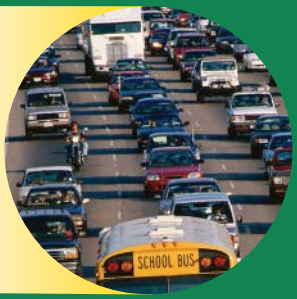
Research & Innovative Technology Administration

# Pocket Guide to Transportation 2008

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# Pocket Guide to Transportation

Bureau of
Transportation
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Research and Innovative
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U.S. Department of
Transportation



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

| Context | 1990 | 2006 |
|---|---|---|
| Resident population (thousand) | 248,791 | 299,398 |
| Total area (thousand sq. mi.) | 3,718 | 3,794 (2000)[a] |
| Total civilian labor force (thousand) | 125,840 | 151,428 |
| Real gross domestic product[b] (trillion) | $7.1 | $11.3 |
| Median household income[b,c] | $36,668 | $41,350 |
| Average household income[b,c] | $39,073 | $51,929 |
| Average household expenditures [b,c] | $35,257 | $42,204 |
| Number of households (thousand) | 93,347 | 114,384 |
| Life expectancy at birth (years) | 75.4 | 77.8 (2004) |

[a] Data for 2000 include inland water, coastal water, Great Lakes, and territorial water. The Census Bureau tabulates area data for the decennial census years only.
[b] Data in 2000 chained dollars (see Glossary for definition).
[c] BTS computations, November 2007.

Sources: **Area**—U.S. Department of Commerce (USDOC), U.S. Census Bureau, *Statistical Abstract of the United States: 2002* and *2007*, available at www.census.gov as of October 2007. **GDP**—USDOC, Bureau of Economic Analysis, available at www.bea.gov as of October 2007. **Population, number of households, median and average household income**—USDOC, Census, available at www.census.gov as of October 2007. **Average household income and expenditures, and labor force**—U.S. Department of Labor, Bureau of Labor Statistics, available at www.bls.gov as of October 2007. **Life expectancy**—Centers for Disease Control and Prevention, available at www.cdc.gov as of October 2007.

# 1 System Extent and Use

The U.S. transportation system is an extensive, interrelated public and private network of roads, airports, railroads, transit routes, waterways, terminals, ports, and pipelines. Millions of people and businesses rely on this expanding system to get to work, embark on vacations, conduct business, and ship goods within the United States and abroad. The transportation system links regions and connects small and large cities and urban and rural areas.

1-1
**The Transportation Network: 2006**

| Mode | Components |
|---|---|
| **Highway** (2005) | ***Public roads*** |
| | 46,871 miles of Interstate highway |
| | 115,502 miles of other National Highway System roads |
| | 3,849,259 miles of other roads |
| **Air** | ***Public-use airports*** |
| | 5,233 airports |
| | ***Airports serving large certificated carriers (enplaned passengers)*** |
| | 26 large hub areas[a] (67 airports), 487 million passengers |
| | 37 medium hub areas (62 airports), 141 million passengers |
| | 67 small hub areas (83 airports), 53 million passengers |
| | 924 nonhub areas (959 airports), 23 million passengers |
| **Rail** (2005) | ***Miles of railroad operated*** |
| | 95,664 miles by Class I freight railroads in the United States[b] |
| | 15,388 miles by regional freight railroads |
| | 29,197 miles by local freight railroads |
| | 22,007 miles by Amtrak (passenger)[c] |

1-1—continued

| Mode | Components |
|---|---|
| **Urban transit** (2005) | ***Directional route-miles***[d] |
| | Bus: 168,639[e] |
| | Trolley bus: 429 |
| | Commuter rail: 4,450 |
| | Heavy rail: 1,601 |
| | Light rail: 1,091 |
| | ***Stations*** |
| | Commuter rail: 1,164 |
| | Heavy rail: 1,042 |
| | Light rail: 730 |
| **Water** (2005) | ***Navigable channels:*** *26,000 miles* |
| | ***Ferry routes:*** *639 directional route-miles* |
| | ***Commercial waterway facilities***[a] |
| | Great Lakes: 600 deep-draft, 154 shallow-draft |
| | Inland: 2,321 shallow-draft |
| | Ocean: 4,398 deep-draft, 1,926 shallow-draft |
| | Locks: 257 |
| **Pipeline** (2005) | ***Miles of oil pipe*** |
| | Crude lines: 60,043 |
| | Product lines: 71,310 |
| | ***Miles of gas pipe*** |
| | Transmission: 296,400 |
| | Distribution: 1,117,800 |

[a] See Glossary for definitions. [b] There are also 1,368 miles of railroad operated within the U.S. Class I freight railroad system that are owned by Canadian railroads. [c] The Amtrak mileage includes the 745 miles of trackage it owns and route-miles operated on freight railroad tracks. [d] Directional route-miles includes only directly-operated service. Does not include contracted service. [e] Includes directional route-miles on exclusive right-of-way, controlled right-of-way, and mixed traffic.

Sources: Various sources, as cited in USDOT, RITA, BTS, *National Transportation Statistics,* available at http://www.bts.gov; Association of American Railroads, *Railroad Facts, 2006* (Washington, DC: 2006); USDOT, Federal Highway Administration, *Highway Statistics 2005* (Washington, DC: 2006), table HM-18; *Oil & Gas Journal,* Sept. 11, 2006; USDOT, Federal Transit Administration, *2005 National Transit Summaries and Trends,* tables 21, 23, and 24, available at http://www.ntdprogram.com/ntdprogram/pubs.htm; USDOT, RITA, BTS, "Airport Activity Statistics of Certificated Air Carriers, Summary Tables, 12 Months Ending Dec. 31, 2006," 2006; U.S. Army Corps of Engineers, Institute for Water Resources, Navigation Data Center, *The U.S. Waterway System Facts, February 2007* (Alexandria, VA: 2007).

1-2

## Condition of U.S. Highway Bridges: 1990–2007

| Mode | 1990 | 2000 | 2006 | 2007 |
|---|---|---|---|---|
| **Total all bridges** | 572,205 | 589,674 | 597,340 | 599,893 |
| Urban | 108,770 | 133,384 | 146,041 | 151,102 |
| Rural | 463,435 | 456,290 | 451,299 | 448,791 |
| **Structurally deficient bridges, total** | 137,865 | 86,692 | 73,784 | 72,264 |
| Urban | 16,847 | U | 12,585 | 12,882 |
| Rural | 121,018 | U | 61,199 | 59,382 |
| **Functionally obsolete bridges, total** | 100,355 | 81,510 | 80,317 | 81,257 |
| Urban | 30,266 | 29,398 | 32,292 | 33,096 |
| Rural | 70,089 | 52,112 | 48,025 | 48,161 |

Key: U = unavailable.

Notes: Explanations for the terms Structurally Deficient and Functionally Obsolete can be found on pages 14 and 15 in Chapter 3 of the Federal Highway Administration, *2006 Conditions and Performance Report*; the following is a link to Chapter 3 of the report: http://www.fhwa.dot.gov/policy/2006cpr/pdfs/chap3.pdf.

U.S. totals include the 50 states, the District of Columbia, and Puerto Rico. Data include: Rural–Interstate, principal arterial, minor arterial, major collector, minor collector and local roads; Urban–Interstate, other freeways or expressways, other principal arterial, minor arterial, collector, and local roads.

Data for 1990 are as of December of that year; data for 2000 are as of August of that year; data for 2006 are as of July of that year; data for 2007 are as of August of that year.

Source: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics; *National Transportation Statistics*, Table 1-27, available at http://www.bts.gov as of November 2007.

The safety of the traveling public is of major concern for the U.S. Department of Transportation. Although progress has been made in reducing fatalities, roughly 43 percent of U.S. deaths due to unintentional injury involve transportation. Roughly 95 percent of transportation fatalities arise from motor vehicle crashes.

2-1
**Transportation Fatalities by Mode: 1990–2006**

| Mode | 1990 | 2000 | 2005 | 2006 |
|---|---|---|---|---|
| **Air** | | | | |
| Large U.S. air carrier[a] | 39 | 92 | 22 | P50 |
| Commuter air carrier[a] | 6 | 5 | 0 | P2 |
| On-demand air taxi[a] | 51 | 71 | 18 | P16 |
| General aviation[a] | 767 | 596 | R563 | P698 |
| **Highway**[b] | 44,599 | 41,945 | R43,510 | 42,642 |
| **Pipeline, gas and hazardous liquid** | 9 | 38 | R16 | 19 |
| **Railroad**[c] | 599 | 512 | R529 | P543 |
| **Transit**[d] | 339 | 295 | R236 | 213 |
| **Waterborne** | | | | |
| Vessel related, commercial ship | 85 | 53 | 45 | 48 |
| Nonvessel-related[e], commercial ship | 101 | 134 | 35 | 39 |
| Recreational boating | 865 | 701 | 697 | 710 |

[a] Includes people on planes and on the ground. [b] Includes motor vehicle occupants, nonoccupants, and fatalities at railroad crossings. [c] Includes fatalities from nontrain incidents as well as train incidents and accidents. Also includes train occupants and nonoccupants except motor vehicle occupants at grade crossings. [d] Fatalities resulting from all reportable incidents, not just accidents. Includes commuter rail, heavy rail, light rail, motorbus, demand response, van pool, and automated guideway. [e] Fatalities unrelated to vessel accidents, e.g., individual falling overboard and drowning.

Key: P = preliminary; R = revised.

Sources: Various sources, as cited in USDOT, RITA, BTS, *National Transportation Statistics,* table 2-1, available at http://www.bts.gov, as of September 2007. **2005—Highway:** USDOT, National Highway Traffic Safety Administration, National Center for Statistics and Analysis, personal communication, August 2007; **Transit:** USDOT, Volpe Center, personal communication, August 2007; **Recreational boating:** U.S. Department of Homeland Security, Coast Guard, *Boating Statistics 2006,* available at http://www.uscgboating.org/statistics/stats.htm as of September 2007.

2-2

**Distribution of Transportation Fatalities: 2006**

| Category | Number | % |
|---|---|---|
| Passenger car occupants | 17,800 | 39.6 |
| Light-truck occupants | 12,721 | 28.3 |
| Motorcycle riders | 4,810 | 10.7 |
| Pedestrians struck by motor vehicles | 4,784 | 10.7 |
| Large-truck occupants | 805 | 1.79 |
| Pedalcyclists struck by motor vehicles | 773 | 1.72 |
| Other and unknown motor vehicle occupants | 739 | 1.65 |
| Recreational boating | 710 | 1.58 |
| General aviation[a] | 698 | 1.55 |
| Railroad trespassers (excl. grade crossings)[b] | 520 | 1.16 |
| Other nonoccupants struck by motor vehicles[c] | 183 | 0.41 |
| Grade crossings, not involving motor vehicles[b, d] | 64 | 0.14 |
| Air carriers | 50 | 0.11 |
| Waterborne transportation (vessel-related) | 48 | 0.11 |
| Waterborne transportation (nonvessel-related) | 39 | 0.09 |
| Private grade crossings, with motor vehicles[b] | 38 | 0.08 |
| Heavy-rail transit (e.g., rail subway) | 32 | 0.07 |
| Bus occupants (school, intercity, transit) | 27 | 0.06 |
| Rail employees on duty and contractors[b] | 19 | 0.04 |
| Air taxi | 16 | 0.04 |
| Gas distribution pipelines | 16 | 0.04 |
| Light-rail transit | 13 | 0.03 |
| Gas transmission pipelines | 3 | 0.01 |
| Passengers on railroad trains | 2 | 0.004 |
| Commuter air | 2 | 0.004 |
| Hazardous liquid pipelines | 0 | 0.000 |
| **Total, all modes[e]** | **44,912** | **100** |
| Other counts, redundant with above | | |
| Crashes involving large trucks[f] | 4,995 | |
| Public grade crossings, with motor vehicles[b] | 266 | |

[a] Includes 154 persons aboard a Brazilian air carrier killed in a crash with a U.S. registered corporate jet over Brazil. [b] Includes fatalities outside trains. [c] Includes all nonoccupant fatalities in motor vehicle (MV) crashes, except pedalcyclists and pedestrians. [d] Public grade crossing fatalities involving motor vehicles are included in MV counts. [e] Unless otherwise noted, includes fatalities outside vehicles. [f] Includes large truck occupants, other vehicle occupants, and non occupants.

Sources: Various sources as cited in USDOT, RITA, BTS, National Transportation Statistics, table 2-4, available at http://www.bts.gov.

2-3

## Fatalities in Motor Vehicle Crashes by Number of Vehicles and by Alcohol Involvement: 2006

| Crash Category | Fatalities in category[a] | Alcohol involvement[b] | Percent[c] |
|---|---|---|---|
| **Occupants** | **36,902** | **14,861** | **40** |
| Single-vehicle crashes | 18,909 | 9,433 | 50 |
| Two-vehicle crashes | 15,013 | 4,508 | 30 |
| More than two-vehicle crashes | 2,980 | 920 | 31 |
| **Pedestrians** | **4,784** | **2,367** | **49** |
| Single-vehicle crashes | 4,327 | 2,108 | 49 |
| Multiple-vehicle crashes | 457 | 258 | 56 |
| **Pedalcyclists** | **773** | **302** | **39** |
| Single-vehicle crashes | 732 | 285 | 39 |
| Multiple-vehicle crashes | 41 | 17 | 41 |
| **Others/unknown** | **183** | **72** | **39** |
| **Total** | **42,642** | **17,602** | **41** |

[a] Fatalities in all crashes whether or not alcohol was involved.

[b] Fatalities in crashes that involve alcohol.

[c] Percentage of all crash fatalities in category that involve alcohol.

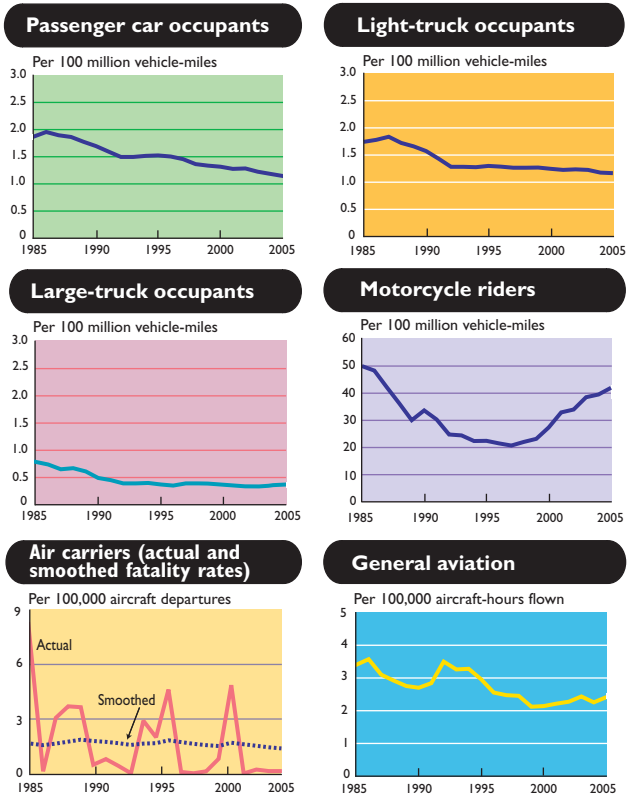
Notes: Numbers may not add to totals due to rounding.

A motor vehicle crash is considered to be alcohol-related if at least one driver or nonoccupant (e.g., a pedestrian or pedalcyclist) involved in the crash is determined to have had a blood alcohol concentration of 0.01 grams per deciliter or greater.

The National Highway Traffic Safety Administration estimates alcohol involvement when test results are unknown.

Source: U.S. Department of Transportation, National Highway Traffic Safety Administration, Fatality Analysis Reporting System (FARS) database, personal communication, October 2007.

2-4
## Fatality Rates for Selected Modes: 1985–2005




Notes: Air carrier data were smoothed using an exponential smoothing model, with a weight of 0.945 to reduce the year-to-year fluctuations. Air carrier fatalities resulting from the Sept. 11, 2001, terrorist attacks include only those persons onboard aircraft.

Sources: U.S. Department of Transportation (USDOT), National Highway Traffic Safety Administration, National Center for Statistics and Analysis, *Traffic Safety Facts 2005* tables 7-10, as of July 2006.
**Air carriers and general aviation**—USDOT, Research and Innovative Technology Administration, Bureau of Transportation Statistics, *National Transportation Statistics,* tables 2-9 and 2-14, available at http://www.bts.gov as of October 2007.

2-5

## Injured Persons by Transportation Mode: 1990–2006

| Mode | 1990 | 2000 | 2005 | 2006 |
|---|---|---|---|---|
| **Air** | | | | |
| Large U.S. air carrier | 29 | 29 | 13 | 9 |
| Commuter air carrier | 11 | 7 | 0 | 1 |
| On-demand air taxi | 36 | 12 | R20 | 16 |
| General aviation | 409 | 309 | R269 | 261 |
| **Highway**[a] | 3,230,666 | 3,188,750 | R2,699,000 | 2,575,000 |
| **Pipeline, gas and hazardous liquid** | 76 | 81 | R47 | 32 |
| **Railroad**[b] | 22,736 | 10,424 | R8,382 | 7,168 |
| **Transit**[c] | 54,556 | 56,697 | 18,131 | 18,327 |
| **Waterborne** | | | | |
| Vessel-related commercial ship | 175 | R150 | 140 | 177 |
| Nonvessel related[d] commercial ship | U | R607 | 504 | 594 |
| Recreational boating | 3,822 | 4,355 | 3,451 | 4,474 |

[a] Includes passenger car occupants, motorcyclists, light-duty and large-truck occupants, bus occupants, occupants of unknown vehicle types, and pedestrians, pedalcyclists, and other nonmotorists.

[b] 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.

[c] Injuries resulting from all reportable incidents, not just from accidents. Includes commuter rail, heavy rail, light rail, motorbus, demand response, van pool, and automated guideway. The drop in the number of injuries in 2005 and 2006 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.

[d] Injuries unrelated to vessel accidents, e.g., an individual getting a cut while onboard a vessel.

Key: R = revised; U = unavailable.

Note: Modes may use different reporting criteria and/or estimation methods for injuries.

Sources: Except as noted, various sources, as cited in U.S. Department of Transportation (USDOT), Research and Innovative Technology Administration, Bureau of Transportation Statistics, *National Transportation Statistics,* table 2-2, available at http://www.bts.gov. **2006 commercial ship**—U.S. Department of Homeland Security, U.S. Coast Guard, Data Administration Division (G-MRI-1), personal communication, Aug. 28, 2007.

2-6

## Hazardous Materials Transportation Incidents, Injuries, and Fatalities: 1990–2006

| | 1990 | 1995 | 2000 | 2005 | 2006 |
|---|---|---|---|---|---|
| **Highway** | **7,297** | **12,869** | **15,063** | **R13,457** | **17,145** |
| Accident related | 249 | 253 | 329 | R322 | 303 |
| Injuries | 311 | 296 | 164 | R175 | 192 |
| Fatalities | 8 | 7 | 16 | 24 | 6 |
| **Rail** | **1,279** | **1,155** | **1,058** | **R745** | **704** |
| Accident related | 48 | 50 | 62 | R51 | 44 |
| Injuries | 73 | 71 | 82 | R692 | 24 |
| Fatalities | 0 | 0 | 0 | 10 | 0 |
| **Air** | **297** | **817** | **1,419** | **1,654** | **2,410** |
| Accident related | 0 | 0 | 3 | 9 | 7 |
| Injuries | 39 | 33 | 5 | 78 | 2 |
| Fatalities | 0 | 0 | 0 | 0 | 0 |
| **Water** | **7** | **12** | **17** | **R69** | **68** |
| Accident related | 0 | 0 | 0 | 0 | 0 |
| Injuries | 0 | 0 | 0 | 0 | 15 |
| Fatalities | 0 | 0 | 0 | 0 | 0 |

| Pipeline | 1990 | 1995 | 2000 | 2005 | 2006 |
|---|---|---|---|---|---|
| **Liquid** | **180** | **188** | **146** | **R139** | **110** |
| Injuries | 7 | 11 | 4 | 2 | 2 |
| Fatalities | 3 | 3 | 1 | 2 | 0 |
| **Natural gas distribution** | **109** | **97** | **154** | **R170** | **134** |
| Injuries | 52 | 43 | 59 | 38 | 25 |
| Fatalities | 6 | 16 | 22 | 14 | 16 |
| **Natural gas transmission** | **89** | **64** | **80** | **R181** | **143** |
| Injuries | 17 | 10 | 18 | 7 | 5 |
| Fatalities | 0 | 2 | 15 | 0 | 3 |

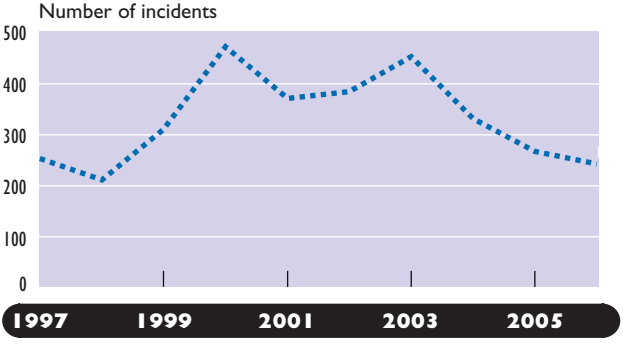
Key: R = Revised.

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.

Sources: USDOT, Pipeline and Hazardous Materials Safety Administration (PHMSA), Hazardous Materials Information System Database. **1990 data**—available at http://hazmat.dot.gov/pubs/biennial/ 96_97biennial.rpt.pdf as of December 2005. **1995–2006 data**—available at http://hazmat.dot.gov/pubs/inc/data/2006/2006frm.htm as of November 2007. **Pipeline data**—USDOT, PHMSA, Office of Pipeline Safety, available at http://ops.dot.gov/stats/stats.htm as of November 2007.

Ensuring security of all transportation systems and the people who use them is a national priority. While much of the initial national focus after the September 11, 2001, terrorist attacks was on aircraft and airports, today attention is also directed at other modes, including rail, water, highways, and pipelines. Another security issue is the U.S. dependency on foreign sources of oil. The U.S. transportation sector remains almost entirely dependent on petroleum as an energy source, and nearly two-thirds of the petroleum used in the United States is imported.

3-1
**International Piracy and Armed Robbery at Sea: 1997–2006**




Note: Incidents include attempts and threatening actions.

Source: International Maritime Organization, *Reports on Acts of Piracy and Armed Robbery Against Ships: Annual Report 2006*, available at http://www.imo.org/home.asp as of May 2007.

3-2
## Prohibited Items Intercepted at U.S. Airport Screening Checkpoints: 2003–2006

| Items | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|
| Other cutting instruments | 2,973,413 | 3,567,731 | R3,276,691 | 163,408 |
| Knives | 1,961,849 | 2,058,652 | R1,822,752 | 1,607,014 |
| Incendiaries and explosive/flammable materials | 494,123 | 693,649 | R398,830 | 110,135 |
| Clubs | 25,139 | 28,813 | 20,531 | 12,295 |
| Box cutters | 20,991 | 22,350 | R21,315 | 15,998 |
| Firearms | 683 | 650 | 2,217 | 2,053 |
| Other | 638,414 | 717,754 | R10,345,260 | 11,800,215 |
| **Total prohibited items** | **6,114,612** | **7,089,599** | **R15,887,596** | **13,711,118** |

Key: R = revised.

Notes: Other cutting instruments includes scissors, hatchets, swords, sabers, meat cleavers, ice axes, and picks. Effective Dec. 22, 2005, scissors less than 4 inches and tools less than 7 inches were no longer prohibited.

Knives includes any length and type except round-bladed, butter, and plastic cutlery.

Clubs includes martial arts items, baseball bats, night sticks, hammers, pool cues, and billy clubs.

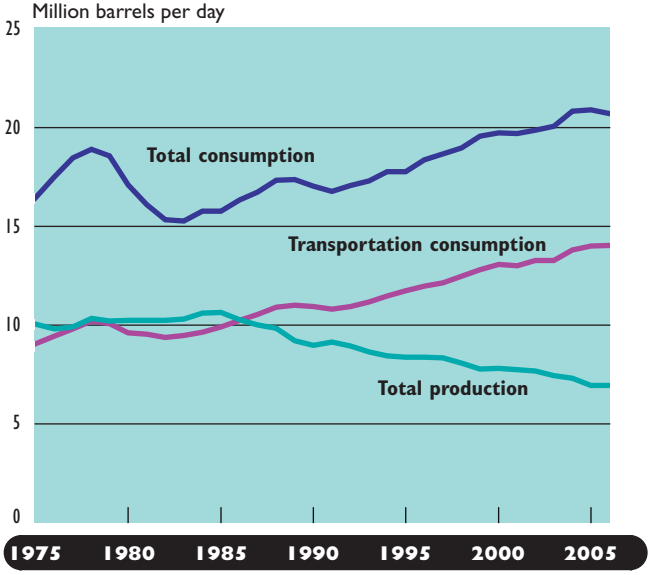
Firearms includes any weapon (including a starter gun) that is designed to or may readily be converted to expel a projectile by the action of an explosive, as well as spear guns, BB guns, flare pistols, compressed air guns, and stunning devices.

Effective Apr. 14, 2005, lighters were added to the list of prohibited items.

Other refers to tools, self-defense items, compressed gas cylinders, bleach, and certain sporting goods. The jump in number of other prohibited items in 2005 is a result of the inclusion of lighters as prohibited items as of Apr. 14, 2005.

Source: U.S. Department of Homeland Security, Transportation Security Administration, personal communication, November 2007.

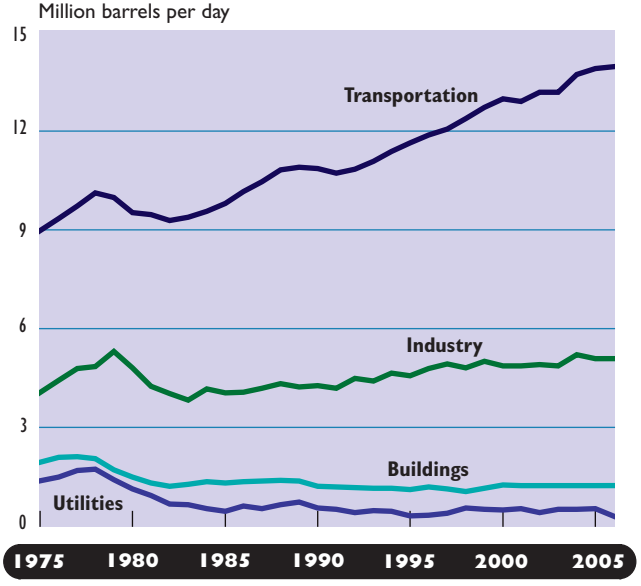
3-3
**U.S. Petroleum Production and Consumption: 1975–2006**




Note: 2006 data are preliminary.

Source: U.S. Department of Energy, Energy Information Administration, *Annual Energy Review 2006* (Washington, DC: September 2007), tables 5.1 and 5.13a-d.

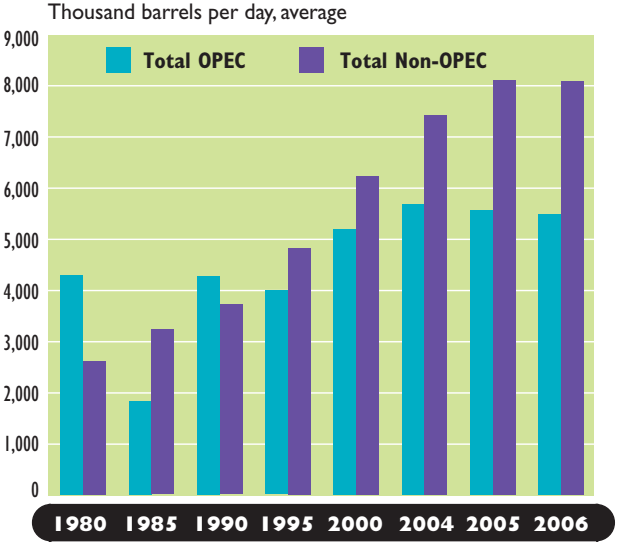
3-4
**Transportation's Share of U.S. Petroleum Use: 1975–2006**




Note: 2006 data are preliminary.

Source: U.S. Department of Energy, Energy Information Administration, *Annual Energy Review 2006* (Washington, DC: September 2007), tables 5.13a–d.

3-5
**U.S. Oil Imports: 1980–2006**




Notes: OPEC (Organization of Petroleum Exporting Countries) members are Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela. Former members Ecuador (until 1992) and Gabon (until 1994) are included in 1990 and prior years.

Source: U.S. Department of Energy, Energy Information Administration, *Monthly Energy Review,* September 2007, tables 3.3d and 3.3h, available at http://www.eia.doe.gov/emeu/mer/petro.html as of September 2007.

3-6

**Major Suppliers of U.S. Imported Crude Oil and Petroleum Products: 1990–2006**

(*Thousand barrels per day, average; rank in 2006*)

| | 1990 | 1995 | 2000 | 2005 | 2006 |
|---|---|---|---|---|---|
| Canada | 934 | 1,332 | 1,807 | R2,181 | 2,303 |
| Mexico | 755 | 1,068 | 1,373 | R1,662 | 1,700 |
| Saudi Arabia | 1,339 | 1,344 | 1,572 | R1,537 | 1,461 |
| Venezuela | 1,025 | 1,480 | 1,546 | R1,529 | 1,409 |
| Nigeria | 800 | 627 | 896 | R1,166 | 1,119 |
| Algeria | 280 | 234 | 225 | R478 | 650 |
| Iraq | 518 | 0 | 620 | R531 | 553 |
| Angola | 237 | 367 | 301 | R473 | 534 |
| Russia | 45 | 25 | 72 | R410 | 370 |
| U.S. Virgin Islands | 282 | 278 | 291 | R328 | 326 |
| United Kingdom | 189 | 383 | 366 | R396 | 271 |
| Norway | 102 | 273 | 343 | R233 | 195 |
| Kuwait | 86 | 218 | 272 | R243 | 184 |
| Colombia | 182 | 219 | 342 | 196 | 155 |
| **Total, major suppliers** | **6,775** | **7,848** | **10,026** | **R11,364** | **11,230** |
| Total, all U.S. imports | 8,018 | 8,835 | 11,459 | R13,714 | 13,612 |

Key: R = revised.

Note: 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.

Source: U.S. Department of Energy, Energy Information Administration, *Monthly Energy Review,* September 2007, tables 3.1a, 3.3a–h, available at http://www.eia.doe.gov/emeu/mer/petro.html as of September 2007.

The U.S. transportation network makes possible a high degree of personal mobility and freight activity. The data in this section show growth in travel and freight shipments over time. Factors influencing this growth include, among others: vehicle availability, travel costs, population, congestion, the economy, and consumer income.

4-1
**Vehicle-Miles: 1990–2005**
(*Millions*)

| Mode | 1990 | 2000 | 2004 | 2005 |
|---|---|---|---|---|
| **Air** | | | | |
| Air carrier | 3,963 | 5,664 | 6,552 | 6,714 |
| General aviation | 4,548 | N | N | N |
| **Highway** | | | | |
| Passenger cars | 1,408,266 | 1,600,287 | R1,699,890 | 1,689,965 |
| Other 2-axle, 4-tire vehicles[a] | 574,571 | 923,059 | R1,027,164 | 1,059,590 |
| Motorcycles | 9,557 | 10,469 | R10,122 | 10,770 |
| Buses[b] | 5,726 | 7,590 | R6,801 | 6,646 |
| **Trucks** | | | | |
| Single-unit | 51,901 | 70,500 | R78,441 | 79,174 |
| Combination | 94,341 | 135,020 | R142,370 | 143,662 |
| **Rail**[c] | | | | |
| Transit[d] | 561 | 648 | 697 | P715 |
| Commuter | 213 | 271 | 295 | P303 |
| Intercity/Amtrak[e] | 301 | 368 | 308 | P265 |
| Class I freight | 26,159 | 34,590 | 37,071 | P37,712 |
| **Other transit**[f] | 324 | 833 | 982 | P1,085 |

[a] Includes vans, pickup trucks, sport utility vehicles, and other 2-axle, 4-tire motor vehicles that are not passenger cars. [b] Includes municipally owned transit and commercial, federal, and school buses. [c] Car-miles. [d] Includes light and heavy rail only. [e] Fiscal year data. [f] Includes demand response, ferryboat, and other transit not specified.

Key: N = data are nonexistent; P = preliminary; R = revised.

Sources: Except as noted, various sources, as cited in U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, *National Transportation Statistics,* table 1-32, available at http://www.bts.gov as of September 2007.
**2005 transit, commuter, and other transit:** American Public Transportation Association, *2007 Public Transportation Fact Book,* table 11, available at http://www.apta.com/research/stats/ as of September 2007.

4-2

## Number of Aircraft, Vehicles, Railcars, and Vessels: 1990–2005

| Mode | 1990 | 2000 | 2004 | 2005 |
|---|---|---|---|---|
| **Air** | | | | |
| Air carrier | 6,083 | 8,055 | 8,186 | 8,225 |
| General aviation | 198,000 | 217,533 | 219,426 | 224,352 |
| **Highway** | | | | |
| Automobiles | 133,700,496 | 133,621,420 | 136,430,651 | 136,568,083 |
| Other 2-axle, 4-tire vehicles[a] | 48,274,555 | 79,084,979 | 91,845,327 | 95,336,839 |
| Buses (municipally owned transit and commercial, federal, and school buses) | 626,987 | 746,125 | 795,274 | 807,053 |
| Motorcycles | 4,259,462 | 4,346,068 | R5,767,934 | 6,227,146 |
| Trucks | | | | |
| Single-unit | 4,486,981 | 5,926,030 | 6,161,028 | 6,395,240 |
| Combination | 1,708,895 | 2,096,619 | 2,010,335 | 2,086,759 |
| **Rail—Passenger** | | | | |
| Amtrak—Cars | 1,863 | 1,894 | 1,211 | 1,186 |
| Amtrak Locomotives | 318 | 378 | 276 | 258 |
| Commuter railcars and locomotives | 5,007 | 5,498 | 6,228 | P6,392 |
| Transit[b] | 11,332 | 12,168 | 12,480 | P12,775 |
| **Rail—freight:** | | | | |
| Class I–Freight cars | 658,902 | 560,154 | 473,773 | 474,839 |
| Class I–Locomotives | 18,835 | 20,028 | 22,015 | 22,779 |
| Other freight cars | 553,359 | 820,642 | 814,147 | 837,461 |
| **Waterborne** | | | | |
| Nonself-propelled vessels (barges)[c,d] | 31,209 | 33,152 | 31,296 | 32,052 |
| Self-propelled vessels[c,d] | 8,236 | 8,202 | 8,994 | 8,976 |
| Oceangoing ships[d] (1,000 gross tons and over) | 636 | 454 | 412 | 357 |
| Recreational boats (numbered boats) | 10,996,253 | 12,782,143 | 12,781,476 | 12,942,414 |

[a] Includes vans, pickup trucks, sport utility vehicles, and other 2-axle, 4-tire motor vehicles that are not passenger cars. [b] Includes light and heavy rail only. [c] See Glossary for definitions. [d] U.S.-flag vessels.

Key: P = preliminary; R = revised.

Sources: Except as noted, various sources, 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 as of September 2007.

4-3
**Passenger-Miles: 1990–2005**
(*Millions*)

| Mode | 1990 | 2000 | 2004 | 2005 |
|---|---|---|---|---|
| **Air** | | | | |
| Air carrier | 345,873 | 516,129 | 557,893 | 583,689 |
| General aviation | 13,000 | 15,200 | U | U |
| **Highway** | | | | |
| Passenger cars | 2,281,391 | 2,544,457 | R2,685,827 | 2,670,145 |
| Other 2-axle, 4-tire vehicles[a] | 999,754 | 1,467,664 | R1,780,771 | 1,836,988 |
| Buses[b] | 121,398 | 160,919 | R144,188 | 140,910 |
| Motorcycles | 12,424 | 11,516 | R12,855 | 13,677 |
| **Rail** | | | | |
| Transit[c] | 12,046 | 15,200 | 15,930 | P16,118 |
| Commuter | 7,082 | 9,402 | 9,719 | P9,473 |
| Intercity/Amtrak[d] | 6,057 | 5,498 | 5,511 | 5,381 |
| **Other transit[e]** | 841 | 1,631 | 1,874 | P2,485 |

[a] Includes vans, pickup trucks, sport utility vehicles, and other 2-axle, 4-tire motor vehicles that are not passenger cars.

[b] Includes municipally owned transit and commercial, federal, and school buses.

[c] Includes light and heavy rail only.

[d] Fiscal year data. Amtrak began operations in 1971.

[e] Includes demand response, ferryboat, and other transit not specified; 1980 data include ferryboat and "other transit" only.

Key: P = preliminary; R = revised; U = unavailable.

Sources: Various sources, as cited in U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, *National Transportation Statistics*, table 1-37, available at http://www.bts.gov as of September 2007.

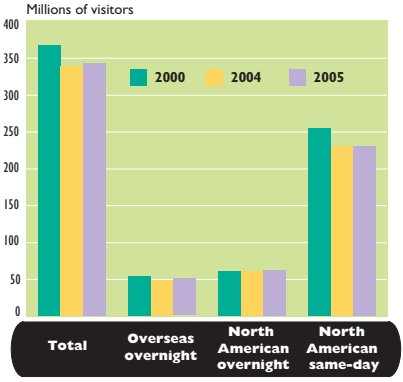
4-4
## U.S. Domestic Freight Ton-Miles by Mode: 1990–2005
*(Billions)*

| Mode | 1990 | 2000 | 2004 | 2005 | Percent change 1990–2005 |
|---|---|---|---|---|---|
| **Total** | **3,622** | **4,329** | **R4,542** | **4,538** | **25.3** |
| Air | 10.4 | 15.8 | 16.5 | 15.7 | 51.0 |
| Truck | 848.8 | 1,192.8 | R1,281.6 | 1,293.3 | 52.4 |
| Railroad | 1,064.4 | 1,546.3 | 1,684.5 | 1,733.8 | 62.9 |
| Water | 833.5 | 645.8 | 621.2 | 591.3 | –29.1 |
| Pipeline | 864.8 | 927.9 | 938.0 | 903.8 | 4.5 |

Key: R = revised.

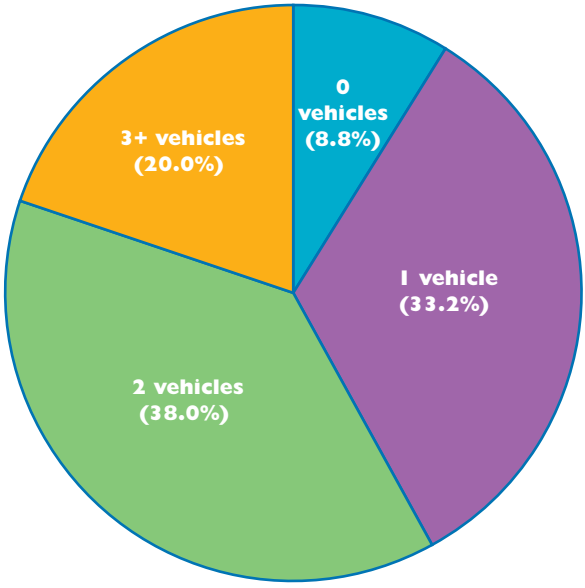
Source: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, *National Transportation Statistics*, Table 1-46b, available at http://www.bts.gov/publications/national_transportation_statistics/ as of October 2007.

4-5
## Travel Between the United States and Foreign Countries: 2000–2005




Source: **Overseas overnight and North American overnight**—U.S. Department of Commerce, International Trade Administration, Office of Travel and Tourism Industries, *Total International Travelers Volume to and from the U.S. 1996–2006*, available at http://tinet.ita.doc.gov as of October 2007. **North American same-day, Canada**—Statistics Canada, *International Travel 2005*, Catalogue 66-201-XIE. **North American same-day, Mexico**—*North American Transportation Statistics Database*, Table 9-1c, available at http://nats.sct.gob.mx as of October 2007.

4-6
**Households by Number of Vehicles: 2006**




Note: Data covers 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, 2006 *American Community Survey,* annual issues, available at http://www.census.gov/acs/www/index.html as of September 2007.

4-7a

## Top 20 World Airports by Passenger Movements[1]: 2005 and 2006

*(Thousands of passengers enplaned, deplaned, and in-transit at airport)*

| 2006 rank | City airport | 2005 | 2006 | % change 2005–2006 |
|---|---|---|---|---|
| 1 | Atlanta, GA (Hartsfield) | 85,907 | 84,847 | -1.2 |
| 2 | Chicago, IL (O'Hare) | 76,510 | 77,028 | 0.7 |
| 3 | London, England (Heathrow) | 67,915 | 67,530 | -0.6 |
| 4 | Tokyo, Japan (Narita) | 63,282 | 65,811 | 4.0 |
| 5 | Los Angeles, CA (Los Angeles) | 61,489 | 61,041 | -0.7 |
| 6 | Dallas/Ft Worth, TX (Dallas/Ft. Worth) | 59,176 | 60,226 | 1.8 |
| 7 | Paris, France (Charles de Gaulle) | 53,798 | 56,850 | 5.7 |
| 8 | Frankfurt, Germany (Frankfurt) | 52,219 | 52,811 | 1.1 |
| 9 | Beijing, China (Beijing Capital) | 41,004 | 48,655 | 18.7 |
| 10 | Denver, CO (Denver) | 43,388 | 47,325 | 9.1 |
| 11 | Las Vegas, NV (McCarran) | 43,990 | 46,193 | 5.0 |
| 12 | Amsterdam, Netherlands (Schiphol) | 44,163 | 46,066 | 4.3 |
| 13 | Madrid, Spain (Barajas) | 41,940 | 45,501 | 8.5 |
| 14 | Hong Kong, China (Hong Kong) | 40,270 | 43,858 | 8.9 |
| 15 | New York, NY (John F. Kennedy) | 41,885 | 43,762 | 4.5 |
| 16 | Bangkok, Thailand (Suvarnabhumi) | 38,985 | 42,800 | 9.8 |
| 17 | Houston, TX (George Bush) | 39,685 | 42,550 | 7.2 |
| 18 | Phoenix, AZ (Phoenix Sky Harbor) | 41,214 | 41,437 | 0.5 |
| 19 | Newark, NJ (Newark Liberty) | 34,000 | 36,724 | 8.0 |
| 20 | Detroit, MI (Wayne County) | 36,389 | 35,973 | -1.1 |

[1] 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.

Source: Airports Council International. Airports include those participating in the ACI annual traffic statistics collection as of July 18, 2007. Available at: http://www.airports.org/cda/aci_common/display/main/aci_content07_c.jsp?zn=aci&cp=1-5-54-55_666_2_ as of Jan 15, 2008.

4-7b

## Top 20 U.S. Gateways for Nonstop International Air Travel: 2005 and 2006

*(Thousands of international passengers[a])*

| 2006 rank | Gateway airport | 2005 | 2006 | % change 2005–2006 |
|---|---|---|---|---|
| 1 | New York (JFK), NY | R18,469 | 19,351 | 4.8 |
| 2 | Los Angeles, CA | R16,836 | 16,498 | –2.0 |
| 3 | Miami, FL | 14,621 | 14,852 | 1.6 |
| 4 | Chicago (O'Hare), IL | 11,013 | 11,516 | 4.6 |
| 5 | Newark, NJ | R9,128 | 9,926 | 8.7 |
| 6 | Atlanta, GA | R7,295 | 8,302 | 13.8 |
| 7 | San Francisco, CA | R7,839 | 8,164 | 4.1 |
| 8 | Houston (Bush), TX | R6,570 | 7,147 | 8.8 |
| 9 | Dallas-Ft. Worth, TX | R5,051 | 5,216 | 3.3 |
| 10 | Washington (Dulles), DC | 4,792 | 5,176 | 8.0 |
| 11 | Honolulu, HI | 4,410 | 4,049 | –8.2 |
| 12 | Boston, MA | 3,902 | 3,776 | –3.2 |
| 13 | Detroit, MI | 3,823 | 3,685 | –3.6. |
| 14 | Philadelphia, PA | R3,693 | 3,515 | –4.8 |
| 15 | Guam Island, GU | 2,456 | 2,649 | 7.9 |
| 16 | Minneapolis-St. Paul, MN | R2,595 | 2,476 | –4.6 |
| 17 | Fort Lauderdale, FL | R2,187 | 2,420 | 10.7 |
| 18 | Seattle-Tacoma, WA | R2,285 | 2,260 | –1.1 |
| 19 | San Juan, PR | 2,039 | 2,137 | 4.8 |
| 20 | Orlando, FL | R2,179 | 2,075 | –4.8 |
| **Total, top 20 U.S. international airports** | | **R131,182** | **135,191** | **3.1** |
| **Top 20, percentage of total** | | **R87.4** | **87.6** | |
| **Total, all U.S. international airports** | | **R150,110** | **154,351** | **2.8** |

[a] International passengers are residents of any country traveling nonstop to and from the United States on U.S. and foreign carriers.

Key: R = revised.

Note: The 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 Segment data, October 2007.

4-8

**U.S.-Mexican Border Land-Passenger Crossings: 2006**

*(Thousands)*

| | Entering the U.S. |
|---|---|
| **Total for all U.S.-Mexico crossings** | |
| Personal vehicles | 88,296 |
| Personal vehicle passengers | 179,255 |
| Buses | 263 |
| Bus passengers | 3,187 |
| Train passengers | 22 |
| Pedestrians | 46,251 |
| **Personal vehicles—top 5 gateways** | |
| San Ysidro, CA | 17,135 |
| El Paso, TX | 15,602 |
| Brownsville, TX | 6,968 |
| Hidalgo, TX | 6,480 |
| Calexico, CA | 6,110 |
| **Personal vehicle passengers—top 5 gateways** | |
| San Ysidro, CA | 31,869 |
| El Paso, TX | 28,000 |
| Laredo, TX | 14,244 |
| Brownsville, TX | 14,023 |
| Hidalgo, TX | 12,632 |
| **Buses—top 5 gateways** | |
| San Ysidro, CA | 101 |
| Otay Mesa, CA | 45 |
| Laredo, TX | 37 |
| Hidalgo, TX | 27 |
| El Paso, TX | 15 |
| **Bus passengers—top 5 gateways** | |
| San Ysidro, CA | 1,060 |
| Laredo, TX | 878 |
| Otay Mesa, CA | 313 |
| El Paso, TX | 240 |
| Nogales, AZ | 217 |
| **Train passengers—top 5 gateways** | |
| El Paso, TX | 11 |
| Eagle Pass, TX | 5 |
| Nogales, AZ | 3 |
| Calexico East, CA | 2 |
| Otay Mesa/San Ysidro, CA | 0.5 |
| **Pedestrians—top 5 gateways** | |
| San Ysidro, CA | 7,812 |
| Nogales, AZ | 7,726 |
| El Paso, TX | 7,500 |
| Laredo, TX | 4,246 |
| Calexico, CA | 4,049 |

Note: Numbers may not add to totals due to rounding.

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/itt/ as of October 2007.

4-9

**U.S.-Canadian Border Land-Passenger Crossings: 2006**

*(Thousands)*

| | Entering the U.S. |
|---|---|
| **Total for all U.S.-Canada crossings** | |
| Personal vehicles | 30,038 |
| Personal vehicle passengers | 62,986 |
| Buses | 129 |
| Bus passengers | 3,499 |
| Train passengers | 245 |
| Pedestrians | 534 |
| **Personal vehicles—top 5 gateways** | |
| Buffalo-Niagara Falls, NY | 6,026 |
| Detroit, MI | 5,634 |
| Blaine, WA | 2,597 |
| Port Huron, MI | 1,976 |
| Calais, ME | 1,174 |
| **Personal vehicle passengers—top 5 gateways** | |
| Buffalo-Niagara Falls, NY | 13,515 |
| Detroit, MI | 9,932 |
| Blaine, WA | 5,276 |
| Port Huron, MI | 4,107 |
| Champlain-Rouses Point, NY | 2,921 |
| **Buses—top 5 gateways** | |
| Detroit, MI | 36 |
| Buffalo-Niagara Falls, NY | 30 |
| Blaine, WA | 13 |
| Skagway, AK | 10 |
| Champlain-Rouses Point, NY | 8 |
| **Bus passengers—top 5 gateways** | |
| Detroit, MI | 912 |
| Buffalo-Niagara Falls, NY | 885 |
| Blaine, WA | 453 |
| Champlain-Rouses Point, NY | 294 |
| Skagway, AK | 145 |
| **Train passengers—top 5 gateways** | |
| Skagway, AK | 74 |
| Buffalo-Niagara Falls, NY | 38 |
| Champlain-Rouses Point, NY | 34 |
| Blaine, WA | 32 |
| Port Huron, MI | 16 |
| **Pedestrians—top 5 gateways** | |
| Buffalo-Niagara Falls, NY | 346 |
| Sumas, WA | 29 |
| Calais, ME | 22 |
| International Falls, MN | 20 |
| Point Roberts, WA | 15 |

Note: Numbers may not add to totals due to rounding.

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/itt/ as of October 2007.

4-10

## Top 20 U.S. Passenger Airports: 1996 and 2006

*(Thousands of enplaned passengers on U.S. large certificated air carriers)*

| | 1996 | | 2006 | | |
|---|---|---|---|---|---|
| **Airport** | **Rank** | **Total enplaned passengers** | **Rank** | **Total enplaned passengers** | **% change 1996–2006** |
| Atlanta, GA | 2 | 30,407 | 1 | 40,777 | 34 |
| Chicago (O'Hare), IL | 1 | 30,526 | 2 | 34,538 | 13 |
| Dallas/Ft. Worth, TX | 3 | 26,640 | 3 | 28,351 | 6 |
| Los Angeles, CA | 4 | 22,799 | 4 | 23,112 | 1 |
| Denver, CO | 6 | 15,246 | 5 | 22,481 | 47 |
| Las Vegas, NV | 9 | 14,166 | 6 | 21,152 | 49 |
| Phoenix, AZ | 7 | 14,808 | 7 | 20,362 | 38 |
| Houston (Bush), TX | 14 | 11,622 | 8 | 19,706 | 70 |
| Detroit, MI | 8 | 14,117 | 9 | 17,291 | 22 |
| Minneapolis/St. Paul, MN | 12 | 12,616 | 10 | 17,135 | 36 |
| Newark, NJ | 11 | 12,952 | 11 | 16,272 | 26 |
| Orlando, FL | 16 | 10,847 | 12 | 15,859 | 46 |
| Philadelphia, PA | 24 | 8,572 | 13 | 15,049 | 76 |
| New York (JFK), NY | 19 | 9,704 | 14 | 15,041 | 55 |
| Charlotte, NC | 18 | 10,008 | 15 | 14,677 | 47 |
| Seattle, WA | 15 | 11,487 | 16 | 14,291 | 24 |
| San Francisco, CA | 5 | 16,308 | 17 | 13,907 | –15 |
| Miami, FL | 12 | 11,908 | 18 | 12,955 | 9 |
| New York (La Guardia), NY | 20 | 9,594 | 19 | 12,472 | 30 |
| Boston, MA | 17 | 10,654 | 20 | 12,275 | 15 |
| **Top 20 airports** | | **309,906** | | **387,706** | **25** |
| All airports | | 592,891 | | 703,377 | 19 |

Note: Numbers may not add to totals due to rounding.

Source: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Schedule T-3 data, special tabulation, October 2007.

4-11

## Major U.S. Airports On-Time Arrival Performance: 2005 and 2006

| | 2005 | | 2006 | |
|---|---|---|---|---|
| Airport | On-Time rank | % | On-Time rank | % |
| Cincinnati, OH | 2 | 82.7 | 1 | 83.1 |
| Salt Lake City, UT | 1 | 83.5 | 2 | 82.8 |
| Phoenix, AZ | 7 | 81.1 | 3 | 80.3 |
| Baltimore, MD | 8 | 80.2 | 4 | 80.0 |
| Orlando, FL | 19 | 77.5 | 5 | 79.9 |
| Minneapolis/St. Paul, MN | 16 | 78.2 | 6 | 79.7 |
| Houston (Bush), TX | 6 | 81.3 | 7 | 78.8 |
| Dallas/Ft. Worth, TX | 3 | 82.5 | 8 | 78.7 |
| Denver, CO | 20 | 77.0 | 9 | 78.7 |
| Tampa, FL | 11 | 79.5 | 10 | 78.4 |
| St. Louis, MO | 4 | 82.3 | 11 | 78.0 |
| Oakland, CA | 12 | 79.2 | 12 | 78.0 |
| Chicago (Midway), IL | 5 | 81.5 | 13 | 77.7 |
| San Diego, CA | 28 | 71.1 | 14 | 77.6 |
| Fort Lauderdale, FL | 9 | 80.1 | 15 | 76.7 |
| Portland, OR | 18 | 77.8 | 16 | 76.5 |
| Los Angeles, CA | 14 | 78.7 | 17 | 76.4 |
| Las Vegas, NV | 24 | 74.0 | 18 | 76.3 |
| Washington (Reagan National), DC | 17 | 78.1 | 19 | 76.3 |
| Miami, FL | 10 | 79.9 | 20 | 76.1 |
| Detroit, MI | 13 | 79.1 | 21 | 75.6 |
| Charlotte, NC | 15 | 78.5 | 22 | 75.3 |
| Washington (Dulles), DC | 23 | 74.5 | 23 | 73.9 |
| Pittsburgh, PA | 26 | 71.9 | 24 | 71.9 |
| Seattle, WA | 25 | 72.5 | 25 | 71.8 |
| Atlanta, GA | 21 | 75.1 | 26 | 70.4 |
| Boston, MA | 27 | 71.8 | 27 | 70.4 |
| San Francisco, CA | 29 | 70.3 | 28 | 69.4 |
| Philadelphia, PA | 22 | 74.9 | 29 | 68.2 |
| New York (JFK), NY | 30 | 66.7 | 30 | 64.2 |
| Chicago (O'Hare), IL | 31 | 64.1 | 31 | 62.6 |
| New York (LaGuardia), NY | 32 | 66.7 | 32 | 64.2 |
| Newark, NJ | 33 | 64.1 | 33 | 62.6 |

Note: On-time flights arrive within 15 minutes of scheduled arrival time.

Source: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Airline On-Time Performance Data, http://www.bts.gov/programs/airline_information/airline_ontime_tables as of November 2007.

4-12

## Roadway Delay and Congestion Cost per Peak Traveler[a] in Urban Areas: 1995 and 2005

### Annual Roadway Delay per Peak Traveler
*(Hours per year)*

| | 1995 delay per peak traveler | 2005 delay per peak traveler | Percentage change 1995–2005 | Annual growth rate 1995–2005 |
|---|---|---|---|---|
| Very large areas | 43 | 54 | 25.6 | 2.3 |
| Large areas | 30 | 37 | 23.3 | 2.1 |
| Medium areas | 21 | 28 | 33.3 | 2.9 |
| Small areas | 13 | 17 | 30.8 | 2.7 |
| **85-area average** | **36** | **44** | **22.2** | **2.0** |

### Annual Roadway Congestion Cost per Peak Traveler
*(Current dollars)*

| | 1995 cost per peak traveler | 2005 cost per peak traveler | Percentage change 1995–2005 | Annual growth rate 1995–2005 |
|---|---|---|---|---|
| Very large areas | 620 | 1,014 | 63.5 | 5.0 |
| Large areas | 426 | 683 | 60.3 | 4.8 |
| Medium areas | 297 | 512 | 72.4 | 5.6 |
| Small areas | 175 | 318 | 81.7 | 6.2 |
| **85-area average** | **505** | **824** | **63.2** | **5.0** |

[a] A peak traveler is estimated to travel from 6:00 a.m. to 9:00 a.m. and 4:00 p.m. to 7:00 p.m.

Key:
Very large = over 3 million population (e.g., New York-Northern New Jersey).
Large = 1 million–3 million population (e.g., San Diego).
Medium = selected areas with 500,000–1 million population (e.g., Charlotte).
Small = selected areas under 500,000 population (e.g., Colorado Springs).

Note: See Glossary for definitions of delay and congestion cost.

Source: Texas Transportation Institute, *2007 Urban Mobility Report,* Tables by Population Groups, available at http://mobility.tamu.edu/ums/congestion_data/ as of September 2007.

4-13

## Amtrak On-Time Performance Trends and Hours of Delay by Cause: 2004–2007

| | 2004 | 2005 | 2006 | 2007 |
|---|---|---|---|---|
| **On-time performance** | | | | |
| Total (weighted) | 70.7% | 69.8% | 67.8% | 68.6% |
| Short distance (<400 miles)[a] | 75.2% | 73.6% | 72.8% | 72.2% |
| Long distance (>400 miles) | 40.7% | 42.1% | 29.9% | 39.5% |
| **Hours of delay by cause** | | | | |
| Amtrak[b] | [R]28,323 | 25,549 | 23,968 | 22,902 |
| Host railroad[c] | 61,256 | 64,097 | 71,387 | 72,565 |
| Other[d] | [R]5,582 | 5,613 | 6,166 | 6,187 |
| **Total[e]** | **95,162** | **95,260** | **101,522** | **101,655** |

[a] Includes all Amtrak Northeast Corridor and Empire Service (New York State) trains. [b] 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. [c] 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). [d] Includes delays not attributable to Amtrak or host railroads (e.g., customs and immigration, law enforcement action, weather, or waiting for scheduled departure time). [e] Numbers may not add to totals due to rounding.

Key: R = revised.

Notes: All percentages are based on Amtrak's fiscal year (Oct. 1–Sept. 30). Host railroad is a freight or commuter railroad over which many Amtrak trains operate for all or part of their trips.

Amtrak trips are considered delayed based on the following chart:

| Trip length (miles) | Arrival time delay (minutes) |
|---|---|
| 0–250 | 10 |
| 251–350 | 15 |
| 351–450 | 20 |
| 451–550 | 25 |
| > 551 | 30 |

Source: Amtrak, personal communication, October 2007.

4-14

## Top 20 U.S. Water Ports by Shipment Weight & Top 20 U.S. Water Ports by Container TEUs: 2005

| Port by shipment weight | Short tons (millions) | Port by container TEUs | Full TEUs (thousands) |
|---|---|---|---|
| South Louisiana, LA | 212.2 | Long Beach, CA | 5,200 |
| Houston, TX | 211.7 | Los Angeles, CA | 4,375 |
| New York, NY and NJ | 152.1 | New York, NY | 3,581 |
| Huntington-Tristate, WV-OH-PA | 83.9 | Oakland, CA | 1,561 |
| Long Beach, CA | 79.9 | Tacoma, WA | 1,545 |
| Beaumont, TX | 78.9 | Charleston, SC | 1,514 |
| Corpus Christ, TX | 77.6 | Savannah, GA | 1,486 |
| New Orleans, LA | 65.9 | Seattle, WA | 1,443 |
| Baton Rouge, LA | 59.3 | Norfolk, VA | 1,436 |
| Texas City, TX | 57.8 | Houston, TX | 1,290 |
| Mobile, AL | 57.7 | Honolulu, HI | 856 |
| Los Angeles, CA | 54.9 | Miami, FL | 778 |
| Lake Charles, LA | 52.7 | San Juan, PR | 726 |
| Tampa, FL | 49.2 | Port Everglades, FL | 591 |
| Plaquemines, LA, Port of | 47.9 | Jacksonville, FL | 582 |
| Duluth-Superior, MN and WI | 44.7 | Baltimore, MD | 487 |
| Valdez, AK | 44.4 | Anchorage, AK | 293 |
| Baltimore, MD | 44.1 | New Orleans, LA | 177 |
| Pittsburgh, PA | 43.6 | Wilmington, DE | 162 |
| Philadelphia, PA | 39.4 | Boston, MA | 160 |
| **Total, top 20** | **1,558** | | **28,241** |
| **Total, all ports** | **2,528** | | **30,059** |

Note: Includes exports, imports, and domestic shipments. See table 5-8 for top 20 freight gateways by value of shipments.

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

Sources: U.S. Army Corps of Engineers, Waterborne Commerce of the United States, Calendar Year 2005, Part 5, National Summaries, table 5-2, available at http://www.iwr.usace.army.mil/ndc/wcsc/wcsc.htm, as of September 2007. U.S. Army Corps of Engineers, Waterborne Container Traffic for U.S. Ports and all 50 states and U.S. Territories, Port TEUs, available at http://www.iwr.usace.army.mil/ndc/wcsc/wcsc.htm as of September 2007.

4-15

**Top 20 World Container Ports: 2004 and 2005**

*(Thousands of full and empty TEUs)*

| Rank (2004) | Rank (2005) | Port | Country | TEUs |
|---|---|---|---|---|
| 2 | 1 | Singapore | Singapore | 23,192 |
| 1 | 2 | Hong Kong | China | 22,427 |
| 3 | 3 | Shanghai | China | 18,084 |
| 4 | 4 | Shenzhen | China | 16,197 |
| 5 | 5 | Busan | South Korea | 11,843 |
| 6 | 6 | Kaohsiung | Taiwan | 9,471 |
| 7 | 7 | Rotterdam | Netherlands | 9,287 |
| 9 | 8 | Hamburg | Germany | 8,088 |
| 10 | 9 | Dubai | United Arab Emirates | 7,619 |
| 8 | 10 | Los Angeles | United States | 7,485 |
| 12 | 11 | Long Beach | United States | 6,710 |
| 11 | 12 | Antwerp | Belgium | 6,482 |
| 14 | 13 | Quingdao | China | 6,307 |
| 13 | 14 | Port Kalang | Malaysia | 5,544 |
| 17 | 15 | Ningbo | China | 5,208 |
| 18 | 16 | Tianjin | China | 4,801 |
| 15 | 17 | New York/ New Jersey | United States | 4,785 |
| ** | 18 | Guangzhou | China | 4,685 |
| 16 | 19 | Tanjung Pelepas | Malaysia | 4,177 |
| 20 | 20 | Laem Chabang | Thailand | 3,834 |

** Guangzhou was unranked among the world's top 20 container ports in 2004.

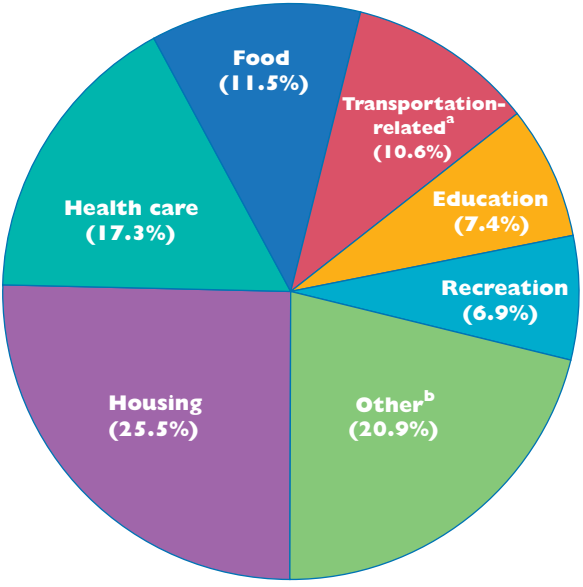
Note: TEUs = 20-foot equivalent units. One 20-foot container equals one TEU.

Source: American Association of Port Authorities (AAPA), *World Port Rankings: 2004* and *2005* (Container Traffic), available at http://www.aapa-ports.org/ as of October 2007.

# 5 Economy

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 2006, transportation-related goods and services contributed $1.4 trillion to the $13.2 trillion U.S. Gross Domestic Product.

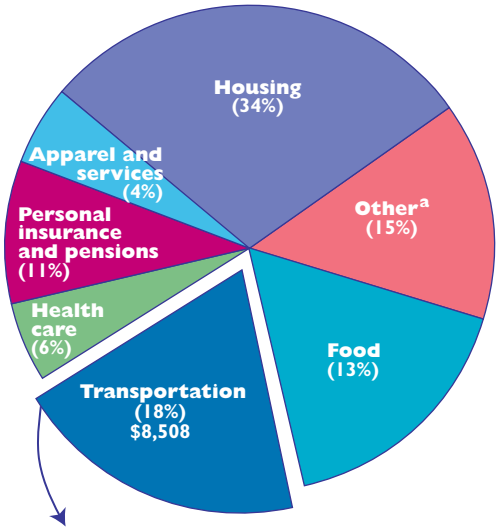
5-1
**U.S. Gross Domestic Product by Major Societal Function: 2006**




[a] Includes all consumer and government purchases of goods (e.g., vehicles and fuel) and services (e.g., auto insurance) and exports related to transportation. [b] Includes all other categories (e.g., 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 from data in 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 as of September 2007.

5-2
**Average Household Expenditures by Major Spending Category: 2006**
(*Current dollars*)



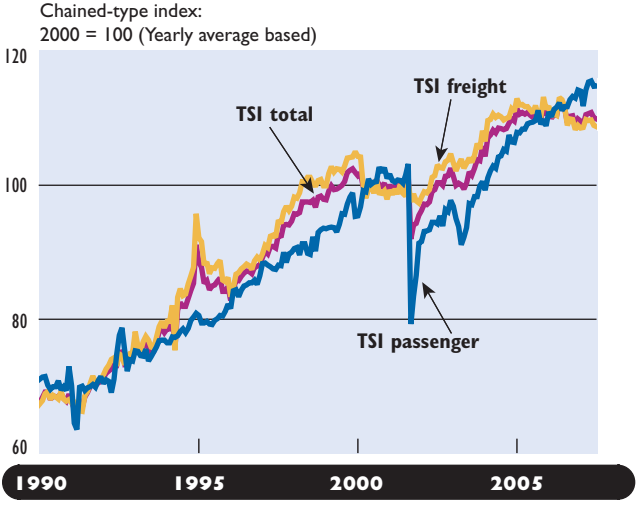

| | | |
|---|---|---|
| **Private vehicle expenditures** | **=** | **$8,003** |
| Vehicle purchases | = | $3,421 |
| Gasoline and motor oil | = | $2,227 |
| Other vehicle expenditures | = | $2,355 |
| **Public transportation expenditures** | **=** | **$505** |
| Airline fares | = | $335 |
| Ship fares | = | $55 |
| Mass transit fares | = | $51 |
| Taxi fares | = | $22 |
| Intercity train fares | = | $16 |
| Local transportation on out-of-town trips | = | $13 |
| Intercity bus fares | = | $11 |
| School bus | = | $2 |

[a] Includes entertainment, personal care products and services, education, tobacco products and smoking, and miscellaneous.

Note: Numbers may not add to totals due to rounding.

Source: U.S. Department of Labor, Bureau of Labor Statistics, Consumer Expenditure Survey, 2006; and personal communication, October 2007.

5-3
**Transportation Services Index (TSI): 1990–2007**
(*Seasonally adjusted*)




Notes: 2007 data are through July. May–July 2007 data are preliminary. The TSI total is a single index measure of monthly output of for-hire transportation services in the United States using 2000 as the base year.

Source: Compiled by U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, special calculation, September 2007, avaliable at: http://www.bts.gov/xml/tsi/src/index.xml.

5-4

## Employment in Transportation and Selected Transportation-Related Industries[a]: 1990–2006

(*Thousands*)

| | 1990 | 2000 | 2005 | 2006 |
|---|---|---|---|---|
| **Total U.S. labor force (Nonfarm)** | **109,487** | **131,785** | **R133,463** | **136,174** |
| **Total transportation related labor force[b]** | **12,084** | **R13,678** | **13,109** | **13,198** |
| **Transportation as a percent of total U.S. labor force** | **11** | **10** | **10** | **10** |
| **For-hire transport & warehousing** | **3,476** | **4,410** | **R4,361** | **4,466** |
| Air | 529 | 614 | 501 | 487 |
| Water | 57 | 56 | 61 | 64 |
| Railroad | 272 | 232 | 228 | 225 |
| Transit/ground passenger transportation | 274 | 372 | 389 | 394 |
| Pipeline | 60 | 46 | 38 | 39 |
| Trucking | 1,122 | 1,406 | R1,398 | 1,437 |
| Support activities | 364 | 537 | R552 | 571 |
| Scenic/sightseeing transportation | 16 | 28 | R29 | 27 |
| Couriers/messengers | 375 | 605 | R571 | 585 |
| Warehousing/storage | 407 | 514 | R595 | 636 |
| **Related services & construction** | **5,256** | **6,177** | **6,011** | **6,007** |
| Automotive repair services/ parking; automotive equipment rental/leasing; gasoline stations | 1,800 | 2,125 | R2,059 | 2,053 |
| Highway, street, bridge construction | 289 | 340 | R351 | 349 |
| Dealers or wholesalers of motor vehicles, parts, petroleum, supplies, equipment | 1,993 | R2,361 | 2,396 | 2,392 |
| Travel arrangement/ reservation services | 250 | 299 | 224 | 227 |
| Ambulatory health care services | 99 | 173 | R206 | 216 |
| Postal service | 825 | 880 | 774 | 770 |
| **Transportation-related manufacturing[c]** | **2,681** | **2,446** | **R2,135** | **2,127** |
| **Government[b]** | **673** | **646** | **602** | **599** |

[a] Annual averages. Data are NAICS-based. (See Glossary for definition.)
[b] Fiscal year data. Includes U.S. DOT and state and local highway personnel. [c] Includes transportation equipment; petroleum products; tires; rubber; plastics; search, detection, navigation, guidance, aeronautical, and nautical systems; and instrument manufacturing.

Key: R = revised.

Source: Various sources as cited in USDOT, RITA, BTS, *National Transportation Statistics*, table 3-19b, available at http://www.bts.gov as of September 2007.

5-5

## Value of U.S.–International Merchandise Trade by Mode of Transportation: 2006

*(Millions of current U.S. dollars)*

| | Exports | Modal % | Imports | Modal % | Total trade | Total modal % |
|---|---|---|---|---|---|---|
| **Total** | **1,037,143** | **100.0** | **1,855,119** | **100.0** | **2,892,262** | **100.0** |
| Water | 308,356 | 29.7 | 971,100 | 52.3 | 1,279,456 | 44.2 |
| Air | 336,536 | 32.4 | 394,458 | 21.3 | 730,993 | 25.3 |
| Truck | 257,310 | 24.8 | 276,348 | 14.9 | 533,657 | 18.5 |
| Rail | 39,749 | 3.8 | 89,122 | 4.8 | 128,871 | 4.5 |
| Pipeline | 2,887 | 0.3 | 53,921 | 2.9 | 56,808 | 2.0 |
| Other, unknown, & miscellaneous | 92,305 | 8.9 | 70,171 | 3.8 | 162,477 | 5.6 |

Notes: Numbers may not add 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 less than $1,250. 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: Compiled by U.S. Department of Transportation (USDOT), Research and Innovative Technology Administration (RITA), Bureau of Transportation Statistics (BTS), May 2007. **Total, water and air data**—U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, FT920 U.S. Merchandise Trade: Selected Highlights, December 2006. **Truck, rail and pipeline**—USDOT, RITA, BTS, Transborder Freight Data 2006; and special calculation, September 2006. **Other, unknown and miscellaneous data:** special tabulation, May 2007.

5-6

## Weight of U.S.–International Merchandise Trade by Mode of Transportation: 2006

*(Thousands of short tons)*

| | Exports | Modal % | Imports | Modal % | Total trade | Total modal % |
|---|---|---|---|---|---|---|
| **Total** | **579,851** | **100.0** | **1,392,726** | **100.0** | **1,972,577** | **100.0** |
| Water [a] | 420,090 | 72.4 | 1,102,999 | 79.1 | 1,523,089 | 77.1 |
| Air | 3,359 | 0.6 | 4,495 | 0.3 | 7,854 | 0.4 |
| Truck[b] | 91,462 | 15.8 | 100,042 | 7.2 | 191,504 | 9.7 |
| Rail[b] | 54,960 | 9.5 | 95,144 | 6.8 | 150,104 | 7.6 |
| Pipeline[b] | 5,484 | 0.9 | 89,428 | 6.4 | 94,912 | 4.8 |
| Other, unknown, & miscellaneous[b] | 4,497 | 0.8 | 617 | 0.0 | 5,114 | 0.3 |

[a] 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 (merchandise shipped from one foreign country to another via a U.S. port but not part of U.S. official merchandise trade). BTS uses Census Bureau trade-based data to allow for a complete modal comparison among the different freight transportation modes. [b] BTS estimated the export weight for truck, rail, pipeline, and other and unknown based on value-to-weight ratios from the import data by country, mode of transportation, and two digit HS commodity code. This is necessary, because export weights for surface modes are not currently reported.

Notes: Numbers may not add 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 less than $1,250. 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: Compiled by U.S. Department of Transportation (USDOT), Research and Innovative Technology Administration (RITA), Bureau of Transportation Statistics (BTS), October 2007. **Water and air data**—U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, FT920 U.S. Merchandise Trade: Selected Highlights, December 2006. **Total, truck, rail, pipeline, other and unknown data**—USDOT, RITA, BTS, Transborder Freight Data 2006; and special calculation, October 2007.

5-7

## U.S. Merchandise Trade with Canada and Mexico by Mode Share: 2006

| Mode | Value (percent) | Weight (percent) |
|---|---|---|
| **NAFTA trade, total** | **100.0** | **100.0** |
| Truck[a] | 61.6 | 29.2 |
| Rail[a] | 14.9 | 19.5 |
| Pipeline[a] | 6.6 | 13.9 |
| Air | 4.1 | 0.0 |
| Water | 8.1 | 37.0 |
| Other and unknown[a] | 4.7 | 0.3 |
| **U.S.-NAFTA imports, total** | **100.0** | **100.0** |
| Truck | 55.1 | 21.1 |
| Rail | 17.8 | 20.0 |
| Pipeline | 10.7 | 18.8 |
| Air | 2.5 | 0.0 |
| Water | 11.0 | 39.9 |
| Other and unknown | 2.9 | 0.1 |
| **U.S.-NAFTA exports, total** | **100.0** | **100.0** |
| Truck[a] | 70.6 | 48.1 |
| Rail[a] | 10.9 | 18.4 |
| Pipeline[a] | 0.8 | 2.6 |
| Air | 6.4 | 0.1 |
| Water | 4.1 | 30.2 |
| Other and unknown[a] | 7.2 | 0.6 |

[a] BTS estimated the export weight for truck, rail, pipeline, and other and unknown based on value-to-weight ratios from the import data, because export weights for surface modes are not currently reported. Weight for water and air exports and imports are from the U.S. Department of Commerce, U.S. Census Bureau.

Notes: Value based on millions of U.S. dollars; weight based on millions of short tons. Percentages may not add to 100 due to rounding.

U.S. NAFTA (North American Free Trade Agreement) refers to U.S. trade with Canada and Mexico, our partners in this agreement.

Sources: Compiled by U.S. Department of Transportation (USDOT), Research and Innovative Technology Administration (RITA), Bureau of Transportation Statistics (BTS), October 2007. **Water and air data**—U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, FT920 U.S. Merchandise Trade: Selected Highlights, December 2006. **Total, truck, rail, pipeline, other and unknown data**—USDOT, RITA, BTS, Transborder Surface Freight Data 2006; and special calculation, October 2007.

5-8

## Top 20 U.S. Foreign Trade Freight Gateways by Value of Shipments: 2006

*(Billions of current dollars)*

| Rank | Gateway | Exports | Imports | Total |
|---|---|---|---|---|
| 1 | Los Angeles, CA (w)[P] | 26.3 | 143.7 | 170.0 |
| 2 | New York, NY and NJ (w)[P] | 33.2 | 116.1 | 149.3 |
| 3 | John F. Kennedy International, NY (a) | 68.4 | 79.4 | 147.8 |
| 4 | Detroit, MI (l) | 72.8 | 64.5 | 137.2 |
| 5 | Long Beach, CA (w)[P] | 21.4 | 113.3 | 134.7 |
| 6 | Laredo, TX (l) | 45.8 | 58.2 | 104.0 |
| 7 | Houston, TX (w)[P] | 41.9 | 60.9 | 102.9 |
| 8 | Los Angeles Intl., CA (a) | 41.0 | 38.0 | 79.1 |
| 9 | Chicago, IL (a) | 31.3 | 46.7 | 78.1 |
| 10 | Buffalo-Niagara Falls, NY (l) | 35.5 | 40.0 | 75.5 |
| 11 | Port Huron, MI (l) | 25.5 | 44.9 | 70.3 |
| 12 | San Francisco Intl., CA (a) | 29.5 | 34.3 | 63.8 |
| 13 | Charleston, SC (w)[P] | 16.1 | 39.1 | 55.1 |
| 14 | El Paso, TX (l) | 21.0 | 25.7 | 46.7 |
| 15 | Anchorage, AK (a) | 11.5 | 33.2 | 44.6 |
| 16 | Norfolk, VA (w)[P] | 17.4 | 27.1 | 44.5 |
| 17 | Dallas/Fort Worth, TX (a) | 17.5 | 24.1 | 41.6 |
| 18 | Savannah, GA (w)[P] | 13.6 | 26.1 | 39.7 |
| 19 | Baltimore, MD (w)[P] | 9.6 | 27.0 | 36.6 |
| 20 | Seattle, WA (w)[P] | 8.6 | 26.0 | 34.6 |

Key: a = airport; l = land port; w = water port; P = preliminary.

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 JFK, Los Angeles, Chicago, and Anchorage.

Sources: **Air**—U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, special tabulation, November 2007. **Water**—U.S. Army Corps of Engineers, Navigation Data Center, special tabulation, November 2007. **Land**—U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Transborder Freight Data, November 2007.

5-9

## U.S. Trade in Transportation-Related Commodities: 2006

*(Millions of current U.S. dollars)*

| Commodity and code | Exports | Imports | Total trade | Balance |
|---|---|---|---|---|
| Motor vehicles and parts (87) | 92,703 | 215,379 | 308,082 | –122,676 |
| Aircraft, spacecraft, and parts (88) | 66,753 | 17,592 | 84,345 | 49,161 |
| Ships, boats, and floating structures (89) | 2,700 | 1,555 | 4,255 | 1,145 |
| Railway or tramway locomotives and parts (86) | 2,714 | 1,744 | 4,458 | 970 |
| **Total, transportation commodities** | **164,870** | **236,270** | **401,140** | **–71,400** |
| Total, all commodities | 1,037,143 | 1,855,119 | 2,673,095 | –817,976 |
| Transportation commodities share of trade | 15.9% | 12.7% | 15.0% | 8.7% |

Notes: The numbers in parentheses are the classification categories from the Harmonized Schedule of Commodity Codes.

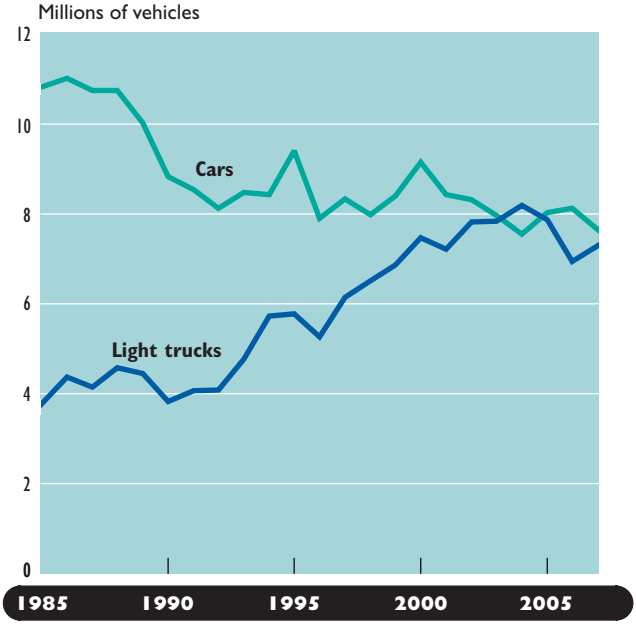
Classification category (87) also includes bicycles, wheelchairs, and baby carriages.

Total trade = exports plus imports. Balance = exports minus imports.

Source: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics; 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 as of September 2007.

5-10

**New Passenger Car and Light Truck Sales: Model Years 1985–2007**




Note: Data are based on Environmental Protection Agency (EPA) definitions of light trucks (gross vehicle weight of 8,500 pounds or less). Model year 2007 data are projected sales from the automotive companies.

Source: U.S. Environmental Protection Agency, *Light-Duty Automotive Technology and Fuel Economy Trends: 1975 Through 2007,* Table E-1 to E-15, available at http://www.epa.gov/otaq/fetrends.htm as of September 2007.

5-11

## Government Transportation Revenues by Mode and Level of Government[a]: 1995–2003

*(Millions of current dollars)*

| | 1995 | 2000 | 2002 | 2003 |
|---|---|---|---|---|
| **Highway total** | **67,544** | **90,980** | **91,182** | **92,080** |
| Federal: | | | | |
| Highway Trust Fund[b] | 22,200 | 34,985 | 33,068 | 34,191 |
| State and local | 45,344 | 55,995 | 58,114 | 57,889 |
| **Transit[c]** | **11,600** | **11,196** | **15,229** | **13,698** |
| **Railroad[d]** | **36** | **1** | **0** | **0** |
| **Air total** | **14,518** | **22,297** | **24,543** | **24,212** |
| Federal: Airport and Airway Trust Fund | 6,291 | 10,544 | 11,282 | 10,597 |
| State and local | 8,227 | 11,754 | 13,261 | 13,615 |
| **Water total** | **3,832** | **4,058** | **3,937** | **4,279** |
| Federal: water receipts[e] | 1,909 | 1,551 | 1,252 | 1,349 |
| State and local | 1,923 | 2,507 | 2,635 | 2,930 |
| **Pipeline[d]** | **35** | **40** | **57** | **57** |
| **General support[e]** | **7** | **25** | **25** | **9** |
| **Total, all modes** | **97,573** | **128,597** | **134,973** | **134,335** |
| Federal | 30,478 | 47,146 | 45,684 | 46,203 |
| State and local | 67,095 | 81,451 | 89,290 | 88,133 |

[a] All data are not comparable to those published in earlier editions because of changes in the methodology of estimation.

[b] Includes both Highway and Transit Accounts of the Highway Trust Fund.

[c] Includes state and local government only.

[d] Includes federal only.

[e] 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.

Note: 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 nontransportation purposes, 2) nontransportation general fund revenues that are used to finance transportation programs, and 3) proceeds from borrowing.

Source: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, *Government Transportation Financial Statistics 2007.*

5-12

## Government Transportation Expenditures by Mode and Level of Government[a]: 1995–2003

*(Millions of current dollars)*

| | 1995 | 2000 | 2002 | 2003 |
|---|---|---|---|---|
| **Highway total** | **90,075** | **119,847** | **133,538** | **138,500** |
| Federal | 1,685 | 2,216 | 2,620 | 3,166 |
| State and local | 88,391 | 117,720 | 130,918 | 135,334 |
| **Transit total** | **25,460** | **34,828** | **41,604** | **41,555** |
| Federal | 1,277 | 3,677 | 4,508 | 4,560 |
| State and local | 24,183 | 31,150 | 37,095 | 36,995 |
| **Rail total** | **1,065** | **762** | **1,309** | **1,219** |
| Federal | 1,023 | 748 | 1,265 | 1,197 |
| State and local | 42 | 14 | 44 | 22 |
| **Air total** | **19,250** | **22,525** | **37,025** | **34,185** |
| Federal | 10,807 | 9,285 | 20,675 | 17,019 |
| State and local | 8,443 | 13,240 | 16,350 | 17,166 |
| **Water total** | **6,623** | **7,634** | **8,038** | **11,775** |
| Federal | 4,314 | 4,493 | 4,467 | 5,900 |
| State and local | 2,309 | 3,141 | 3,571 | 5,875 |
| **Pipeline total** | **24** | **46** | **48** | **65** |
| Federal | 12 | 28 | 27 | 45 |
| State and local | 12 | 18 | 22 | 20 |
| **General support** | **757** | **670** | **2,113** | **10,763** |
| Federal | 751 | 662 | 2,101 | 10,751 |
| State and local | 6 | 8 | 12 | 12 |
| **Total, all modes** | **143,254** | **186,311** | **223,657** | **238,061** |
| Federal | 19,869 | 21,020 | 35,662 | 42,637 |
| State and local | 123,385 | 165,291 | 188,013 | 195,423 |

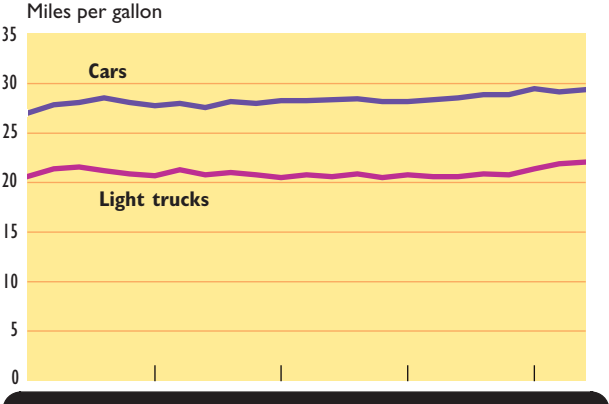
[a] All data are not comparable to those published in earlier editions because of changes in the methodology of estimation.

Notes: 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.

Sources: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, *Government Transportation Financial Statistics 2007.*

While transportation enhances the quality of our lives, it also generates environmental impacts that can lead to human health problems and ecological damage. Overall, most transportation air emissions in the United States, such as particulates, have declined since 1980 despite significant inreases in U.S. population, Gross Domestic Product, and vehicle-miles traveled. Only ammonia among criteria pollutants remains above its 1990 level. However, carbon dioxide emissions from transportation fuel use have risen.

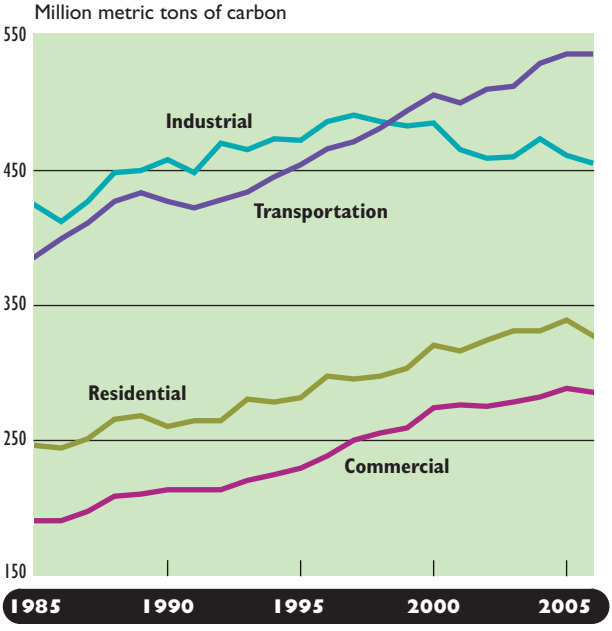
6-1
**New Passenger Car and Light Truck Fuel Economy Averages: Model Years 1985–2007**




Notes: Dimensionally, fuel economy is miles divided by gallons. Then, presented with more than one fuel economy value, an approach to averaging the values is to compute the result by determining the total miles traveled and dividing that by the total gallons used.

Source: U.S. Environmental Protection Agency, *Light-Duty Automotive Technology and Fuel Economy Trends: 1975 Through 2007,* Table A-2, available at http://www.epa.gov/otaq/fetrends.htm as of September 2007.

6-2
## U.S. Carbon Dioxide Emissions from Energy Use: 1985–2006




Notes: 2006 data are preliminary.
One ton of carbon equals 3.667 tons of carbon dioxide gas. Electric utility emissions are distributed across sectors.

Sources: **1985–1989**—U.S. Department of Energy (USDOE), Energy Information Administration (EIA), *Emissions of Greenhouse Gases in the United States,* Appendix E, available at http://www.eia.doe.gov, as of December 2005. **1990–2006**—USDOE, EIA, U.S. Carbon Dioxide from Energy Sources 2007 Flash Estimate, available at http://www.eia.doe.gov/oiaf/1605/flash/flash.html as of September 2007.

6-3

## Wetlands Impacted and Mitigated Under the Federal-Aid Highway Program: 2000–2006

| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|---|---|---|
| **Acres:** | | | | | | | |
| Impacted | 2,041 | 1,905 | 1,942 | 1,278 | 847 | 1,139 | 591 |
| Mitigated | 7,671 | 4,017 | 5,198 | 3,431 | 1,763 | 3,741 | 1,414 |
| Gained (net) | 5,630 | 2,112 | 3,256 | 2,153 | 916 | R2,602 | 823 |
| **Mitigation ratio** | 3.8:1 | 2.1:1 | 2.7:1 | 2.7:1 | 2.1:1 | 3.3:1 | 2.4:1 |

Key: R = revised.

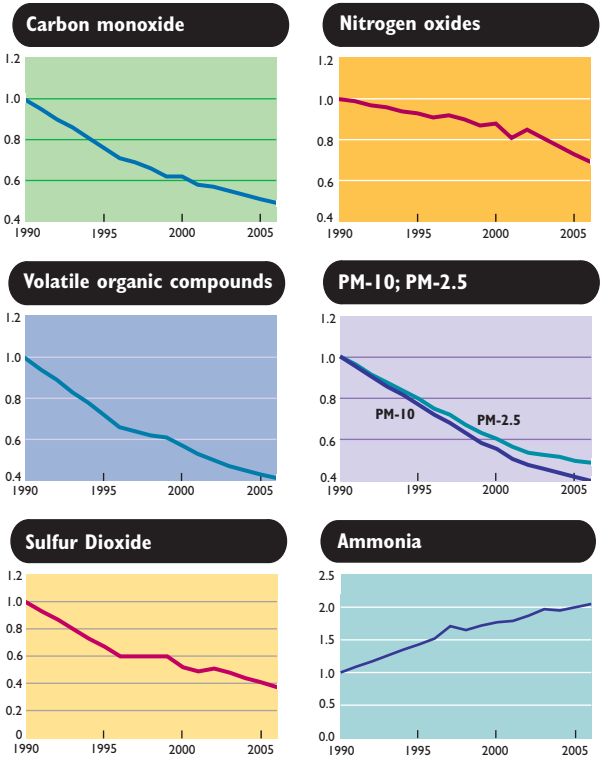
Notes: These data cover wetlands acreage affected by Federal-Aid Highway projects, approximately 24% of the total mileage of the U.S. public roads. These data are collected by states using varying collection methodologies. The mitigation ratio equals acres mitigated to acres impacted.

Source: **2000-2004**—U.S. Department of Transportation (USDOT), Federal Highway Administration (FHWA), Federal Highway Administration Wetland Mitigation Performance Measure for Federal-Aid Highway Projects Fiscal Year 2004, available at http://fhwa.dot.gov/environment/perform/wetrpt04.htm. **2005-2006**—USDOT, FHWA, personal communication, August 2007.

6-4

## Index of Key Air Pollutant Emissions from U.S. Transportation: 1990–2006

*Index: 1990 = 1.0*




Key: PM-10 and PM-2.5 = airborne particulates of less than 10 microns or 2.5 microns, respectively.

Notes: Data include emissions from onroad mobile sources only. EPA revised the emissions estimation methodology for onroad mobile sources. EPA discontinued lead emissions estimated in 2001.

Source: U.S. Environmental Protection Agency, Clearinghouse for Inventories and Emissions Factors (CHIEF), Current Emission Trends Summaries, Internet website http://www.epa.gov/ttn/chief/trends/index.html as of September 2007.

## 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**—A freight railroad with an annual gross operating revenue indexed to a base of $250 million in 1991 dollars. In 2004, the adjusted base had increased to $289.5 million.

**Commercial waterway facilities**—Waterway facilities as counted 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.

**Congestion cost**—Value of travel time delay (estimated at $13.45 per hour of person travel and $71.05 per hour of truck travel) and excess fuel consumption (estimated using the average cost per gallon by state).

**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.

**Delay**—The extra travel time (hours) spent traveling at congested speeds rather than free-flow speeds (60 mph on freeways and 35 mph on principal arterials) divided by the number of persons making a trip during the peak period (6:00 a.m.–9:30 a.m. and 3:30 p.m.–7:00 p.m.).

**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.

**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.

**Hub area**—As used here, a geographic area based on the percentage of total enplaned passengers in that area. A hub area can comprise more than one airport and falls into one of the following classes: large, a community enplaning 1% or more of the total enplaned passengers; medium, 0.25%–0.99%; small, 0.05%–0.24%; nonhub area, less than 0.05%. The definition of hub used here should not be confused with airline usage of the term to describe "hub-and-spoke" route structures or other definitions of hubs used by the Federal Aviation Administration, which focus on traffic at individual airports.

**Intermodal**—Transportation activities involving more than one mode of transportation, including transportation connections, choices, cooperation, and coordination of various modes.

**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: 1) majors—more than $1 billion; 2) nationals—between $100 million and $1 billion; 3) large regionals—between $20 million and $99,999,999; and 4) medium regionals—less than $20 million.

**Long-distance travel**—As defined in the Bureau of Transportation Statistics National Household Travel Survey, 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.

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

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

**North American Industry Classification System (NAICS)**—NAICS (established in April 1997) replaces 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.

**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.

**Standard Industrial Classification (SIC)**—SIC (first used in 1937) groups establishments by primary activity to ease data collection, tabulation, presentation, and analysis. SIC was intended to promote greater uniformity and comparability in data presentations by government, industry, and research institutions. SIC classifies industries by composition and structure of the economy.

**Ton-miles**—A unit of measure equal to the movement of one ton over one mile.

**Truck:**

**Single unit**—A large truck on a single frame with at least 2 axles and 6 tires. Excludes "other 2-axle, 4-tire vehicles" noted above.

**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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