2019

Pocket Guide to Transportation













Free Copy - Not Meant for Sale



U.S. Department of Transportation Office of the Secretary of Transportation Bureau of Transportation Statistics https://www.bts.gov/product/pocket-guide-transportation

For additional copies of this guide or information about the Bureau of Transportation Statistics and its products and services, contact:

https://doi.org/10.21949/1502600

Product Orders Internet: http://www.bts.gov

Mail: Product Orders Bureau of Transportation Statistics ATTN: Product Orders 1200 New Jersey Avenue, SE, Room E34-457 Washington, DC 20590

Information Service Phone: 202-366-DATA Email: answers@dot.gov

January 2019

²⁰¹⁹ Pocket Guide to Transportation



ACKNOWLEDGMENTS

U.S. Department of Transportation

Elaine L. Chao Secretary

Jeffrey A. Rosen Deputy Secretary

Bureau of Transportation Statistics

Patricia Hu Director

Rolf Schmitt Deputy Director

Produced under the direction of:

Michael J. Sprung Director, Office of Transportation Analysis

Sonya Smith-Pickel Project Manager

Alpha Wingfield Visual Information Specialist

Major Contributors:

Long Nguyen Demi Riley (Spatial Front)

Contributors:

Steve Beningo James Bouse Stephen Brumbaugh Matthew Chambers Bernetta Crutcher Chester Ford Jeff Gorham Sean Jahanmir Mindy Liu William Moore (Spatial Front) Kiara Parker (Spatial Front) Clara Reschovsky Jennifer Rhodes Chris Rick (Spatial Front) Cecelia Robinson Kelsey Taylor Luke Young (Spatial Front)

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).

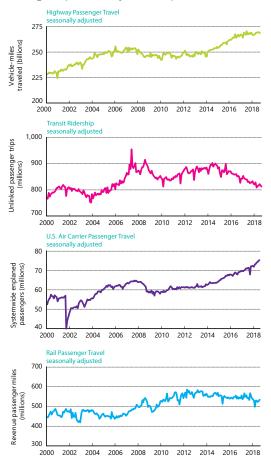
BTS welcomes comments and suggestions for improving this product.

CONTENTS

Major Trends	iv
Infrastructure	1
Moving People	7
Moving Goods	19
Safety	27
Performance	33
Economy	
Environment	47
Glossary	57

Major Trends

Moving People: January 2000-September 2018

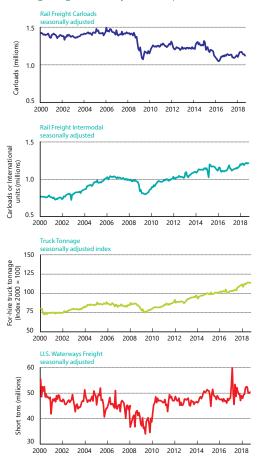


Notes: Graph scales are not comparable. Seasonally adjusted data measure the real differences in data trends by adjusting for seasonal factors, such as the change in the number of days, weekends, holidays, or other seasonal activity in a month such as vacation travel.

Source: Seasonally adjusted transportation data–U.S. Department of Transportation, Bureau of Transportation Statistics, available at <u>www.bts.gov</u> 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 <u>www.bts.gov</u> 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.

miles		
Mode	2006	2016
Highway		
Public roads	4,016,741	4,140,108
Public road lanes ^a	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 ^b	6,972	7,745
Heavy rail ^b	1,623	1,646
Light rail ^{b,c}	1,280	1,958
Water		
Navigable waterways ^d	25,000	25,000

1-1 Transportation Network Length

^aMeasured in lane-miles. ^bMeasured in directional route-miles. ^cLight Rail was revised beginning in 2011 and includes light rail, street car rail, and hybrid rail. ^dEstimated 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 <u>https://www.bts. gov/</u> as of November 2018.

1-2 Transportation Facilities

number

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

^aCertificated airports serve air carrier operations with aircrafts seating more than nine passengers. ^bLight Rail was revised beginning in 2011 and includes light rail, street car rail, and hybrid rail. ^cPorts handling over 250,000 short tons. ^dData 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

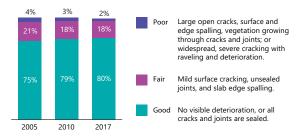
number

Mode	2006	2016
Air		
Air carrier aircraft	7,637	7,034
General aviation aircraft	221,943	211,793
Highway		
Light-duty vehicle ^a	234,524,720	247,644,981
Truck	8,819,007	11,498,561
Motorcycle	6,678,958	8,679,380
Rail		
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
Transit rail		
Commuter rail ^b	6,300	7,190
Heavy rail ^b	11,052	10,775
Light rail ^{b, c}	1,801	2,553
Water		
Nonself-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

^aIncludes passenger cars, light trucks, vans, and sport utility vehicles. ^bIncludes revenue vehicles available for maximum service. ^cLight 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 <u>https://www.bts.gov/</u> as of July 2018.

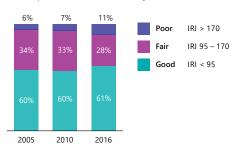
1-4 Airport Runway Pavement Condition percent of NPIAS runways



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 <u>https://www. bts.gov/</u> as of October 2018.

1-5 National Highway System Pavement Condition



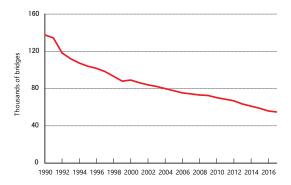
percent of NHS facility miles

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 <u>https://www.fhwa.dot.gov/policyinformation/statistics.cfm</u> as of October 2018.

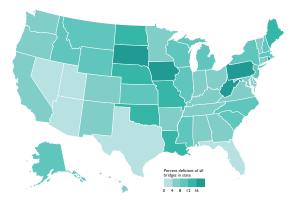
4

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 <u>https://www.bts.gov/</u> 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 <u>http://www.fhwa.dot.gov/bridge/deficient.cfm</u> 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

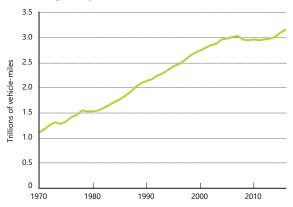
millions

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

^aMeasured in revenue aircraft-miles. ^bIncludes passenger cars, light trucks, vans, and sport utility vehicles. ^cMeasured in passenger car-miles. ^dLight 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.





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 <u>https://www.fhwa.dot.gov/policyinformation/</u> statistics.cfm as of November 2018.

2-3 Passenger-Miles Traveled

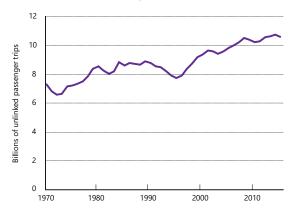
millions

2007	2016
607,564	670,437
4,341,984	3,924,199
27,173	22,022
304,178	287,895
307,753	346,610
5,784	6,520
11,137	11,840
16,138	18,474
1,930	2,775
	607,564 4,341,984 27,173 304,178 307,753 5,784 11,137 16,138

^aIncludes passenger cars, light trucks, vans, and sport utility vehicles. ^bMeasured in revenue passenger-miles. ^CLight 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 <u>https://www.apta.com/Pages/default.aspx/</u> as of October 2018.

2-5 Daily Passenger Travel

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

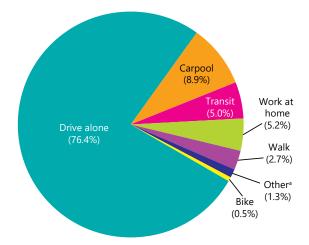
^aThe 2017 NHTS includes a different methodology compared to previous years such as an address-based sample including more urban and cell phone only households. ^bPublic transit includes local bus, commuter bus, commuter train, subway, trolley, and streetcar. ^{co}Other" includes travel modes not specifically 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://nts.ornl.gov/ as of September 2018.

2-6 Commute Mode Share: 2017

percent of workers age 16 and older

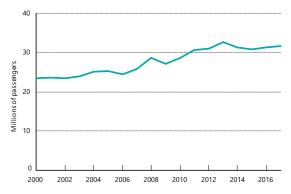


^a Includes motorcycle, taxi, and other means.

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 <u>www.bts.gov</u> as of October 2018.

2-7 Amtrak Ridership: FY2000–FY2017



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

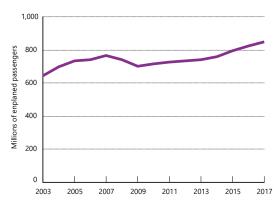
2-8 Top 10 Amtrak Stations: FY2017 by passengers



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 <u>https://www.bts. gov/</u> as of October 2018.

2-10 Top 10 U.S. Airports: 2017

by enplaned passengers

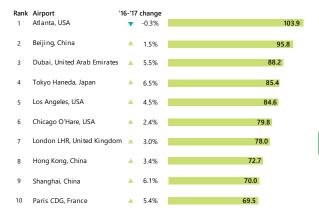


Note: Includes passenger enplanements on U.S. carrier scheduled domestic and international service and foreign carrier scheduled international service to and from the United States.

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

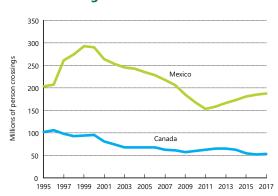
2-11 Top 10 World Airports: 2017

by enplaned, deplaned, and in-transit passengers



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

Source: Airports Council International, available at <u>https://www.aci.aero/</u> 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 <u>https://www.bts.gov/content/bordercrossingentry-data/</u> as of October 2018.

2-13 Top 5 Land Ports of Entry: 2017

by incoming person crossings



U.S. - Mexico ports of entry

U.S. - Canada ports of entry

Rank	Port	16-'17	change	Millions of person crossings
1	Buffalo-Niagara Falls, N	Y 🔺	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., N	IY 🔻	-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 <u>https://www.bts.gov/content/bordercrossingentry-data/</u> 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 ^a	2,122	2,230	4,970
Other ^b	241	141	484
Total	17,729	18,142	37,064

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 ^a	418	486	800
Other ^b	342	97	273
Total	16,996	17,686	25,521

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 ^a	339	398	765
Other ^b	7	3	16
Total	4,903	5,108	7,692

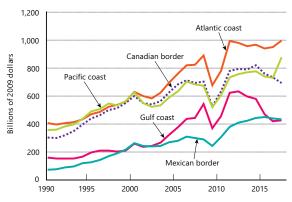
^aIncludes mail. ^bIncludes other, unknown, and imported crude oil with no domestic mode.

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 <u>www.bts.gov</u> as of November 2018.

19

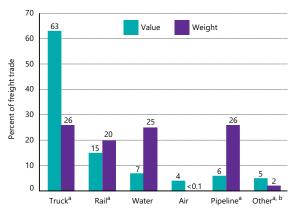
3-2 U.S. Trade by Coasts and Borders: 1990–2017



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 as of October 2018. Implicit GDP Deflator– U.S. Department of Commerce, Bureau of Economic Analysis, available at www.bea.gov as of October 2018.

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

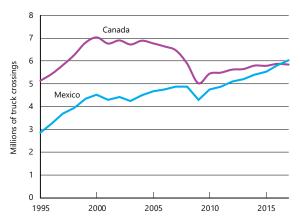


^aExport weights for land modes are estimated by the Bureau of Transportation Statistics using value-to-weight ratios derived from import data. ^bIncludes mail, other, unknown, and shipments through Foreign Trade Zones.

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 <u>www.</u> <u>bts.gov</u> 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 <u>https://data.transportation.gov/</u> as of October 2018.

3-5 Top 5 Truck Ports of Entry: 2017 by incoming truck crossings

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. - Canada ports of entry

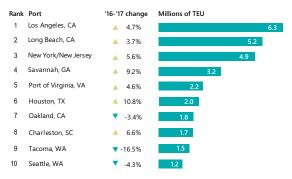
U.S. - Mexico ports of entry

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	a 2.0%	0.8	
4	Hidalgo, TX	▲ 9.2%	0.6	
5	Calexico East, CA	<u>▲</u> 3.2%	0.4	

Source: U.S. Department of Transportation, Bureau of Transportation Statistics, Border Crossing Entry Data, available at <u>https://data.transportation.gov/</u> 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	<u>▲</u> 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	4 24.4%	67.3	
10	Los Angeles, CA	▲ 5.1%	65.8	

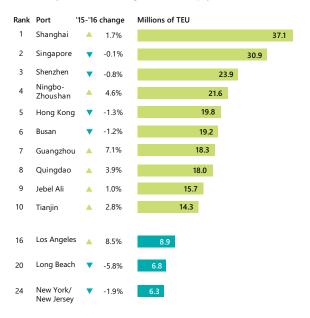


Key: TEU = twenty-foot equivalent unit.

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

Sources: U.S. Army Corps of Engineers, Waterborne Commerce Statistics Center, available at <u>www.navigationdatacenter.us</u> as of November 2018.

3-7 Top 10 World Container Ports: 2016 by TEUs, including full and empty containers



Key: TEU = twenty-foot equivalent unit.

Source: American Association of Port Authorities, World Port Rankings, available at <u>www.aapa-ports.org</u> as of November 2018.

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



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 <u>www.bts.gov</u> as of November 2018.

4 SAFETY

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

4-1 Transportation Fatalities by Mode

Mode	2006	2016	2017
Air	774	413	346
U.S. air carrier	50	0	0
Commuter carrier	2	8	1
On-demand air taxi	16	19	15
General aviation	706	386	330
Highway	42,708	37,806	37,133
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
Pipeline	19	16	8
Rail	903	760	824
Train Accidents	6	7	6
Highway-rail grade crossing ^a	369	255	271
Trespassers	511	467	513
Other	17	31	34
Transit ^b	162	257	241
Water	883	737	706
Freight vessel and Industrial/Other	82	29	39
Passenger vessel and Recreational boating	801	708	667

^aIndividual modes don't add up to totals due to double counting in highway, rail, and transit grade crossings. ^bIncludes 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 <u>www.bts.gov</u> as of November 2018.

4-2 Transportation Injuries by Mode

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

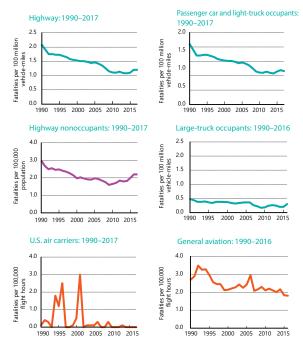
^a2016 Crash Reporting Sampling System (CRSS) estimates for injuries are not comparable with 2015 and earlier NASS GES estimates because of different sampling designs. ^bExcludes injuries involving motor vehicles at public highway-rail grade crossings, which are assumed to be counted under Highway categories. ^cIncludes 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 policereported 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 <u>www.bts.gov</u> as of November 2018.

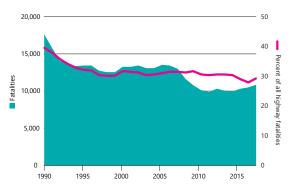
4-3 Fatality Rates by Mode



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

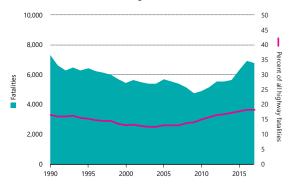
Source: As cited in or calculated from U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, tables 2-9, 2-14, 2-17, 2-19, 2-21, 2-23, and 3-10 available at www.bts.gov as of October 2018.

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.

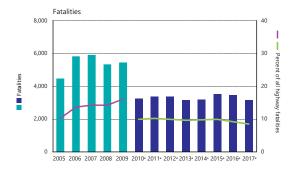


4-5 Pedestrian and Bicyclist Fatalities: 1990–2017

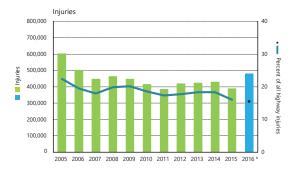
Note: Includes pedestrians and riders of nonmotorized bicycles and other pedal-powered vehicles.

Source: As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, National Transportation Statistics, table 2-1, available at <u>www.bts.gov</u> 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.



^aDistracted driving fatality data for 2010 and later are not comparable with previous years due to changes in methodology. ^b2016 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 <u>www.nhtsa.gov</u> 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 hours of congestion

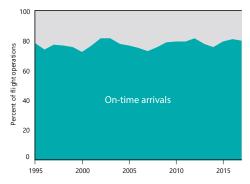


Key: MSA = Metropolitan Statistical Area.

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 <u>https://ops.fhwa.dot.gov/perf_measurement/ucr/</u> as of September 2018.

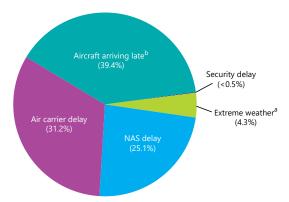




Note: Flights arriving at the gate within 15 minutes of scheduled arrival time are on time.

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

5-3 U.S. Airport Delays by Cause: 2017 percent of delayed time



^aIncludes weather events that prevent flying. Other weather delays that slow operations are included under other categories. ^bDelay resulting from a previous flight with the same aircraft arriving late.

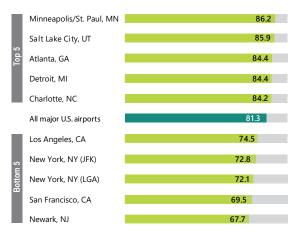
Key: NAS = Delays attributable to the national aviation system (NAS) that refer to a broad set of conditions, such as non-extreme weather, airport operations, heavy traffic volume, and air traffic control.

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 <u>www.bts.gov</u> as of October 2018.

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

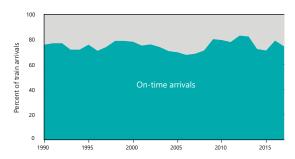
by percent of on-time arrivals



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 <u>www.bts.gov</u> as of October 2018.

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



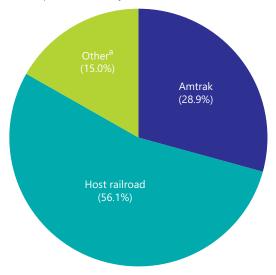
Note: On-time performance is a percentage measure of train performance. A train is considered on-time if it arrives at the final destination, or end-point, within an allowed number of minutes, or tolerance, of its scheduled arrival time. Trains are allowed a certain tolerance at the end-point based on 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 <u>www.bts.gov</u> as of November 2018.

5-6 Amtrak Delays by Cause: FY2017

percent of delayed time

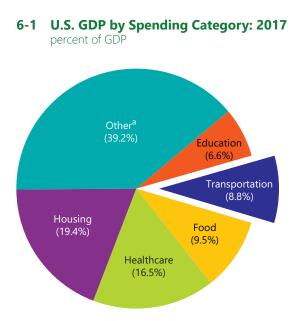


^aDelays not attributable to Amtrak or other host railroads, such as customs and immigration, law enforcement action, weather, or waiting for scheduled departure time.

Source: As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 1-73, available at <u>www.bts.gov</u> as of November 2018.

6 Есоному

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.



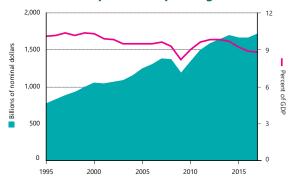
^a Includes all other categories (e.g. entertainment, personal care products and services, and payments to pension plans).

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 <u>www.bts.gov</u> 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 <u>www.bts.gov</u> as of November 2018.

6-3 Transportation-Related Final Demand

billions of chained 2012 dollars

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

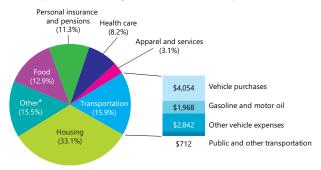
Key: GDP = gross domestic product; U = unavailable.

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 <u>www.</u> <u>bts.gov</u> as of November 2018.

6-4 Household Expenses by Category: 2017

percent of average annual household expenses

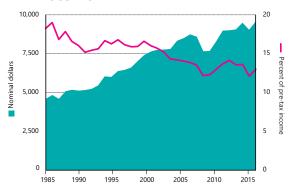


^a Includes alcoholic beverages, cash contributions, education, entertainment, personal care products and services, reading, tobacco products and smoking supplies, and other miscellaneous items.

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 as of November 2018.

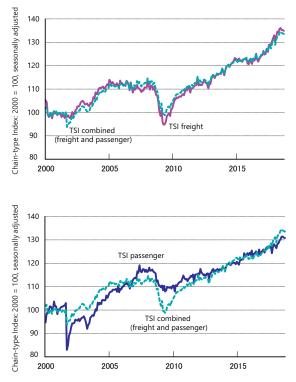
6-5 Household Transportation Expenses: 1985–2017



Source: U.S. Department of Labor, Bureau of Labor Statistics, *Consumer Expenditure Survey*, available at <u>www.bls.gov/cex</u> as of November 2018.

6-6 Freight 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 forhire 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 rail; and passenger air transportation.

Source: U.S. Department of Transportation, Bureau of Transportation Statistics, available at <u>www.bts.gov</u> 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 ^a	2,071	1,923
Other transportation-related industries	5,246	5,532
Postal service	769	615
Government employment ^b	890	U
Total transportation-related labor force	13,512	13,276
Total U.S. labor force	137,999	146,624

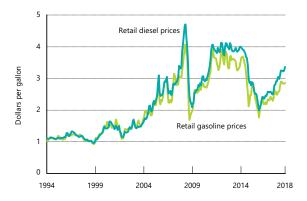
^aIncludes transportation equipment; petroleum products; tires; rubber; plastics; search, detection, navigation, guidance, aeronautical, and nautical systems; and instrument manufacturing. ^bFiscal year data for federal, state, and local personnel.

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 <u>www.bts.gov</u> as of September 2018.

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

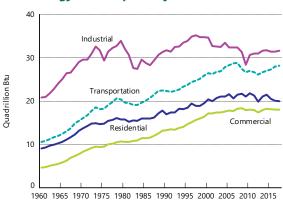


Notes: Retail gasoline prices include average nominal monthly prices of U.S. Regular All Formations retail gasoline. Retail diesel prices include average nominal monthly prices of U.S. No. 2 retail diesel prices.

Source: U.S. Department of Energy, Energy Information Administration, available at <u>www.eia.doe.gov</u> as of November 2018.

7 ENVIRONMENT

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

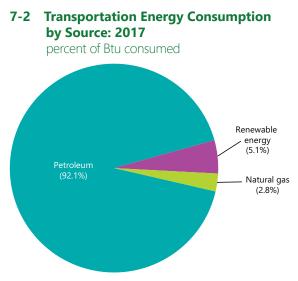


7-1 Energy Consumption by Sector: 1960–2017

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 as of November 2018.

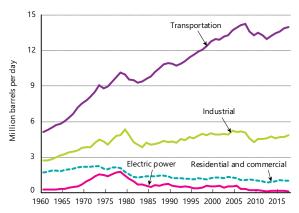


Key: Btu = British thermal unit.

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

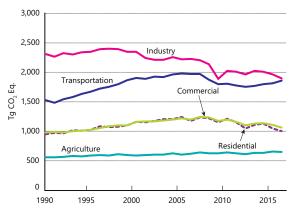
Source: U.S. Department of Energy, U.S. Energy Information Administration, Monthly Energy Review, available at <u>www.eia.gov/totalenergy/data/monthly</u> as of November 2018.

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 as of November 2018.

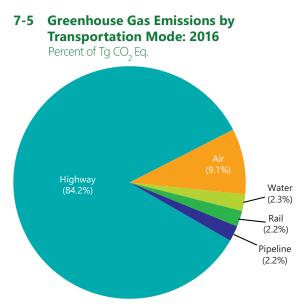
7-4 Greenhouse Gas Emissions by Sector: 1990–2016



Key: Tg CO₂ Eq. = teragrams of carbon dioxide equivalent. A teragram = 1 million metric tons.

Notes: Electric power sector emissions are distributed across sectors. Emissions include CO_2 , CH_4 , N_2O , HFCs, PFCs, and SF_c .

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

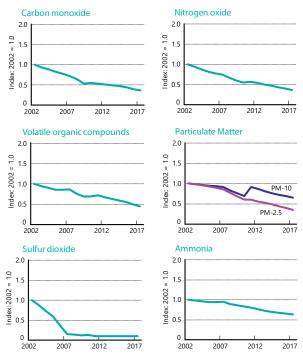


Key: Tg CO $_2$ Eq. = teragrams of carbon dioxide equivalent. A teragram = 1 million metric tons.

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/gggemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2016 as of November 2018.

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

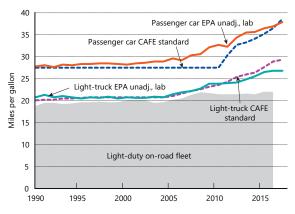


Key: PM-10 = airborne particulates of less than 10 microns; PM-2.5 = airborne particulates of less than 2.5 microns.

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 as of November 2018.

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

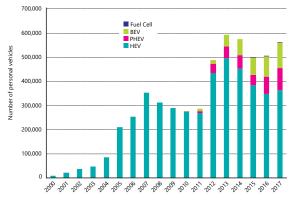


Key: CAFE = Corporate Average Fuel Economy.

Notes: New fleet data and CAFE standards are for vehicle model years. Onroad 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 <u>www.bts.gov</u> as of November 2018.

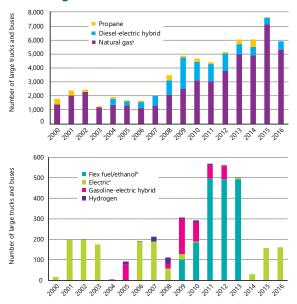
7-8 Sales of Hybrid, Plug-in Hybrid and Battery Electric Vehicles: 2000-2017



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

Source: HybridCars, December Dashboards, Annual Issues, available at <u>www.</u> hybridcars.com as of August 2018.

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



Notes: ^aIncludes 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. ^bFlex fuel/ethanol vehicles are capable of running on E85, unblended gasoline, or any ethanol-gasoline blends in between. ^cExcludes gasoline-electric and diesel-electric hybrids.

Source: U.S. Department of Energy, Energy Information Administration, Alternative Fuel Vehicle Data, Supplier Database, available at <u>https://www.eia.gov/</u> 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 shortdistance 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 rightof-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 CO₂ 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 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.

Photos provided by BTS Stock Photos

MAJOR TRENDS

INFRASTRUCTURE

MOVING PEOPLE

MOVING GOODS

SAFETY

PERFORMANCE

ECONOMY

ENVIRONMENT

GLOSSARY



Printed on paper containing recycled post consumer waste paper.