

2016

Pocket Guide to Transportation



U.S. Department of Transportation
Bureau of Transportation Statistics

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Pocket Guide to Transportation



U.S. Department of Transportation
Bureau of Transportation Statistics

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ABOUT THE *POCKET GUIDE TO TRANSPORTATION*

The *Pocket Guide to Transportation* is a compilation of statistics that provides key information on the U.S. transportation system and highlights major trends. Intended as a compact reference, it supports the Bureau of Transportation Statistics mission to create, manage, and share transportation statistical knowledge.

Many of the tables and figures within this publication are derived from *National Transportation Statistics* available at www.bts.gov.

BTS welcomes comments and suggestions for improving this publication.

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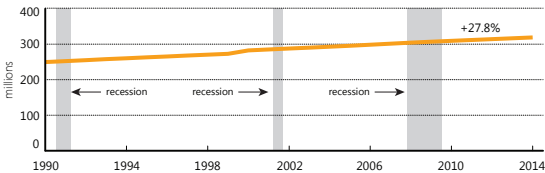
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A DYNAMIC SYSTEM

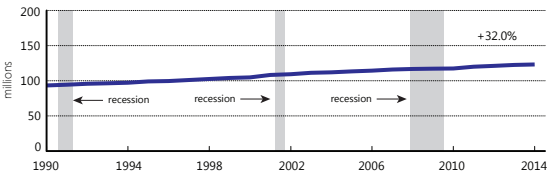
America’s transportation system continues to change along with the population, economy, and employment. The following social and economic trends present a backdrop for the transportation data in this publication.

The American Landscape: 1990–2014

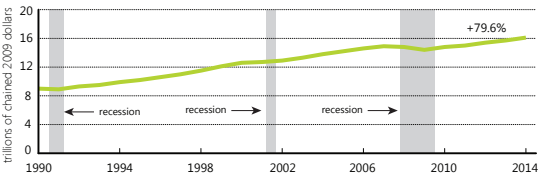
Resident population



Households



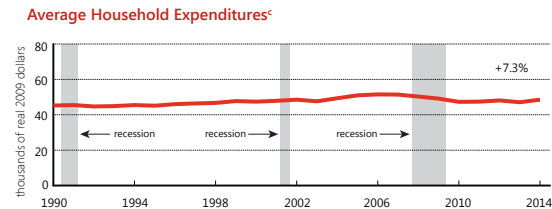
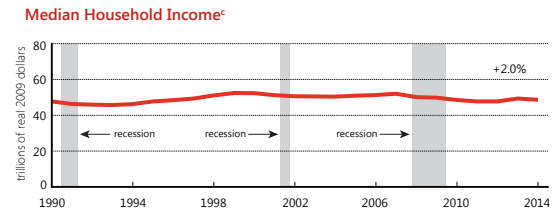
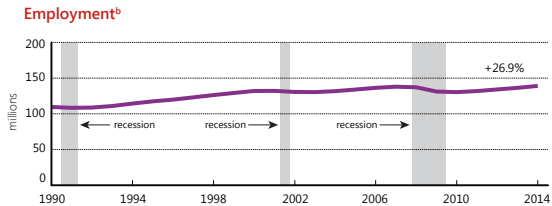
Real GDP^a



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The American Landscape: 1990–2014

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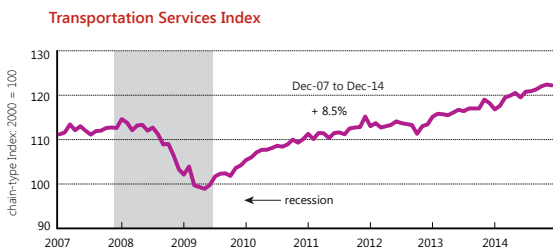
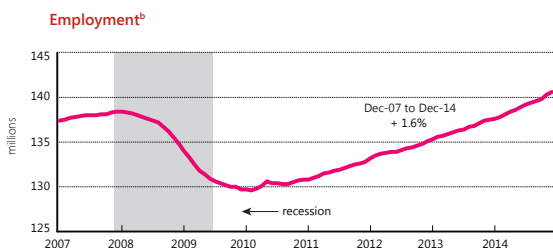
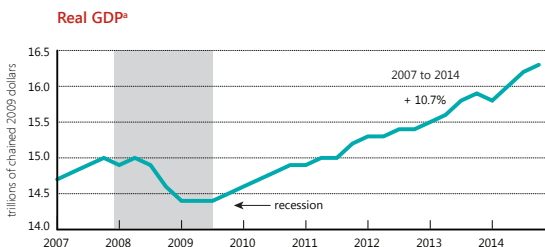
^aReal value added by industry. ^bNot seasonally adjusted total nonfarm employment. ^cConverted to real 2009 dollars by the Bureau of Transportation Statistics using the CPI-U-RS price index.

Key: GDP = gross domestic product.

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

Sources: **Population, Households, GDP, Income, Expenditures**—as cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table A, available at www.bts.gov as of September 2015. **Employment**—U.S. Department of Labor, Bureau of Labor Statistics, available at www.bls.gov as of September 2015.

A Closer Look: Jan. 2007–Dec. 2014



^aReal value added by industry. Seasonally adjusted at annual rates. ^bSeasonally adjusted total nonfarm employment.

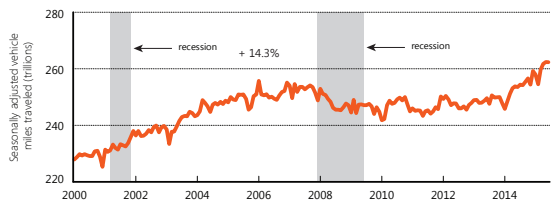
Key: GDP = gross domestic product.

Note: The Transportation Services Index measures the movement of freight and passengers. Graph scales are not comparable.

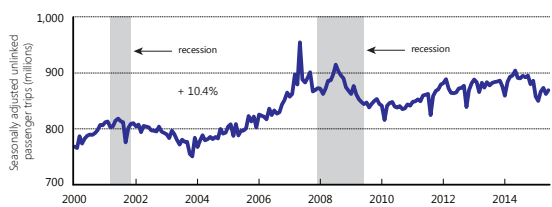
Sources: **GDP**—U.S. Department of Commerce, Bureau of Economic Analysis, available at www.bea.gov as of September 2015. **Employment**—U.S. Department of Labor, Bureau of Labor Statistics, available at www.bls.gov as of September 2015. **TSI**—U.S. Department of Transportation, Bureau of Transportation Statistics, available at www.bts.gov as of September 2015.

A Closer Look: Jan. 2000 – Jun. 2015

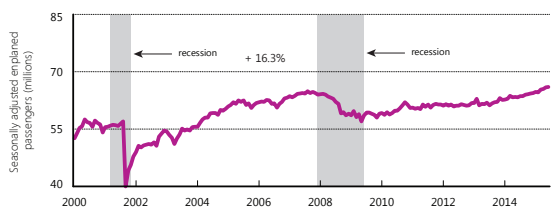
Highway Travel



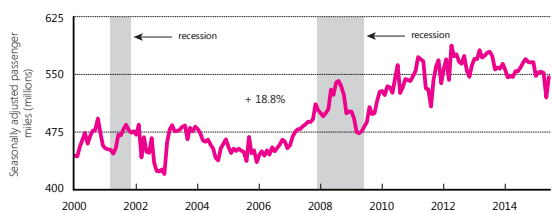
Transit Ridership



U.S. Air Carrier Passenger Travel



Rail Passenger Travel



Sources: Seasonally Adjusted Transportation Data—U.S. Department of Transportation, Bureau of Transportation Statistics, available at www.bts.gov as of September 2015.

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	2003	2013
Highway		
Public roads	3,974,107	4,115,462
Public road lanes ^a	8,315,121	8,656,070
Pipeline		
Gas distribution	1,872,748	2,149,299
Gas transmission and gathering	324,492	320,146
Rail		
Class I freight railroad	99,126	95,235
Amtrak	22,675	21,356
Transit		
Commuter rail ^b	6,809	7,731
Heavy rail ^b	1,597	1,622
Light rail ^{b,c}	996	1,836
Water		
Navigable waterways ^d	25,000	25,000

^aMeasured in lane-miles. ^bMeasured in directional route-miles. ^cLight rail was revised beginning in 2011. ^dEstimated length of domestic waterways.

Sources: Highway, 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 www.bts.gov as of September 2015. **Pipeline**—U.S. Department of Transportation, Pipeline and Hazardous Materials Administration, available at phmsa.dot.gov/pipeline/library/data-stats as of September 2015.

1-2 Transportation Facilities number

Mode	2003	2013
Air		
Certificated airports ^a	628	542
General aviation airports	18,953	18,911
Highway		
Bridges	591,922	607,708
Pipeline		
LNG facilities	U	118
Rail		
Amtrak stations	526	512
Transit rail		
Commuter rail stations	1,160	1,481
Heavy rail stations	1,023	1,044
Light rail stations ^b	614	941
Water		
Ports ^c	187	182
Cargo handling docks ^d	*	8,231
Lock chambers	257	239

*2003 cargo handling docks number is omitted because it is not comparable to 2013 number due to a change in data collection methodology.

^aCertificated airports serve air carrier operations with aircrafts seating more than nine passengers. ^bLight rail was revised beginning in 2011. ^cPorts handling over 250,000 short tons. ^dData for 2003 and 2013 are not comparable due to changes in data coverage.

Key: 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 www.bts.gov as of September 2015. **Pipeline**—U.S. Department of Transportation, Pipeline and Hazardous Materials Administration, available at phmsa.dot.gov/pipeline/library/data-stats as of September 2015. **Transit**—U.S. Department of Transportation, National Transit Database, available at www.ntdprogram.gov as of September 2015. **Water**—U.S. Army Corps of Engineers, Navigation Data Center, available at www.navigationdata-center.us as of September 2015.

1-3 Transportation Vehicles

number

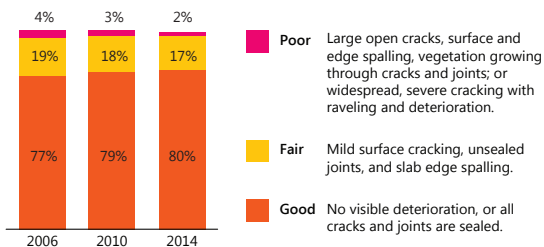
Mode	2003	2013
Air		
Air carrier aircraft	8,176	7,523
General aviation aircraft	209,708	199,927
Highway		
Light-duty vehicle ^a	222,856,560	236,010,230
Truck	7,756,888	10,597,356
Motorcycle	5,370,035	8,404,687
Rail		
Class I freight locomotive	20,774	25,033
Class I freight car	467,063	373,838
Amtrak locomotive	442	418
Amtrak car	1,623	1,447
Transit rail		
Commuter rail ^b	5,866	7,150
Heavy rail ^b	10,754	10,380
Light rail ^{b,c}	1,482	2,842
Water		
Nonself-propelled vessel	31,335	31,081
Self-propelled vessel	8,648	8,918
Oceangoing vessel	246	187
Recreational boat	12,794,616	12,013,496

^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 www.bts.gov as of September 2015.

1-4 Airport Runway Pavement Condition

percent of NPIAS runways

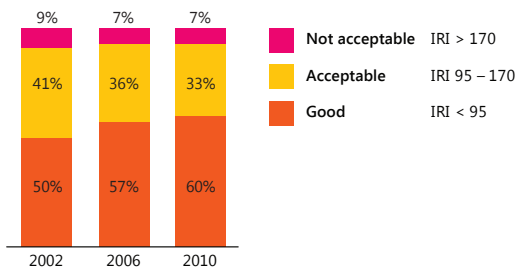


Note: National Plan of Integrated Airport Systems (NPIAS) airports include commercial service airports, reliever airports, and selected general aviation airports. Data for 2014 does not add to 100 due to rounding.

Source: As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 1-25, available at www.bts.gov as of September 2015.

1-5 National Highway System Pavement Condition

percent of vehicle-miles traveled



Note: Pavement condition is measured by the International Roughness Index (IRI).

Source: U.S. Department of Transportation, Federal Highway Administration, *2013 Status of the Nation's Highways, Bridges, and Transit: Conditions & Performance*, available at www.fhwa.dot.gov/policy/2013cpr as of September 2015.

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 recreational, social, and personal purposes.

2-1 Vehicle-Miles Traveled millions

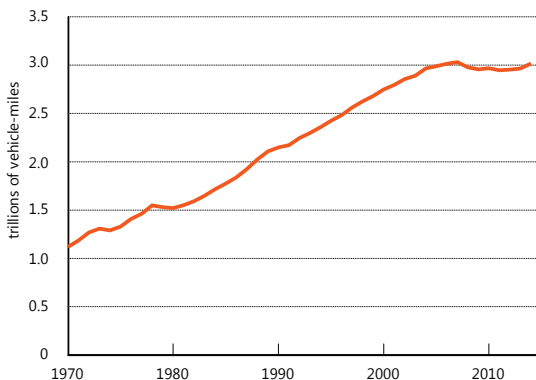
Mode	2003	2013
Air		
U.S. air carrier, domestic ^a	6,106	5,965
Highway		
Light-duty vehicle ^b	*	2,677,771
Motorcycle	*	20,366
Truck	*	275,018
Bus	*	15,167
Passenger rail		
Amtrak ^c	332	325
Commuter rail ^c	286	355
Heavy rail ^c	630	674
Light rail ^{c,d}	64	109

*2003 highway data are omitted because they are not comparable to 2013 data due to a change in vehicle occupancy rates derived from National Household Travel Surveys.

^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.

Source: As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 1-35, available at www.bts.gov as of September 2015.

2-2 Highway Travel: 1970–2013



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, *Traffic Volume Trends*, available at www.fhwa.dot.gov as of September 2015.

2-3 Passenger-Miles Traveled

millions

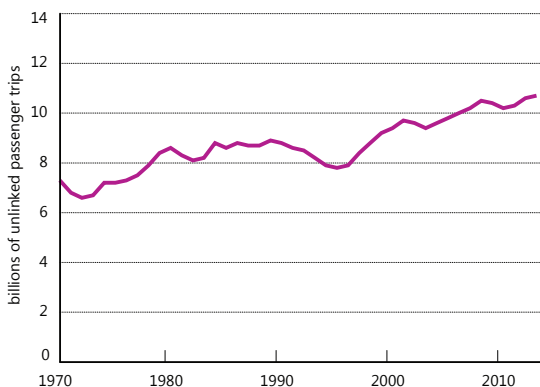
Mode	2003	2013
Air		
U.S. air carrier, domestic	505,602	589,692
Highway		
Light-duty vehicle ^a	*	3,688,218
Motorcycle	*	21,937
Truck	*	275,018
Bus	*	321,544
Passenger rail		
Amtrak ^b	5,680	7,283
Commuter rail	9,555	11,736
Heavy rail	13,606	18,005
Light rail ^c	1,476	2,565

*2003 highway data are omitted because they are not comparable to 2013 data due to a change in vehicle occupancy rates derived from National Household Travel Surveys.

^aIncludes passenger cars, light trucks, vans, and sport utility vehicles. ^bMeasured in revenue passenger-miles. ^cLight rail was revised beginning in 2011.

Source: As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 1-40, available at www.bts.gov as of September 2015.

2-4 Transit Ridership: 1970–2013



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*, available at www.apta.com as of September 2015.

2-5 Daily Passenger Travel

	1995	2001	2009
Travel per person			
Daily person trips	4.3	3.7	3.8
Daily person-miles	38.7	36.9	36.1
Travel per driver			
Daily vehicle trips	3.6	3.4	3.0
Daily vehicle-miles of travel	32.1	32.7	29.0
Average commute			
Length in miles	11.6	12.1	11.8
Travel time in minutes	20.7	23.3	23.9
Percent of trips by mode			
Private vehicle	89.3	86.4	83.4
Bus ^a	3.0	2.8	3.3
Rail ^b	0.6	0.6	0.6
Walk	5.5	8.7	10.4
Bike	0.9	0.8	1.0
Air	0.1	0.1	0.1
Other ^c	0.5	0.6	1.1

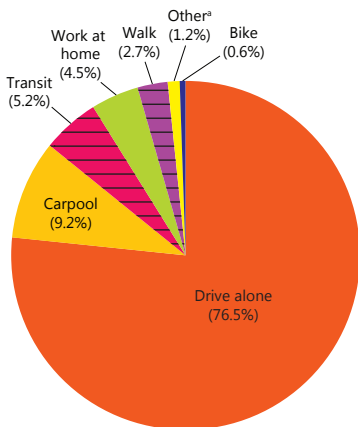
^aIncludes local transit bus, commuter bus, school bus, charter/tour bus, city-to-city bus. ^bIncludes subway/elevated rail, street car/trolley, Amtrak/intercity train, and commuter train. ^cIncludes ferry, hotel/airport shuttle, light electric vehicle, limousine, passenger line/ferry, sailboat/motorboat/yacht, ship/cruise, special transit, taxicab, other, and unknown.

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

Source: U.S. Department of Transportation, Federal Highway Administration, *2009 National Household Travel Survey*, available at nhts.ornl.gov as of September 2015.

2-6 Commute Mode Share: 2014

percent of workers age 16 and older

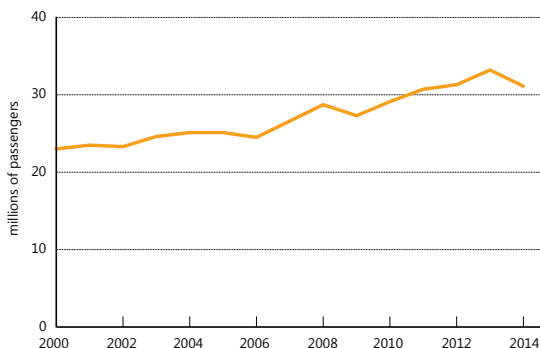


^a Includes motorcycle, taxi, and other means.

Notes: Percents do 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 Commerce, U.S. Census Bureau, *American Community Survey, 1-Year Estimates*, available at www.census.gov/acs as of September 2015.

2-7 Amtrak Ridership: FY2000–FY2014



Note: Includes passengers traveling on Amtrak only, which is a portion of all railroad passenger travel.

Source: U.S. Department of Transportation, Federal Railroad Administration, available at safetydata.fra.dot.gov/OfficeofSafety as of September 2015.

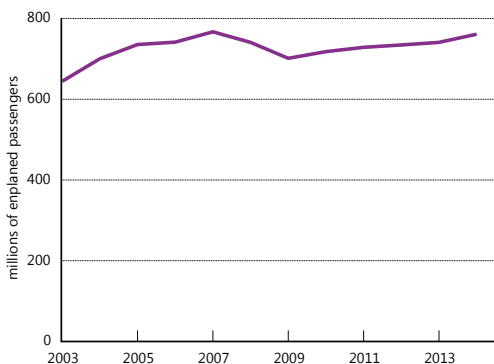
2-8 Top 10 Amtrak Stations: FY2014 by passengers

Rank	Station	'13-'14 change	Millions of passengers
1	New York Penn Station, NY	▲ 4.9%	10.0
2	Washington, DC	▼ -0.1%	5.0
3	Philadelphia 30th St, PA	▼ -1.0%	4.1
4	Chicago, IL	▼ -4.1%	3.4
5	Los Angeles, CA	▼ -5.6%	1.6
6	Boston South Station, MA	▲ 4.0%	1.5
7	Baltimore, MD	▼ -3.1%	1.0
8	Sacramento, CA	▼ -9.7%	1.0
9	Albany-Rensselaer, NY	▲ 2.2%	0.8
10	New Haven, CT	▼ -4.2%	0.7

Note: Includes passenger boardings and alightings.

Source: As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *State Transportation Statistics*, table 4-5, available at www.bts.gov as of November 2015.

2-9 U.S. Air Carrier Passenger Traffic: 2003–2014



Note: Includes passenger enplanements on scheduled services only.

Source: U.S. Department of Transportation, Bureau of Transportation Statistics, Office of Airline Information, T-100 Market data, available at transtats.bts.gov as of September 2015.

2-10 Top 10 U.S. Airports: 2014 by enplaned passengers

Rank	Station	'13-'14 change	Millions of passengers
1	Atlanta, GA	▲ 2.9%	46.6
2	Los Angeles, CA	▲ 4.7%	33.9
3	Chicago O'Hare, IL	▲ 3.8%	33.4
4	Dallas/Fort Worth, TX	▲ 5.5%	30.6
5	Denver, CO	▲ 1.9%	25.9
6	New York JFK, NY	▲ 3.5%	25.9
7	San Francisco, CA	▲ 4.1%	22.6
8	Charlotte, NC	▲ 0.9%	21.5
9	Phoenix, AZ	▲ 3.9%	20.3
10	Las Vegas, NV	▲ 1.9%	20.2

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 transtats.bts.gov as of September 2015.

2-11 Top 10 World Airports: 2014

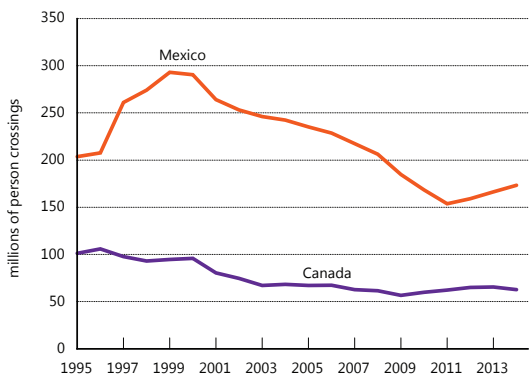
by enplaned, deplaned, and in-transit passengers

Rank	Airport	'13-'14 change	Millions of passengers
1	Atlanta, USA	▲ 1.9%	96.2
2	Beijing, China	▲ 2.9%	86.1
3	London, United Kingdom	▲ 1.4%	73.4
4	Tokyo, Japan	▲ 5.7%	72.8
5	Los Angeles, USA	▲ 0.0%	70.7
6	Dubai, United Arab Emirates	▲ 6.1%	70.5
7	Chicago, USA	▲ 4.8%	70.0
8	Paris, France	▲ 2.8%	63.8
9	Dallas/Fort Worth, USA	▲ 5.1%	63.6
10	Hong Kong, China	▲ 5.9%	63.1

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

Source: Airports Council International, available at www.aci.aero as of September 2015.

2-12 Incoming Land Border Person Crossings: 1995–2014



Note: Excludes drivers and passengers in commercial trucks.

Source: U.S. Department of Transportation, Bureau of Transportation Statistics, Border Crossing/Entry Data, available at transborder.bts.gov as of September 2015.

2-13 Top 5 Land Ports of Entry: 2014

by incoming person crossings

U.S. - Mexico ports of entry

Rank	Port	'13-'14 change	Millions of person crossings
1	San Ysidro, CA	▲ 5.0%	29.5
2	El Paso, TX	▲ 9.2%	26.1
3	Otay Mesa, CA	▲ 9.0%	15.6
4	Laredo, TX	▲ 4.5%	14.8
5	Hidalgo, TX	▼ -0.9%	11.9

U.S. - Canada ports of entry

Rank	Port	'13-'14 change	Millions of person crossings
1	Buffalo-Niagara Falls, NY	▼ -7.3%	12.5
2	Blaine, WA	▼ -0.3%	10.1
3	Detroit, MI	▼ -4.4%	7.3
4	Port Huron, MI	▼ -3.6%	4.0
5	Champlain-Rouses Pt., NY	▼ -4.2%	2.9

Note: Excludes drivers and passengers in commercial trucks.

Source: U.S. Department of Transportation, Bureau of Transportation Statistics, Border Crossing/Entry Data, available at transborder.bts.gov as of September 2015.

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 chained 2007 dollars)

Mode	2002	2007	2013
Truck	11,165	12,193	12,944
Rail	468	574	645
Water	113	212	180
Air ^a	372	357	332
Pipeline	309	787	1,141
Multiple modes	1,367	1,925	2,071
Other ^b	403	603	669
Total	14,196	16,651	17,983

Weight of shipments (millions of tons)

Mode	2002	2007	2013
Truck	11,943	13,336	14,547
Rail	1,978	2,024	2,016
Water	680	655	569
Air ^a	5	5	5
Pipeline	1,574	1,659	1,692
Multiple modes	320	583	657
Other ^b	716	617	577
Total	17,215	18,879	20,063

Ton miles of shipments (billions of ton miles)

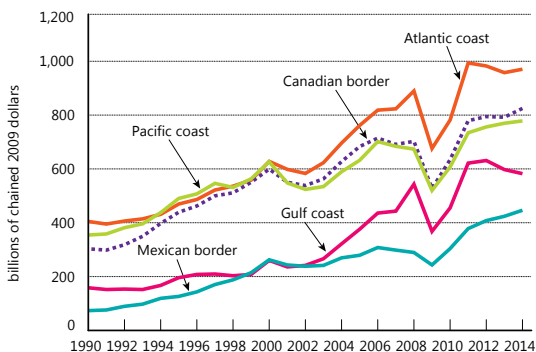
Year	2002	2007	2013
Truck	2,281	2,348	2,610
Rail	1,368	1,522	1,569
Water	421	450	392
Air ^a	6	9	12
Pipeline	881	855	894
Multiple modes	480	469	549
Other ^b	102	86	96
Total	5,539	5,740	6,121

^aIncludes air and truck-air. ^bIncludes other, unknown, and 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 3.6, available at faf.ornl.gov as of September 2015.

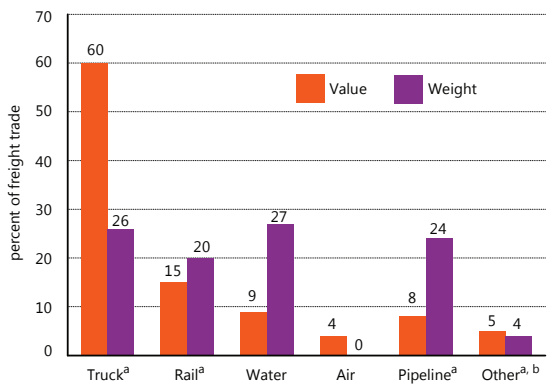
3-2 U.S. Trade by Coasts and Borders: 1990–2014



Note: Includes merchandise trade only.

Sources: **Value**—U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, available at www.census.gov as of June 2015. **Implicit GDP Deflator**—U.S. Department of Commerce, Bureau of Economic Analysis, available at www.bea.gov as of June 2015.

3-3 U.S.-NAFTA Merchandise Freight Trade by Mode: 2014

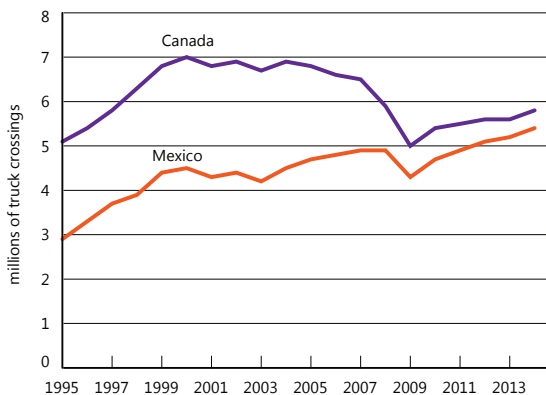


^aExport weights for land modes are estimated by the Bureau of Transportation Statistics using value-to-weight ratios derived from import data. ^bIncludes mail, other, unknown, and shipments through Foreign Trade Zones.

Notes: Percents do not add to 100 due to rounding. North American Free Trade Agreement (NAFTA) refers to U.S. trade with Canada and Mexico.

Source: U.S. Department of Transportation, Bureau of Transportation Statistics, special tabulation and North American Transborder Freight Data, available at transborder.bts.gov as of September 2015.

3-4 Incoming Truck Border Crossings: 1995–2014



Source: U.S. Department of Transportation, Bureau of Transportation Statistics, Border Crossing/Entry Data, available at transborder.bts.gov as of September 2015.

3-5 Top 5 Truck Ports of Entry: 2014

by incoming truck crossings

U.S. - Canada ports of entry

Rank	Port	'13-'14 change	Millions of truck crossings
1	Detroit, MI	▲ 1.4%	1.6
2	Buffalo-Niagara Falls, NY	▲ 2.7%	1.0
3	Port Huron, MI	▲ 6.4%	0.8
4	Blaine, WA	▲ 5.1%	0.4
5	Champlain-Rouses Pt., NY	▲ 2.1%	0.3

U.S. - Mexico ports of entry

Rank	Port	'13-'14 change	Millions of truck crossings
1	Laredo, TX	▲ 5.5%	1.8
2	Otay Mesa, CA	▲ 5.2%	0.8
3	El Paso, TX	▲ 2.7%	0.7
4	Hidalgo, TX	▲ 3.8%	0.5
5	Calexico, CA	▼ -0.1%	0.3

Source: U.S. Department of Transportation, Bureau of Transportation Statistics, Border Crossing/Entry Data, available at transborder.bts.gov as of September 2015.

3-6 Top 10 U.S. Water Ports: 2013

by short tons

Rank	Port	'12-'13 change	Millions of short tons
1	South Louisiana	▼ -5.4%	238.6
2	Houston, TX	▼ -3.8%	229.2
3	New York/New Jersey	▼ -6.6%	123.3
4	Beaumont, TX	▲ 20.3%	94.4
5	Long Beach, CA	▲ 9.2%	84.5
6	New Orleans, LA	▼ -2.7%	77.2
7	Corpus Christi, TX	▲ 10.4%	76.2
8	Baton Rouge, LA	▲ 6.5%	63.9
9	Los Angeles, CA	▼ -6.3%	57.9
10	Plaquemines, LA	▼ -2.4%	56.9

by TEUs

Rank	Port	'12-'13 change	Millions of TEUs
1	Los Angeles, CA	▼ -2.1%	5.6
2	Long Beach, CA	▲ 12.4%	5.3
3	New York/New Jersey	▼ -4.5%	4.2
4	Savannah, GA	▲ 2.6%	2.3
5	Norfolk, VA	▲ 8.4%	1.9
6	Oakland, CA	▲ 4.2%	1.8
7	Tacoma, WA	▲ 13.4%	1.6
8	Houston, TX	▲ 4.8%	1.6
9	Charleston, SC	▲ 6.6%	1.3
10	Seattle, WA	▼ -13.8%	1.2

Key: TEU = twenty-foot equivalent unit.

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

Source: U.S. Army Corps of Engineers, Waterborne Commerce Statistics Center, available at www.navigationdatacenter.us as of September 2015.

3-7 Top 10 World Container Ports: 2013

by TEUs, including full and empty containers

Rank	Port	'12-'13 change	Millions of TEUs
1	Shanghai	▲ 3.3%	33.6
2	Singapore	▲ 2.9%	32.6
3	Shenzhen	▲ 1.4%	23.3
4	Hong Kong	▼ -3.3%	22.4
5	Busan	▲ 3.5%	17.6
6	Ningbo	▲ 3.2%	17.3
7	Qindao	▲ 6.2%	15.5
8	Guangzhou	▲ 5.5%	15.3
9	Dubai	▲ 2.4%	13.6
10	Tianjin	▲ 5.7%	13.0
16	Los Angeles	▼ -2.6%	7.9
20	Long Beach	▲ 11.3%	6.7
24	New York/ New Jersey	▼ -1.1%	5.5

Key: TEU = twenty-foot equivalent unit.

Source: American Association of Port Authorities, World Port Rankings, available at www.aapa-ports.org as of September 2015.

3-8 Top 10 International Trade Gateways: 2014 by value of shipments

Rank	Port		'13-'14 change	Billions of dollars
1	Los Angeles, CA		 1.0%	215.0
2	New York/New Jersey		 2.2%	206.5
3	Laredo, TX		 9.4%	192.1
4	New York JFK Airport, NY		 1.1%	191.8
5	Long Beach, CA		 -2.3%	176.8
6	Houston, TX		 -1.6%	164.8
7	Chicago, IL		 8.8%	134.0
8	Detroit, MI		 7.5%	133.0
9	Los Angeles Airport, CA		 5.2%	92.4
10	Port Huron, MI		 4.9%	86.1

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

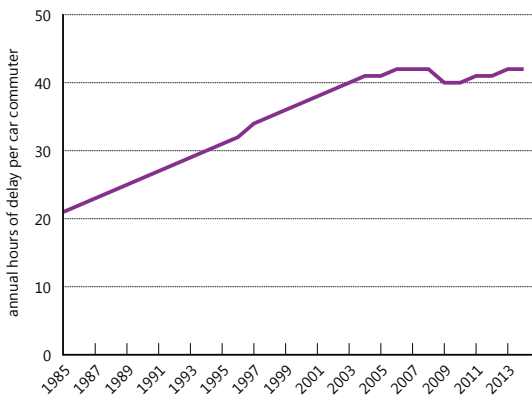
Notes: Air gateways include a low level (generally less than 3% of the total value) of freight shipped through small user-fee airports located in the same area as the gateways listed. Air gateways not identified by airport name (e.g., Chicago, IL) include major airport(s) in the area and small regional 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 as of December 2015.

4 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.

4-1 Road Congestion: 1985–2014



Notes: The methodology used to calculate congestion performance measures was updated to reflect more comprehensive data collection, including congestion estimates for each of the 471 U.S. urban areas.

Source: Texas A&M Transportation Institute, *2015 Urban Mobility Scorecard*, available at mobility.tamu.edu as of September 2015.

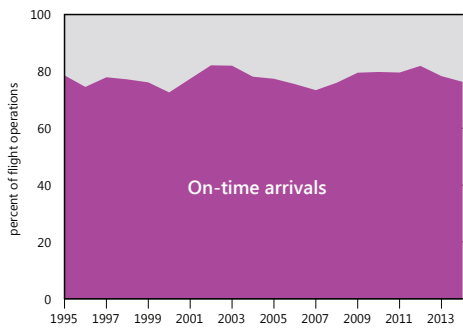
4-2 Top 10 Urban Congested Area Rankings: 2014 by hours of delay per car commuter

Rank	Urban area	Annual hours of delay per car commuter
1	Washington, DC-VA-MD	82
2	Los Angeles, CA	80
2	San Francisco, CA	78
4	New York, NY-NJ	74
5	Boston, MA-NH-RI	64
6	Seattle, WA	63
7	Chicago, IL-IN	61
7	Houston, TX	61
9	Dallas-Fort Worth-Arlington, TX	53
9	Atlanta, GA	52
	Average of 471 area average	42

Note: The methodology used was updated to reflect more comprehensive data collection efforts for each of the 471 U.S. urban areas.

Source: Texas A&M Transportation Institute, *2015 Urban Mobility Scorecard*, available at mobility.tamu.edu as of September 2015.

4-3 U.S. Airport On-time Performance: 1995–2014

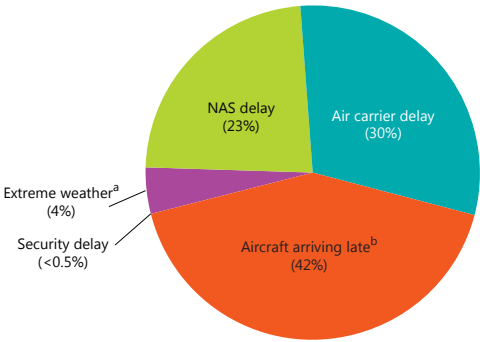


Note: Flights arriving at the gate within 15 minutes of scheduled arrival time are on time.

Source: U.S. Department of Transportation, Bureau of Transportation Statistics, Office of Airline Information, available at www.bts.gov as of September 2015.

4-4 U.S. Airport Delays by Cause: 2014

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.

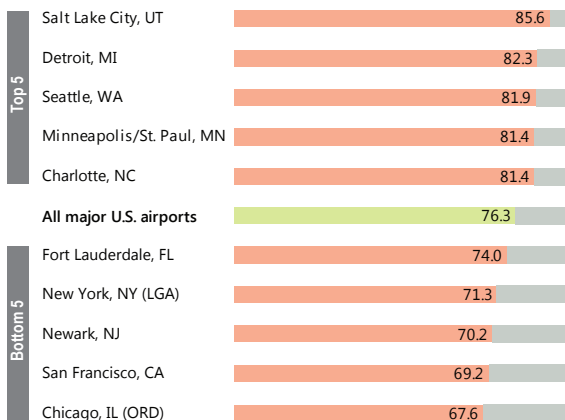
Key: NAS = Delays attributable to the national aviation system (NAS) that refer to a broad set of conditions, such as nonextreme weather, airport operations, heavy traffic volume, and air traffic control.

Note: Percents do not add to 100 due to rounding.

Source: U.S. Department of Transportation, Bureau of Transportation Statistics, Office of Airline Information, available at www.bts.gov as of September 2015.

4-5 U.S. Major Airport Performance Rankings: 2014

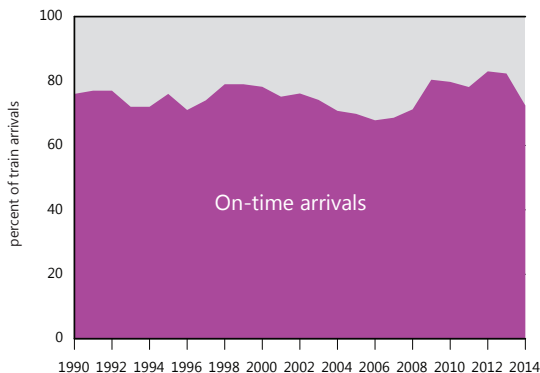
by percent of on-time arrivals



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, Office of Airline Information, available at www.bts.gov as of September 2015.

4-6 Amtrak On-Time Performance: FY1990–FY2014



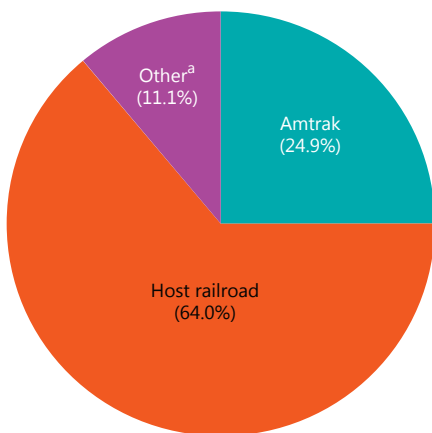
Note: On-time performance is a percentage measure of train performance. A train is considered on time if it arrives at the final destination, or end-point, within an allowed number of minutes, or tolerance, of its scheduled arrival time. Trains are allowed a certain tolerance at the end-point based on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

Trip length	Train arrives at end-point 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 as of September 2015.

4-7 Amtrak Delays by Cause: FY2014

percent of delayed time



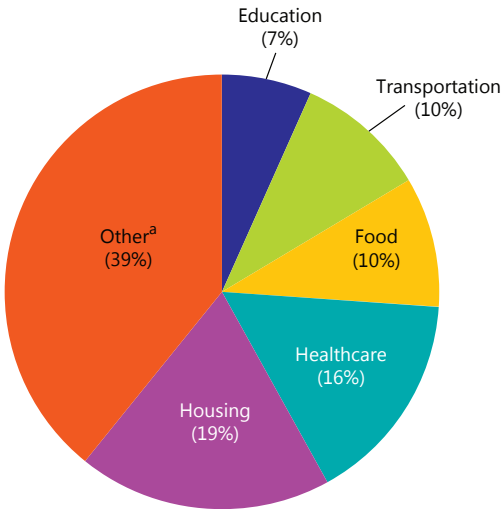
^aDelays not attributable to Amtrak or other host railroads, such as customs and immigration, law enforcement action, weather, or waiting for scheduled departure time.

Source: As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 1-73, available at www.bts.gov as of September 2015.

5 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.

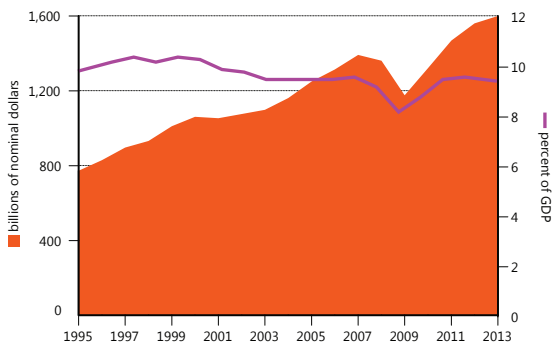
5-1 U.S. GDP by Spending Category: 2013 percent of GDP



^aIncludes all other categories (e.g. entertainment, personal care products and services, and payments to pension plans). Percentages do 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 as of September 2015.

5-2 U.S. Transportation Spending: 1995–2013



Source: as cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 3-9, available at www.bts.gov as of September 2015.

5-3 Transportation-Related Final Demand

billions of chained 2009 dollars

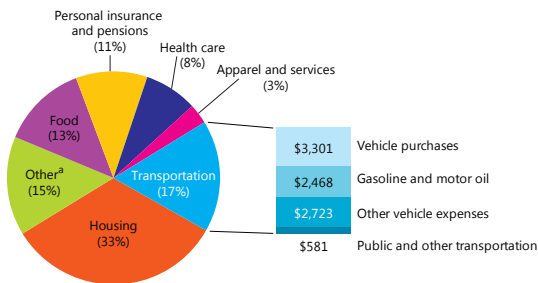
Category	2003	2013
Personal consumption of transportation	985	937
Motor vehicles and parts	395	376
Motor vehicle fuels, lubricants, and fluids	267	254
Transportation services	323	308
Gross private domestic investment	163	242
Transportation structures	8	10
Transportation equipment	155	231
Government transportation-related purchases	316	276
Federal purchases	35	36
State and local purchases	261	226
Defense-related purchases	20	14
Exports (+)	197	312
Imports (-)	322	411
Total transportation-related final demand	1,351	1,374
U.S. GDP	13,271	15,710

Note: Data may not add to totals due to rounding. Transportation-related final demand measures the size of transportation functions in relation to GDP. It includes the transportation portion of the four components of 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 as of October 2014.

5-4 Household Expenses by Category: 2014

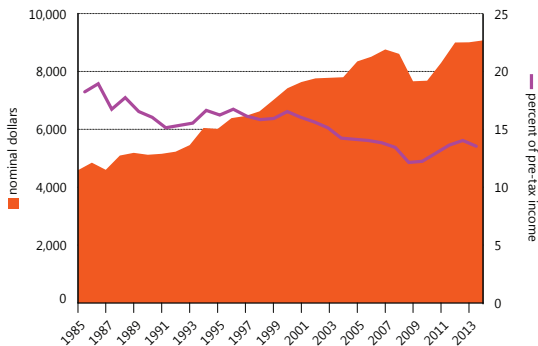
percent of average annual household expenses



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

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

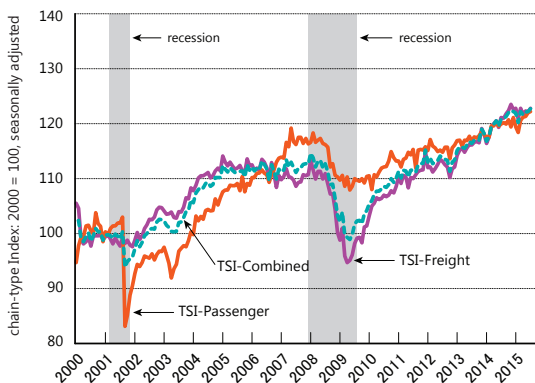
5-5 Household Transportation Expenses: 1985–2014



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

5-6 Transportation Services Index: Jan. 2000–July 2015

chain-type Index: 2000 = 100, seasonally adjusted



Note: The Transportation Services Index measures the movement of freight and passengers.

Source: U.S. Department of Transportation, Bureau of Transportation Statistics, available at www.bts.gov as of September 2015.

5-7 Employment in Transportation-Related Industries

thousands

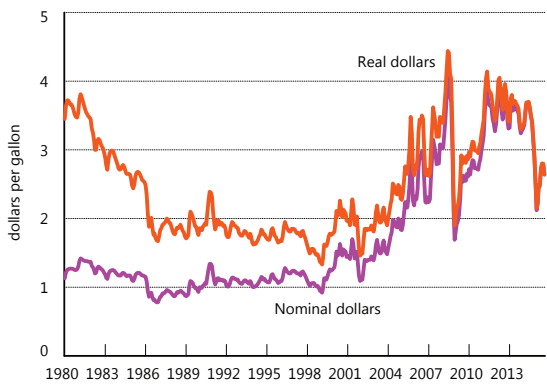
Category	2003	2013
For-hire transportation and warehousing	4,185	4,495
Air	528	449
Rail	218	232
Water	55	66
Truck	1,326	1,380
Transit and ground passenger	382	446
Pipeline	40	44
Scenic and sightseeing	27	29
Support activities	520	594
Couriers and messengers	562	544
Warehousing and storage	528	712
Transportation-related manufacturing^a	2,151	1,821
Other transportation-related industries	5,201	5,021
Postal service	809	595
Government employment^b	894	862
Total transportation-related labor force	13,240	12,794
U.S. labor force	130,318	136,368

^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.

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 as of September 2015.

5-8 Motor Vehicle Gas Prices: Jan. 1980 – Aug. 2015



Notes: Nominal prices are average monthly prices of regular grade motor vehicle gasoline. Real prices are in September 2015 dollars.

Source: U.S. Department of Energy, Energy Information Administration, *Short-Term Energy Outlook*, available at www.eia.doe.gov as of September 2015.

6 SAFETY

Transportation safety is the top priority of the U.S. Department of Transportation. Although progress has been made in reducing fatalities, over 30 percent of deaths due to unintentional injury involve transportation.

6-1 Transportation Fatalities by Mode

Mode	2003	2013
Air	699	429
U.S. air carrier	22	9
Commuter carrier	2	6
On-demand air taxi	42	27
General aviation	633	387
Highway	42,884	32,719
Passenger car occupants	19,725	11,977
Motorcyclists	3,714	4,668
Light-truck occupants	12,546	9,155
Heavy-truck occupants	726	691
Bus occupants	41	48
Pedestrians	4,774	4,735
Pedalcyclists	629	743
Other	729	702
Pipeline	12	9
Rail	865	706
Train accidents	4	11
Highway-rail grade crossing ^a	334	231
Trespassers	498	432
Other	29	32
Transit^b	202	266
Water	844	642
Freight vessel and industrial/other	89	25
Passenger vessel and recreational boating	755	617
Total	45,121	34,509
Other counts^c		
Railroad, killed at public crossing with motor vehicle	249	140
Transit, non-rail	136	122
Transit, rail	66	144

^aExcludes fatalities involving motor vehicles at public highway-rail grade crossings, which are assumed to be counted under Highway categories. ^bIncludes transit employee, contract worker, passenger, revenue facility occupant, and other fatalities for all modes reported to the National Transit Database. Other transit fatalities are assumed to be counted under Highway or Rail categories. ^cOther counts are redundant in modal categories above.

Source: As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 2-1, available at www.bts.gov as of October 2015.

6-2 Transportation Injuries by Mode

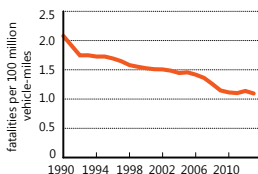
Mode	2003	2013
Air	367	250
U.S. air carrier	31	9
Commuter carrier	1	9
On-demand air taxi	12	16
General aviation	323	216
Highway	2,888,601	2,313,000
Passenger car occupants	1,756,495	1,296,000
Motorcyclists	67,103	88,000
Light-truck occupants	889,048	750,000
Heavy-truck occupants	26,893	24,000
Bus occupants	18,174	23,000
Pedestrians	69,949	66,000
Pedalcyclists	46,378	48,000
Other	14,561	16,000
Pipeline	71	44
Rail	9,662	9,135
Train Accidents	232	325
Highway-rail grade crossing ^a	1,035	972
Trespassers	398	431
Other	7,997	7,407
Transit^b	19,627	24,622
Water	4,533	3,432
Freight vessel and industrial/other	465	353
Passenger vessel and recreational boating	4,068	3,079
Total	2,907,064	2,333,903
Other counts^c		
Railroad, killed at public crossing with motor vehicle	888	775
Transit, non-rail	14,909	15,805
Transit, rail	4,689	8,817

^aExcludes fatalities involving motor vehicles at public highway-rail grade crossings, which are assumed to be counted under Highway categories. ^bIncludes transit employee, contract worker, passenger, revenue facility occupant, and other fatalities for all modes reported to the National Transit Database. Other transit fatalities are assumed to be counted under Highway or Rail categories. ^cOther counts are redundant in modal categories above.

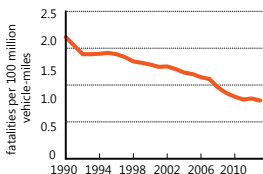
Source: As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, National Transportation Statistics, table 2-2, available at www.bts.gov as of October 2015.

6-3 Fatality Rates by Mode: 1990–2013

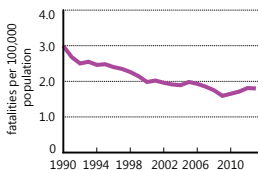
Highway



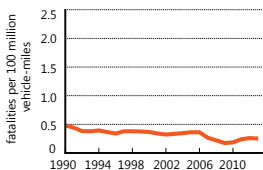
Passenger car and light truck occupants



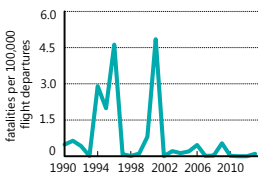
Highway nonoccupants



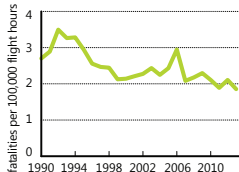
Large truck occupants



U.S. air carriers



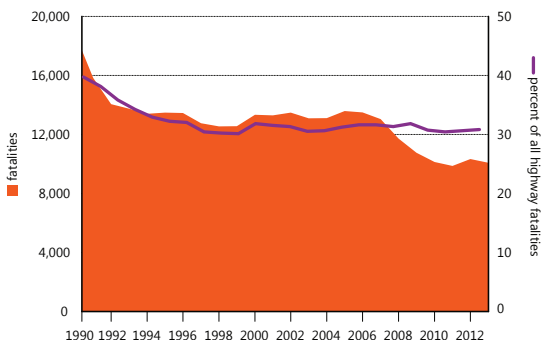
General aviation



Notes: Graphs with same color trend lines have identical scales. Air carrier fatalities resulting from the Sept. 11, 2001 terrorist acts include only onboard fatalities.

Sources: 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, and 2-23, available at www.bts.gov as of October 2015.

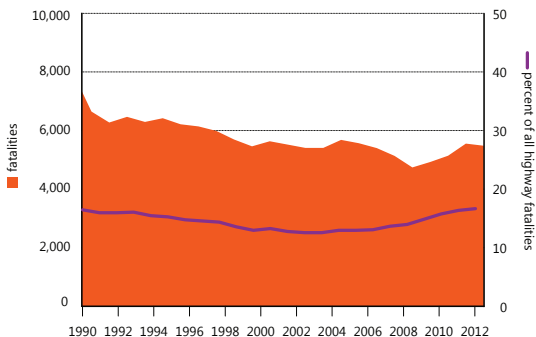
6-4 Alcohol-Impaired Driving Fatalities: 1990–2013



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: As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 2-26, available at www.bts.gov as of September 2015.

6-5 Pedestrian and Bicyclist Fatalities: 1990–2013



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 as of October 2015.

6-6 Distracted Driving Fatalities and Injuries: 2005–2013



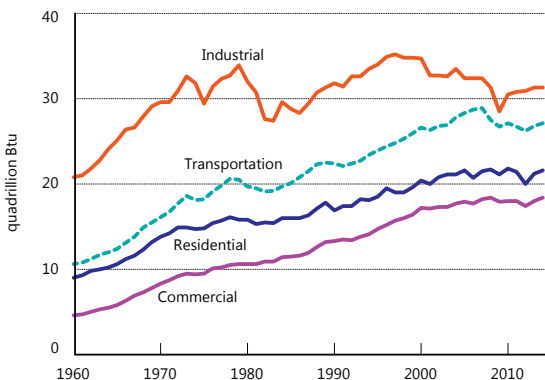
Notes: Distracted driving involves any activity that could divert a person's attention away from the primary task of driving, such as texting, using a cell phone, eating and drinking, grooming, using a navigation system, adjusting a radio, etc. Distracted driving fatality data for 2010 and on are not comparable with previous years due to changes in methodology.

Source: U.S. Department of Transportation, National Highway Traffic Safety Administration, available at www.nhtsa.gov as of September 2015.

7 ENVIRONMENT

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

7-1 Energy Consumption by Sector: 1960–2014



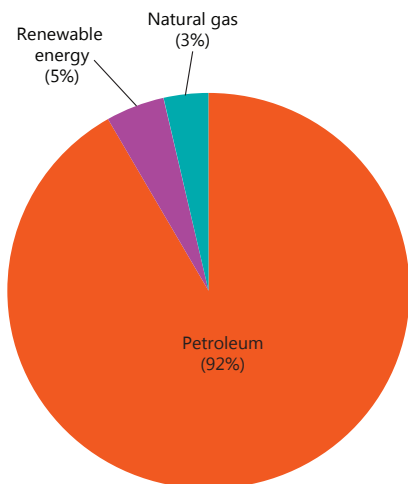
Key: Btu = British thermal unit.

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 September 2015.

7-2 Transportation Energy Consumption by Source: 2014

percent of Btu consumed

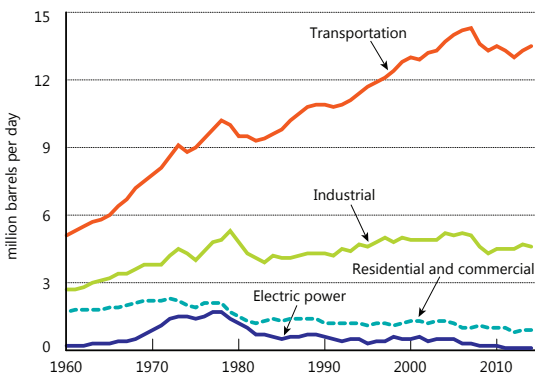


Key: Btu = British thermal unit.

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

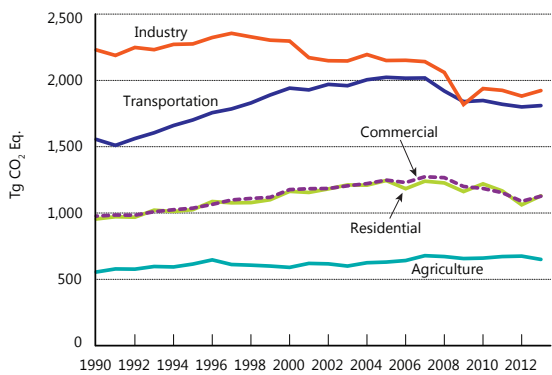
Source: U.S. Department of Energy, U.S. Energy Information Administration, *Monthly Energy Review*, available at www.eia.gov/totalenergy/data/monthly as of September 2015.

7-3 Petroleum Consumption by Sector: 1960–2014



Source: U.S. Department of Energy, U.S. Energy Information Administration, *Monthly Energy Review*, available at www.eia.gov/totalenergy/data/monthly as of September 2015.

7-4 Greenhouse Gas Emissions by Sector: 1990–2013



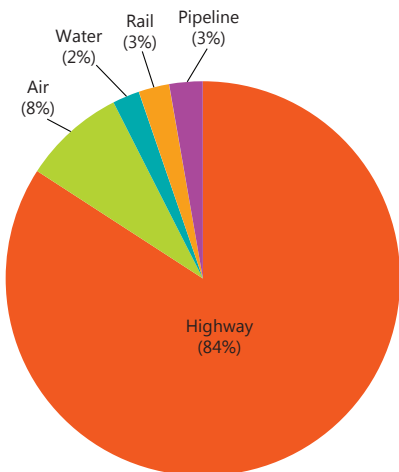
Key: Tg CO₂ Eq. = teragrams of carbon dioxide equivalent. A teragram = 1 million metric tons.

Note: Electric power sector emissions are distributed across sectors. Emissions include CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆.

Source: U.S. Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2013*, available at www.epa.gov/climatechange/ghgemissions/usinventoryreport.html as of September 2015.

7-5 Greenhouse Gas Emissions by Transportation Mode: 2013

Percent of Tg CO₂ Eq.



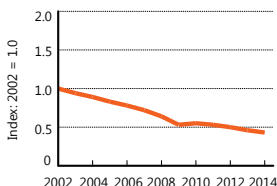
Key: GHG = greenhouse gas. Tg CO₂ Eq. = teragrams of carbon dioxide equivalent. A teragram = 1 million metric tons.

Note: Percents do not add to 100 due to rounding.

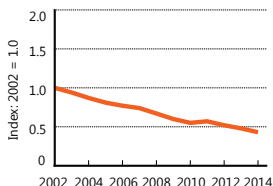
Source: U.S. Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2013*, available at www.epa.gov/climatechange/ghgemissions/usinventoryreport.html as of September 2015.

7-6 Highway Vehicle Air Pollutant Emissions: 2002–2014

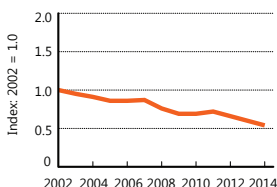
Carbon monoxide



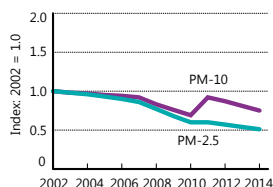
Nitrogen oxide



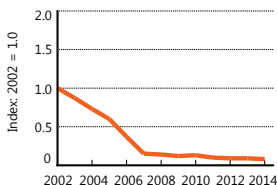
Volatile organic compounds



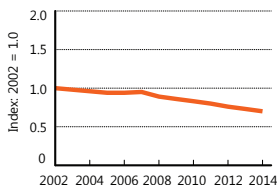
Particulate matter



Sulfur dioxide



Ammonia

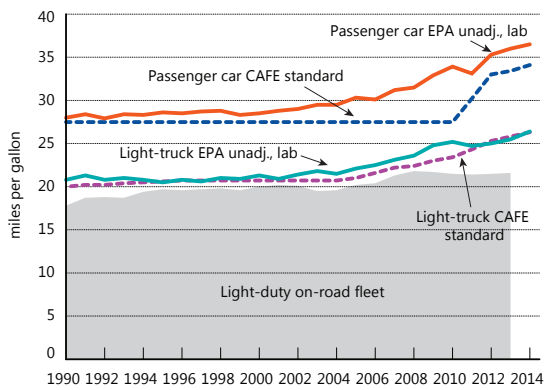


Key: PM-10 = airborne particulates of less than 10 microns; PM-2.5 = airborne particulates of less than 2.5 microns.

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 as of September 2015.

7-7 Fuel Economy of Light-Duty Vehicles: 1990–2014

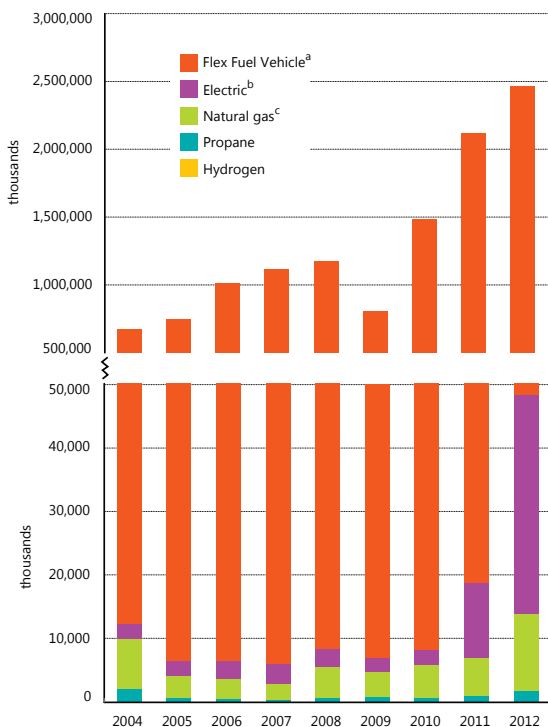


Key: CAFE = Corporate Average Fuel Economy

Notes: 2013 data is the latest available for light-duty on-road fleet vehicles. 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.

Source: As cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 4-23, available at www.bts.gov as of September 2015.

7-8 Onroad Alternative Fuel Vehicles by Year: 1998–2012

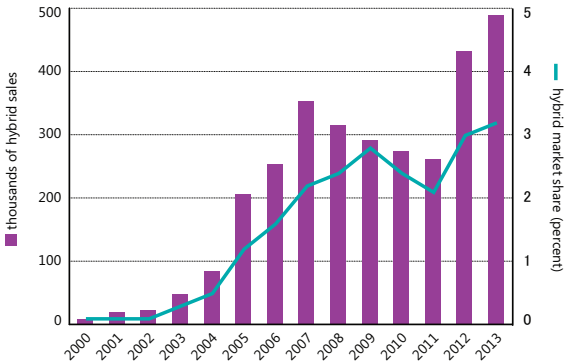


^aFlex fuel vehicles are capable of running on E85, plain gasoline, or any ethanol-gasoline blends in between. ^bExcludes gasoline-electric hybrids. ^cIncludes compressed natural gas (CNG) and liquified natural gas (LNG).

Notes: Includes the number of on-road alternative fuel vehicles that were sold, leased, or converted in the United States between 1998 and 2012 and reported to the Energy Information Administration.

Source: U.S. Department of Energy, Energy Information Administration, available at www.afdc.energy.gov/data as of October 2015.

7-9 Hybrid Vehicle Sales: 2000–2014



Source: Ward’s Automotive Group, www.wardsauto.com as of September 2015.

GLOSSARY

Air carrier: Certificated provider of scheduled and nonscheduled services.

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.

Directly operated service: Transportation service provided directly by a transit agency, using their employees to supply the necessary labor to operate the revenue vehicles.

Distracted driving: 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.

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 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 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.

Large certificated air carrier: Carriers operating aircraft with a maximum passenger capacity of more than 60 seats or a maximum payload of more than 18,000 pounds. These carriers are also grouped by annual operating revenues: majors—more than \$1 billion; nationals—between \$100 million and \$1 billion; large regionals—between \$20 million and \$99,999,999; and medium regionals—less than \$20 million.

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.

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

Nominal dollars: A market value that does not take inflation into account and reflects prices and quantities that were 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.

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.

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.

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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INFRASTRUCTURE

MOVING PEOPLE

MOVING GOODS

PERFORMANCE

ECONOMY

SAFETY

ENVIRONMENT

GLOSSARY



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