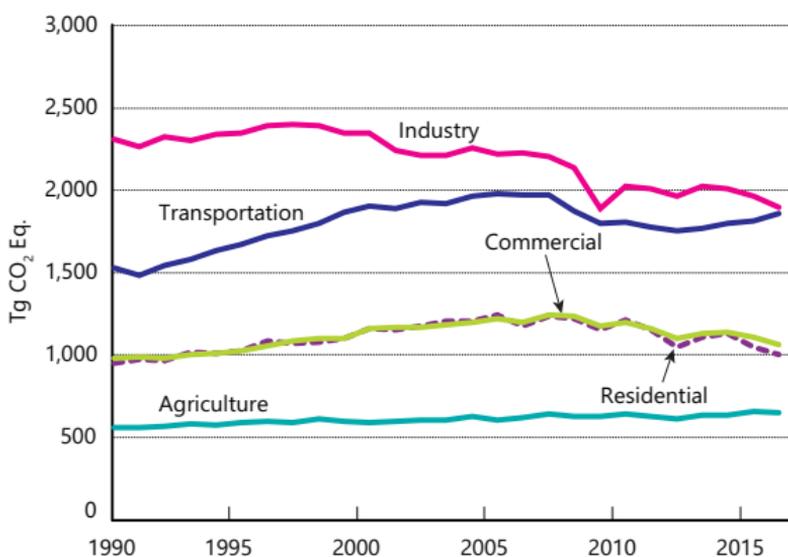
**Source:** U.S. Department of Energy, U.S. Energy Information Administration, *Monthly Energy Review*, available at [www.eia.gov/totalenergy/data/monthly](http://www.eia.gov/totalenergy/data/monthly) as of November 2018.

## 7-3 Petroleum Consumption by Sector: 1960–2017



**Source:** U.S. Department of Energy, U.S. Energy Information Administration, *Monthly Energy Review*, available at [www.eia.gov/totalenergy/data/monthly](http://www.eia.gov/totalenergy/data/monthly) as of November 2018.

## 7-4 Greenhouse Gas Emissions by Sector: 1990–2016



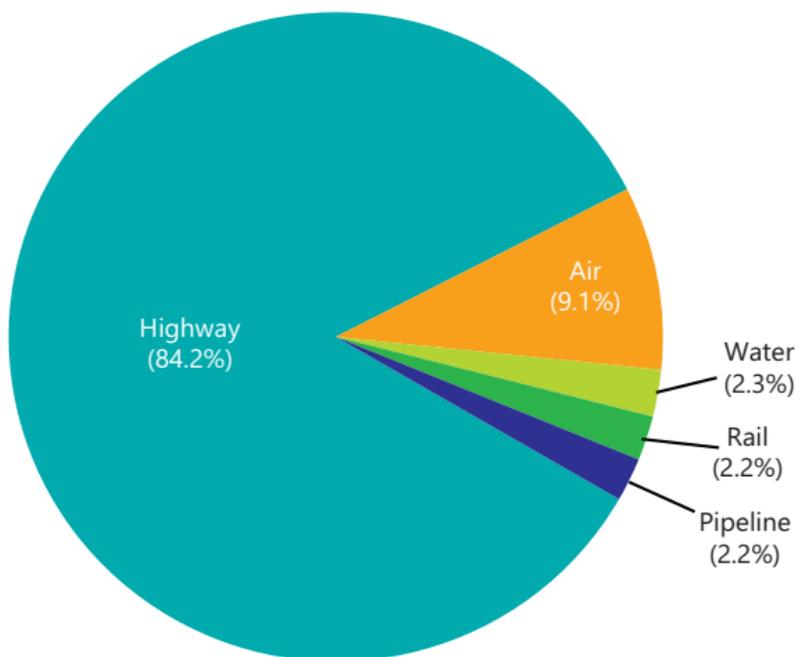
**Key:** Tg CO<sub>2</sub> Eq. = teragrams of carbon dioxide equivalent. A teragram = 1 million metric tons.

**Notes:** Electric power sector emissions are distributed across sectors. Emissions include CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, and SF<sub>6</sub>.

**Source:** U.S. Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2016 Report Tables*, <https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2016> as of November 2018.

## 7-5 Greenhouse Gas Emissions by Transportation Mode: 2016

Percent of Tg CO<sub>2</sub> Eq.



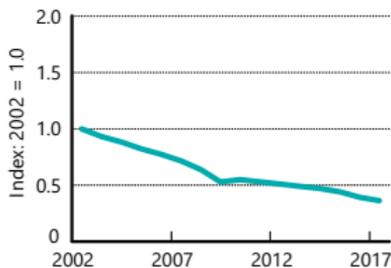
**Key:** Tg CO<sub>2</sub> Eq. = teragrams of carbon dioxide equivalent. A teragram = 1 million metric tons.

**Notes:** Percents may not add to 100 due to rounding. Does not include International bunker fuels.

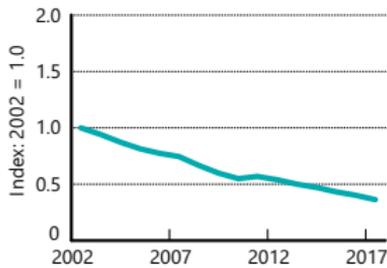
**Source:** U.S. Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2016* Report Tables, available at <https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2016> as of November 2018.

## 7-6 Highway Vehicle Air Pollutant Emissions: 2002–2017

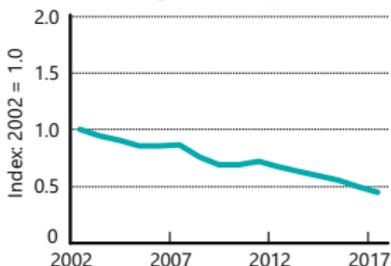
Carbon monoxide



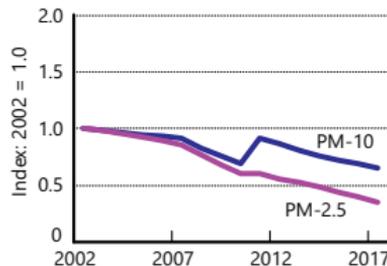
Nitrogen oxide



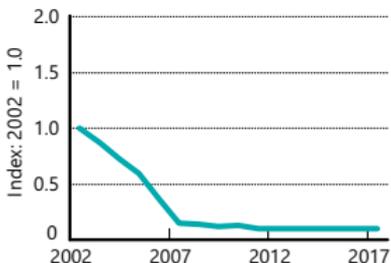
Volatile organic compounds



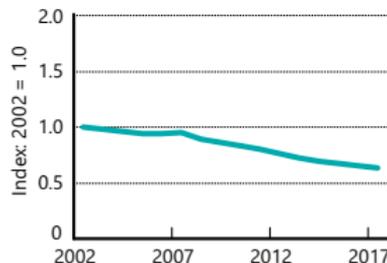
Particulate Matter



Sulfur dioxide



Ammonia

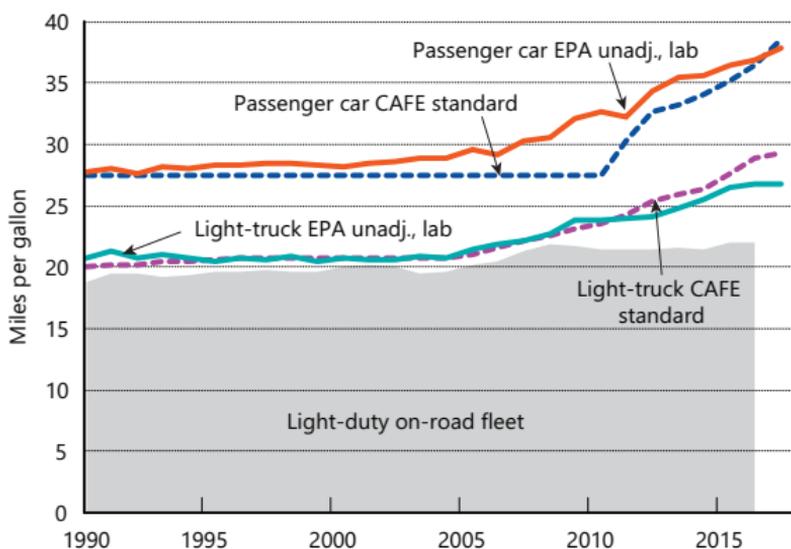


**Key:** PM-10 = airborne particulates of less than 10 microns; PM-2.5 = airborne particulates of less than 2.5 microns.

**Notes:** Indices are calculated using data on highway vehicle emissions only. Particulate matters include PM without condensibles.

**Sources:** As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, tables 4-45 through 4-50, available at [www.bts.gov](http://www.bts.gov) as of November 2018.

## 7-7 Fuel Economy of Light-Duty Vehicles: 1990–2017

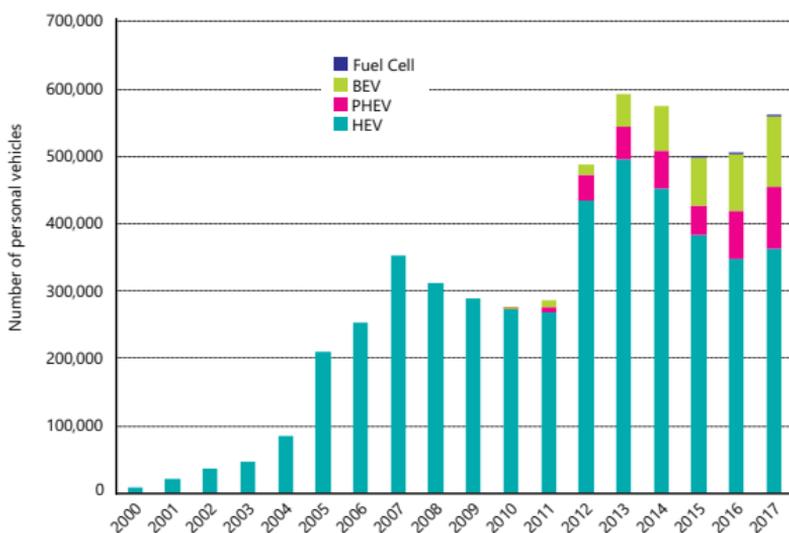


**Key:** CAFE = Corporate Average Fuel Economy.

**Notes:** New fleet data and CAFE standards are for vehicle model years. On-road fleet data include passenger cars and light trucks and are estimated using average miles traveled per gallon of fuel consumed for each calendar year. 2017 EPA Unadjusted Lab data are preliminary.

**Source:** As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 4-23, available at [www.bts.gov](http://www.bts.gov) as of November 2018.

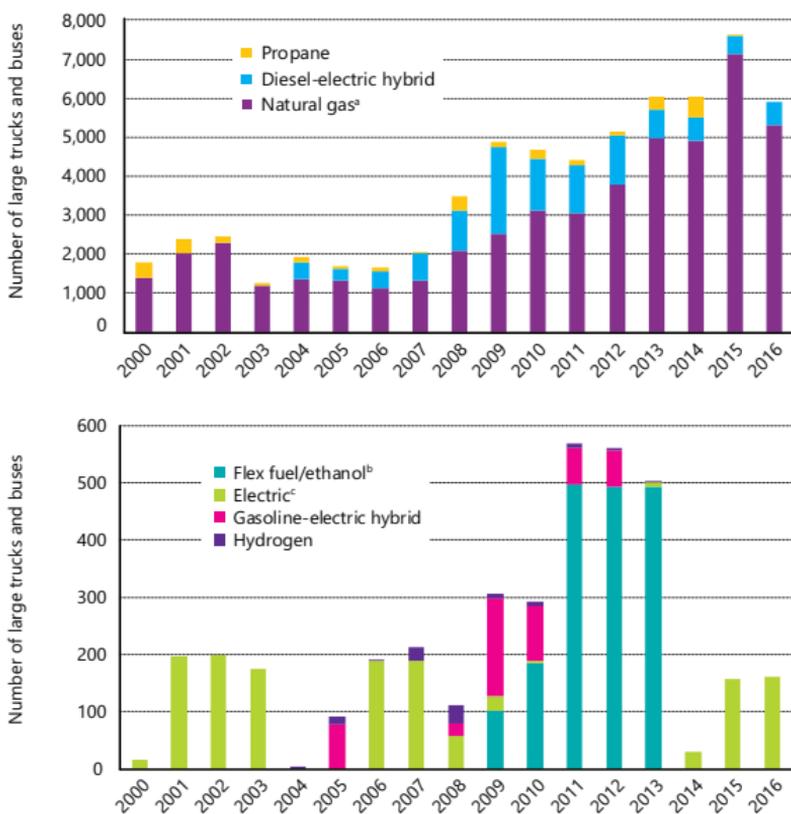
## 7-8 Sales of Hybrid, Plug-in Hybrid and Battery Electric Vehicles: 2000-2017



**Key:** HEV = Hybrid electric vehicle, PHEV = Plug-in hybrid electric vehicle, BEV = Battery electric-only vehicles.

**Source:** HybridCars, December Dashboards, Annual Issues, available at [www.hybridcars.com](http://www.hybridcars.com) as of August 2018.

## 7-9 Alternative Fuel Vehicles by Fuel Type, Large Trucks and Buses: 2000–2016



**Notes:** <sup>a</sup>Includes compressed natural gas (CNG) and liquified natural gas (LNG). Includes the total number of heavy duty vehicles that were manufactured or converted by vehicle suppliers (companies or organizations) in the associated calendar year. <sup>b</sup>Flex fuel/ethanol vehicles are capable of running on E85, unblended gasoline, or any ethanol-gasoline blends in between. <sup>c</sup>Excludes gasoline-electric and diesel-electric hybrids.

**Source:** U.S. Department of Energy, Energy Information Administration, Alternative Fuel Vehicle Data, Supplier Database, available at <https://www.eia.gov/renewable/afv/supply.php> as of November 2018.

# GLOSSARY

**Air carrier:** Certificated provider of scheduled and nonscheduled services.

**Alternative fueled vehicle:** A vehicle designed to operate on an alternative fuel (e.g., compressed natural gas, propane, electricity). The vehicle can be either a dedicated vehicle designed to operate exclusively on alternative fuel or a non-dedicated vehicle designed to operate on alternative fuel and/or traditional fuel.

**Chained dollars:** A method of adjusting to real dollar amounts to account for both changes in price-levels and the composition of output over time. This is completed by using a chain-weighted type index, or average weights in successive time periods, to get a comparable time series of data.

**Class I railroad:** Railroads earning adjusted annual operating revenues for three consecutive years of \$250,000,000 or more, based on 1991 dollars with an adjustment factor applied to subsequent years.

**Commuter rail:** Urban/suburban passenger train service for short-distance travel between a central city and adjacent suburbs run on tracks of a traditional railroad system. Does not include heavy or light rail transit service.

**Demand response transit:** A nonfixed-route, nonfixed-schedule form of transportation that operates in response to calls from passengers or their agents to the transit operator or dispatcher.

**Directional route-miles:** The sum of the mileage in each direction over which transit vehicles travel while in revenue service.

**Enplanements:** Total number of revenue passengers boarding aircraft.

**For-hire:** Refers to a vehicle operated on behalf of or by a company that provides services to external customers for a fee. It is distinguished from private transportation services, in which a firm transports its own freight and does not offer its transportation services to other shippers.

**General aviation:** Civil aviation operations other than those air carriers holding a Certificate of Public Convenience and Necessity. Types of aircraft used in general aviation range from corporate, multi-engine jets piloted by a professional crew to amateur-built, single-engine, piston-driven, acrobatic planes.

**Gross domestic product:** The total value of goods and services produced by labor and property located in the United States. As long as the labor and property are located in the United States, the suppliers may be either U.S. residents or residents of foreign countries.

**Heavy-rail transit:** High-speed transit rail operated on rights-of-way that exclude all other vehicles and pedestrians.

**Hybrid electric vehicle:** Hybrid electric vehicles combine features of internal combustion engines and electric motors. Unlike 100% electric vehicles, hybrid vehicles do not need to be plugged into an external source of electricity to be recharged. Most hybrid vehicles operate on gasoline.

**International Roughness Index (IRI):** A scale for pavement roughness based on the simulated response of a generic motor vehicle to the roughness in a single wheel path of the road surface.

**Lane-miles:** One mile of one lane of road.

**Light-duty vehicle:** Includes passenger cars, light trucks, vans, pickup trucks, and sport/utility vehicles regardless of wheelbase.

**Light-rail transit:** Urban transit rail operated on a reserved right-of-way that may be crossed by roads used by motor vehicles and pedestrians.

**Nominal dollars:** A market value that does not take inflation into account and reflects prices and quantities that is current during the period being measured.

**Nonself-propelled vessels:** Includes dry cargo, tank barges, and railroad car floats that operate in U.S. ports and waterways.

**Oceangoing vessels:** Includes U.S. flag, privately-owned merchant fleet of oceangoing, self-propelled, cargo-carrying vessels of 1,000 gross tons or greater.

**Particulates:** Carbon particles formed by partial oxidation and reduction of hydrocarbon fuel. Also included are trace quantities of metal oxides and nitrides originating from engine wear, component degradation, and inorganic fuel additives.

**Passenger-mile:** One passenger transported one mile. For example, one vehicle traveling 3 miles carrying 5 passengers generates 15 passenger miles.

**Personal communication:** Involves contacting the source for data if not publicly available.

**Plug-in hybrid electric vehicles:** Plug-in hybrids use the electric battery as the primary energy source by relying on battery power for propulsion for a limited range (15-40 miles) before switching to internal combustion propulsion (thus reducing gasoline consumption).

**Reliever airports:** Airports designated by the Federal Aviation Administration to relieve congestion at commercial service airports and to provide improved general aviation access to the overall community.

**Seasonally adjusted:** Measures the real differences in data trends by adjusting for seasonal factors such as the change in the number of days, weekends, holidays, or other seasonal activity in a month such as vacation travel.

**Self-propelled vessels:** Includes dry cargo vessels, tankers, and offshore supply vessels, tugboats, pushboats, and passenger vessels, such as excursion/sightseeing boats, combination passenger and dry cargo vessels, and ferries.

**Short ton:** A unit of weight equal to 2,000 pounds.

**Structurally deficient:** Structural deficiencies are characterized by deteriorated conditions of significant bridge elements and reduced load-carrying capacity.

**Real dollars:** A method of adjusting nominal dollars to account for price level changes over time. It reflects purchasing power in a given period.

**Tg CO<sub>2</sub> Eq.:** Teragrams of carbon dioxide equivalent, a metric measure used to compare the emissions from various greenhouse gases based on their global warming potential.

**Ton-mile:** A unit of measure equal to movement of one ton over one mile.

**Transportation Services Index:** BTS' monthly measure indicating the relative change in the volume of services over time performed by the for-hire transportation sector. Change is shown relative to a base year, which is given a value of 100. The TSI covers the activities of for-hire freight carriers, for-hire passenger carriers, and a combination of the two. See [www.bts.gov](http://www.bts.gov) for a detailed explanation.

**Transportation Services Index Combined:** The combined Transportation Services Index (TSI) includes available data on freight traffic, as well as passenger travel, that have been weighted to yield a monthly measure of transportation services output.

**Transportation Services Index Freight:** The freight TSI measures the output of the for-hire freight transportation industry and consists of data from for-hire trucking, rail, inland waterways, pipelines and air freight.

**Transportation Services Index Passenger:** The passenger TSI includes local transit, intercity passenger rail, and passenger air transportation, that have been weighted to yield a monthly measure of transportation services output.

**Unlinked passenger trip:** The number of passengers who board public transportation vehicles. Passengers are counted each time they board vehicles no matter how many vehicles they use to travel from their origin to their destination.

**Vehicle-mile:** One vehicle traveling one mile.

Statistics published in this Pocket Guide to Transportation come from many different sources. Some statistics are based on samples and are subject to sampling variability. Statistics may also be subject to omissions and errors in reporting, recording, and processing.

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**MAJOR TRENDS**

**INFRASTRUCTURE**

**MOVING PEOPLE**

**MOVING GOODS**

**SAFETY**

**PERFORMANCE**

**ECONOMY**

**ENVIRONMENT**

**GLOSSARY**

