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Pocket Guide to Transportation

2004

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Pocket Guide to Transportation

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U.S. Department of Transportation

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	1980	2002
Resident population (thous.)	226,542	288,369
Total area (thous. sq. mi.)[a]	3,619	3,718 (2000)
Total civilian labor force (thous.)	106,940	144,863
Real gross domestic product[b]	$4.9 trillion	$9.4 trillion
Median household income[b,d]	$32,661 (1984)	$38,186
Average household income[b,c,d]	$34,189 (1984)	$44,507
Average household expenditures[b,c,d]	$32,020 (1984)	$36,626
Number of households (thous.)	80,776	109,297
Life expectancy at birth (years)	73.7	[P]77.2 (2001)

[a] 1980 data include inland water only. Since 1990, data reflect a new database and include inland water, coastal water, and Great Lakes, but exclude territorial water. The Census Bureau tabulates area data for the decennial census years only.

[b] Expressed in 1996 chained dollars (see Glossary for definition).

[c] Earliest year available is 1984. [d] BTS computations, December 2003.

Key: P = preliminary data.

Sources: **Population, area, number of households**—U.S. Department of Commerce (USDOC), U.S. Census Bureau, *Statistical Abstract of the United States: 2002*, available at http://www.census.gov/, as of Oct. 2003. **GDP**—USDOC, Bureau of Economic Analysis, available at http://www.bea.gov, as of Dec. 2003. **Median household income**—USDOC, Census, available at http://www.census.gov/, as of Oct. 2003. **Average household income, average household expenditures, labor force**—U.S. Department of Labor, Bureau of Labor Statistics, available at http://www.bls.gov, as of Dec. 2003. **Life expectancy**—Centers for Disease Control and Prevention, available at http://www.cdc.gov, as of Oct. 2003.

1 Transportation 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. This system links regions and connects small and large cities and urban and rural areas.

Table 1
The Transportation Network: 2002

Mode	Components
Highway	***Public roads***
	46,747 miles of Interstate highway
	114,790 miles of other National Highway System roads
	3,820,134 miles of other roads
Air	***Public-use airports***
	5,286 airports
	Airports serving large certificated carriers (2001)
	29 large hub areas (72 airports), 445 million enplaned passengers (see Glossary for "hub area" definition)
	31 medium hub areas (52 airports), 95 million enplaned passengers
	55 small hub areas (72 airports), 36 million enplaned passengers
	598 nonhub areas (622 airports), 16 million enplaned passengers
Rail	***Miles of railroad operated (2001)***
	97,631 miles by Class I freight railroads in the United States[a]
	17,439 miles by regional freight railroads
	27,563 miles by local freight railroads
	23,000 miles by Amtrak (passenger)[b]

Mode	Components
Urban transit (2001)	***Directional route-miles***[c]
	Bus: 160,506 (2000)
	Trolley bus: 467[R]
	Commuter rail: 5,209
	Heavy rail: 1,572
	Light rail: 897[R]
	Stations
	Commuter rail: 986[R]
	Heavy rail: 1,019
	Light rail: 613[R]
Water	26,000 miles of navigable waterways (2000)
	Ferry routes: 487 (2000)
	Commercial waterway facilities[d] ***(2001)***
	Great Lakes: 600 deep-draft
	154 shallow-draft
	Inland: 2,367 shallow-draft
	Ocean: 4,269 deep-draft
	1,798 shallow-draft
	Locks: 275
Pipeline	***Oil***
	Crude lines: 69,068 miles of pipe
	Product lines: 80,551 miles of pipe
	Gas (2001)
	Transmission: 258,800 miles of pipe
	Distribution: 1,139,400 miles of pipe

[a] There are also 311 miles of railroad operated by U.S. Class I freight railroads in Canada and Mexico.
[b] The Amtrak mileage includes the 730 miles of trackage it owns and route-miles operated on the tracks of the freight railroads.
[c] Directly operated service. Does not include contracted service.
[d] See Glossary for definition of commercial waterway facilites.

Sources: Various sources, as cited in U.S. Department of Transportation (USDOT), Bureau of Transportation Statistics (BTS), *National Transportation Statistics 2002* (Washington, DC: 2002); Association of American Railroads, *Railroad Facts, 2002* (Washington, DC: 2002); USDOT, Federal Highway Administration, *Highway Statistics 2002* (Washington, DC: 2003); *Oil & Gas Journal*, Sept. 8, 2003; USDOT, Federal Transit Administration, National Transit Database, November 2003, tables 18 and 20; USDOT, BTS, *Airport Activity Statistics of Certificated Air Carriers, Summary Tables, 12 Months Ending Dec. 31, 2001* (Washington, DC: 2003); U.S. Army Corps of Engineers, Institute for Water Resources, Navigation Data Center, *The U.S. Waterway System Facts, December 2002* (Alexandria, VA: 2003).

2 Transportation Safety

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 45 percent of U.S. deaths due to unintentional injury involve transportation. Roughly 95 percent of these transportation fatalities arise from motor vehicle crashes.

Table 2
Fatalities by Transportation Mode

Mode	1970	1980	1990	2000	2002
Large air carrier[a]	146	1	39	92	P0
Commuter air carrier[a]	N	37	R6	5	P0
On-demand air taxi[a]	N	105	51	71	P35
General aviation[a]	1,310	1,239	767	R595	P576
Highway[b]	52,627	51,091	44,599	41,945	42,815
Railroad[c]	785	584	599	512	596
Transit[d]	N	N	339	295	U
Commercial ship					
Vessel	178	206	85	R49	P28
Nonvessel[e]	420	281	101	R88	P48
Recreational boating	1,418	1,360	865	701	750
Gas and hazardous liquid pipeline	30	19	9	38	10

[a] Includes people on planes and on the ground.

[b] Includes occupants, nonoccupants, and motor vehicle 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 responsive, van pool, and automated guideway.

[e] Fatalities unrelated to vessel accidents, e.g., individual falling overboard and drowning.

Key: N = data do not exist or are not cited because of reporting changes; P = preliminary; R = revised; U = unavailable.

Source: Various sources, as cited in USDOT, Bureau of Transportation Statistics, *National Transportation Statistics (NTS) 2002,* table 2-1 revised, available at http://www.bts.gov. **Recreational boating (2002)**—U.S. Coast Guard, *Recreational Boating Accidents in the United States: Calendar Year 2002 Executive Summary,* available at http://www.uscgboating.org/statistics/boating_statistics_2002.pdf, as of December 2003.

Table 3
Distribution of Transportation Fatalities: 2001

Category	Number	%
Passenger car occupants	20,320	45.2
Light-truck occupants	11,723	26.1
Pedestrians struck by motor vehicles	4,901	10.9
Motorcyclists	3,197	7.1
Pedalcyclists struck by motor vehicles	732	1.6
Large-truck occupants	708	1.6
Recreational boating	681	1.5
General aviation	562	1.3
Air carriers	[a]531	1.2
Railroad trespassers (excl. grade crossings)[b]	511	1.1
Other and unknown motor vehicle occupants	458	1.0
Other nonoccupants struck by motor vehicles[c]	123	0.27
Waterborne transportation (nonvessel)	80	0.18
Grade crossings, not involving motor vehicles[d]	76	0.17
Air taxi	60	0.13
Heavy rail transit (e.g., subway)	59	0.13
Waterborne transportation (vessel-related)	59	0.13
Bus occupants (school, intercity, and transit)	34	0.08
Private grade crossings, with motor vehicles	30	0.07
Railroad employees on duty and contractors	23	0.05
Light-rail transit	21	0.05
Railroad-related, not otherwise specified	13	0.03
Commuter air	13	0.03
Transit buses, not related to accidents[e]	6	0.01
Gas distribution pipelines	5	0.01
Passengers on railroad trains	3	<0.01
Gas transmission pipelines	2	<0.01
Demand-responsive transit, not accident-related[e]	2	<0.01
Other counts, redundant with above[f]		
Large-truck occupants and nonoccupants	4,897	
Public grade crossings, with motor vehicles	315	
Transit buses, accident-related	89	
Commuter rail	87	
Nonoccupants in aviation accidents[a]	11	
Demand-responsive transit, accident-related	3	
Total, all modes[g]	**44,933**	**100.0**

[a] For the Sept. 11 terrorist acts, only persons (245) aboard aircraft are included. [b] Includes fatalities outside trains. [c] Includes all nonoccupant fatalities except pedalcyclists and pedestrians. [d] Public grade-crossing fatalities involving motor vehicles are included in motor-vehicle counts. [e] Fatalities not included under highway submodes. [f] Fatalities at grade crossings with motor vehicles are included under relevant motor vehicle modes. Commuter rail fatalities are counted under rail. Transit bus and demand-responsive transit occupant fatalities are counted under "bus" and nonoccupant fatalities are counted under "pedestrians," "pedalcyclists," or other motor vehicle categories. [g] Unless otherwise specified, includes fatalities outside the vehicle.

Source: Various sources, as cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics 2002*, table 2-4, available at http://www.bts.gov.

Table 4

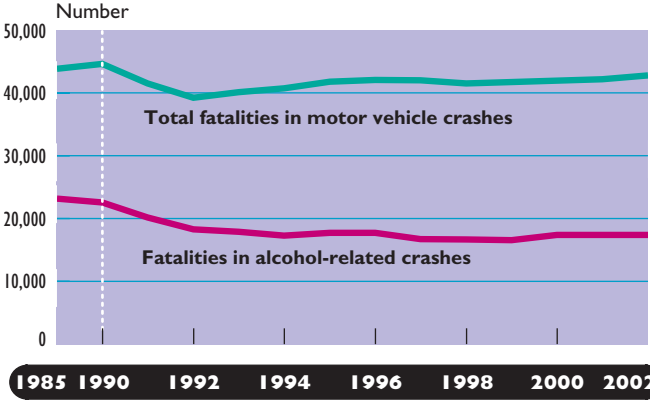
Fatalities in Motor Vehicle Crashes by Number of Vehicles and Alcohol Involvement: 2002

Number of vehicles	Fatalities	Alcohol involvement	Percent
Occupants	**37,232**	**14,862**	**40**
Single-vehicle crashes	18,564	9,170	49
Two-vehicle crashes	15,541	4,716	30
More than two-vehicle crashes	3,127	976	31
Pedestrians	**4,808**	**2,278**	**47**
Single-vehicle crashes	4,404	2,054	47
Multiple-vehicle crashes	404	224	55
Pedalcyclists	**662**	**244**	**37**
Single-vehicle crashes	625	230	37
Multiple-vehicle crashes	37	14	38
Others/unknown	**113**	**37**	**33**
Total	**42,815**	**17,419**	**41**

Note: A fatal crash is considered alcohol-related if either a driver or a nonmotorist had a measurable or estimated 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 2003.

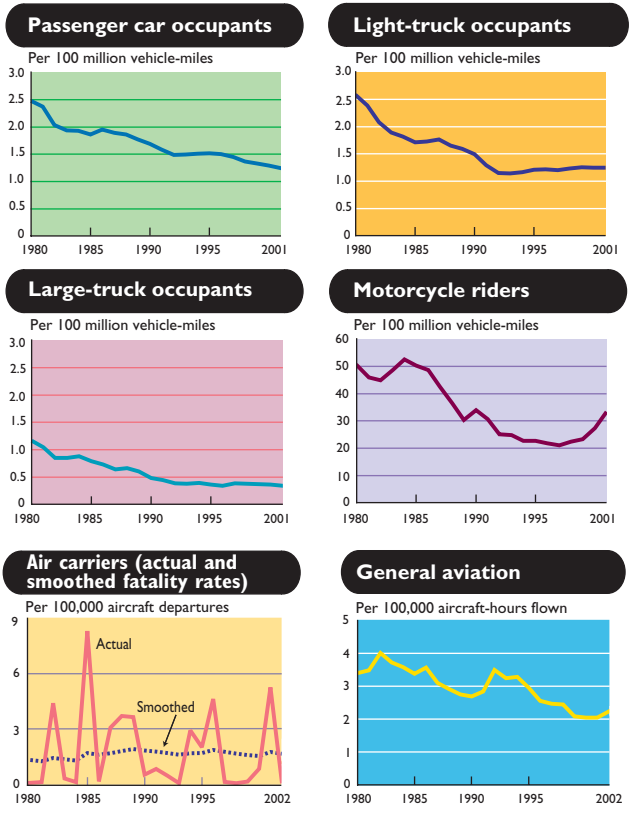
Figure 1
Fatalities in Alcohol-Related Motor Vehicle Crashes



Note: Some data may have been revised by NHTSA and thus differ from last year's *Pocket Guide*.

Source: U.S. Department of Transportation, National Highway Traffic Safety Administration, National Center for Statistics and Analysis, Fatality Analysis Reporting System (FARS) database, personal communication, September 2003.

Figure 2
Fatality Rates for Selected Modes



Notes: For air carriers, the data were smoothed, using an exponential model, with a weight of 0.94 to reduce the year-to-year fluctuations.

For air carriers, fatalities resulting from the Sept. 11, 2001, terrorist attacks include only those persons onboard aircraft. 2002 data are preliminary.

Sources: Except as noted, various sources, as cited in U.S. Department of Transportation (USDOT), Bureau of Transportation Statistics (BTS), *National Transportation Statistics (NTS) 2002* (Washington, DC: 2002), chapter 2. **Air carriers and general aviation**—USDOT, BTS, *NTS*, available at http://www.bts.gov, tables 2-9 and 2-14.

Table 5
Injured Persons by Transportation Mode

Mode	1970	1980	1990	2000	2002
Air carrier	107	19	29	27	20
Commuter air carrier	N	14	11	7	0
On-demand air taxi	N	43	36	12	13
General aviation	715	681	409	310	312
Highway[a]	N	N	R3,231,000	R3,189,000	2,926,000
Railroad[b]	17,394	58,696	22,736	10,424	9,939
Transit[c]	N	N	54,556	56,697	U
Commercial ship Vessel accidents	105	180	175	R130	157
Nonvessel accidents[d]	U	U	U	R567	519
Recreational boating	780	2,650	3,822	4,355	4,062
Gas and hazardous liquid pipeline	254	192	76	81	50

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

[b] Injuries resulting from train accidents, train and nontrain incidents, and occupational illness. Includes Amtrak. 1970 data are not comparable to data for later years due to a change in the reporting system.

[c] Injuries resulting from all reportable incidents, not just from accidents. Includes commuter rail, heavy rail, light rail, motorbus, demand responsive, van pool, and automated guideway.

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

Key: N = data are nonexistent; R = revised; U = unavailable.

Note: Each mode may use different reporting criteria for injuries.

Sources: Except as noted, various sources, as cited in U.S. Department of Transportation (USDOT), Bureau of Transportation Statistics, *National Transportation Statistics (NTS) 2002,* table 2-2, available at http://www.bts.gov; and *NTS 2003,* forthcoming. **Highway**—USDOT, National Highway Traffic Safety Administration, *Traffic Safety Facts 2002* (Early Edition), table 2, p. 15. **Recreational boating (2002)**—U.S. Coast Guard, *Recreational Boating Accidents in the United States: Calendar Year 2002 Executive Summary,* available at http://www.uscgboating.org/statistics/boating_statistics_2002.pdf, as of December 2003.

3 Transportation Security

Ensuring security of all transportation modes and facilities 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, attention is also being directed at other modes, including rail, water, highways, and pipelines. Another security matter concerns U.S. dependency on foreign sources of oil. The U.S. transportation sector remains almost entirely dependent on petroleum as an energy source and more than 55 percent of the petroleum used in the United States is now imported.

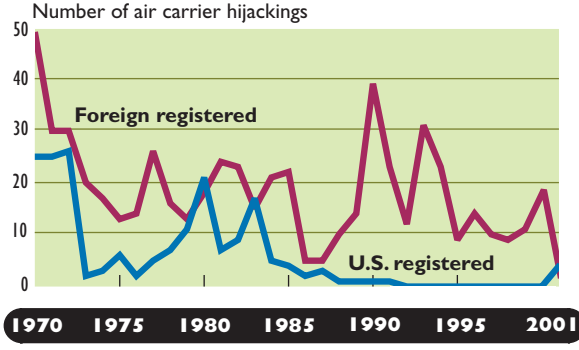
Table 6
Airline Passenger Screening Results

	1985	1990	1995	2000	2001
Persons screened (millions)	993	1,145	1,263	1,812	1,320
Firearms detected	2,913	2,549	2,390	1,937	1,071
Handguns	2,823	2,490	2,230	1,643	1,008
Long guns (rifles)	90	59	160	294	63
Persons arrested					
Carrying firearms/ explosives	1,310	1,336	1,194	600	362
Giving false information	42	18	68	61	90

Note: Includes operators with a U.S. Department of Transportation, Federal Aviation Administration operating certificate engaged in scheduled passenger or public charter passenger operations, and airports at which these operations are conducted.

Sources:
1985—U.S. Department of Transportation (USDOT), Federal Aviation Administration (FAA), *Semiannual Report to Congress on the Effectiveness of the Civil Aviation Security Program, July 1– December 31, 1985* (Washington, DC: May 1986).
1990–2001—USDOT, FAA, Office of Civil Aviation Security Policy and Planning, *Annual Report to Congress on Civil Aviation Security* (Washington, DC: Annual issues), and personal communications, May 27, 1999, Mar. 29, 2000, Aug. 7, 2001, and Sept. 13, 2002.

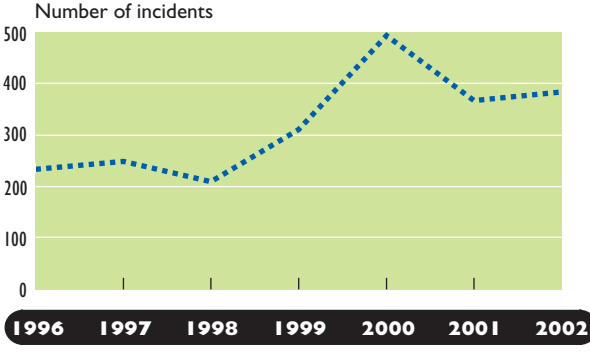
Figure 3
Worldwide Civil Aviation Hijackings



Note: There were no hijackings in the United States from 1992 through 2000.

Source: U.S. Department of Transportation, Transportation Security Administration, *Criminal Acts Against Civil Aviation* (Washington, DC: August 2002).

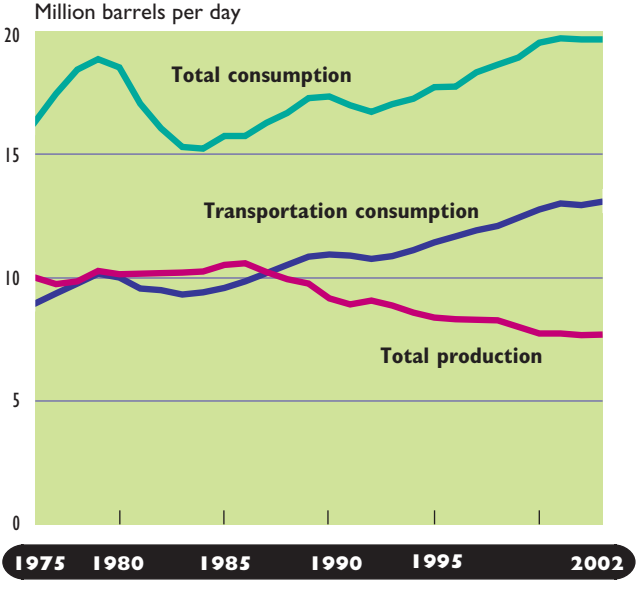
Figure 4
International Piracy and Armed Robbery at Sea



Note: Incidents include attempts and threatening actions.

Source: U.S. Department of Transportation, Bureau of Transportation Statistics, special tabulations based on United Nations International Maritime Organization, personal communication, September 2003.

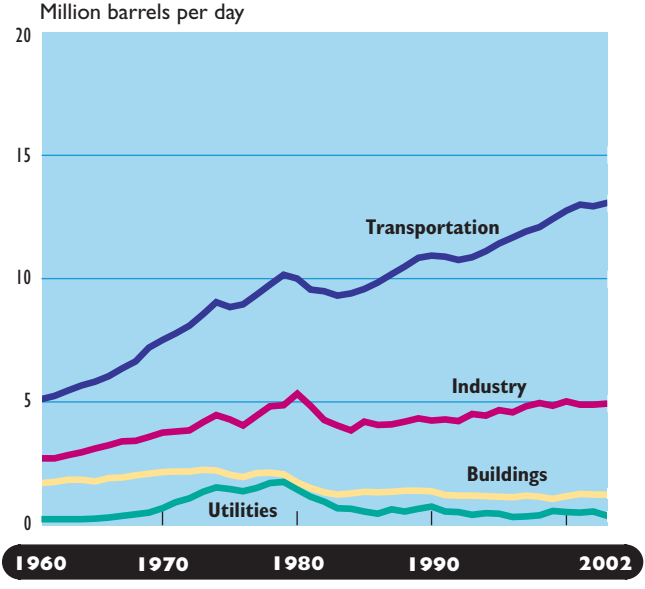
Figure 5
U.S. Petroleum Production and Consumption



Note: 2002 data are preliminary.

Source: U.S. Department of Energy, Energy Information Administration, *Annual Energy Review 2002* (Washington, DC: October 2003), tables 5.1 and 5.12c.

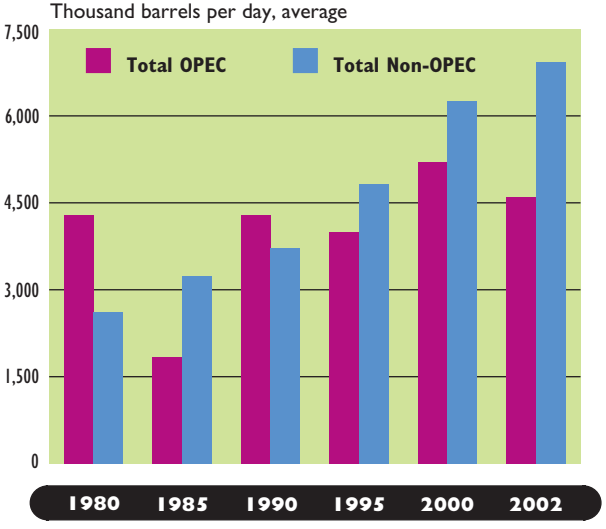
Figure 6
Transportation's Share of U.S. Petroleum Use



Notes: Data for transportation, industry, and buildings are revised from 1984 forward and reflect accounting changes that result in more accurate estimates of the petroleum actually used by those sectors. 2002 data are preliminary.

Source: U.S. Department of Energy, Energy Information Administration, *Annual Energy Review 2002* (Washington, DC: October 2003), tables 5.12a–d.

Figure 7
U.S. Oil Imports



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*, July 2003, tables 3.3d and 3.3h, available at http://www.eia.doe.gov/emeu/mer/petro.html, as of August 2003.

Table 7
Major Suppliers of U.S. Crude Oil and Petroleum Products
(Thousand barrels per day, average; rank in 2002)

	1980	1985	1990	1995	2000	2002
Canada	455	770	934	1,332	1,807	1,971
Saudi Arabia	1,261	168	1,339	1,344	1,572	1,552
Mexico	533	816	755	1,068	1,373	1,547
Venezuela	481	605	1,025	1,480	1,546	1,398
Nigeria	857	293	800	627	896	621
United Kingdom	176	310	189	383	366	478
Iraq	28	46	518	0	620	459
Norway	144	32	102	273	343	393
Angola	42	110	237	367	301	332
Algeria	488	187	280	234	225	264
Colombia	4	23	182	219	342	260
U.S. Virgin Islands	388	247	282	278	291	236
Kuwait	27	21	86	218	272	228
Total, major suppliers	**4,884**	**3,628**	**6,729**	**7,823**	**9,954**	**9,739**
Total, all U.S. imports	6,909	5,067	8,018	8,835	11,459	11,530

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,* July 2003, tables 3.3a–h, available at http://www.eia.doe.gov/emeu/mer/petro.html, as of August 2003.

4 Mobility

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: greater vehicle availability, reduced travel costs, population increases, congestion, the economy, and consumer income.

Table 8
Passenger Travel and Freight Transportation Per Capita

	Number
Passenger travel (2001)	
Trips	
Daily trips per person	R 4.1
Daily trips per person per year[a]	R 1,483
Miles	
Daily miles per person	R 40
Daily miles per person per year[a]	R 14,524
Domestic freight transportation (2000)	
Tons per person, annually	50.3
Ton-miles per person, annually	13,846

[a] Calculated on an annualized basis.

Key: R = revised.

Notes: Data used for passenger travel are from the National Household Travel Survey (NHTS) travel-day file and include trips of all lengths made by respondents on a single day; about 95 percent of these daily trips were 30 miles or less. Calculations are based on weighted estimates from the 2001 NHTS.

Sources: **Passenger**—USDOT, Federal Highway Administration and Bureau of Transportation Statistics, National Household Travel Survey, available at http://nhts.ornl.gov/2001/index.shtml, as of December 2003.
Freight—USDOT, Bureau of Transportation Statistics, and U.S. Department of Commerce, U.S. Census Bureau, *1997 Commodity Flow Survey* (Washington, DC: 1999); BTS special tabulations, October 2002.

Table 9
Number of Aircraft, Railcars, Vehicles, and Vessels

Mode	1970	1980	1990	2000	2001
Air carriers	2,679	3,808	6,083	8,055	8,497
General aviation	131,743	211,045	R198,000	217,533	211,446
Highway vehicles[a]	89,243,557	121,600,843	133,700,496	133,621,420	137,633,467
Motorcycles	2,824,098	5,693,940	4,259,462	4,346,068	4,903,056
Other 2-axle, 4-tire vehicles	14,210,591	27,875,934	48,274,555	79,084,979	84,187,636
Trucks: Single-unit	3,681,405	4,373,784	4,486,981	5,926,030	5,703,500
Combination	905,082	1,416,869	1,708,895	2,096,619	2,154,174
Buses[b]	377,562	528,789	626,987	746,125	749,548
Passenger rail:					
Amtrak—Cars	N	2,128	1,863	1,894	2,084
Locomotives	N	419	318	378	401
Commuter railcars and locomotives	N	4,500	4,415	5,073	P5,124
Transit[c]	10,548	10,654	11,332	12,168	P12,084
Freight rail:					
Class I freight cars	1,423,921	1,168,114	658,902	560,154	499,860
Class I locomotives	27,077	28,094	18,835	20,028	19,745
Other freight cars	360,260	542,713	553,359	820,642	814,276
Nonself-propelled vessels (barges)[d,e]	19,377	31,662	31,209	33,152	33,042
Self-propelled vessels[d,e]	6,455	7,126	8,236	8,202	8,546
Oceangoing ships[e] (1,000 gross tons and over)	1,579	864	636	454	443
Recreational boats[f]	R5,128,345	8,577,857	10,996,253	12,782,143	R12,876,346

[a] In July 1997, the USDOT, Federal Highway Administration, reassigned some vehicles, e.g., sport utility vehicles, from "passenger car" to "other 2-axle, 4-tire."
[b] Includes municipally owned transit, commercial, federal, and school buses.
[c] Includes light and heavy rail only.
[d] See glossary.
[e] U.S.-flag vessels.
[f] Numbered boats.
Key: N = data are nonexistent; P = preliminary; R = revised.

Sources: All data, except as noted—various sources, as cited in USDOT, BTS, *National Transportation Statistics 2002* (Washington, DC: 2002), table 1-11. **Air carriers 2001**—Aerospace Industries Association, *Aerospace Facts & Figures* (Washington, DC: 2003/2004), "Active U.S. Air Carrier Fleet." **2001 Class I rail**—Association of American Railroads, *Class I Railroad Statistics,* available at http://www.aar.org/AboutTheIndustry/AboutTheIndustry.asp, as of Oct. 2002. **Passenger rail 2001**—Association of American Railroads, *Railroad Profiles,* available at http://www.aar.org/AboutTheIndustry/RailroadProfiles.asp, as of November 2003.

Table 10
Vehicle-Miles
(Millions)

Mode	1970	1980	1990	2000	2001
Air carriers	2,068	2,523	3,963	5,664	5,550
General aviation	3,207	5,204	4,548	[a]N	[a]N
Passenger cars	916,700	1,111,596	1,408,266	1,600,287	1,619,422
Motorcycles	2,979	10,214	9,557	10,469	9,529
Other 2-axle, 4-tire vehicles[b]	123,286	290,935	574,571	923,059	937,839
Trucks:					
Single-unit	27,081	39,813	51,901	70,500	72,286
Combination	35,134	68,678	94,341	135,020	135,400
Buses[c]	4,544	6,059	5,726	7,590	6,986
Rail[d]:					
Transit[e]	441	403	561	648	[P]662
Commuter	N	179	213	271	[P]277
Class 1 freight	29,890	29,277	26,159	34,590	34,243
Intercity/Amtrak[f]	690	235	301	368	378
Other transit[g]	N	15	324	833	[P]867

[a]The Federal Aviation Administration has estimated vehicle-miles for general aviation aircraft through 1997, relying in part on hours-flown survey data. Vehicle-miles estimates for subsequent years are not yet available.

[b] In July 1997, the U.S. Department of Transportation, Federal Highway Administration, reassigned some vehicle-miles from "passenger car" to "other 2-axle, 4-tire."

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

[d] Car-miles.

[e] Includes light and heavy rail only.

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

[g] Includes demand responsive, ferry boat, and other transit not specified; 1980 data include "other transit" only.

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

Sources: Except as noted, various sources, as cited in U.S. Department of Transportation (USDOT), Bureau of Transportation Statistics (BTS), *National Transportation Statistics 2002*, available at http://www.bts.gov, table 1-32.
2001 air carriers—USDOT, Bureau of Transportation Statistics, *Air Carrier Traffic Statistics* (Washington, DC: Annual December issues).

Table 11
Passenger-Miles
(Millions)

Mode	1970	1980	1990	2000	2001
Air carriers	108,442	204,368	345,873	516,129	R486,459
General aviation	9,100	14,700	13,000	15,200	15,900
Passenger cars	1,750,897	2,011,989	2,281,391	2,544,457	2,574,882
Motorcycles	3,277	12,257	12,424	11,516	10,482
Other 2-axle, 4-tire vehicles[a]	225,613	520,774	999,754	1,467,664	1,491,164
Buses[b]	N	N	121,398	160,919	148,113
Rail:					
Transit[c]	N	10,939	12,046	R13,412	14,108
Commuter	4,592	6,516	7,082	9,402	9,548
Intercity/ Amtrak[d]	6,179	4,503	6,057	5,498	5,559
Other transit[e]	N	390	841	1,631	P1,698

[a] In July 1997, the U.S. Department of Transportation, Federal Highway Administration, reassigned some vehicles from "passenger car" to "other 2-axle, 4-tire."

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

[c] Includes light and heavy rail only.

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

[e] Includes demand-responsive, ferry boat, and other transit not specified; 1980 data include ferry boat and "other transit" only.

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

Sources: Except as noted, various sources, as cited in U.S. Department of Transportation (USDOT), Bureau of Transportation Statistics (BTS), *National Transportation Statistics 2002*, available at http://www.bts.gov, table 1-34.
2001 air carriers—USDOT, BTS, *Air Carrier Traffic Statistics* (Washington, DC: Annual December issues), p. 2, line 1.

Table 12
Daily Travel: 2001
(Trips from one point to another on a single day; most daily trips are local)

	Percent
Modal shares of daily trips	
Personal vehicle (multiple occupant)	49
Personal vehicle (single occupant)	38
Walking	9
School bus	2
Transit	2
Other	2
Trip purpose	
Family/personal business	45
Social/recreational	27
Work (commute)	14
School/place of worship	10
Work-related	3
Other	1

	Minutes per day	Miles per day
Average driving time and distance		
Female drivers	44	21
Male drivers	67	38
All drivers	55	29

Notes: Percentages may not add to 100 due to rounding.

Transit includes public bus, commuter bus and train, subway/elevated train, and streetcar/trolley. Other includes air, intercity or charter bus, intercity rail, ship, taxi, limousine, shuttle, or bicycle.

Family/personal business includes shopping, medical visits, picking people up or dropping them off, banking, etc. Social/recreational includes visiting friends and relatives, going to the movies or other entertainment, vacation trips, or going to participate in sports activities. Work (commute) trips are those to and from a person's place of work. Work-related trips are those made for one's job other than to or from the place of work, but do not include such occupational trips as driving a taxi, bus, or delivery truck.

Sources: U.S. Department of Transportation (USDOT), Federal Highway Administration and Bureau of Transportation Statistics (BTS), *National Household Travel Survey* (Washington, DC: 2002); USDOT, BTS, *National Household Travel Survey 2001 Highlights Report,* BTS03-05 (Washington, DC: 2003), tables A-10, A-11, and A-16.

Table 13
Long-Distance Travel: 2001
(Trips of 50 miles or more from home to the furthest destination)

	Percent
Modal shares of long-distance trips	
Personal vehicle	90
Air	7
Bus	2
Train	1
Other	<1
Trip purpose	
Pleasure	56
Business	16
Work (commute)	13
Personal business	13
Other	3

	Share of trips by gender	
Mode	**Women (%)**	**Men (%)**
Personal vehicle	42	58
Air	43	57
Bus	55	45
Train	42	58
Other	30	70
All modes	43	57

Notes: Percentages may not add to 100 due to rounding.

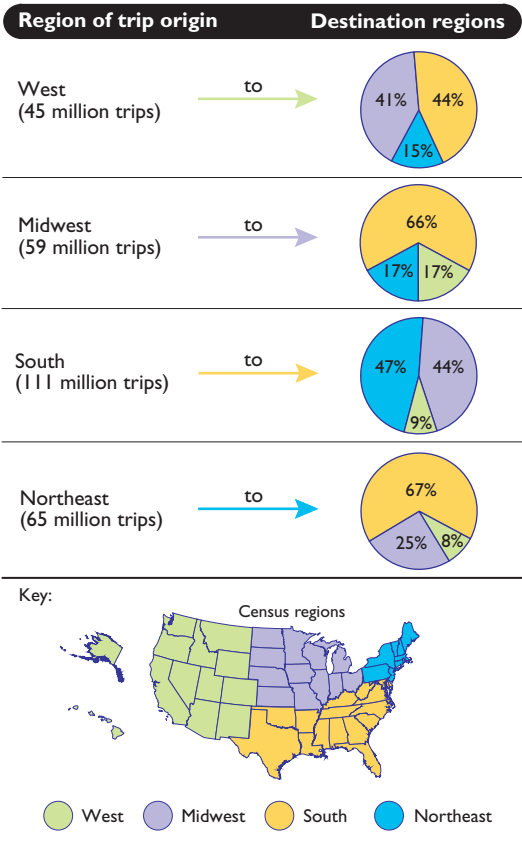
Trip purpose—Pleasure includes vacations, sightseeing excursions, rest and relaxation, visiting friends and family, or outdoor recreation. Business includes conference and meeting attendence or any other business purpose than commuting to and from work or such occupational trips as driving a bus. Work includes commuting to and from work, but does not include such occupational trips as driving a bus. Personal business includes medical visits, shopping trips, and trips to attend weddings, funerals, etc.

Mode—Other includes ship, taxicab, limousine, shuttle, or bicycle.

Sources: U.S. Department of Transportation (USDOT), Federal Highway Administration and Bureau of Transportation Statistics (BTS), *National Household Travel Survey* (Washington, DC: 2002); USDOT, BTS, *National Household Travel Survey 2001 Highlights Report,* BTS03-05 (Washington, DC: 2003), tables 4, A-18a, and A-24b.

Figure 8

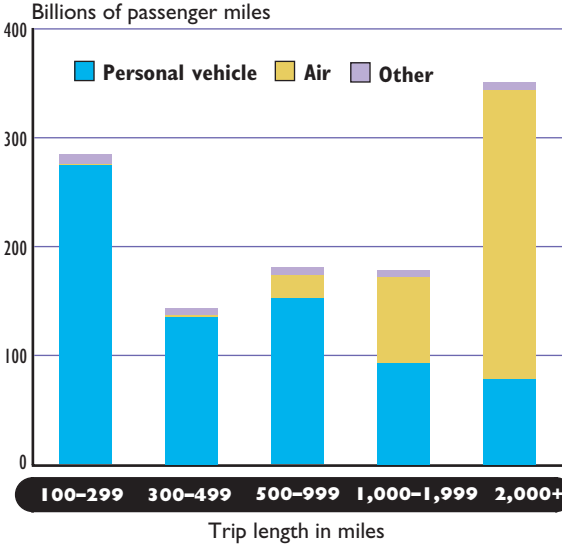
Origin and Destinations of Long-Distance Interregional Trips: 2001



Notes: Trips within the same region make up 89 percent of all long-distance trips. Only interregional trips are included in this figure.

Source: U.S. Department of Transportation, Bureau of Transportation Statistics and Federal Highway Administration, 2001 National Household Travel Survey, preliminary long-distance trip file, 2003.

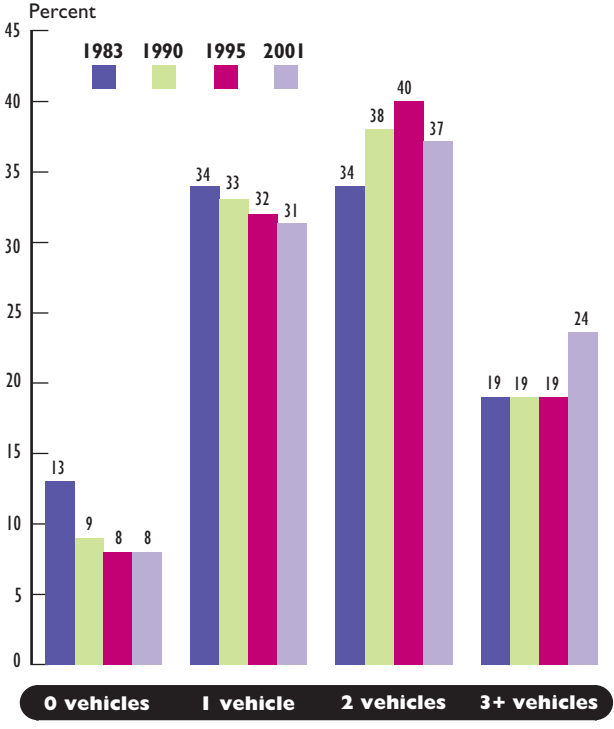
Figure 9
Modal Shares of Passenger-Miles by Length of Long-Distance Trip: 2001



Note: Trip length is based on roundtrip travel distance.

Source: U.S. Department of Transportation, Bureau of Transportation Statistics and Federal Highway Administration, 2001 National Household Travel Survey, preliminary long-distance trip file, 2003.

Figure 10
Households by Number of Vehicles



Sources: **1983–1995**—U.S. Department of Transportation (USDOT), Federal Highway Administration (FHWA), *Nationwide Personal Transportation Survey*, *Our Nation's Travel* (Washington, DC: 1997). **2001**—USDOT, Bureau of Transportation Statistics and FHWA, *National Household Travel Survey* (Washington DC: 2003).

Table 14

Top 20 U.S. Passenger Airports

(Thousands of enplaned passengers on large certificated air carriers)

	2002		1992		
Airport	**Rank**	**Total enplaned passengers**	**Rank**	**Total enplaned passengers**	**% change 1992–2002**
Atlanta (Hartsfield), GA	1	37,070	3	19,705	88.1
Chicago (O'Hare), IL	2	28,356	1	28,948	–2.0
Dallas/Ft. Worth, TX	3	24,072	2	24,671	–2.4
Los Angeles, CA	4	20,320	4	18,395	10.5
Denver, CO	5	16,054	6	13,595	18.1
Phoenix (Sky Harbor), AZ	6	15,897	7	10,787	47.4
Las Vegas (McCarran), NV	7	15,575	12	9,347	66.6
Houston (Intercontinental), TX	8	15,224	21	8,358	82.1
Minneapolis, MN	9	15,046	11	10,055	49.6
Detroit (Wayne County), MI	10	14,860	10	10,425	42.5
Newark, NJ	11	13,114	8	10,479	25.1
Seattle, WA	12	12,578	19	8,572	46.7
San Francisco, CA	13	12,250	5	14,208	–13.8
Orlando, FL	14	12,127	16	8,765	38.4
St. Louis (Lambert-St. Louis), MO	15	11,765	9	10,436	12.7
Miami, FL	16	11,126	15	9,076	22.6
Philadelphia, PA	17	10,324	23	6,968	48.1
Charlotte (Douglas), NC	18	10,155	22	8,239	23.3
New York (John F. Kennedy), NY	19	9,930	20	8,468	17.3
New York (LaGuardia), NY	20	9,714	14	9,252	5.0
Top 20 airports		**315,557**		**248,750**	**26.9**
All airports		574,820		454,060	26.6

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

Source: U.S. Department of Transportation, Bureau of Transportation Statistics, Office of Airline Information, Schedule T-3 data, special tabulation, Dec. 2002.

Table 15

U.S.-Canadian Border Land-Passenger Gateways: 2002

(Thousands)

Land gateway	Entering the U.S.
All U.S.-Canadian land gateways	
Personal vehicles	32,539
Personal vehicle passengers	70,008
Buses	161
Bus passengers	4,213
Train passengers	255
Pedestrians	1,082
Personal vehicles—top 5 gateways	
Buffalo-Niagara Falls, NY	7,570
Detroit, MI	6,857
Blaine, WA	2,385
Port Huron, MI	2,187
Massena, NY	1,163
Personal vehicle passengers—top 5 gateways	
Buffalo-Niagara Falls, NY	17,031
Detroit, MI	12,319
Blaine, WA	4,794
Port Huron, MI	4,189
Champlain-Rouses Point, NY	3,766
Buses—top 5 gateways	
Buffalo-Niagara Falls, NY	51
Detroit, MI	37
Blaine, WA	16
Champlain-Rouses Point, NY	10
Sault Ste. Marie, MI	9
Bus passengers—top 5 gateways	
Buffalo-Niagara Falls, NY	1,557
Detroit, MI	916
Blaine, WA	337
Champlain-Rouses Point, NY	283
Port Huron, MI	147
Train passengers—top 5 gateways	
Blaine, WA	61
Buffalo-Niagara Falls, NY	47
Champlain-Rouses Point, NY	34
Skagway, AK	30
Port Huron, MI	27
Pedestrians—top 5 gateways	
Buffalo-Niagara Falls, NY	819
Sumas, WA	64
Portland, ME (ferry crossing)	39
Calais, ME	35
International Falls, MN	24

Source: U.S. Department of Transportation, Bureau of Transportation Statistics, special tabulation, November 2003; based on U.S. Department of Homeland Security, U.S. Customs and Border Protection, Office of Field Operations, Operations Management database, as of August 2003.

Table 16
U.S.-Mexican Border Land-Passenger Gateways: 2002
(Thousands)

Land gateway	Entering the U.S.
All U.S.-Mexican land gateways	
Personal vehicles	89,849
Personal vehicle passengers	199,021
Buses	309
Bus passengers	3,926
Train passengers	15
Pedestrians	50,278
Personal vehicles—top 5 gateways	
San Ysidro, CA	16,442
El Paso, TX	13,095
Hidalgo, TX	8,136
Brownsville, TX	7,897
Laredo, TX	6,922
Personal vehicle passengers—top 5 gateways	
San Ysidro, CA	36,172
El Paso, TX	26,363
Hidalgo, TX	17,614
Laredo, TX	15,916
Brownsville, TX	15,821
Buses—top 5 gateways	
San Ysidro, CA	97
Otay Mesa, CA	65
Laredo, TX	39
El Paso, TX	32
Hidalgo, TX	32
Bus passengers—top 5 gateways	
San Ysidro, CA	1,200
Laredo, TX	757
Hidalgo, TX	633
Otay Mesa, CA	546
El Paso, TX	351
Train passengers—top 5 gateways	
Eagle Pass, TX	7
Nogales, AZ	2
Calexico East, CA	2
El Paso, TX	2
Tecate, CA	2
Pedestrians—top 5 gateways	
El Paso, TX	9,301
San Ysidro, CA	7,903
Calexico, CA	6,895
Nogales, AZ	5,912
Laredo, TX	4,648

Source: U.S. Department of Transportation, Bureau of Transportation Statistics, special tabulation, November 2003; based on U.S. Department of Homeland Security, U.S. Customs and Border Protection, Office of Field Operations, Operations Management database, as of August 2003.

Table 17
Roadway Delay and Congestion Cost per Person in Urban Areas: 1991 and 2001

Annual Roadway Delay per Person
(Hours per year)

	1991 delay per person	2001 delay per person	Percentage change 1991–2001	Annual growth rate 1991–2001
Very large areas	24	32	36	3.1
Large areas	12	22	75	5.8
Medium areas	7	14	109	7.6
Small areas	4	7	76	5.8
75-area average	**17**	**26**	**53**	**4.3**

Annual Roadway Congestion Cost per Person
(Current dollars)

	1991 cost per person	2001 cost per person	Percentage change 1991–2001	Annual growth rate 1991–2001
Very large areas	342	646	89	6.6
Large areas	181	449	148	9.5
Medium areas	99	290	193	11.3
Small areas	56	132	136	9.0
75-area average	**250**	**517**	**107**	**7.5**

Key:

Very large = over 3 million population (e.g., New York-Northern NJ).

Large = 1 million–3 million population (e.g., Atlanta).

Medium = selected areas with 500,000–1 million population (e.g., Memphis).

Small = selected areas under 500,000 population (e.g., Colorado Springs).

Notes: TTI estimates delay indirectly by using traffic volumes and methodology developed by the Federal Highway Administration for estimating the effects of roadway incidents.

TTI estimates cost by taking into account fuel cost, value of time, and commercial vehicle operating cost.

Source: Texas Transportation Institute (TTI), *2003 Urban Mobility Report*, "Base Statistics for the 75 Urban Areas" spreadsheet available at http://mobility.tamu.edu/ums/mobility_data; and personal communication, October 2003.

Table 18
Amtrak On-Time Performance Trends and Hours of Delay by Cause

	2000	2001	2002	2003
On-time performance				
Total (weighted)	78%	75%	76%	74%
Short distance (<400 miles)[a]	[R]82%	79%	80%	77%
Long distance (>=400 miles)	[R]55%	52%	52%	53%
Hours of delay by cause				
Amtrak[b]	[R]23,337	27,822	26,575	25,711
Host railroad[c]	[R]43,881	52,273	55,090	57,346
Other[d]	[R]3,176	3,741	4,266	5,355
Total[e]	**[R]70,396**	**83,837**	**85,932**	**88,413**

[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.

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 2003.

Table 19

U.S. Airports with the Highest Percentage of Arriving Passenger Flight Delays

(Percentage of scheduled flights canceled, diverted, or arriving at least 15 minutes after the scheduled arrival time)

	2002		1992	
Airport	**Delay rank**	**%**	**Delay rank**	**%**
Atlanta Hartsfield Int., GA	1	22.1	5	23.0
San Francisco Int., CA	2	21.7	12	19.7
Seattle-Tacoma Int., WA	3	20.7	13	19.2
Ft. Lauderdale-Hollywood Int., FL	4	20.5	4	23.9
Philadelphia Int., PA	5	20.0	8	21.7
Las Vegas McCarran Int., NV	6	19.3	30	12.7
Miami Int., FL	7	19.2	11	19.8
New York JFK Int., NY	8	19.0	2	25.4
Chicago O'Hare Int., IL	9	18.8	14	18.9
Tampa Int., FL	10	18.5	15	18.3
San Diego Int., CA	11	18.5	22	16.4
New York LaGuardia, NY	12	18.3	10	20.1
Portland Int., OR	13	17.9	23	16.3
Newark Int., NJ	14	17.7	1	26.6
Orlando Int., FL	15	17.6	17	18.1
Los Angeles Int., CA	16	17.4	9	21.3
Baltimore/Washington Int., MD	17	16.9	20	17.7
Salt Lake City Int., UT	18	16.8	21	16.8
Cincinnati Int., KY	19	16.5	26	16.0
Phoenix, Sky Harbor Int., AZ	20	16.2	31	11.6

Notes: The 32 largest airports (of which only the top 20 are shown in this table) each handled more than 1% of all domestically enplaned passengers in 2002. Data are collected from major carriers. American Eagle data are excluded from the 2002 tabulations because 1992 data are not available.

Source: U.S. Department of Transportation, Bureau of Transportation Statistics, Office of Airline Information, special tabulation, November 2003.

Table 20
Top 20 U.S. Water Ports by Shipment Weight
(Millions of tons shipped)

	2001		1991		
Port	**Rank**	**Total tons**	**Rank**	**Total tons**	**% change 1991–2001**
South Louisiana, LA	1	212.6	1	189.7	12.1
Houston, TX	2	185.1	2	131.5	40.7
New York, NY & NJ	3	137.5	3	126.9	8.4
New Orleans, LA	4	85.6	6	60.9	40.6
Beaumont, TX	5	79.1	26	22.4	253.5
Corpus Christi, TX	6	77.6	7	59.1	31.4
Huntington-Tristate, WV-OH-PA[a]	7	76.7	N	N	N
Long Beach, CA	8	67.6	10	52.9	27.9
Texas City, TX	9	62.3	13	43.3	43.8
Baton Rouge, LA	10	61.4	5	87.6	–29.9
Plaquemine, LA	11	60.7	8	53.8	12.9
Pittsburgh, PA	12	53.0	19	31.3	69.5
Lake Charles, LA	13	52.8	15	41.2	28.1
Los Angeles, CA	14	51.4	12	47.0	9.3
Valdez, AK	15	51.0	4	99.6	–48.8
Mobile, AL	16	48.1	14	41.3	16.4
Philadelphia, PA	17	46.4	18	37.3	24.5
Tampa, FL	18	45.8	11	49.5	–7.6
Baltimore, MD	19	42.1	16	37.7	11.5
Duluth-Superior, MN & WI	20	39.8	17	37.7	5.6
Total top 20[b]		**1,459.8**		**1,250.7**	**16.7**

[a] Huntington-Tristate, WV-OH-PA, is a newly defined port since the release of the 1991 data. [b] For purposes of comparison, Huntington-Tristate, WV-OH-PA, is excluded.

Key: N = data are nonexistent.

Sources: **1991**—U.S. Army Corps of Engineers, *Waterborne Commerce of the United States, Calendar Years 1991 and 1992, Part 5, National Summaries* (New Orleans, LA: 1993), table 5-2.
2001—U.S. Army Corps of Engineers, *Waterborne Commerce of the United States, Calendar Year 2001, Part 5, National Summaries*, available at http://www.iwr.usace.army.mil/ndc/wcsc/wcsc.htm, table 5-2.

Table 21
U.S. Domestic Freight Shipments by Mode: Preliminary 2002
(Commodity Flow Survey data only)

Mode	Value (billions)	Tons (millions)	Ton-miles (billions)
Total	**8,483**	**11,573**	**3,204**
Truck (for-hire and private)	6,200	7,622	1,311
Rail	320	1,817	1,199
Water	91	714	323
Air (includes truck and air)	279	4	6
Pipeline[a]	162	722	S
Intermodal total[b]	**1,111**	**198**	**215**
Parcel, postal, and courier services	1,022	26	21
Truck and rail	S	S	S
Other intermodal combinations	26	131	147
Unknown	319	496	77

[a] Estimates of pipeline exclude shipments of crude petroleum.

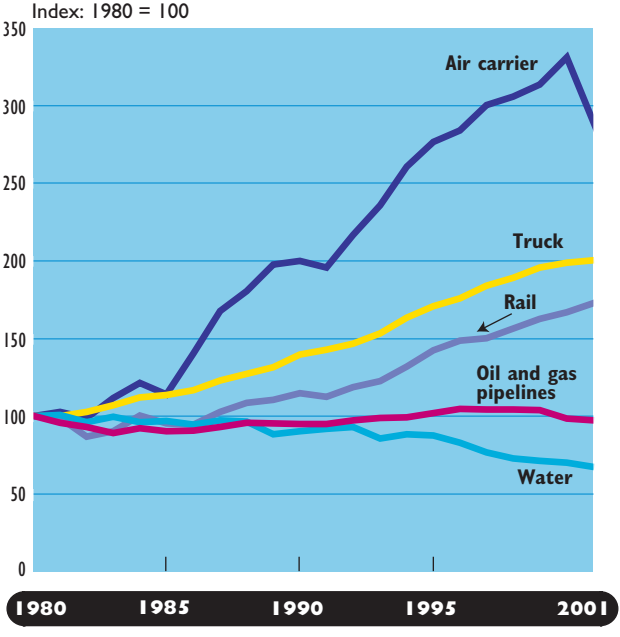
[b] Includes a combination of parcel, postal, and courier services; truck and rail; and other intermodal combinations, including truck and water and rail and water. Excludes truck and air combination, which is added to air transportation.

Key: S = withheld due to high sampling variability or poor response quality.

Note: The data presented in this table exclude shipments from the following establishments classified in the North American Industry Classification System (NAICS) as: farms, forestry, logging, fisheries, construction, publishing, and crude petroleum production; households; governments; and most retail and service businesses. Also excluded are most imports and commodities shipped from a foreign location to another foreign destination that pass through the United States.

Source: U.S. Department of Transportation, Bureau of Transportation Statistics and U.S. Department of Commerce, U.S. Census Bureau, "2002 Economic Census: Transportation Commodity Flow Survey, Preliminary Report," December 2003.

Figure 11
Growth Trends of U.S. Domestic Freight Ton-Miles by Mode: 1980–2001

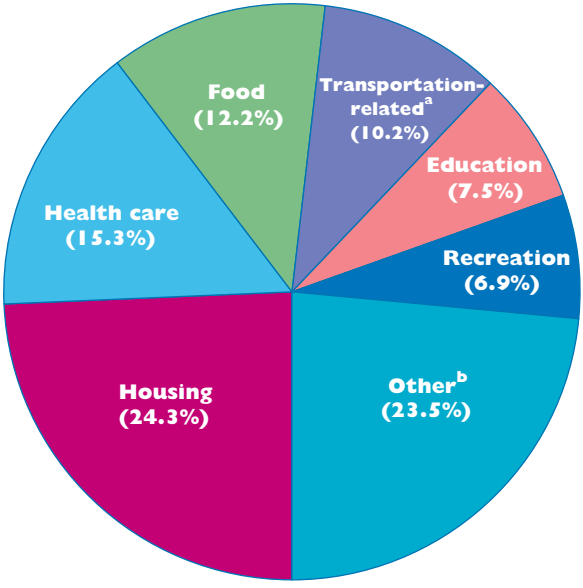


Sources: **Air, oil pipeline, and water**—U.S. Department of Transportation (USDOT), Bureau of Transportation Statistics (BTS), *National Transportation Statistics 2002*, table 1-44 revised, available at http://www.bts.gov, as of October 2003. **Truck**—BTS calculation based on USDOT, BTS, *Transportation Statistics Annual Report 2000* (Washington, DC: 2001), p. 124, table 2; USDOT, BTS, *U.S. International Trade and Freight Transportation Trends* (Washington, DC: 2003), figure 14; USDOT, BTS, *Maritime Trade and Transportation 2002* (Washington, DC: 2002), table 1-20; USDOT, Federal Highway Administration, *Highway Statistics 2001* (Washington DC: 2002), table VM-1. **Rail**—Surface Transportation Board, Carload Waybill Sample; BTS calculation based on Transport Canada, *Transportation in Canada* (Ottawa, Ontario: Annual issues), table 12-1; American Association of Railroads, *Railroad Facts* (Washington, DC: 1991 and 2001), p. 36. **Gas pipeline**—BTS calculation based on U.S. Department of Energy, Energy Information Agency, *Annual Energy Review 2001*, table 6.5, and *International Energy Annual 2001*, table C-1, both available at http://www.eia.doe.gov, as of December 2003.

5 Transportation and the 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 2001, transportation-related goods and services contributed $1,047 billion to a $10.08 trillion U.S. Gross Domestic Product.

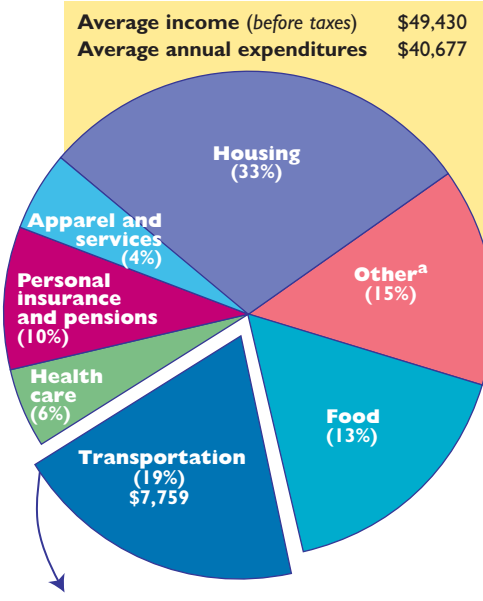
Figure 12
U.S. Gross Domestic Product by Major Societal Function: 2001



[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: USDOT, Bureau of Transportation Statistics, calculated from data in U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, October 2002.

Figure 13
Average Household Expenditures by Major Spending Category: 2002
(Current dollars)



Private vehicle expenditures	=	**$7,371**
Vehicle purchases	=	$3,665
Gasoline and motor oil	=	$1,235
Other vehicle expenditures	=	$2,471
Public transportation expenditures	=	**$389**
Airline fares	=	$244
Mass transit fares	=	$50
Ship fares	=	$30
Taxi fares	=	$25
Intercity train fares	=	$16
Local transportation on out-of-town trips	=	$11
Intercity bus fares	=	$11
School buses	=	$2

[a] Includes entertainment, personal care products and services, education, tobacco products and smoking, and miscellaneous.
Note: Numbers do not add to totals due to rounding.

Source: U.S. Department of Labor, Bureau of Labor Statistics, Consumer Expenditure Survey, 2003; and personal communication, December 2003.

Table 22
Value of U.S. International Merchandise Trade by Mode of Transportation: 2002
(Millions of current U.S. dollars)

	Exports	Modal %	Imports	Modal %	Total trade	Total modal %
Total	**693,257**	**100.0**	**1,163,549**	**100.0**	**1,856,806**	**100.0**
Water	191,062	27.6	538,065	46.2	729,127	39.3
Air	225,322	32.5	273,176	23.5	498,498	26.8
Truck	189,184	27.3	208,579	17.9	397,763	21.4
Rail	24,117	3.5	67,758	5.8	91,875	4.9
Pipeline	742	0.1	21,833	1.9	22,575	1.2
Other, unknown, & miscellaneous	62,830	9.1	54,139	4.7	116,969	6.3

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

Water—Excludes intransit data (merchandise shipped from one foreign country to another via a U.S. water 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), Bureau of Transportation Statistics (BTS), May 2003. **Water and air data**—U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, *U.S. Exports of Merchandise*, CD-ROM and *U.S. Imports of Merchandise*, CD-ROM, December 2002. **Total, truck, rail, pipeline, other and unknown data**—USDOT, BTS, Transborder Surface Freight Data 2003.

Table 23
Weight of U.S. International Merchandise Trade by Mode of Transportation: 2002
(Thousands of short tons)

	Exports[a]	Modal %	Imports	Modal %	Total trade[a]	Total modal %
Total	**477,075**	**100.0**	**1,153,011**	**100.0**	**1,630,087**	**100.0**
Water[b]	349,835	73.3	897,128	77.8	1,246,963	76.5
Air	2,549	0.5	3,921	0.3	6,470	0.4
Truck	91,436	19.2	96,344	8.4	187,780	11.5
Rail	24,858	5.2	78,036	6.8	102,894	6.3
Pipeline	5,822	1.2	74,826	6.5	80,648	4.9
Other, unknown, & miscellaneous	2,576	0.5	2,757	0.2	5,332	0.3

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

[b] 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.

Notes: Numbers may not add to totals due to rounding. Excludes intransit data.

Water—Excludes intransit data (merchandise shipped from one foreign country to another via a U.S. water 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), Bureau of Transportation Statistics (BTS), October 2003. **Water and air data**—U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, *U.S. Exports of Merchandise*, CD-ROM and *U.S. Imports of Merchandise*, CD-ROM, December 2002. **Total, truck, rail, pipeline, other and unknown data**—USDOT, BTS, Transborder Surface Freight Data 2003; and special calculation, Oct. 2003.

Table 24
U.S. Merchandise Trade with Canada and Mexico by Mode Share: 2002

Mode	Value (percent)	Weight (percent)
NAFTA trade, total[a]	**100.0**	**100.0**
Truck	65.9	31.2
Rail	15.2	17.1
Pipeline	3.7	13.4
Air	5.0	0.1
Water	5.4	37.9
Other and unknown	4.7	0.2
U.S.-NAFTA imports, total	**100.0**	**100.0**
Truck	60.4	22.9
Rail	19.6	18.6
Pipeline	6.3	17.8
Air	3.5	0.0
Water	7.0	40.6
Other and unknown	3.2	0.1
U.S.-NAFTA exports, total[a]	**100.0**	**100.0**
Truck	73.2	50.6
Rail	9.3	13.8
Pipeline	0.3	3.2
Air	7.0	0.2
Water	3.4	31.8
Other and unknown	6.8	0.4

[a] BTS estimated the export weight for truck, rail, pipeline, and other and unknown based on value-to-weight ratios from the import data. This was necessary, 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.

Note: Value based on millions of U.S. dollars; weight based on millions of short tons.

Sources: Compiled by U.S. Department of Transportation (USDOT), Bureau of Transportation Statistics (BTS), October 2003. **Water and air data**—U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, *U.S. Exports of Merchandise*, CD-ROM and *U.S. Imports of Merchandise*, CD-ROM, December 2002. **Total, truck, rail, pipeline, other and unknown data**—USDOT, BTS, Transborder Surface Freight Data 2002; and special calculation, October 2003.

Table 25

Top 20 Foreign Trade Freight Gateways by Value of Shipments: 2002

(Billions of current dollars)

Rank	Gateway	Exports	Imports	Total
1	JFK International, NY (a)	44.0	68.7	112.7
2	Los Angeles, CA (w)	16.4	93.9	110.3
3	Detroit, MI (l)	56.2	44.7	100.9
4	New York, NY and NJ (w)	22.6	68.9	91.5
5	Long Beach, CA (w)	15.1	73.7	88.8
6	Laredo, TX (l)	32.3	46.9	79.3
7	Los Angeles Internatl. Airport, CA (a)	31.5	29.1	60.6
8	Port Huron, MI (l)	19.1	38.3	57.4
9	Buffalo-Niagara Falls, NY (l)	24.2	30.9	55.1
10	San Francisco Internatl. Airport, CA (a)	23.2	26.5	49.7
11	Chicago, IL (a)	18.6	29.2	47.8
12	Houston, TX (w)	19.4	22.5	41.9
13	El Paso, TX (l)	15.8	22.6	38.5
14	Charleston, SC (w)	11.8	21.5	33.3
15	New Orleans, LA (a)	13.4	13.2	26.6
16	Norfolk, VA (w)	10.8	15.2	26.0
17	Seattle, WA (w)	5.3	18.5	23.8
18	Baltimore, MD (w)	5.3	17.9	23.2
19	Tacoma, WA (w)	4.4	18.4	22.9
20	Anchorage, AK (a)	4.8	18.0	22.7

Key: a = air; l = land port/border crossing; w = water port.

Notes: Trade excludes imports of less than $1,250 and exports of less than $2,500. Air: Includes a low level (generally less than 2%–3% of the total value) of small user-fee airports located in the same region. 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, New Orleans, and Anchorage. Numbers may not add to totals due to rounding.

Sources: U.S. Department of Transportation (USDOT), Bureau of Transportation Statistics (BTS); based on: **Air**—U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, special tabulation, August 2003. **Water**—USDOT, Maritime Administration, Office of Statistical and Economic Analysis, personal communication, August 2003. **Land**—USDOT, BTS, Transborder Surface Freight Data, August 2003.

Table 26
U.S. Trade in Transportation-Related Commodities: 2002
(Millions of current U.S. dollars)

Commodity and code	Exports	Imports	Total trade	Balance
Motor vehicles and parts (87)	62,511	170,516	233,027	–108,005
Aircraft, spacecraft, and parts (88)	43,901	17,996	61,897	25,905
Ships, boats, and floating structures (89)	1,239	1,329	2,568	–90
Railway or tramway locomotives and parts (86)	1,093	1,040	2,133	53
Total, transportation goods	**108,744**	**190,880**	**299,624**	**–82,136**
Total, all goods	693,257	1,163,549	1,856,806	–470,291
Transportation goods share of trade	15.7%	16.4%	16.1%	17.5%

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, 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 August 2003.

Table 27

Employment in For-Hire Transportation and Selected Transportation-Related Industries[a]

(Thousands)

	1970	1980	1990	2000	2002
Government[b]	**711**	**671**	**673**	**646**	**U**
For-hire transport sector total	**R2,855**	**R3,128**	**R3,675**	**R4,645**	**4,438**
Air	352	453	968	1,280	1,161
Local and inter-urban passenger transit	R281	R265	338	R476	472
Pipeline[c]	R179	R189	R184	R142	136
Railroad	634	532	279	237	229
Transportation services	115	198	336	470	423
Trucking and warehousing	1,083	1,280	1,395	1,847	1,826
Water	212	211	177	194	190
Equipment manufacturing	**1,949**	**1,995**	**2,073**	**1,931**	**1,739**
Other related industries total	**613**	**2,694**	**3,672**	**4,442**	**4,479**
Automotive and home supply stores	U	261	337	408	406
Automotive repair services and parking; gasoline service stations	[d]613	1,132	1,561	1,886	1,904
Highway and street construction	U	U	239	281	286
Motor vehicles/parts/supplies, new/used car dealers, and other automotive retailers	U	1,301	1,535	1,868	1,884
Total, all transportation employment	**R6,128**	**R8,488**	**R10,093**	**R11,664**	**U**

[a] Annual averages.

[b] Data are for fiscal years and include permanent and temporary civilian and military transportation-related personnel.

[c] Includes liquid and natural gas transmission pipelines.

[d] Includes gasoline service stations only.

Key: R = revised; U = unavailable.

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

Source: Various sources, as cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics (NTS) 2002,* table 3-19, available at http://www.bts.gov; and *NTS 2003,* forthcoming.

Table 28
Government Transportation Revenues by Mode and Level of Government
(Millions of current dollars)

	1980	1990	1995	2000	2001
Highway total	**25,268**	**49,945**	**66,743**	**87,800**	**U**
Federal:					
Highway Trust Fund—Highway Account[a]	7,647	13,453	19,377	30,347	26,917
State	16,287	32,644	42,415	51,073	U
Local	1,334	3,848	4,952	6,380	U
Transit total	**2,397**	**7,193**	**9,352**	**12,674**	**U**
Federal:					
Highway Trust Fund—Mass Transit Account	–	1,977	2,813	4,625	4,553
State	362	1,074	1,257	1,524	U
Local	2,035	4,142	5,283	6,525	U
Air total	**4,100**	**10,119**	**13,954**	**21,627**	**U**
Federal: Airport and Airway Trust Fund	2,274	4,945	6,291	10,544	10,073
State	190	556	695	852	U
Local	1,636	4,617	6,968	10,231	U
Water total	**1,211**	**2,487**	**3,567**	**R3,717**	**U**
Federal: water receipts[b]	391	999	1,644	R1,210	1,049
State	249	355	479	693	U
Local	572	1,133	1,444	1,813	U
Pipeline[c]	**–**	**10**	**35**	**40**	**44**
General support[d]	**–**	**–**	**7**	**25**	**18**
Total, all modes	**32,977**	**69,753**	**93,659**	**R125,882**	**U**
Federal	10,312	21,384	30,166	R46,791	42,654
State	17,088	34,629	44,846	54,142	U
Local	5,577	13,740	18,647	24,949	U

[a] Since 1983, some Highway Trust Fund fuel tax has gone to transit.

[b] Includes Harbor Maintenance Trust Fund, St. Lawrence Seaway tolls, Inland Waterway Trust Fund, Panama Canal receipts, Oil Spill Liability Trust Fund, Offshore Oil Pollution Fund, Deep Water Port Liability Fund, and excise taxes of the Boat Safety Program.

[c] Includes federal only: Pipeline Safety Fund.

[d] Includes federal only: Emergency Preparedness Fund.

Key: – = no activity or a value of zero; R = revised; U = unavailable.

Note: Numbers may not add to totals due to rounding. Only federal government revenues are included for 2001.

Source: Various sources, as cited in U.S. Department of Tranportation, Bureau of Transportation Statistics, *Government Transportation Financial Statistics*, available at http://www.bts.gov/government_transportation_financial_statistics/index.html, as of Oct. 2003.

Table 29
Government Transportation Expenditures by Mode
(Millions of current dollars)

	1980	1990	1995	2000	2001
Highway total	**34,553**	**R62,629**	**R79,375**	**R103,952**	**U**
Federal	11,706	R15,517	R20,144	R27,759	29,950
State and local	22,847	47,112	59,232	R76,192	U
Transit total	**8,949**	**19,261**	**26,162**	**R30,606**	**U**
Federal	3,307	3,832	4,474	R5,334	7,048
State and local	5,642	15,429	21,688	R25,272	U
Rail total	**2,497**	**541**	**1,043**	**R768**	**U**
Federal	2,474	534	1,034	R760	722
State and local	23	7	9	8	U
Air total	**5,673**	**12,568**	**R16,931**	**R22,107**	**U**
Federal	3,762	7,305	R10,393	R10,571	13,984
State and local	1,911	5,263	R6,538	R11,536	U
Water total	**4,477**	**5,480**	**6,628**	**R7,946**	**U**
Federal	3,308	3,537	4,380	R4,814	4,472
State and local	1,168	1,943	2,247	3,132	U
Pipeline total[a]	**–**	**26**	**R45**	**R36**	**U**
Federal	–	9	R21	R36	29
State and local	–	17	24	U	U
General support total[b]	**259**	**R191**	**R394**	**R260**	**R366**
Total, all modes	**56,407**	**R100,695**	**R130,579**	**R165,674**	**U**
Federal	24,815	R30,924	R40,839	R49,534	R56,570
State and local	31,592	69,770	R89,739	R116,140	U

[a] Includes gas and liquid pipeline. [b] Federal general support only includes administrative and operating expenditures of the Office of the Secretary of Transportation (excluding outlays for Payments to Air Carriers and Commission on Aircraft Safety programs included under "Air" above), the Interstate Commerce Commission (1995 and prior), the Office of the Inspector General, the Research and Special Programs Administration (excluding outlays for the Pipeline Safety program included in "Pipeline" above), the National Transportation Safety Board, the Bureau of Transportation Statistics, and the Surface Transportation Board.

Key: – = no activity or a value of zero; R = revised; U = unavailable.

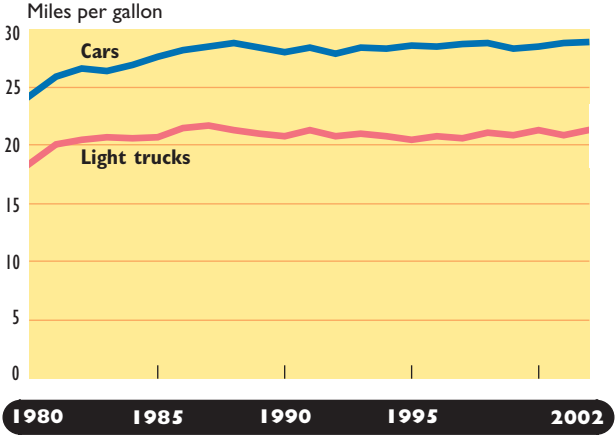
Notes: Expenditures are from "own funds" for specified level of government. Federal includes direct spending and grants to states and localities. State and local includes outlays from all sources except federal grants. Numbers may not add to totals due to rounding. Only federal government expenditures are included for 2001.

Source: Various sources, as cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *Government Transportation Financial Statistics*, available at http://www.bts.gov/government_transportation_financial_statistics/index.html, as of Oct. 2003.

6 Transportation and the Environment

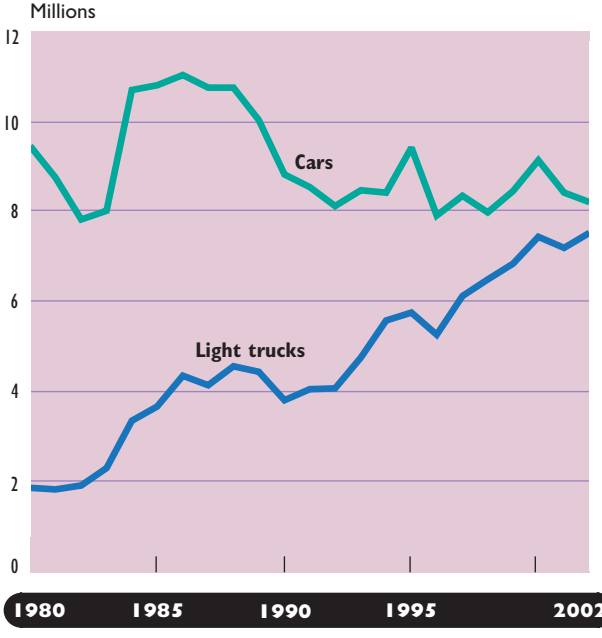
While transportation enhances the quality of our lives, it also generates undesired environmental impacts that can lead to human health problems and ecological damage. Overall, most transportation air emissions, such as particulates, have declined since 1980 despite significant increases in U.S. population, Gross Domestic Product, and vehicle-miles traveled. Only ammonia remains above its 1990 level.

Figure 14
New Passenger Car and Light Truck Fuel Economy Averages: Model Years 1980–2002



Source: U.S. Department of Transportation, National Highway Traffic Safety Administration, *Automotive Fuel Economy Program: Annual Update Calendar Year 2002,* September 2003, table II-6, available at http://www.nhtsa.dot.gov/cars/rules/cafe/updates.htm, as of December 2003.

Figure 15
New Passenger Car and Light Truck Sales: Model Years 1980–2002

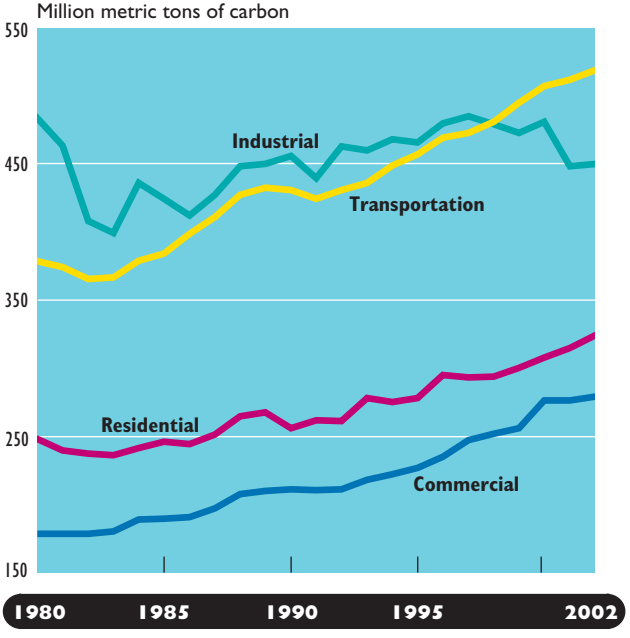


Notes: 1998–2002 data are revised from previous editions.

Data are based on Environmental Protection Agency definitions of light trucks (gross vehicle weight 8,500 pounds or less).

Source: U.S. Environmental Protection Agency, *Light-Duty Automotive Technology and Fuel Economy Trends: 1975 Through 2003*, appendix E, April 2003, available at http://www.epa.gov/otaq/fetrends.htm, as of April 2003.

Figure 16
U.S. Carbon Dioxide Emissions from Energy Use: 1980–2002

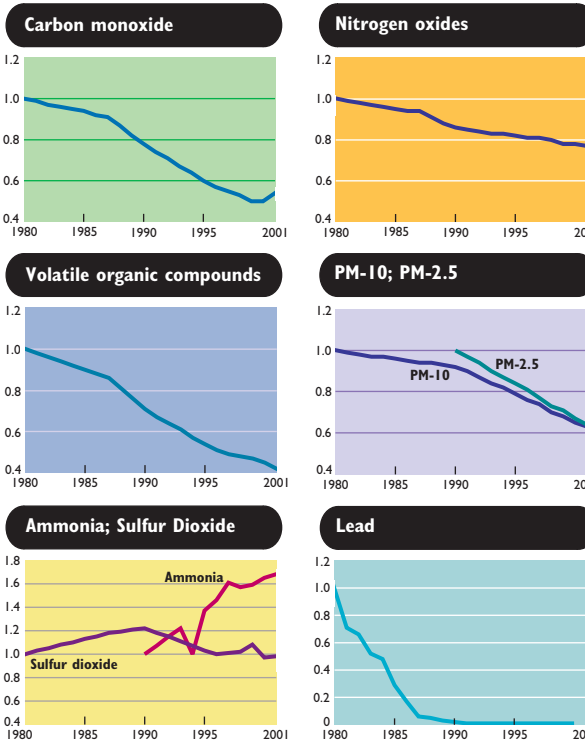


Notes: One ton of carbon equals 3.667 tons of carbon dioxide gas. Electric utility emissions are distributed across sectors.

1990 and 1992–2001 data are revised from previous editions. 2002 data are preliminary.

Sources: **1980–1989**—U.S. Department of Energy (USDOE), Energy Information Administration (EIA), Appendix E, available at http://www.eia.doe. gov/oiaf/1605/gg02rpt/appendixes.html.
1990–2002—USDOE, EIA, U.S. Carbon Dioxide from Energy Sources 2001 Flash Estimate, available at http://www.eia.doe.gov/oiaf/1605/flash/flash.html, as of September 2003.

Figure 17
Index of Key Air Pollutant Emissions from U.S. Transportation: 1980–2001
Index: 1980 = 1.0, 1990 = 1.0 for PM-2.5 and ammonia



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

Notes: Transportation emissions include all onroad mobile sources and the following nonroad mobile sources: recreational vehicles and boats, airport service equipment, aircraft, marine vessels, and railroads. Lead includes onroad mobile sources only. EPA discontinued lead emissions estimates in 2001. Trend lines shown differ from previous editions due to a new EPA estimating methodology.

Source: U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, *Average Annual Emissions, All Criteria Pollutants 1970–2001*, available at http://www.epa.gov/ttn/chief/trends/, as of August 2003.

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 indices, 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 in excess of $250 million (based on 1991 dollars).

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.

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.

Demand-responsive 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 air line usage of the term to describe "hub and spoke" route structures, or other definitions of hubs used by the Federal Aviation Administration focusing 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 BTS's National Household Travel Survey, a long-distance trip is a trip of 50 miles or more away from home. This includes the portions of the trip from the home to the farthest destination, as well as the return trip home and any overnight stops or changes in transportation made along the way.

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 pickups, vans, truck-based station wagons, and sport utility vehicles.

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

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

Other 2-axle, 4-tire vehicles—Includes vans, pickup trucks, and sport utility vehicles. Does not include passenger cars.

Particulates—Carbon particles formed by partial oxidation and reduction of the 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.

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.

U.S. Department of Transportation