

2013

# Pocket Guide to Transportation



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# Pocket Guide to Transportation



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## ABOUT THE *POCKET GUIDE TO TRANSPORTATION*

The Bureau of Transportation Statistics (BTS) of the Research and Innovative Technology Administration produces the *Pocket Guide to Transportation* as a compact resource that provides snapshots of data on the U.S. transportation system and highlights major transportation trends. The *Pocket Guide* contains a wealth of information that supports the U.S. Department of Transportation's Strategic Goals. The Pocket Guide is divided into five sections:

- Safety
- The Transportation System and Equipment
- System Use and Livable Communities
- Economic Competitiveness
- Environmental Sustainability

*The Pocket Guide to Transportation* supports the BTS mission to create, manage, and share transportation statistical knowledge, which contributes to data-driven and evidence-based decision making.

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## A DYNAMIC SYSTEM

America's transportation system continues to change along with the population, labor force, and economy. The following table puts these changes in perspective.

### The American Landscape: 1990 and 2011

	1990	2011
Resident population (thousands)	248,791	311,592
Total area (thousand sq. mi.) <sup>a</sup>	3,718	3,797
Total civilian labor force (thousands)	125,840	153,617
Real gross domestic product <sup>b</sup> (trillions)	8.0	13.3
Median household income <sup>b,c</sup>	41,430	44,151
Average household income <sup>b,c</sup>	44,122	56,175
Average household expenditures <sup>b,c</sup>	39,320	43,681
Number of households (thousands)	94,312	121,084
Life expectancy at birth (years) <sup>d</sup>	75.4	78.7

<sup>a</sup>Total area updated every 10 years; area last updated in 2010. Increase in Total area due to change in methodology used to calculate the data from 1990 to 2011. <sup>b</sup>Data are in 2005 chained dollars (see Glossary for definition). <sup>c</sup>BTS calculations, September 2012. <sup>d</sup>Life expectancy shown for 2011 is for 2010.

**Sources: Population, Area, Households, Median Income**—U.S. Department of Commerce, Bureau of the Census. **Average Income, Labor force, Expenditures**—U.S. Department of Labor, Bureau of Labor Statistics. **GDP**—U.S. Department of Commerce, Bureau of Economic Analysis. **Life expectancy**—Department of Health and Human Services, Centers for Disease Control and Prevention accessed September 2012.

# 1 SAFETY

The U.S. Department of Transportation's number one priority is the safety of the traveling public. Highway fatalities account for roughly 93 percent of total U.S. transportation fatalities. U.S. DOT initiatives helped reduce highway fatalities by 28 percent between 1990 and 2011.

## 1-1 Transportation Fatalities by Mode: 1990, 2000, 2010, 2011

Mode	1990	2000	2010	2011
Air <sup>a</sup>				
Large U.S. air carrier	39	92	2	0
Commuter air carrier	6	5	0	0
On-demand air taxi	51	71	17	41
General aviation	770	596	454	443
Highway <sup>b</sup>	44,599	41,945	32,999	32,367
Pipeline, gas and hazardous liquid	9	38	22	14
Railroad <sup>c</sup>	729	631	592	569
Transit <sup>d</sup>	235	208	215	229
Waterborne				
Vessel-related, commercial ship	85	53	41	28
Nonvessel-related, commercial ship <sup>e</sup>	101	134	52	34
Recreational boating	865	701	672	758

<sup>a</sup>Aircraft and ground fatalities. <sup>b</sup>Motor vehicle occupant and nonoccupant fatalities, including at railroad crossings. <sup>c</sup>Train occupant and nonoccupant fatalities for incidents and accidents, not including at public highway-rail grade crossings involving motor vehicles. Includes commuter rail. <sup>d</sup>All reportable incident and accident fatalities. Includes heavy rail, light rail, motorbus, demand response, van pool, and automated guideway. <sup>e</sup>Fatalities unrelated to vessel accidents, e.g., individual falling overboard and drowning.

**Notes:** Highway data for 2011 are preliminary. General aviation, highway, pipeline, and railroad data for 2010 are revised. Waterborne data for 2000 and 2010 are revised.

**Sources:** **Air**—National Transportation Safety Board. **Highway**—National Highway Traffic Safety Administration. **Pipeline**—Pipeline and Hazardous Materials Safety Administration. **Railroad**—Federal Railroad Administration, **Transit**—Federal Transit Administration and personal communication. **Water**—U.S. Coast Guard as cited in U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, *National Transportation Statistics*, available at [http://www.bts.gov/publications/national\\_transportation\\_statistics/](http://www.bts.gov/publications/national_transportation_statistics/) accessed December 2012.

## 1-2 Distribution of Transportation Fatalities: 2011

Category	Number	Percent
Passenger car occupants	11,981	35.09
Light-truck occupants	9,272	27.15
Motorcyclists	4,612	13.51
Pedestrians struck by motor vehicles	4,432	12.98
Recreational boating	758	2.22
Pedalcyclists struck by motor vehicles	677	1.98
Large-truck occupants	635	1.86
Other and unknown motor vehicle occupants	506	1.48
General aviation	443	1.30
Other nonoccupants struck by motor vehicles <sup>a</sup>	198	0.58
Railroad trespassers (excluding grade crossings) <sup>b</sup>	134	0.39
Heavy rail transit (subway)	97	0.28
Transit buses (motorbus)	92	0.27
Grade crossings, not involving motor vehicles <sup>c</sup>	88	0.26
Bus occupants (school, intercity, transit)	54	0.16
On-demand air taxi	41	0.12
Light rail transit	36	0.11
Waterborne transportation (nonvessel-related)	34	0.10
Rail employees on duty and contractors <sup>b</sup>	32	0.09
Waterborne transportation (vessel-related)	28	0.08
Gas distribution pipelines	13	0.04
Demand response transit	4	0.01
Railroad, other (off-duty and nontrespassers)	3	0.01
Hazardous liquid pipelines	1	<0.01
Other counts, redundant with above		
Crashes involving large trucks <sup>d</sup>	3,757	
Commuter rail <sup>e</sup>	57	

<sup>a</sup>Includes nonoccupant fatalities in motor vehicle crashes, except pedalcyclists and pedestrians. <sup>b</sup>Includes fatalities outside trains. <sup>c</sup>Public grade crossing fatalities involving motor vehicles are included in motor vehicle counts. <sup>d</sup>Unless otherwise noted, includes fatalities outside vehicles. <sup>e</sup>Includes fatalities on directly operated systems, excluding suicides.

**Notes:** Highway data for 2011 are preliminary.

**Sources:** **Air**—National Transportation Safety Board. **Highway**—National Highway Traffic Safety Administration. **Railroad**—Federal Railroad Administration. **Transit**—Federal Transit Administration and personal communication.

**Waterborne**—U.S. Coast Guard. **Recreational boating**—U.S. Coast Guard, Office of Boating Safety. **Pipeline**—Pipeline and Hazardous Materials Safety Administration as cited in U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, *National Transportation Statistics*, table 2-4, available at [http://www.bts.gov/publications/national\\_transportation\\_statistics/](http://www.bts.gov/publications/national_transportation_statistics/) accessed December 2012.

### 1-3 Alcohol-Related Fatalities in Motor Vehicle Crashes by Person Type and Crash Type: 2010

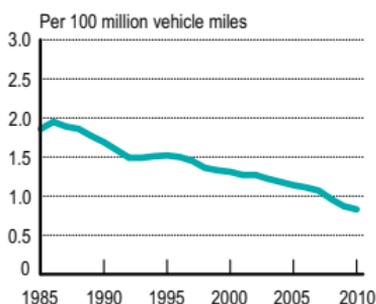
Person type, crash category	Total fatalities	Alcohol-related fatalities	Alcohol-related fatalities as a percentage of total fatalities
Occupants	27,805	11,087	39.9
Single-vehicle crashes	14,567	7,165	49.2
Two-vehicle crashes	11,197	3,313	29.6
More than two-vehicle crashes	2,041	608	29.8
Pedestrians	4,280	2,020	47.2
Single-vehicle crashes	3,682	1,731	47.0
Multiple-vehicle crashes	598	290	48.5
Pedalcyclists	618	209	33.8
Single-vehicle crashes	592	196	33.1
Multiple-vehicle crashes	26	13	50.0
Others/unknown	182	49	26.9
<b>Total</b>	<b>32,885</b>	<b>13,364</b>	<b>40.6</b>

**Notes:** Category numbers may not sum to totals due to rounding. A motor vehicle crash is considered alcohol-related if at least one driver or nonoccupant (e.g., a pedestrian or pedalcyclist) involved in the crash has a blood alcohol concentration of 0.01 grams per deciliter or greater. The National Highway Traffic Safety Administration estimates alcohol involvement when test results of alcohol concentration are unknown.

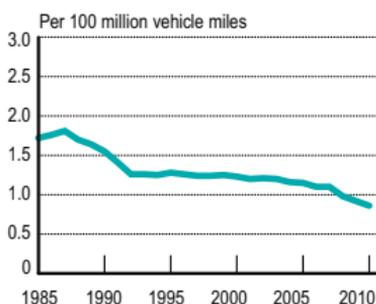
**Source:** U.S. Department of Transportation, National Highway Traffic Safety Administration, *Fatality Analysis Reporting System (FARS) Database*, personal communication, December 2011 as cited in U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, *National Transportation Statistics*, table 2-20, available at [http://www.bts.gov/publications/national\\_transportation\\_statistics/](http://www.bts.gov/publications/national_transportation_statistics/) accessed October 2012.

## 1-4 Fatality Rates for Selected Modes: 1985–2010

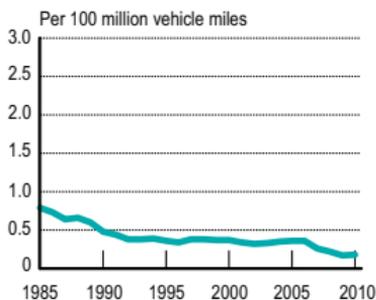
### Passenger car occupants



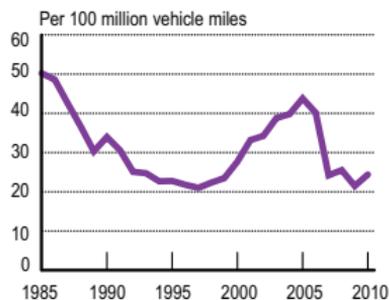
### Light-truck occupants



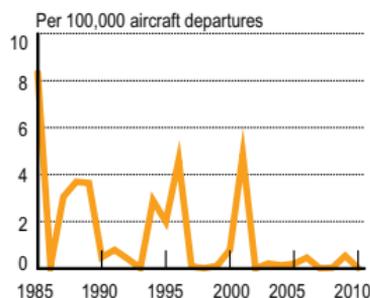
### Large-truck occupants



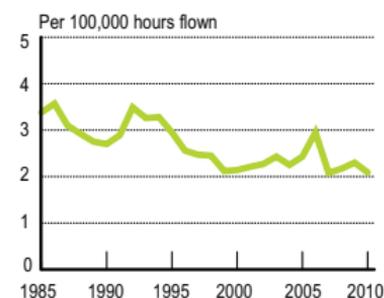
### Motorcycle riders



### Large air carriers



### General aviation



**Notes:** Not all graph scales are comparable. Air carrier fatalities resulting from the Sept. 11, 2001, terrorist attacks include only onboard fatalities. In 2011, FHWA revised vehicle miles traveled data beginning with 2007 using a new methodology. Highway fatality rates may differ from previously published rates.

**Sources:** **Passenger car occupants, Light-truck occupants, Large-truck occupants, and Motorcycle riders**—U.S. Department of Transportation, National Highway Traffic Safety Administration, National Center for Statistics and Analysis. **Large air carriers and General aviation**—National Transportation Safety Board as reported in U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, *National Transportation Statistics*, tables 2-9 and 2-14, available at [http://www.bts.gov/publications/national\\_transportation\\_statistics/](http://www.bts.gov/publications/national_transportation_statistics/) accessed November 2012.

## 1-5 Injured Persons by Transportation Mode: 1990, 2000, 2010, 2011

Mode	1990	2000	2010	2011
Air <sup>a</sup>	485	359	278	362
Large U.S. air carrier	29	31	16	20
Commuter air carrier	11	7	2	0
On-demand air taxi	36	12	6	15
General aviation	409	309	254	327
Highway <sup>b</sup>	3,230,666	3,188,750	2,239,000	2,217,000
Pipeline, gas and hazardous liquid	76	81	109	60
Railroad <sup>c</sup>	25,143	11,643	8,333	8,181
Transit <sup>d</sup>	54,556	56,697	23,414	22,652
Waterborne	U	5,112	3,867	3,867
Vessel-related, commercial ship	175	150	172	105
Nonvessel-related, commercial ship <sup>e</sup>	U	607	542	654
Recreational boating	3,822	4,355	3,153	3,108

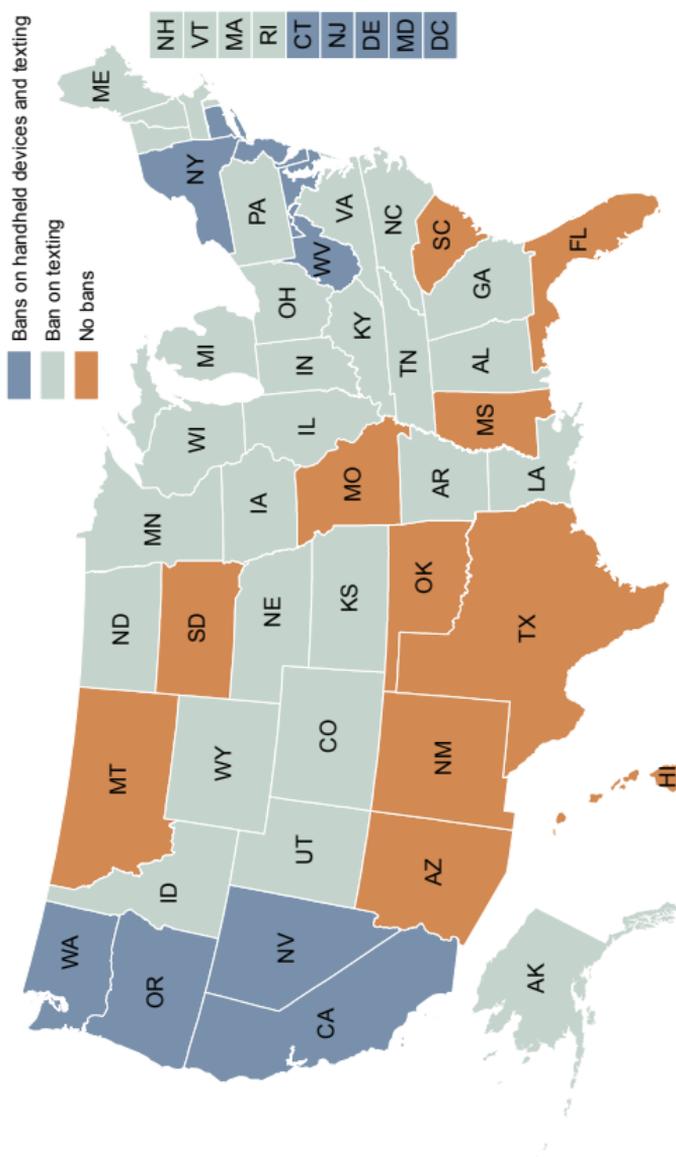
<sup>a</sup>Includes serious injuries only. <sup>b</sup>Includes passenger car occupants, motorcyclists, light-duty and large-truck occupants, bus occupants, occupants of unknown vehicle types, and pedestrians, pedalcyclists, and other nonmotorists. <sup>c</sup>Injuries resulting from train accidents, train and nontrain incidents, and occupational illness. Includes Amtrak. Also includes train occupants and nonoccupants except motor vehicle occupants at grade crossings. <sup>d</sup>Injuries resulting from all reportable incidents, not just from accidents. Includes commuter rail, heavy rail, light rail, motorbus, on-demand service, van pool, and automated guideway. The drop in the number of injuries after 2008 is due largely to a change in definitions by the Federal Transit Administration. Only injuries requiring immediate medical treatment away from the scene now qualify as reportable. Previously, any injury was reportable. <sup>e</sup>Injuries unrelated to vessel operations.

**Key:** U = unavailable.

**Notes:** Reporting criteria and/or estimation methods for injuries are not standardized across modes. Large U.S. air carrier, general aviation, pipeline, and railroad data for previous years are revised. Highway data for 2010 are revised.

**Sources:** **Air**—National Transportation Safety Board. **Highway**—National Highway Traffic Safety Administration. **Pipeline**—Pipeline and Hazardous Materials Safety Administration. **Railroad**—Federal Railroad Administration. **Transit**—Federal Transit Administration. **Waterborne**—United States Coast Guard as cited in U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, *National Transportation Statistics*, table 2-2, available at [http://www.bts.gov/publications/national\\_transportation\\_statistics/](http://www.bts.gov/publications/national_transportation_statistics/) accessed December 2012.

## 1-6 State Laws on Distracted Driving—Bans on Handheld Devices and Texting While Driving accessed September 2012



**Notes:** While 10 States and DC have universal bans on handheld devices and texting, many other States have partial bans on either or both that restrict use for novice drivers or bus drivers. In Iowa and Virginia, secondary enforcement is applied to texting while driving. In Maryland, secondary enforcement is applied to using handheld devices while driving. The term “secondary enforcement” means that motorists must be stopped for another violation before they can be cited for texting or using a cell phone.

**Source:** U.S. Department of Transportation, National Highway Traffic Safety Administration, *State Laws on Distracted Driving*, available at <http://www.distracted.gov/state-laws/> accessed September 2012.

## 1-7 Highway Crashes Involving Distraction by Severity: 2005-2010

	2005	2006	2007	2008	2009	2010
<b>Fatal Crashes</b>						
Overall	39,252	38,648	37,435	34,172	30,797	30,196
Distraction	4,026	5,245	5,329	5,307	4,898	2,843
Percentage	10.3	13.6	14.2	15.5	15.9	9.4
<b>Injury Crashes</b>						
Overall	1,816,000	1,746,000	1,711,000	1,630,000	1,517,000	1,542,000
Distraction	399,000	339,000	309,000	314,000	307,000	279,000
Percentage	22.0	19.4	18.1	19.3	20.2	18.1
<b>Property Damage Only Crashes</b>						
Overall	4,304,000	4,189,000	4,275,000	4,146,000	3,957,000	3,847,000
Distraction	900,000	676,000	689,000	650,000	647,000	618,000
Percentage	20.9	16.1	16.1	15.7	16.4	16.1

**Notes:** Crashes involving distraction in 2010 should not be compared to crashes involving distraction for prior years due to significant changes in data collection and methodology. Fatal crashes include those in which at least one person was killed. Injury crashes include nonfatal crashes in which at least one person was injured. Crashes include single-vehicle, multi-vehicle, pedestrian-vehicle, and bicycle-vehicle crashes. Distracted driving is any activity that could divert a person's attention away from the primary task of driving. Fatal crash data are reported in the Fatality Analysis Reporting System (FARS), a nationwide census providing data regarding fatal injuries suffered in motor vehicle crashes. Injury and property damage only crash data are estimates from the National Automotive Sampling System (NASS)

General Estimates System (GES), a nationally representative sample of police reported motor vehicle crashes.

**Source:** U.S. Department of Transportation, National Highway Traffic Safety Administration, *Distracted Driving*, <http://www-nrd.nhtsa.dot.gov/Pubs/811650.pdf> accessed October 2012.

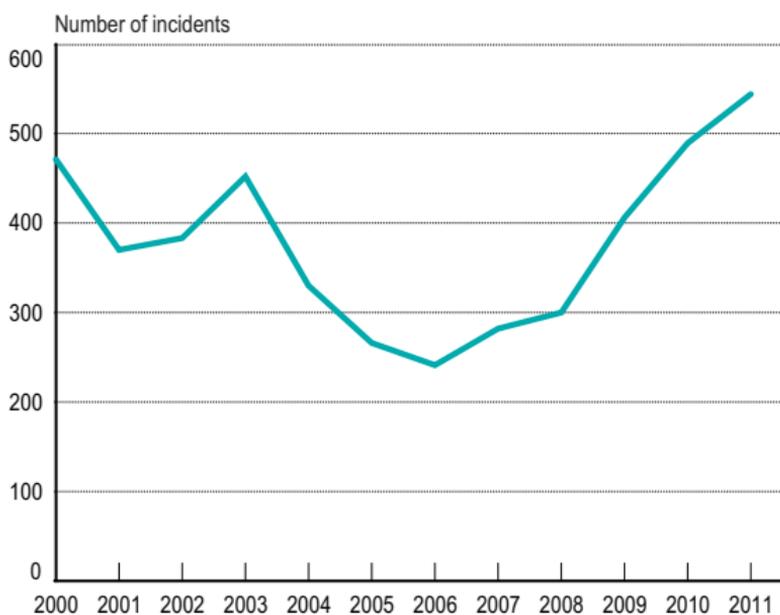
## 1-8 Hazardous Materials Transportation Incidents, Injuries, and Fatalities: 1990, 2000, 2010, 2011

	1990	2000	2010	2011
Highway	7,296	15,063	12,649	12,801
Accident related	249	329	321	332
Injuries	311	164	152	129
Fatalities	8	16	8	11
Rail	1,279	1,058	749	743
Accident related	48	62	35	40
Injuries	73	82	13	20
Fatalities	0	0	0	1
Air	297	1,419	1,293	1,400
Accident related	0	3	2	2
Injuries	39	5	2	7
Fatalities	0	0	0	0
Water	7	17	105	71
Accident related	0	0	1	0
Injuries	0	0	2	8
Fatalities	0	0	0	0
Pipeline	379	380	587	596
Natural Gas Distribution	110	154	121	122
Injuries	52	59	44	57
Fatalities	6	22	11	13
Natural Gas Transmission	89	80	118	126
Injuries	17	18	61	1
Fatalities	0	15	10	0
Liquid	180	146	348	348
Injuries	7	4	4	2
Fatalities	3	1	1	1

**Notes:** Accident related excludes human errors, package failures, and unreported cases. Water data are for incidents involving packaged materials only and do not include incidents where the vessel is the container (e.g., a barge or oil tanker). Nonpipeline reporting requirements changed in 2002. Pipeline data contain all incidents reported to PHMSA based on the reporting criteria in effect at the time of the incidents. Natural gas transmission includes the gathering system. Data for 2010 are revised.

**Sources: Highway, Rail, Air and Water**—U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration, Office of Hazardous Material Safety, *Incident Statistics*, available at <http://www.phmsa.dot.gov/hazmat/library/data-stats> accessed August 2012. **Pipeline**—USDOT, PHMSA, Office of Pipeline Safety, *Accident/Incident Summary Statistics*, available at <http://www.phmsa.dot.gov/pipeline/library/data-stats> accessed August 2012.

## 1-9 International Piracy and Armed Robbery at Sea: 2000–2011



**Note:** Incidents include attempts and threatening actions.

**Source:** International Maritime Organization, *Reports on Acts of Piracy and Armed Robbery Against Ships: Annual Report*, available at <http://www.imo.org> accessed August 2012.

## 2 THE TRANSPORTATION SYSTEM AND EQUIPMENT

The U.S. transportation system is an extensive, interconnected network of public and private roads, airports, railroads, transit routes, waterways, terminals, ports, and pipelines. Millions of people and businesses rely on this expanding system to get to work, conduct business, ship goods within the United States and abroad, and travel on vacations. The transportation system links regions and joins urban and rural areas, and connects the United States (people and goods) with the rest of the world.

### 2-1 The Transportation Network: 2011

Mode	Components	
Highway	Miles of public road	4,059,339
	Interstate Highway System (2008)	47,011
	Other National Highway System (2008)	117,084
	Other roads (2008)	3,895,244
Air	Airports	19,782
	Public use	5,172
	Private use	14,339
	Military	271
Rail	Miles of railroad operated	161,195
	Class I freight railroads <sup>a</sup>	95,514
	Regional freight railroads (2010)	12,000
	Local freight railroads (2010)	32,456
	Amtrak (passenger) <sup>b</sup>	21,225
Public transit	Directional route-miles <sup>c</sup>	242,306
	Bus <sup>d</sup>	220,076
	Bus rapid transit <sup>d</sup>	119
	Commuter bus <sup>d</sup>	10,721
	Trolley bus <sup>d</sup>	456
	Commuter rail	7,576
	Heavy rail	1,617
	Hybrid rail	207
	Light rail	1,398
Streetcar rail	136	

*continued next page*

## 2-1—continued

### The Transportation Network: 2011

Mode	Components	
Public transit (cont.)	Stations	3,155
	Commuter rail	1,219
	Heavy rail	1,041
	Hybrid rail	49
	Light rail	761
	Streetcar rail	85
Water	Miles of navigable waterways	25,320
	Direction route-miles of ferry routes (2010)	697
	Commercial waterway facilities <sup>e</sup> (2010)	8,184
	Great Lakes	647
	Inland	1,949
	Ocean	5,588
	Lock chambers (2010)	238
Pipeline	Miles of pipeline	1,735,237
	Hazardous liquid	177,631
	Gas transmission and gathering	324,606
	Gas distribution	1,233,000

<sup>a</sup>Includes 561 miles of the U.S. Class I freight railroad system owned by Canadian railroads. <sup>b</sup>Approximately 97 percent of the trackage on which Amtrak operates is owned by other railroads. <sup>c</sup>Directional route-miles includes both directly operated and purchased transport service. <sup>d</sup>Includes directional route-miles on exclusive right-of-way, controlled right-of-way, and mixed traffic. <sup>e</sup>See Glossary for definitions.

**Note:** Data are for 2011 unless indicated otherwise.

**Sources: Highway**—USDOT, FHWA, *Highway Statistics 2008*, table HM-18.

**Air**—USDOT, Federal Aviation Administration, *Administrator's Fact Book*, June 2012.

**Railroad**—Association of American Railroads, *Railroad Facts 2012*. **Transit**—USDOT, Federal Transit Administration, *National Transit Database 2011*, tables 21, 23, and 24.

**Water**—Commercial waterway facilities—U.S. Army Corps of Engineers, Institute for Water Resources, Navigation Data Center, U.S. Waterway System Facts, November 2012. Navigable channels—U.S. Army Corps of Engineers as cited in USDOT, RITA, BTS, *National Transportation Statistics*, table 1-1 accessed November 2011. **Pipeline**—PHMSA as cited in USDOT, RITA, BTS, *National Transportation Statistics*, tables 1-1 and 1-10 accessed October 2012.

## 2-2 Number of Aircraft, Railcars, Vehicles, and Vessels: 2007-2010

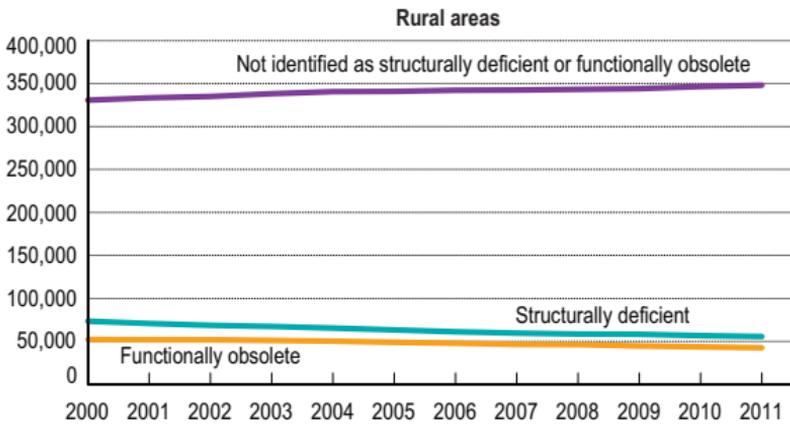
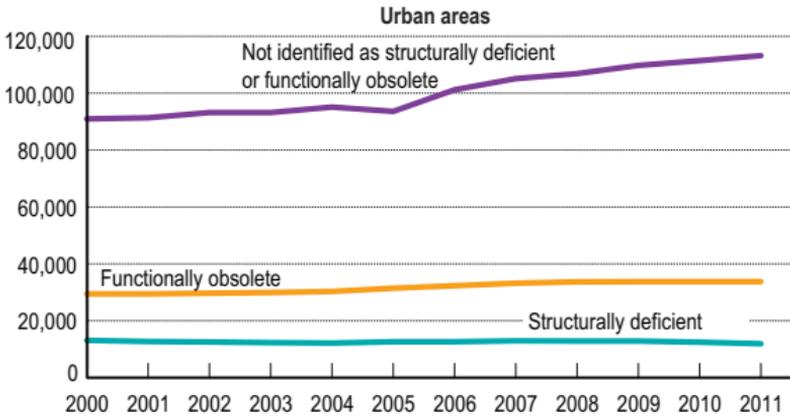
Mode	2007	2008	2009	2010
<b>Air</b>				
Air carrier	8,044	7,856	7,771	7,431
General aviation	231,607	228,663	223,877	223,370
<b>Highway</b>				
Light duty vehicles <sup>a</sup>	235,678,150	236,448,155	234,467,679	230,444,440
Motorcycles	7,138,476	7,752,926	7,929,724	8,212,267
Buses <sup>b</sup>	834,436	843,308	841,993	846,051
Trucks	10,752,019	10,873,275	10,973,214	10,770,054
<b>Rail—Passenger</b>				
Amtrak—Cars	1,164	1,177	1,214	1,274
Amtrak—Locomotives	270	278	274	282
Commuter railcars and locomotives	6,279	6,494	6,722	6,768
Transit <sup>c</sup>	13,024	13,325	13,520	13,606
<b>Rail—freight</b>				
Class I—Freight cars	460,172	450,297	416,180	397,730
Class I—Locomotives	24,143	24,003	24,045	23,893
Other freight cars <sup>d</sup>	925,537	942,675	947,253	911,299
<b>Waterborne</b>				
Non-self-propelled vessels (barges) <sup>e</sup>	31,654	31,238	31,008	31,412
Self-propelled vessels	9,041	9,063	9,101	9,100
Oceangoing ships (1,000 gross tons and over)	275	272	196	U
Recreational boats (numbered boats)	12,873,091	12,692,892	12,721,541	12,438,926

<sup>a</sup>Light duty vehicles include passenger cars, light trucks, vans and sport utility vehicles regardless of wheelbase. <sup>b</sup>Includes municipally owned transit and commercial, Federal, and school buses. <sup>c</sup>Includes light and heavy rail only. <sup>d</sup>Includes Non-class I and car companies' and shippers' freight cars only. <sup>e</sup>See Glossary for definitions.

**Key:** U = unavailable

**Sources:** **Air**—Federal Aviation Administration. **Highway**—Federal Highway Administration. **Rail**—Amtrak and Association of American Railroads. **Transit**—American Public Transportation Association. **Waterborne**—U.S. Army, Corps of Engineers, U.S. Coast Guard, and Maritime Administration as cited in U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, *National Transportation Statistics*, table 1-11, available at [http://www.bts.gov/publications/national\\_transportation\\_statistics/](http://www.bts.gov/publications/national_transportation_statistics/) accessed September 2012.

## 2-3 Condition of U.S. Highway Bridges: 2000–2011



**Note:** *Structurally Deficient* and *Functionally Obsolete* are defined in Glossary.

**Sources:** **2000**-U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics; based on data from Federal Highway Administration, Office of Bridge Technology, *National Bridge Inventory (NBI)*, personal communication, Aug. 14, 2001. **2001-2011**-U.S. Department of Transportation, Federal Highway Administration, Office of Bridge Technology, *National Bridge Inventory (NBI)*, Count of Bridges by Highway System, available at <http://www.fhwa.dot.gov/bridge/britab.htm> accessed Aug. 9, 2012.

### 3 SYSTEM USE AND LIVABLE COMMUNITIES

The U.S. transportation system makes possible a high degree of personal mobility and freight activity. This section presents data showing changes in passenger travel and freight shipments over time. Factors influencing these changes include vehicle availability, travel costs, population, congestion, the economy, and consumer income.

#### 3-1 Vehicle-Miles: 2007–2010 (millions)

Mode	2007	2008	2009	2010
Air				
Air carrier	6,733	6,446	5,935	5,976
Highway				
Light duty vehicles <sup>a</sup>	2,691,034	2,630,213	2,633,248	2,647,659
Motorcycles	21,396	20,811	20,822	18,462
Buses <sup>b</sup>	14,516	14,823	14,387	13,789
Trucks	304,178	310,680	288,306	286,585
Rail <sup>c</sup>				
Transit <sup>d</sup>	741	762	775	759
Commuter	325	337	337	342
Intercity/Amtrak <sup>e</sup>	267	272	282,764	295
Class I freight	38,186	37,226	32,115	35,541
Other transit <sup>f</sup>	916	989	1,061	1,055

<sup>a</sup>Light duty vehicles include passenger cars, light trucks, vans and sport utility vehicles regardless of wheelbase. <sup>b</sup>Includes municipally owned transit and commercial, Federal, and school buses. <sup>c</sup>Car-miles. <sup>d</sup>Includes light and heavy rail only. <sup>e</sup>Fiscal year data. <sup>f</sup>Includes on-demand service and other unspecified forms of transit.

**Notes:** Air carrier, highway, transit, intercity/Amtrak, Class I freight, and other transit data for 2009 are revised.

**Sources:** **Air Carrier**—Bureau of Transportation Statistics. **Highway**—Federal Highway Administration. **Class I freight and Intercity/Amtrak**—Association of American Railroads. **Transit and Commuter Rail**—American Public Transportation Association and Federal Transit Administration as cited in U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, *National Transportation Statistics*, table 1-35, available at [http://www.bts.gov/publications/national\\_transportation\\_statistics/](http://www.bts.gov/publications/national_transportation_statistics/) accessed September 2012.

### 3-2 Passenger-Miles: 2007–2010 (millions)

Mode	2007	2008	2009	2010
Air				
Air carrier	607,564	583,292	551,741	564,790
Highway				
Light duty vehicles <sup>a</sup>	4,341,984	4,248,783	3,625,598	3,645,368
Motorcycles	27,173	26,430	22,428	19,886
Buses <sup>b</sup>	307,753	314,278	305,014	292,319
Trucks	304,178	310,680	288,306	286,585
Rail				
Transit <sup>c</sup>	18,068	18,931	19,001	18,580
Commuter	11,137	11,032	11,129	10,774
Intercity/Amtrak <sup>d</sup>	5,784	6,179	5,914	6,420
Other transit <sup>e</sup>	2,125	2,390	2,500	2,535

<sup>a</sup>Light duty vehicles include passenger cars, light trucks, vans and sport utility vehicles regardless of wheelbase. <sup>b</sup>Includes municipally owned transit and commercial, federal, and school buses. <sup>c</sup>Includes light and heavy rail only. <sup>d</sup>Fiscal year data.

<sup>e</sup>Includes on-demand service, ferryboat, and other unspecified means of transit.

**Notes:** Air carrier and highway data for 2000 and 2009 are revised.

**Sources:** **Air Carrier**—Bureau of Transportation Statistics, **General Aviation**—National Transportation Safety Board, **Highway**—Federal Highway Administration, **Intercity/Amtrak**—Association of American Railroads, Transit and Commuter **Rail**—American Public Transportation Association as cited in U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, *National Transportation Statistics*, table 1-40, available at [http://www.bts.gov/publications/national\\_transportation\\_statistics/](http://www.bts.gov/publications/national_transportation_statistics/) accessed September 2012.

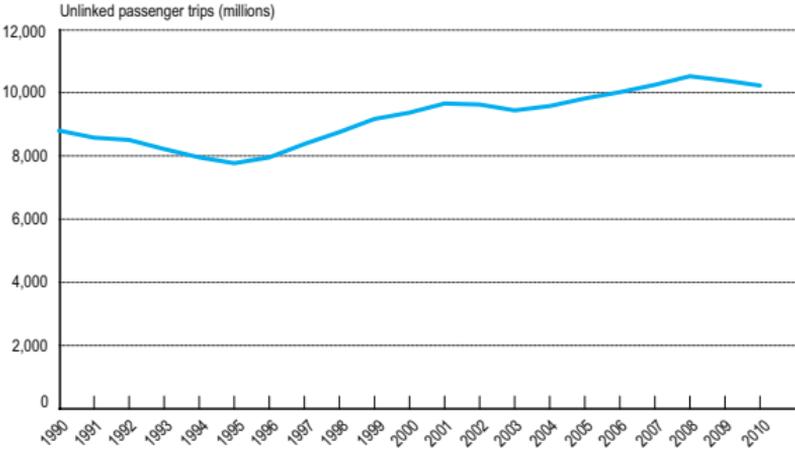
### 3-3 Annual Percent of Person Trips by Mode of Transportation: 1995, 2001, 2009

	1995	2001	2009
Private Vehicle	89.3	86.4	83.4
Bus	3.0	2.8	3.3
Rail	0.6	0.6	0.6
Air	0.1	0.1	0.1
Walk	5.5	8.7	10.4
Bike	0.9	0.8	1.0
Other/Unknown	0.5	0.6	1.1
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Notes:** Totals include unreported characteristics. Bus includes local transit bus, commuter bus, school bus, charter/tour bus, and city-to-city bus. Rail includes subway/elevated rail, street car/trolley, and Amtrak/intercity train. Totals may not sum to 100 due to rounding. Other/Unknown includes: ferry, hotel/airport shuttle, light electric vehicle, limousine, passenger line/ferry, sailboat/motorboat/yacht, ship/cruise, special transit, taxicab, other, and unknown.

**Source:** U.S. Department of Transportation, Federal Highway Administration, *National Household Travel Survey*, available at <http://nhts.ornl.gov/> accessed October 2012.

### 3-4 Trends in Transit Ridership: 1990–2010



**Note:** Transit ridership in this table includes the following modes: bus, commuter rail, demand response, heavy rail, light rail, trolley bus, ferry boat, aerial tramway, automated guideway transit, cable car, inclined plane, monorail, and other.

**Source:** American Public Transportation Association, *Public Transportation Fact Book 2012*, available at <http://www.apta.com/resources/statistics/Pages/transit-stats.aspx> accessed August 2012.

### 3-5 Passenger Travel and Freight Transportation Per Person

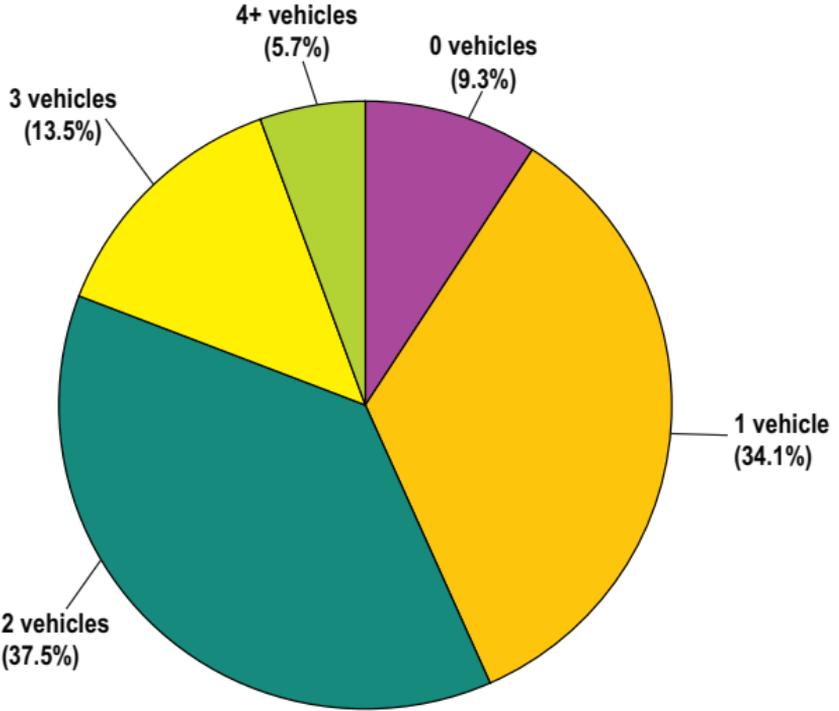
Passenger Transportation (2009)	Daily	Annual
Person trips per person	3.8	1,383.4
Person miles of travel per person	36.1	13,187.5
Vehicle trips per driver	3.0	1,102.3
Vehicle miles of travel per driver	29.0	10,574.1

Domestic Freight Transportation (2010)	Annual
Tons per capita	55.2
Ton-miles per capita	17,957.4

**Notes:** Tons per capita is calculated using BTS methodology based on data from the *Freight Analysis Framework*. The 2010 data are provisional estimates based on selected modal and economic trend data. Data based on the *National Household Travel Survey* presented here use the source frame population estimate, which does not include persons under 5 years of age.

**Sources:** **Passenger**—U.S. Department of Transportation, Federal Highway Administration, *2009 National Household Travel Survey*, available at <http://nhts.ornl.gov/> accessed October 2012. **Freight**—U.S. Department of Transportation, Federal Highway Administration, *Freight Analysis Framework*, version 3.3, available at <http://faf.ornl.gov/> accessed October 2012. **Population**—U.S. Department of Commerce, U.S. Census Bureau, Population Division, *Annual Population Estimates*, December 2009, available at <http://www.census.gov/popest/estbygeo.html> accessed October 2012.

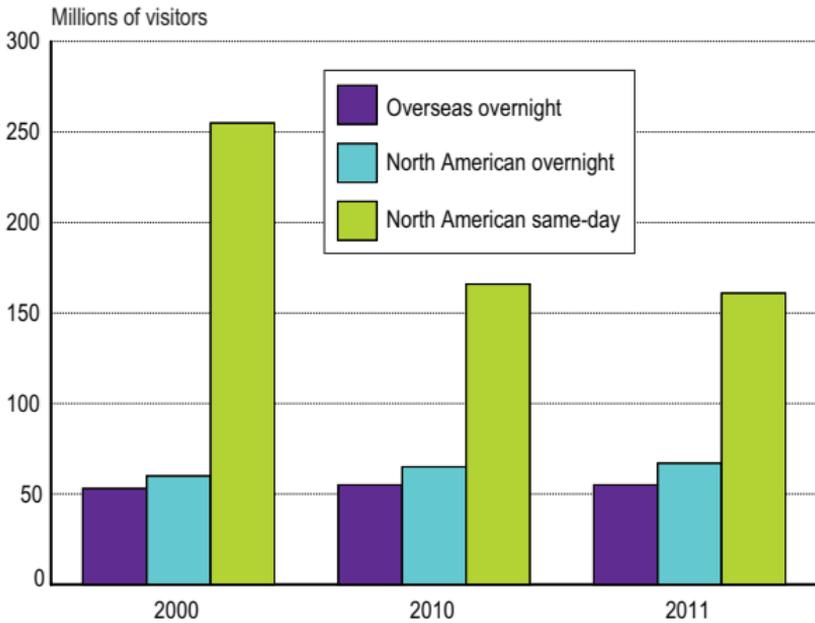
### 3-6 Households by Number of Motor Vehicles: 2011



**Note:** Data cover the household population and exclude the population living in institutions, college dormitories, and other group quarters.

**Source:** U.S. Department of Commerce, U.S. Census Bureau, *2011 American Community Survey*, table B25044, available at <http://www.census.gov/acs> accessed September 2012.

### 3-7 International Visitors To and From the United States: 2000, 2010, 2011



**Note:** North American visitors come from Canada and Mexico, and overseas visitors come from all other countries.

**Sources: Overseas overnight and North American overnight**—U.S. Department of Commerce, International Trade Administration, Office of Travel and Tourism Industries, *International Visitation to the United States: A Statistical Summary of U.S. Visitation (2011)*, available at <http://tinnet.ita.doc.gov> accessed October 2012. **North American same-day, Canada and North American same-day, Mexico**—*North American Transportation Statistics Database*, tables 9-1b and 9-1c, available at <http://nats.sct.gob.mx> accessed October 2012.

### 3-8 U.S.-Mexican Border Land-Passenger Entries: 2011 (thousands)

	Entering the U.S.
<hr/>	
Total for all U.S.-Mexico crossings	
Personal vehicles	61,180
Personal vehicle passengers	110,962
Buses	208
Bus passengers	2,720
Train passengers and crew	4
Pedestrians	40,021
<hr/>	
Personal vehicles—top 3 gateways	
San Ysidro, CA	12,373
El Paso, TX	9,148
Hidalgo, TX	4,878
Personal vehicle passengers—top 3 gateways	
San Ysidro, CA	21,523
El Paso, TX	14,941
Hidalgo, TX	9,040
Buses—top 3 gateways	
San Ysidro, CA	61
Laredo, TX	43
Otay Mesa, CA	35
Bus passengers—top 3 gateways	
Laredo, TX	934
El Paso, TX	478
San Ysidro, CA	467
Train passengers and crew—top 3 gateways	
Nogales, AZ	2.8
Otay Mesa, CA	0.5
Calexico East, CA	0.3
Pedestrians—top 3 gateways	
San Ysidro, CA	8,454
El Paso, TX	6,172
Calexico, CA	4,451

**Source:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, *Border Crossing/Entry Data*, available at <http://www.bts.gov/programs/international/> accessed August 2012 as reported in U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, *National Transportation Statistics*, table 1-48, available at [http://www.bts.gov/publications/national\\_transportation\\_statistics/](http://www.bts.gov/publications/national_transportation_statistics/) accessed August 2012.

### 3-9 U.S.-Canadian Border Land-Passenger Entries: 2011 (thousands)

	Entering the U.S.
<hr/>	
Totals for all U.S.-Canada crossings	
Personal vehicles	31,596
Personal vehicle passengers	59,192
Buses	114
Bus passengers	2,452
Train passengers and crew	277
Pedestrians	407
<hr/>	
Personal vehicles—top 3 gateways	
Buffalo-Niagara Falls, NY	5,912
Blaine, WA	4,289
Detroit, MI	4,174
Personal vehicle passengers—top 3 gateways	
Buffalo-Niagara Falls, NY	12,687
Blaine, WA	8,313
Detroit, MI	7,203
Buses—top 3 gateways	
Detroit, MI	28
Buffalo-Niagara Falls, NY	26
Blaine, WA	16
Bus passengers—top 3 gateways	
Buffalo-Niagara Falls, NY	729
Champlain-Rouses Point, NY	396
Blaine, WA	328
Train passengers and crew—top 3 gateways	
Blaine, WA	75
Skagway, AK	73
Champlain-Rouses Point, NY	48
Pedestrians—top 3 gateways	
Buffalo-Niagara Falls, NY	283
Sumas, WA	27
Detroit, MI	21
<hr/>	

**Source:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, *Border Crossing/Entry Data*, available at <http://www.bts.gov/programs/international/> accessed August 2012 as reported in U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, *National Transportation Statistics*, table 1-47, available at [http://www.bts.gov/publications/national\\_transportation\\_statistics/](http://www.bts.gov/publications/national_transportation_statistics/) accessed August 2012.

### 3-10 Percentage of Amtrak On-Time Arrivals and Hours of Delay by Cause: 2008–2011

	2008	2009	2010	2011
<b>On-time performance</b>				
Total (weighted)	71.2%	80.4%	79.7%	78.1%
Short distance (<400 miles) <sup>a</sup>	73.6%	81.1%	80.5%	79.7%
Long distance (>400 miles)	52.0%	75.5%	73.7%	65.8%
<b>Hours of delay by cause</b>				
Total <sup>b</sup>	94,566	79,304	79,976	86,021
Amtrak <sup>c</sup>	23,223	21,813	23,404	26,121
Host railroad <sup>d</sup>	64,724	46,842	44,090	48,707
Other <sup>e</sup>	6,618	10,648	12,482	11,192

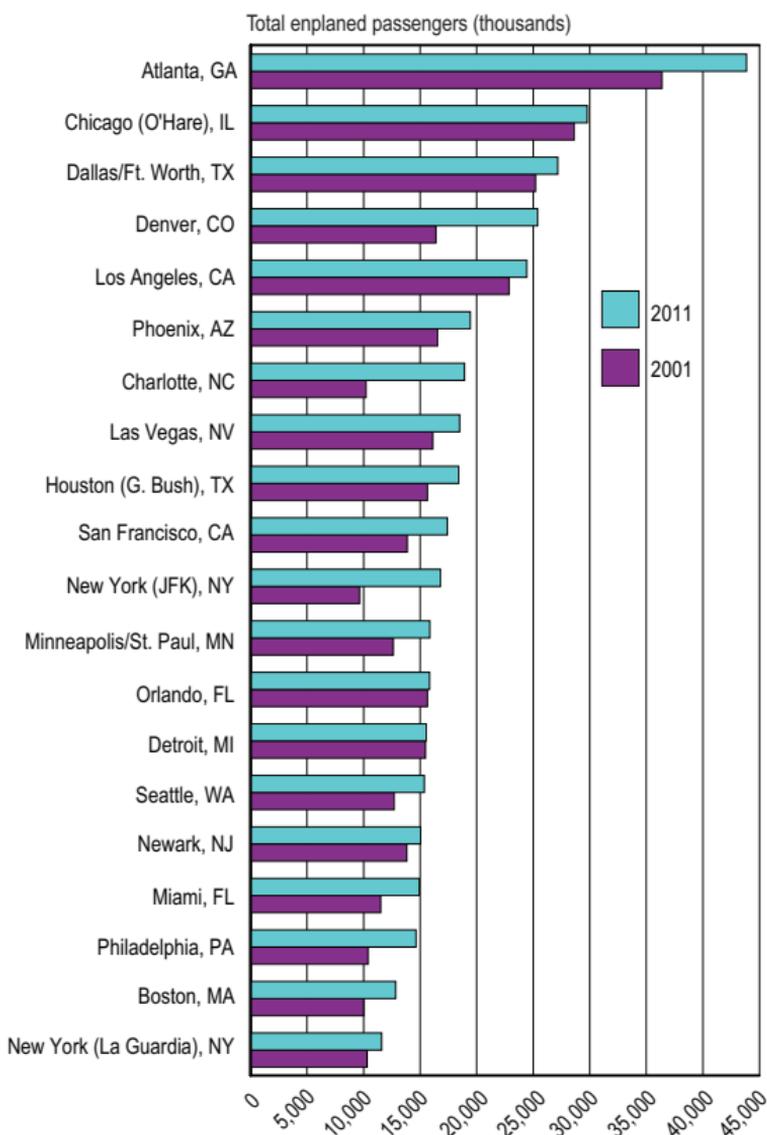
<sup>a</sup>Includes all Amtrak Northeast Corridor and Empire Service (New York State) trains. <sup>b</sup>Numbers may not add to totals due to rounding. <sup>c</sup>Includes all delays when operating on Amtrak-owned tracks and delays for equipment or engine failure, passenger handling, holding for connections, train servicing, and mail/baggage handling when on tracks of a host railroad. <sup>d</sup>Includes all operating delays not attributable to Amtrak when operating on tracks of a host railroad (e.g., track- and signal-related delays, power failures, freight and commuter train interference, routing delays). <sup>e</sup>Includes delays not attributable to Amtrak or host railroads (e.g., customs and immigration, law enforcement action, weather, or waiting for scheduled departure time).

**Notes:** All percentages are based on Amtrak's fiscal year. Host railroad is a freight or commuter railroad over which many Amtrak trains operate for all or part of their trips. Amtrak trains are considered on time if the actual arrival time at the endpoint is within the minutes of scheduled arrival time as shown on the following chart. Trip length is based on the total distance traveled by that train from origin to destination:

Trip length (miles)	Train is on-time at endpoint if within:
0–250	10 minutes or less
251–350	15 minutes or less
351–450	20 minutes or less
451–550	25 minutes or less
> 551	30 minutes or less

**Source:** National Railroad Passenger Corp. (Amtrak), personal communication, October 2011.

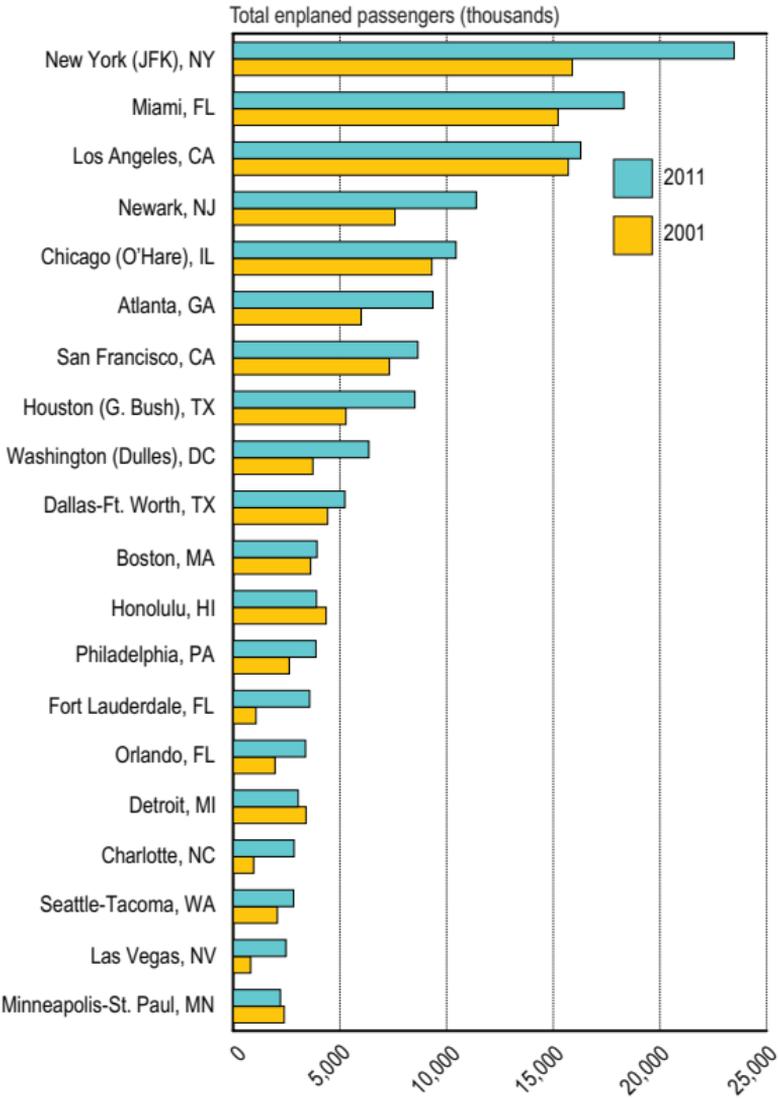
### 3-11 Top 20 U.S. Passenger Airports, Enplaned Passengers: 2001 and 2011



**Note:** Ranked by 2011 passengers on U.S. carriers.

**Source:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, *Schedule T-3 Data*, special tabulation, April 2012 as reported in U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, *National Transportation Statistics*, table 1-44, available at [http://www.bts.gov/publications/national\\_transportation\\_statistics/](http://www.bts.gov/publications/national_transportation_statistics/) accessed August 2012.

### 3-12 Top 20 U.S. Gateways for Nonstop International Air Travel, Enplaned Passengers: 2001 and 2011



**Notes:** Ranked by 2011 passengers. International passengers are residents of any country traveling nonstop to and from the United States on U.S. and foreign carriers. Data cover all passengers arriving and departing from U.S. airports on nonstop commercial international flights with 60 seats or more.

**Source:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Office of Airline Information, *T-100 International Segment Data*, special calculation, October 2012.

### 3-13 Top 20 World Airports by Passenger Movements<sup>a</sup>: 2009 and 2010 (Thousands of passengers enplaned, deplaned, and in-transit at airport)

Rank (2010)	City (airport)	2009	2010	Percentage change 2009–2010
1	<b>Atlanta, GA (Hartsfield)</b>	<b>88,032</b>	<b>89,332</b>	<b>1.5</b>
2	Beijing, China (Beijing Capital)	65,372	73,948	13.1
3	<b>Chicago, IL (O'Hare)</b>	<b>64,158</b>	<b>66,775</b>	<b>4.1</b>
4	London, England (Heathrow)	66,038	65,884	-0.2
5	Tokyo, Japan (Haneda)	61,904	64,211	3.7
6	<b>Los Angeles, CA (Los Angeles)</b>	<b>56,521</b>	<b>59,070</b>	<b>4.5</b>
7	Paris, France (Charles de Gaulle)	57,907	58,167	0.4
8	<b>Dallas/Ft Worth, TX (Dallas/Ft. Worth)</b>	<b>56,030</b>	<b>56,907</b>	<b>1.6</b>
9	Frankfurt, Germany (Frankfurt)	50,933	53,009	4.1
10	<b>Denver, CO (Denver)</b>	<b>50,167</b>	<b>52,209</b>	<b>4.1</b>
11	Hong Kong, China (Hong Kong)	45,559	50,349	10.5
12	Madrid, Spain (Barajas)	48,251	49,845	3.3
13	Dubai, United Arab Emirates (Dubai)	40,902	47,181	15.4
14	<b>New York, NY (JFK)</b>	<b>45,915</b>	<b>46,514</b>	<b>1.3</b>
15	Amsterdam, Netherlands (Schiphol)	43,570	45,212	3.8
16	Jakarta, Indonesia (Soekarno–Hatta)	37,144	44,356	19.4
17	Bangkok, Thailand (Suvarnabhumi)	40,500	42,785	5.6
18	Changi, Singapore (Singapore)	37,204	42,039	13.0
19	Guangzhou, China (Guangzhou Baiyun)	37,049	40,976	10.6
20	Shanghai, China (Shanghai Pudong)	32,103	40,579	26.4

<sup>a</sup>Passenger movements include enplanements and deplanements, with in-transit passengers counted once. Both domestic and international passenger movements are included. General aviation passengers are excluded.

**Notes:** Airports include those participating in the ACI annual traffic statistics collection. Airports are ranked based on 2010 data.

**Source:** Airports Council International, *Annual Traffic Data*, available at <http://www.aci.aero/Data-Centre/Annual-Traffic-Data> accessed October 2012.

### 3-14 Percentage of On-Time Departures and Arrivals at Major U.S. Airports: 2011

#### Top Five

Departures			Arrivals		
Rank	Airport (Code)	Percentage	Rank	Airport (Code)	Percentage
1	Seattle, WA (SEA)	88.0	1	Salt Lake City, UT (SLC)	86.4
2	Salt Lake City, UT (SLC)	87.8	2	Phoenix, AZ (PHX)	84.9
3	Portland, OR (PDX)	87.8	3	Seattle, WA (SEA)	84.1
4	Tampa, FL (TPA)	84.4	4	Portland, OR (PDX)	83.0
5	Minneapolis/St. Paul, MN (MSP)	83.9	5	Minneapolis/St. Paul, MN (MSP)	82.8

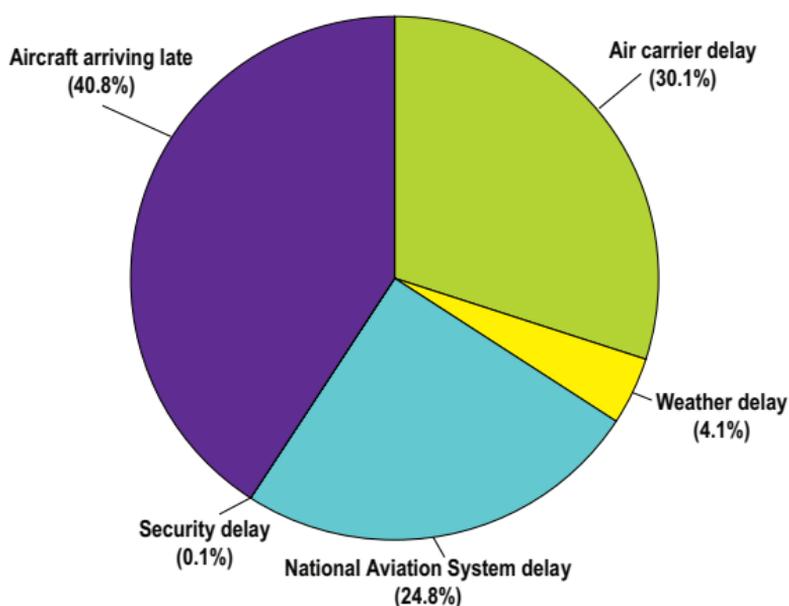
#### Bottom Five

Departures			Arrivals		
Rank	Airport (Code)	Percentage	Rank	Airport (Code)	Percentage
5	Miami, FL (MIA)	76.7	5	New York, NY (JFK)	75.3
4	San Francisco, CA (SFO)	76.3	4	Boston, MA (BOS)	73.7
3	Chicago, IL (ORD)	74.4	3	New York, NY (LGA)	72.2
2	Chicago, IL (MDW)	73.8	2	San Francisco, CA (SFO)	71.4
1	Newark, NJ (EWR)	73.0	1	Newark, NJ (EWR)	66.7

**Notes:** On-time flights arrive within 15 minutes of scheduled arrival time. Major airports are airports that enplane one percent or more of scheduled-service passengers.

**Source:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, *Airline On-Time Performance Data (December Issues)*, tables 4 and 6, available at [http://www.bts.gov/programs/airline\\_information/airline\\_ontime\\_tables](http://www.bts.gov/programs/airline_information/airline_ontime_tables) accessed August 2012.

### 3-15 Percentage of Flight Delay Minutes by Cause: 2011



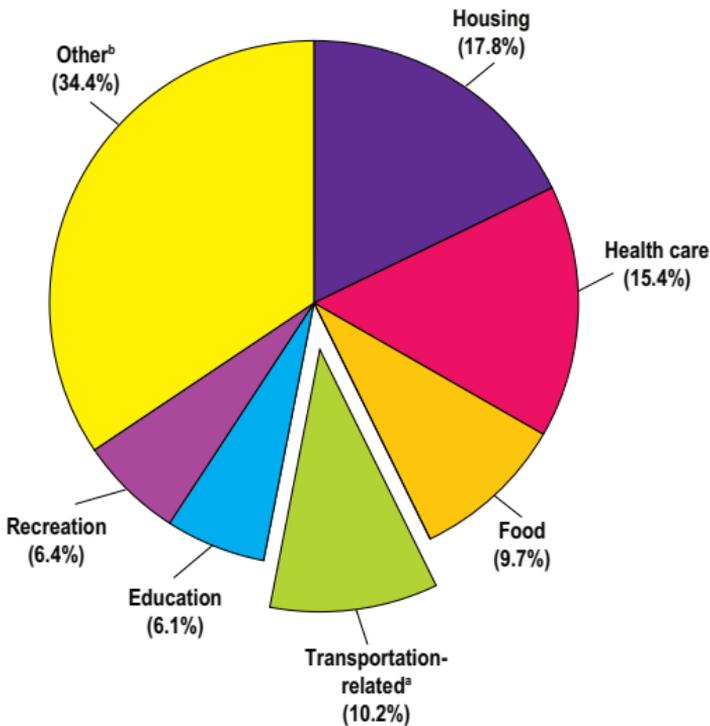
**Notes:** A flight is considered delayed when it arrives 15 or more minutes later than the scheduled arrival. Delayed minutes are calculated for delayed flights only. When multiple causes are assigned to one delayed flight, each cause is prorated based on delayed minutes it is responsible for; the displayed numbers are rounded and may not add to the total.

**Source:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, *Airline On-Time Statistics and Delay Causes* available at [http://www.transtats.bts.gov/OT\\_Delay/OT\\_DelayCause1.asp](http://www.transtats.bts.gov/OT_Delay/OT_DelayCause1.asp) accessed August 2012.

## 4 ECONOMIC COMPETITIVENESS

Transportation is a major sector of the U.S. economy. It moves people and goods, employs millions of workers, generates revenue, and consumes resources and services produced by other sectors of the economy. In 2011, transportation-related goods and services contributed \$1.6 trillion to the \$15.6 trillion U.S. Gross Domestic Product.

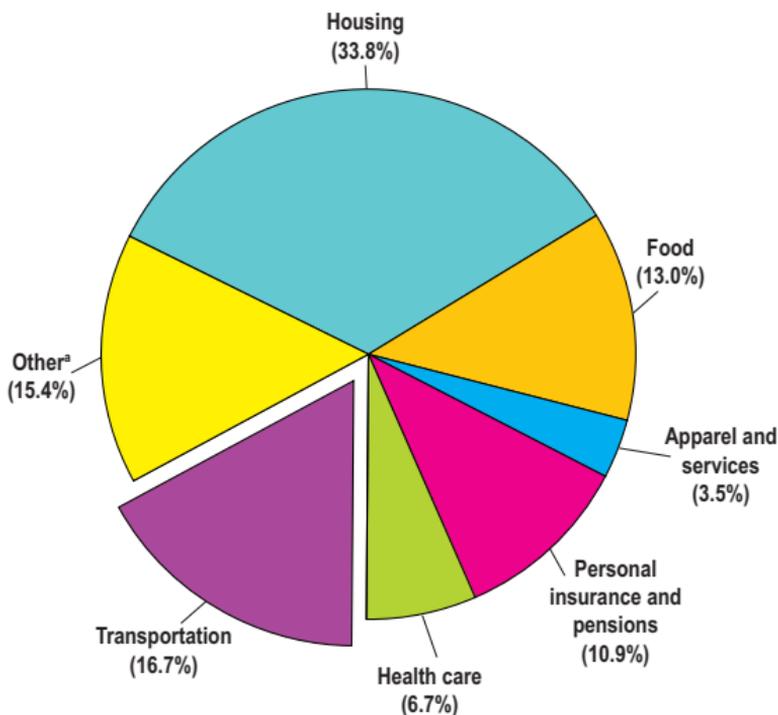
### 4-1 U.S. Gross Domestic Product by Major Spending Category: 2011



<sup>a</sup>Includes transportation-related goods (e.g., vehicles and fuel) and services (e.g., auto insurance), private investment in transportation-related structures and equipment, net exports related to transportation, and change in motor vehicles inventory. <sup>b</sup>Includes all other categories such as entertainment, personal care products and services, and payments to pension plans.

**Source:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, calculated based on data from U.S. Department of Commerce, Bureau of Economic Analysis, *National Income and Product Account Tables*, available at <http://www.bea.gov/national/nipaweb/Index.asp> accessed September 2012 as reported in U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, *National Transportation Statistics*, table 3-9, available at [http://www.bts.gov/publications/national\\_transportation\\_statistics/](http://www.bts.gov/publications/national_transportation_statistics/) accessed September 2012.

## 4-2 Average Household Expenditures by Major Spending Category: 2011



### Household Transportation-Related Expenditures

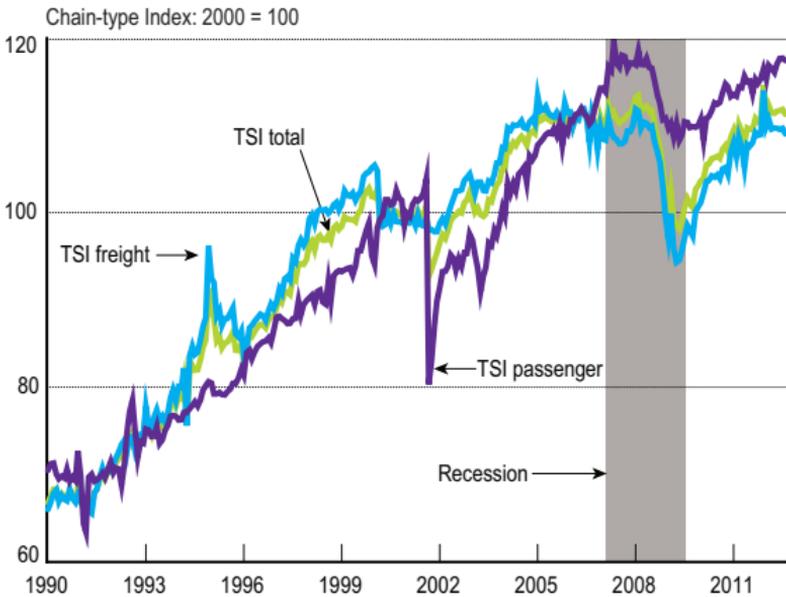
Private vehicle expenditures	=	\$7,778
Vehicle purchases	=	\$2,669
Gasoline and motor oil	=	\$2,655
Other vehicle expenditures	=	\$2,454
Public transportation expenditures	=	\$516
Airline fares	=	\$342
Mass transit fares	=	\$75
Ship fares	=	\$36
Taxi fares	=	\$22
Intercity train fares	=	\$16
Local transportation on out-of-town trips	=	\$12
Intercity bus fares	=	\$11
School bus	=	\$3
<b>Total</b>	<b>=</b>	<b>\$8,293</b>

<sup>a</sup>Includes alcoholic beverages, entertainment, personal care products and services, reading, education, tobacco products and smoking, miscellaneous, and others.

**Note:** Totals may not sum due to rounding.

**Source:** U.S. Department of Labor, Bureau of Labor Statistics, *Consumer Expenditure Survey, 2011*, personal communication, September 2012.

### 4-3 Transportation Services Index (TSI): January 1990–August 2012 (seasonally adjusted)



**Note:** The TSI total is a monthly measure of the volume of services provided by for-hire transportation industries in the United States using 2000 as the base year.

**Source:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics (BTS) available at <http://www.bts.gov/xml/tsi/src/index.xml> accessed August 2012.

#### 4-4 Employment in Transportation and Selected Transportation-Related Industries<sup>a</sup>: 1990, 2000, 2010, 2011 (thousands)

	1990	2000	2010	2011
Total U.S. labor force (Nonfarm)	109,487	131,785	129,874	131,359
<b>Total transportation related labor force<sup>b</sup></b>	<b>12,316</b>	<b>13,907</b>	<b>12,086</b>	<b>U</b>
Transportation as a percent of U.S. total	11.2	10.6	9.3	U
<b>For-hire transport &amp; warehousing</b>	<b>3,476</b>	<b>4,410</b>	<b>4,191</b>	<b>4,292</b>
Air	529	614	458	456
Water	57	56	62	63
Railroad	272	232	216	229
Transit/ground passenger transportation	274	372	430	436
Pipeline	60	46	42	43
Trucking	1,122	1,406	1,250	1,299
Support activities	364	537	543	564
Scenic/sightseeing transportation	16	28	27	29
Couriers/messengers	375	605	528	529
Warehousing/storage	407	514	633	646
<b>Related services &amp; construction</b>	<b>5,256</b>	<b>6,177</b>	<b>5,338</b>	<b>5,405</b>
Automotive repair services/parking; automotive equipment rental/leasing; gasoline stations	1,800	2,125	1,892	1,921
Highway, street, bridge construction	289	340	287	282
Dealers or wholesalers of motor vehicles, parts, petroleum, supplies, equipment	1,993	2,360	2,064	2,125
Travel arrangement/reservation services	250	299	186	190
Ambulatory health care services	99	173	251	256
Postal service	825	880	659	631
<b>Transportation-related manufacturing<sup>c</sup></b>	<b>2,683</b>	<b>2,447</b>	<b>1,645</b>	<b>1,684</b>
<b>Government<sup>b</sup></b>	<b>903</b>	<b>873</b>	<b>911</b>	<b>U</b>

<sup>a</sup>Annual averages. Data are NAICS-based. See Glossary for definition. <sup>b</sup>Fiscal year data. Includes U.S. DOT and state and local personnel. State and local component of government employment includes highway, air, transit, and water modes. <sup>c</sup>Includes transportation equipment; petroleum products; tires; rubber; plastics; search, detection, navigation, guidance, aeronautical, and nautical systems; and instrument manufacturing.

**Key:** U = unavailable

**Notes:** Data for 2010 are revised. Due to independent rounding, individual components may not add to total. U.S. Coast Guard employees are excluded from government for years 2003 and after. This table does not include in-house employment.

**Sources:** **Total and transportation related labor force**—Bureau of Labor Statistics, **Government**—U.S. Census Bureau and U.S. Department of Transportation as cited in U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, *National Transportation Statistics*, table 3-23, available at [http://www.bts.gov/publications/national\\_transportation\\_statistics/](http://www.bts.gov/publications/national_transportation_statistics/) accessed October 2012.

## 4-5 Freight Shipments within the U.S. by Mode: 2007

Mode	Value (\$ billions)	Tons (millions)	Ton-miles (billions)
<b>Total</b>	<b>16,520</b>	<b>18,579</b>	<b>5,740</b>
Truck	12,193	13,336	2,348
Rail	574	2,024	1,522
Water	212	655	450
Air (include truck-air)	357	5	9
Multiple modes & mail	1,917	568	469
Pipeline	795	1,674	856
Other and unknown	472	317	86

This table includes domestic trade and the domestic portion of imports and exports.

**Notes:** Numbers may not add to totals due to rounding.

**Source:** U.S. Department of Transportation, Federal Highway Administration, *Freight Analysis Framework*, version 3.3, available at <http://faf.ornl.gov/> accessed October 2012.

#### 4-6 Value of U.S. International Merchandise Trade by Mode of Transportation: 2011 (millions of current U.S. dollars)

	Exports	Modal %	Imports	Modal %	Total trade	Total modal %
<b>Total</b>	<b>1,480,665</b>	<b>100.0</b>	<b>2,206,956</b>	<b>100.0</b>	<b>3,687,622</b>	<b>100.0</b>
Water	570,286	38.5	1,159,096	52.5	1,729,382	46.9
Air	424,265	28.7	493,038	22.3	917,303	24.9
Truck	322,846	21.8	303,012	13.7	625,857	17.0
Rail	54,431	3.7	97,422	4.4	151,852	4.1
Pipeline	9,703	0.7	71,024	3.2	80,727	2.2
Other, unknown & miscellaneous	99,135	6.7	83,365	3.8	182,500	4.9

**Notes:** Individual categories may not sum to totals due to rounding. Excludes intransit data (merchandise shipped from one foreign country to another via a U.S. port). **Imports**—excludes imports valued at \$2,000 or less. Import value is based on U.S. general imports, customs value basis. **Exports**—excludes exports valued at less than \$2,500. Export value is FAS (free alongside ship) and represents the value of exports at the port of export, including the transaction price and inland freight, insurance, and other charges. The data for other, unknown & miscellaneous are derived by subtracting the sum of water, air, truck, rail and pipeline from the total value of merchandise trade.

**Sources: Total, water and air**—U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, *FT920 U.S. Merchandise Trade: Selected Highlights, December 2011*, available at [http://www.census.gov/foreign-trade/Press-Release/ft920\\_index.html](http://www.census.gov/foreign-trade/Press-Release/ft920_index.html) accessed August 2012. **Truck, rail, and pipeline**—U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, *Transborder Freight Data*, available at <http://www.bts.gov/programs/international/transborder/> accessed August 2012.

#### 4-7 Weight of U.S.-International Merchandise Trade by Mode of Transportation: 2011 (thousands of short tons)

	Exports	Modal %	Imports	Modal %	Total trade	Total modal %
Total	837,420	100.0	1,136,887	100.0	1,974,307	100.0
Water <sup>a</sup>	631,217	75.4	848,733	74.7	1,479,950	75.0
Air	4,005	0.5	4,221	0.4	8,225	0.4
Truck <sup>b</sup>	118,949	14.2	88,933	7.8	207,882	10.5
Rail <sup>b</sup>	61,945	7.4	80,109	7.0	142,054	7.2
Pipeline <sup>b</sup>	15,840	1.9	107,139	9.4	122,979	6.2
Other, unknown, & miscellaneous <sup>b</sup>	5,465	0.7	7,751	0.7	13,216	0.7

<sup>a</sup>The weight data for water transportation vary from those officially reported by the U.S. Army Corps of Engineers, because the data in this table exclude intransit shipments. <sup>b</sup>BTS estimated weight of exports for truck, rail, pipeline, mail and other and unknown modes based on the import weight-to-value ratios that vary by country, mode, and commodity.

**Notes:** Individual categories may not sum to totals due to rounding. Excludes intransit data (merchandise shipped from one foreign country to another via a U.S. port). Imports—excludes imports valued at \$2,000 or less. Import value is based on U.S. general imports, customs value basis. Exports—excludes exports valued at less than \$2,500. Export value is FAS (free alongside ship) and represents the value of exports at the port of export, including the transaction price and inland freight, insurance, and other charges.

**Sources:** **Water and air**—U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, *FT920 U.S. Merchandise Trade: Selected Highlights, December 2011*, available at [http://www.census.gov/foreign-trade/Press-Release/ft920\\_index.html](http://www.census.gov/foreign-trade/Press-Release/ft920_index.html) accessed August 2012. **Truck, rail, pipeline and other, unknown, and miscellaneous**—U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, *TransBorder Freight Data*, available at <http://www.bts.gov/programs/international/transborder/> accessed August 2012, and BTS special calculation, July 2012.

#### 4-8 U.S. Trade in Transportation-Related Commodities: 2011 (millions of current U.S. dollars)

Commodity and HTS code	Exports	Imports	Total trade <sup>a</sup>	Trade balance <sup>b</sup>
Motor vehicles and parts (87)	119,714	202,390	322,104	-82,676
Aircraft, spacecraft, and parts (88)	87,532	21,531	109,063	66,001
Railway or tramway locomotives and parts (86)	3,185	1,810	4,995	1,376
Ships, boats, and floating structures (89)	2,533	1,167	3,700	1,367
Total, transportation commodities	212,964	226,898	439,862	-13,932
<b>Total, all commodities</b>	<b>1,480,552</b>	<b>2,206,929</b>	<b>3,687,481</b>	<b>-726,377</b>
Transportation commodities share of trade (percentage)	14.38	10.28	11.93	1.92

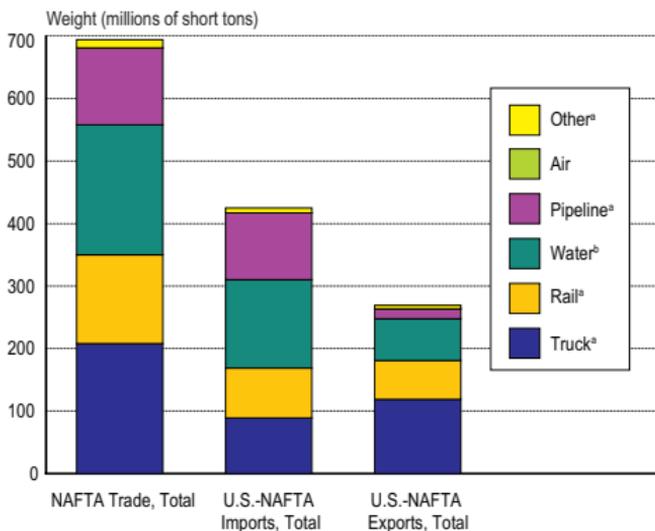
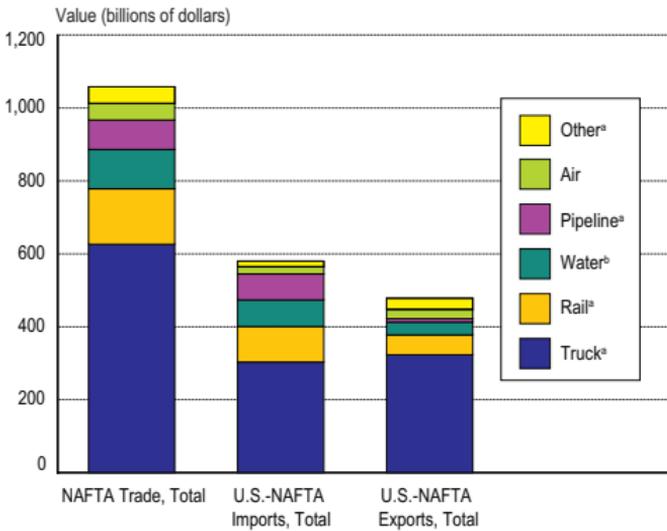
<sup>a</sup>Total trade = exports plus imports. <sup>b</sup>Trade balance = exports minus imports.

**Key:** HTS = Harmonized Tariff Schedule.

**Notes:** The HTS codes are classification categories from the Harmonized Tariff Schedule and may not include all transportation-related commodities. Classification category (87) also includes bicycles, wheelchairs, and baby carriages.

**Source:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics; special calculation based on data from U.S. Department of Commerce, *U.S. International Trade Commission, Interactive Tariff and Trade DataWeb*, available at <http://dataweb.usitc.gov> accessed August 2012.

## 4-9 U.S. Merchandise Trade With Canada and Mexico by Mode Share: 2011



<sup>a</sup>The Bureau of Transportation Statistics estimated weight of exports for truck, rail, pipeline, mail and other and unknown modes based on the import weight-to-value ratios that vary by country, mode, and commodity. <sup>b</sup>Weight data for water transportation vary from those officially reported by the U.S. Army Corps of Engineers because the data in this figure exclude intransit shipments.

**Notes:** U.S. North American Free Trade Agreement (NAFTA) refers to U.S. trade with Canada and Mexico. "Other" includes shipments transported by mail, other, and unknown modes, and shipments through Foreign Trade Zones.

**Sources:** **Truck, Rail, Pipeline, Other**—U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, *Transborder Freight Data*, available at <http://www.bts.gov/programs/international/transborder/> accessed August 2012. **Water, Air**—U.S. Department of Commerce, Census Bureau, Foreign Trade Division, *FT920 U.S. Merchandise Trade: Selected Highlights* accessed August 2012.

#### 4-10 Top 20 U.S.-International Trade Freight Gateways by Value of Shipments: 2011 (billions of current dollars)

Rank	Gateway	Exports	Imports	Total
1	Los Angeles, CA (w)	44.2	170.4	214.6
2	New York, NY and NJ (w)	56.9	150.2	207.1
3	JFK International Airport, NY (a)	96.1	93.8	189.9
4	Houston, TX (w)	87.3	80.3	167.6
5	Long Beach, CA (w)	34.4	119.0	153.4
6	Laredo, TX (l)	67.9	77.0	144.9
7	Detroit, MI (l)	65.8	55.1	120.9
8	Chicago, IL (a)	35.9	79.6	115.5
9	Los Angeles Int'l Airport, CA (a)	40.5	42.7	83.2
10	Port Huron, MI (l)	39.9	43.1	83.0
11	Buffalo-Niagara Falls, NY (l)	44.0	38.0	82.0
12	Savannah, GA (w)	30.9	40.7	71.7
13	Miami Int'l Airport, FL (a)	40.9	20.1	61.0
14	El Paso, TX (l)	26.8	33.1	59.9
15	New Orleans, LA (a)	24.0	35.1	59.1
16	Charleston, SC (w)	22.2	36.7	58.9
17	Norfolk, VA (w)	28.2	29.5	57.7
18	Baltimore, MD (w)	20.5	30.6	51.1
19	San Francisco Int'l Airport, CA (a)	26.5	23.8	50.3
20	Oakland, CA (w)	18.1	28.0	46.1

**Key:** a = airport; l = land port; w = 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 that area and small regional airports. Due to Census Bureau confidentiality regulations, courier operations are included in airport totals for only New York (JFK), Los Angeles, and Chicago.

**Sources:** **Air**—U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, *USA Trade Online*, **Land**—U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, *TransBorder Freight Data*, **Water**—U.S. Army Corps of Engineers, Navigation Data Center, personal communication, as cited in U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, *National Transportation Statistics*, table 1-51, available at [http://www.bts.gov/publications/national\\_transportation\\_statistics/](http://www.bts.gov/publications/national_transportation_statistics/) accessed October 2012.

## 4-11 Top 20 U.S. Water Ports by Shipment Weight & Top 20 U.S. Water Ports by Container TEUs: 2010

Rank	Port by shipment weight	Short tons (millions)	Rank	Port by container TEUs	Full TEUs (thousands)
1	South Louisiana, LA	236.3	1	Los Angeles, CA	5,479
2	Houston, TX	227.1	2	Long Beach, CA	4,737
3	New York, NY and NJ	139.2	3	New York, NY and NJ	4,216
4	Beaumont, TX	77.0	4	Savannah, GA	2,148
5	Long Beach, CA	75.4	5	Oakland, CA	1,674
6	Corpus Christi, TX	73.7	6	Norfolk Harbor, VA	1,602
7	New Orleans, LA	72.4	7	Seattle, WA	1,473
8	Los Angeles, CA	62.4	8	Houston, TX	1,342
9	Huntington, KY, OH, WV	61.5	9	Charleston, SC	1,086
10	Texas City, TX	56.6	10	Tacoma, WA	1,061
11	Plaquemines, LA	55.8	11	Miami, FL	825
12	Mobile, AL	55.7	12	Port Everglades, FL	749
13	Baton Rouge, LA	55.5	13	Baltimore, MD	725
14	Lake Charles, LA	54.6	14	New Orleans, LA	679
15	Norfolk Harbor, VA	41.6	15	Jacksonville, FL	579
16	Baltimore, MD	39.6	16	San Juan, PR	495
17	Pascagoula, MS	37.3	17	Wilmington, NC	275
18	Duluth-Superior, MN and WI	36.6	18	Gulfport, MS	268
19	Savannah, GA	34.7	19	Philadelphia, PA	200
20	Tampa, FL	34.2	20	Wilmington, DE	177
<b>Total, top 20</b>		<b>1,527</b>	<b>Total, top 20</b>		<b>29,790</b>
<b>Total, all ports</b>		<b>2,334</b>	<b>Total, all ports</b>		<b>31,507</b>

**Notes:** Includes exports, imports, and domestic shipments. See table 4-10 for top 20 freight gateways by value of shipments. TEUs = 20-foot equivalent units. One 20-foot container equals one TEU.

**Sources:** Short tons: U.S. Army Corps of Engineers, *Waterborne Commerce of the United States*, Part 5, National Summaries, tables 1-1 and 5-2, available at <http://www.iwr.usace.army.mil/ndc/wcsc/wcsc.htm> accessed August 2012 as reported in U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, *National Transportation Statistics*, table 1-57, available at [http://www.bts.gov/publications/national\\_transportation\\_statistics/](http://www.bts.gov/publications/national_transportation_statistics/) accessed August 2012. TEUs: U.S. Army Corps of Engineers, *U.S. Waterborne Container Traffic by Port/Waterway*, available at <http://www.iwr.usace.army.mil/ndc/wcsc/wcsc.htm> accessed August 2012.

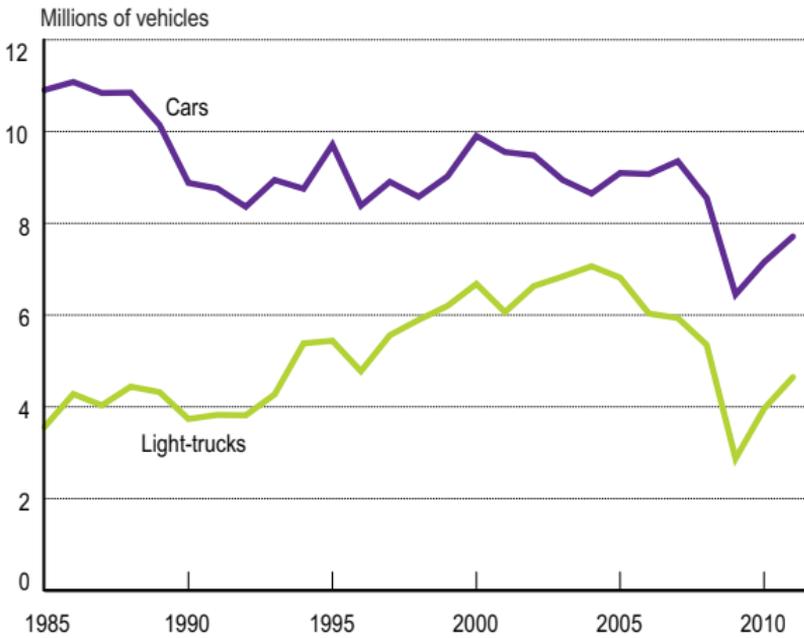
#### 4-12 Top 20 World Container Ports: 2009 and 2010 (thousands of full and empty TEUs)

Rank (2009)	Rank (2010)	Port	Country	TEUs
2	1	Shanghai	China	29,069
1	2	Singapore	Singapore	28,431
3	3	Hong Kong	China	23,669
4	4	Shenzhen	China	22,510
5	5	Busan	South Korea	14,194
8	6	Ningbo	China	13,144
6	7	Guangzhou	China	12,487
9	8	Qingdao	China	12,012
7	9	Dubai Ports	United Arab Emirates	11,576
10	10	Rotterdam	Netherlands	11,146
11	11	Tianjin	China	10,080
12	12	Kaohsiung	Taiwan	9,121
13	13	Port Kelang	Malaysia	8,872
14	14	Antwerp	Belgium	8,468
15	15	Hamburg	Germany	7,896
<b>16</b>	<b>16</b>	<b>Los Angeles</b>	<b>United States</b>	<b>7,832</b>
17	17	Tanjung Pelepas	Malaysia	6,299
<b>18</b>	<b>18</b>	<b>Long Beach</b>	<b>United States</b>	<b>6,263</b>
19	19	Xiamen	China	5,824
<b>21</b>	<b>20</b>	<b>New York/New Jersey</b>	<b>United States</b>	<b>5,292</b>

**Notes:** TEUs = 20-foot equivalent units. One 20-foot container equals one TEU.

**Source:** American Association of Port Authorities (AAPA), *Port Industry Statistics, World Port Rankings (Container Traffic)*, available at <http://www.aapa-ports.org/> accessed September 2012.

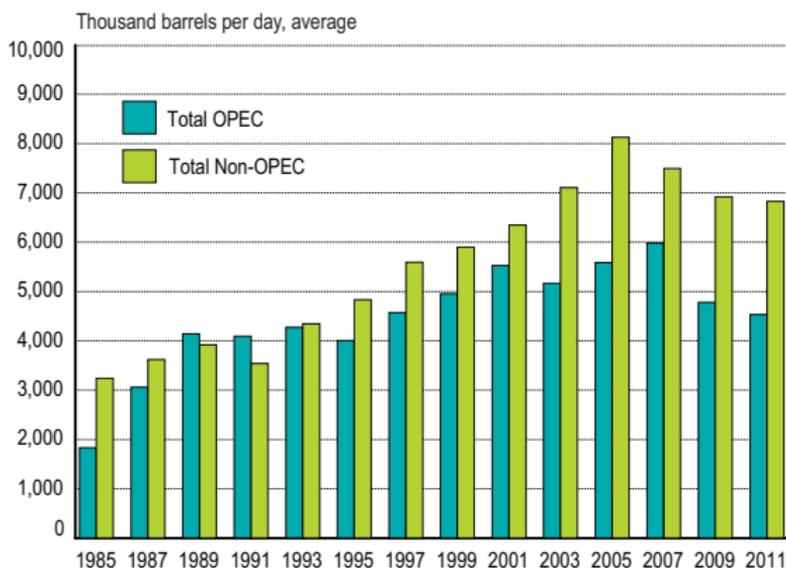
## 4-13 New U.S. Passenger Car and Light Truck Production: Model Years 1985–2011



**Notes:** Historical data are revised. Light trucks include SUVs, minivans/vans, and pick-up trucks.

**Source:** U.S. Environmental Protection Agency, *Light-Duty Automotive Technology, Carbon Dioxide Emissions, and Fuel Economy Trends: 1975 Through 2011*, appendix E, available at <http://www.epa.gov/oms/fetrends.htm> accessed August 2012.

## 4-14 U.S. Petroleum Imports: 1985–2011



**Notes:** OPEC (Organization of Petroleum Exporting Countries) members are Algeria, Angola, Ecuador, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela. Angola joined OPEC in January 2007. Ecuador was a member of OPEC from 1973-1992, and rejoined OPEC in November 2007. Gabon was a member from 1975-1994. Indonesia withdrew from OPEC in May 2008.

**Source:** U.S. Department of Energy, Energy Information Administration, *Monthly Energy Review* (Washington, DC: July 2012), tables 3.3c and 3.3d, available at <http://www.eia.doe.gov/emeu/mer/petro.html> accessed August 2012.

#### 4-15 Major Sources of Petroleum Consumed in the U.S.: 1990, 2000, 2010, 2011 (thousand barrels per day, average)

	Rank (2011)	1990	2000	2010	2011
United States	1	7,355	5,822	5,479	5,647
Canada	2	934	1,807	2,535	2,706
Mexico	3	755	1,373	1,284	1,205
Saudi Arabia (OPEC)	4	1,339	1,572	1,096	1,195
Venezuela (OPEC)	5	1,025	1,546	988	944
Nigeria (OPEC)	6	800	896	1,023	817
Russia	7	45	72	612	621
Iraq (OPEC)	8	518	620	415	460
Colombia	9	182	342	365	422
Algeria (OPEC)	10	280	225	510	358
Angola (OPEC)	11	NR	NR	393	346
Brazil	12	49	51	272	249
Ecuador (OPEC)	13	49	NR	212	192
Kuwait (OPEC)	14	86	272	197	191
U.S. Virgin Islands	15	282	291	253	187
United Kingdom	16	189	366	256	158
Norway	17	102	343	89	113
Netherlands	18	55	30	108	100
Libya (OPEC)	19	0	0	70	15
<b>Total, U.S. Petroleum Imports</b>		<b>8,018</b>	<b>11,459</b>	<b>11,793</b>	<b>11,360</b>
<b>Total, U.S. Domestic and Imports</b>		<b>15,373</b>	<b>17,281</b>	<b>17,272</b>	<b>17,007</b>
<b>U.S. Imports Share of Total</b>		<b>52%</b>	<b>66%</b>	<b>68%</b>	<b>67%</b>

**Key:** OPEC = Organization of Petroleum Exporting Countries; NR = Not reported.

**Notes:** The country of origin for petroleum products may not be the country of origin for the crude oil used to produce the products. For example, refined products imported from western European refineries may have been produced from Middle Eastern crude oil. Angola joined OPEC in January 2007. Ecuador was a member of OPEC from 1973-1992, and rejoined OPEC in November 2007. Data for Angola for 1973-2006, and Ecuador for 1993-2007 are included in Total Non-OPEC in Energy Information Administration, *Monthly Energy Review*, table 3.3d.

**Source:** U.S. Department of Energy, Energy Information Administration, *Monthly Energy Review* (Washington, DC: July 2012), tables 3.1, 3.3c, and 3.3d, available at <http://www.eia.doe.gov/emeu/mer/petro.html> and [http://www.eia.gov/dnav/pet/pet\\_crd\\_crpdn\\_adc\\_mbbldpd\\_a.htm](http://www.eia.gov/dnav/pet/pet_crd_crpdn_adc_mbbldpd_a.htm) accessed August 2012.

**4-16 Government Transportation Revenues by Mode and Level of Government: 2000, 2007, 2008, 2009**  
(millions of current dollars)

	2000	2007	2008	2009
Highway total	90,981	114,396	111,980	U
Federal: Highway Trust Fund <sup>a</sup>	34,986	40,061	37,080	35,144
State and local	55,995	74,336	74,900	U
Transit total <sup>b</sup>	10,670	13,874	14,591	15,292
Railroad <sup>c</sup>	1	0	0	0
Air total	22,235	29,384	30,702	29,817
Federal: Airport and Airway Trust Fund <sup>d</sup>	10,544	11,994	12,484	12,491
State and local	11,691	17,390	18,218	17,327
Water total	4,058	6,191	6,551	6,142
Federal: water receipts <sup>e</sup>	1,551	2,325	2,412	2,221
State and local	2,507	3,866	4,139	3,921
Pipeline <sup>c</sup>	30	60	63	78
General support <sup>c</sup>	26	16	14	20
<b>Total, all modes</b>	<b>128,001</b>	<b>163,920</b>	<b>163,901</b>	<b>U</b>
Federal	47,138	54,456	52,053	49,954
State and local	80,863	109,465	111,848	U

<sup>a</sup>Includes both Highway and Transit Accounts of the Highway Trust Fund (HTF). Also includes other receipts from motor fuel and motor vehicle taxes not deposited in the HTF. <sup>b</sup>Includes state and local government only. <sup>c</sup>Includes federal only. <sup>d</sup>Receipts from aviation user and aviation security fees are also included. <sup>e</sup>Includes Harbor Maintenance Trust Fund, St. Lawrence Seaway tolls, Inland Waterway Trust Fund, Panama Canal receipts through 2000, Oil Spill Liability Trust Fund, Offshore Oil Pollution Fund, Deep Water Port Liability Fund, and excise taxes of the Boat Safety Program.

**Key:** U = unavailable

**Notes:** Data for 2000 and 2007 are revised. Government transportation revenue consists of money collected by governments from transportation user charges and taxes to finance transportation programs. The following types of receipts are excluded: 1) revenues collected from users of the transportation system that are directed to the general fund and used for non-transportation purposes, 2) non-transportation general fund revenues that are used to finance transportation programs, and 3) proceeds from borrowing. The revisions for transportation revenues include: 1) state and local air transportation revenues for 1995 and 2000, 2) pipeline revenues for 2000, and 3) the revenues for 2007.

**Source:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, *Government Transportation Financial Statistics 2012*.

#### 4-17 Government Transportation Expenditures by Mode and Level of Government: 2000, 2007, 2008, 2009 (millions of current dollars)

	2000	2007	2008	2009
Highway total <sup>a</sup>	119,903	175,456	182,007	U
Federal	2,182	2,932	3,803	3,803
State and local	117,720	172,524	178,204	U
Transit total	34,823	45,753	50,893	54,341
Federal	3,672	98	90	92
State and local	31,150	45,655	50,803	54,249
Rail total	778	1,528	1,526	1,880
Federal	765	1,523	1,525	1,880
State and local	13	5	1	0
Air total	22,352	43,584	46,430	47,831
Federal	9,192	23,523	25,166	24,970
State and local	13,160	20,061	21,264	22,861
Water total	7,634	12,069	12,758	13,766
Federal	4,493	7,308	7,818	8,547
State and local	3,141	4,761	4,940	5,219
Pipeline total	55	89	92	99
Federal	37	66	61	55
State and local	18	23	31	44
General support	653	834	675	1,384
Federal	645	821	663	1,368
State and local	8	13	12	16
<b>Total, all modes</b>	<b>186,197</b>	<b>279,312</b>	<b>294,381</b>	<b>U</b>
Federal	20,987	36,271	39,126	42,755
State and local	165,210	243,041	255,255	U

<sup>a</sup>Highway total includes funding from federal grants, fuel taxes and other auto revenues from states, and general fund revenues.

**Key:** U = unavailable

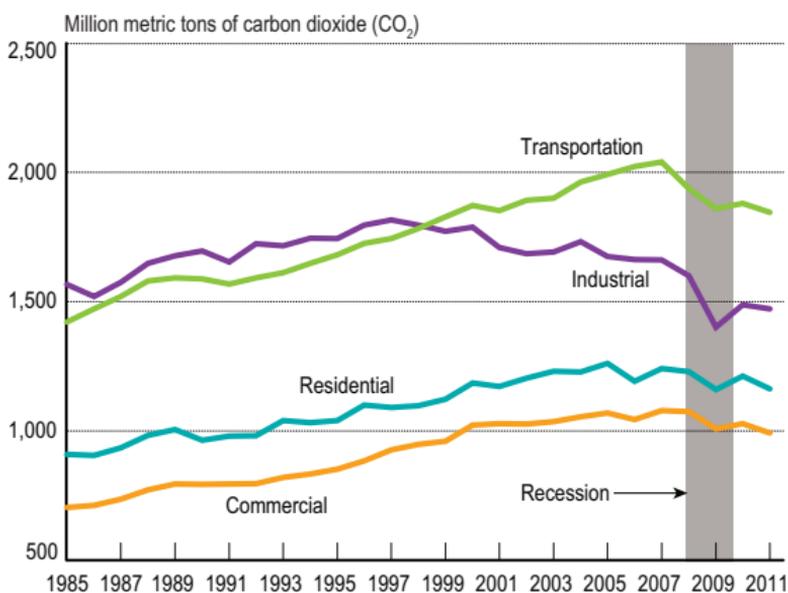
**Notes:** Data for 2000 and 2007 are revised. Federal expenditure includes direct federal spending, excluding grants to state and local governments. State and local expenditure includes outlays from all sources of funds including funds from federal grants, except railroad and pipeline modes. State and local expenditure for rail and pipeline modes include outlays that are funded by federal grants only. The part of expenditure that may be funded by other funding sources of state and local governments are not covered due to lack of data. Outlays for civilian transportation-related activities of the U.S. Army Corps of Engineers for construction, operation, and maintenance of channels, harbors, locks, and dams, and protection of navigation are not included for all years due to lack of data. The revisions for transportation expenditures include: 1) outlays for air transportation, 2) Federal water outlays for 1995 and 2007, 3) Federal expenditures on highway, transit and pipeline for 2000, 4) highway data for 2007, and 5) outlays for state and local transit and federal general support for 2007.

**Source:** U. S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, *Government Transportation Financial Statistics 2012*.

## 5 ENVIRONMENTAL SUSTAINABILITY

While transportation enhances the quality of our lives, it also generates environmental impacts. Since 1980, most transportation-related air pollutant emissions have declined. This follows national mandates for more stringent vehicle emission standards, cleaner burning fuels, and greener automobile technologies. Greenhouse gas emissions from transportation fuel use rose steadily until 2007 before decreasing in 2008 due to the economic recession and fewer vehicle miles traveled.

### 5-1 U.S. Greenhouse Gas Emissions From Energy Use: 1985–2011

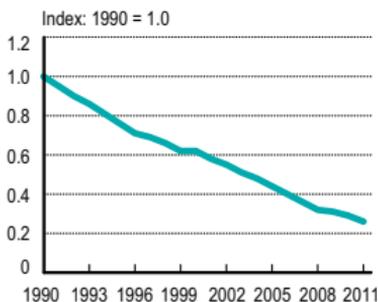


**Notes:** Electric power sector emissions are distributed across sectors. Data for 2009 and 2010 are revised.

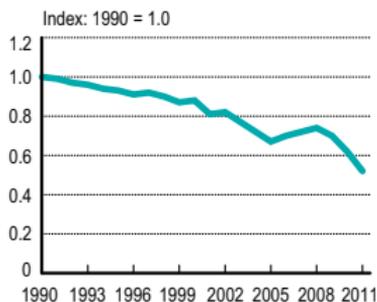
**Source:** U.S. Department of Energy, Energy Information Administration, *Monthly Energy Review, Carbon Dioxide Emissions From Energy Consumption*, tables 12.2 to 12.5, available at <http://www.eia.doe.gov/emeu/mer/envi-ron.html> accessed August 2012.

## 5-2 Index of Key Air Pollutant Emissions From U.S. Highway Transportation: 1990–2011

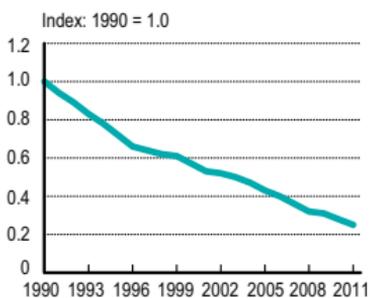
### Carbon monoxide



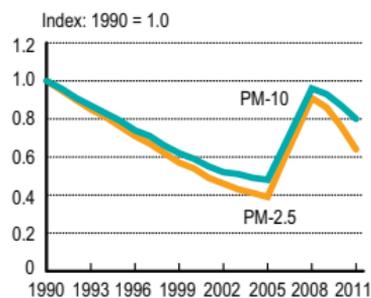
### Nitrogen oxide



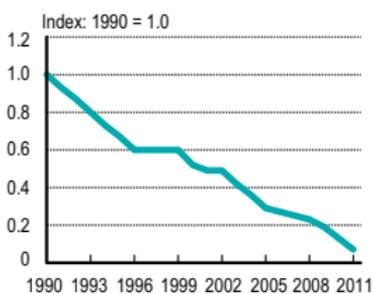
### Volatile organic compounds



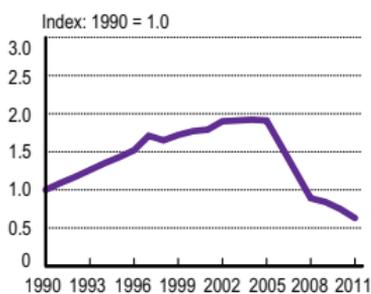
### PM-10; PM-2.5



### Sulfur dioxide



### Ammonia

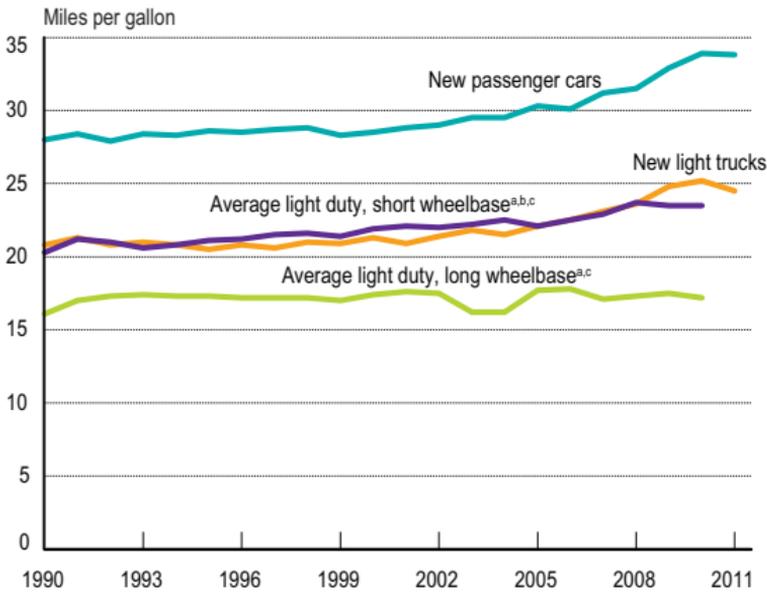


**Key:** PM-10 = airborne particulates of less than 10 microns; PM-2.5 = airborne particulates of less than 2.5 microns.

**Notes:** Not all graph scales are comparable. The indices are calculated using data on emissions from highway vehicles only. Particulate matters include PM without condensibles. Data for 2003 through 2009 are revised. In the *National Emissions Inventory (NEI) 2008*, on-road mobile source estimates are based on a new methodology. Data for 2008 and beyond may not be comparable to previous years.

**Source:** U.S. Environmental Protection Agency, *National Emissions Inventory (NEI) Air Pollutant Emissions Trends Data*, available at <http://www.epa.gov/ttn/chief/trends/index.html> accessed August 2012.

### 5-3 Passenger Car and Light Truck Fuel Economy Averages: 1990–2011

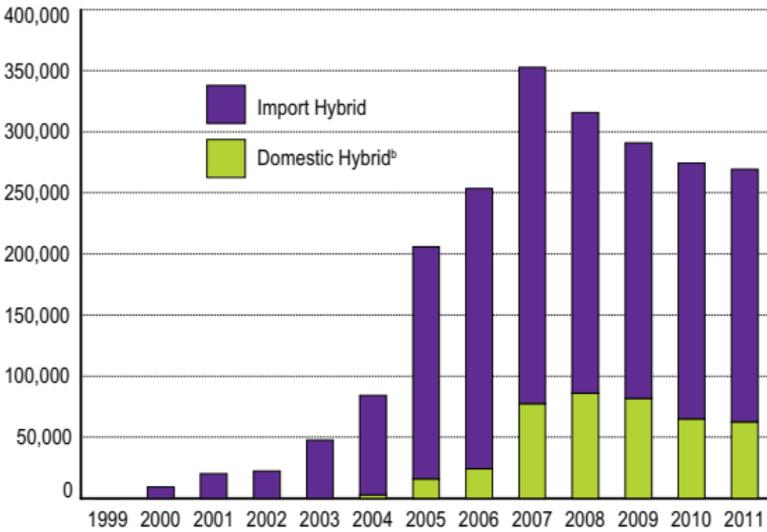


<sup>a</sup>Data before 2007 are for passenger car and other 2-axle, 4-tire vehicles, respectively. <sup>b</sup>Before 1995, light duty vehicle, short wheel base (previously passenger car) fuel efficiency includes motorcycles. <sup>c</sup>Data are unavailable for 2011.

**Notes:** Fuel economy is miles divided by gallons. New vehicle data are for model years. Average fleet data for 2007 to 2009 were calculated using a new methodology developed by FHWA. Data for these years are based on new categories and are not comparable to previous years. The new category Light duty vehicle, short wheel base includes passenger cars, light trucks, vans and sport utility vehicles with a wheelbase (WB) equal to or less than 121 inches. The new category Light duty vehicle, long wheel base includes large passenger cars, vans, pickup trucks, and sport/utility vehicles with wheelbases (WB) larger than 121 inches. Data for 2009 and 2010 are revised.

**Sources:** National Highway Traffic Safety Administration, *Summary of Fuel Economy Performance* (Washington, DC: Annual Issues), available at <http://www.nhtsa.gov/> and Federal Highway Administration, *Highway Statistics* (Washington, DC: Annual Issues), table VM-1, available at <http://www.fhwa.dot.gov/policyinformation/statistics.cfm> as cited in U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, *National Transportation Statistics*, table 4-23, available at [http://www.bts.gov/publications/national\\_transportation\\_statistics/](http://www.bts.gov/publications/national_transportation_statistics/) accessed August 2012.

## 5-4 Hybrid Vehicle Sales<sup>a</sup> in the United States: 1999–2011<sup>c</sup>

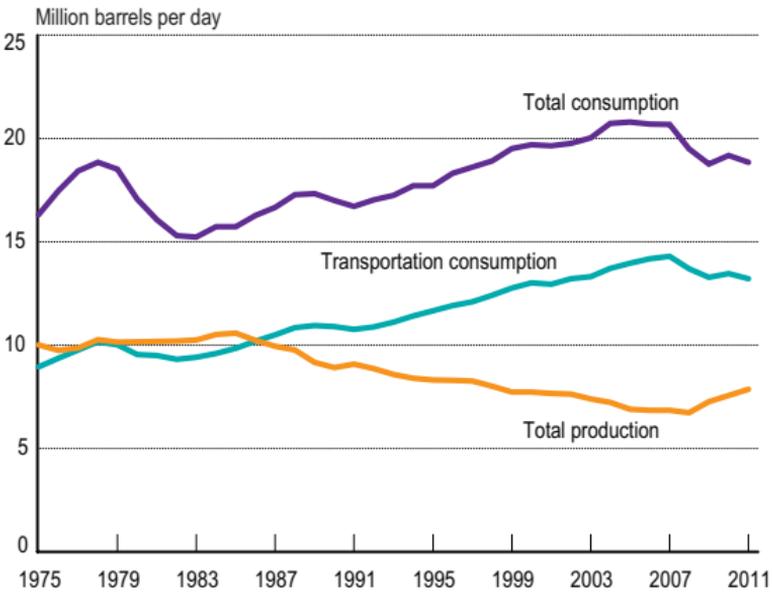


<sup>a</sup>Sales include leased vehicles and fleet sales. <sup>b</sup>Includes vehicles produced in Canada and Mexico. <sup>c</sup>Calendar year vehicle sales.

**Notes:** Data for 2009 are revised. The first domestic hybrid vehicle was not introduced in the U.S. market until 2004. A hybrid vehicle is a vehicle powered by a combination of battery-electric motor(s) and an internal combustion engine.

**Source:** Ward's Automotive Group, WardsAuto.com, personal communication, accessed January 2012.

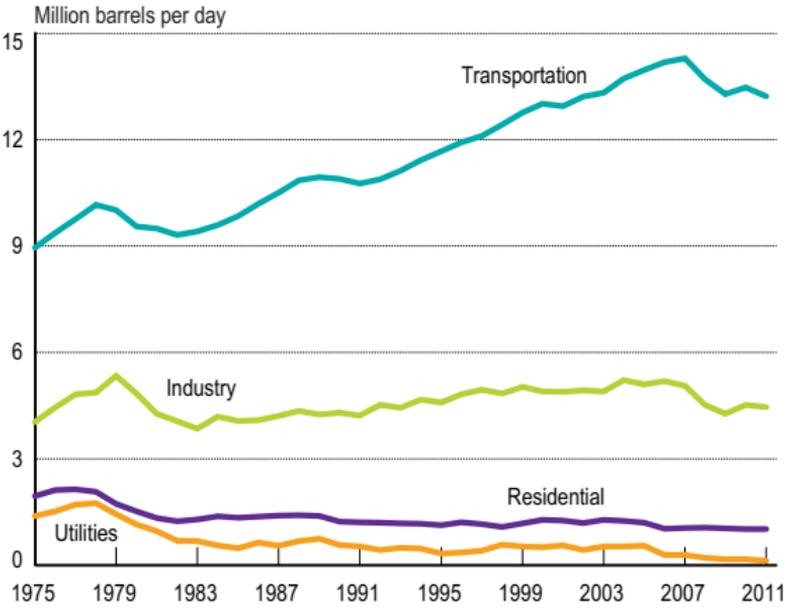
## 5-5 U.S. Petroleum Production and Consumption: 1975–2011



**Notes:** Data for 2011 are preliminary. Data for 2010 are revised.

**Source:** U.S. Department of Energy, Energy Information Administration, *Monthly Energy Review* (Washington, DC: July 2012), tables 3.1 and 3.7c, available at <http://www.eia.gov/totalenergy/data/monthly/> accessed August 2012 as reported in U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, *National Transportation Statistics*, table 4-1, available at [http://www.bts.gov/publications/national\\_transportation\\_statistics/](http://www.bts.gov/publications/national_transportation_statistics/) accessed August 2012.

## 5-6 Transportation's Share of U.S. Petroleum Use: 1975–2011



**Note:** Data for 2011 are preliminary. Data for 2010 are revised.

**Source:** U.S. Department of Energy, Energy Information Administration, *Monthly Energy Review* (Washington, DC: July 2012), tables 3.7a–c, available at <http://www.eia.doe.gov/mer/petro.html> accessed August 2012.

## GLOSSARY

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

**Chained dollars:** A method to measure real changes in dollar values between years that uses chain-type indexes, rather than constant dollars. The method first calculates the real changes between adjacent years. Annual rates of real changes are then chained (multiplied) together to obtain the rate of real changes between nonadjacent years.

**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.

**Commercial waterway facilities:** Waterway facilities, as defined by the U.S. Army Corps of Engineers, are piers, wharves, and docks. Not included are those facilities used exclusively for recreational or active military craft and generally those providing nonmaritime use.

**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.

**Contracted service (purchased transportation):** Transportation service provided to a public transit agency or governmental unit from a public or private transportation provider based on a written contract.

**Current dollars:** The market value reflecting prices and quantities of the period being measured.

**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.

**Draft:** The depth of water a vessel draws, loaded or unloaded.

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

**Ferry:** Vessels that carry passengers and/or vehicles over a body of water. Generally steam or diesel-powered, ferryboats may also be hovercraft, hydrofoil, and other high-speed vessels. The vessel is limited in its use to the carriage of deck passengers or vehicles or both, operates on a short run on a frequent schedule between two points over the most direct water routes other than in ocean or coastwise service, and is offered as a public service of a type normally attributed to a bridge or tunnel.

**For-hire:** Refers to a vehicle operated on behalf of or by a company that provides transport 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.

**Functionally Obsolete:** Functional obsolescence is a function of the geometrics of the bridge not meeting current design standards.

**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.

**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 long wheelbase:** Large passenger cars, vans, pickup trucks, and sport/utility vehicles with wheelbases larger than 121 inches.

**Light duty vehicle short wheelbase:** Passenger cars, light trucks, vans and sport utility vehicles with a wheelbase equal to or less than 121 inches.

**Light truck:** Trucks of 10,000 pounds gross vehicle weight rating or less, including pickup trucks, vans, truck-based station wagons, and sport utility vehicles.

**Long-distance travel:** Long-distance trips are trips of 50 miles or more from home to the farthest destination traveled and include the return component as well as any overnight stops and stops to change transportation mode.

**Metric ton:** A unit of weight equal to 2,204.6 pounds.

**North American Industry Classification System (NAICS):**

NAICS (established in April 1997) replaced the Standard Industrial Classification (SIC) and groups producing and nonproducing economic activities into 20 sectors and 1,170 industries in the United States version. It was developed to provide common industry definitions for Canada, Mexico, and the United States to facilitate analyses of the economies of the three countries.

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

**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.

**Pedalcyclist:** A person on a vehicle that is powered solely by pedals.

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

**Real gross domestic product (GDP):** Real gross domestic product is the inflation adjusted value of the output of goods and services produced by labor and property located in the United States.

**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.

**Serious injury:** An injury that requires hospitalization for more than 48 hours, commencing within 7 days from the date when the injury was received; results in a bone fracture (except simple fractures of fingers, toes, or nose); involves lacerations that cause severe hemorrhages, nerve, muscle, or tendon damage; involves injury to any internal organ; or involves second- or third-degree burns or any burns affecting more than 5 percent of the body surface.

**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.

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

**Truck: Single unit**—A large truck on a single frame with at least two axles and six tires. **Combination**—A power unit (truck or truck tractor) and one or more trailing units.

**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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