

U.S. Department of Transportation



Bureau of Transportation Statistics

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Michigan Fast Facts 2000

Transportation System Extent

All public roads: 121,979 miles Interstate: 1,241 miles Road bridges: 10,581 Class I railroad trackage: 2,228 miles Public use airports: 228 (22 certificated for air carrier operations)¹

Vehicles and Conveyances

Automobiles registered: 5.0 million Light trucks registered: 3.1 million Heavy trucks registered: 71,000 Buses registered: 26,000 Motorcycles registered: 184,000 Rail transit systems: 1 light rail, 1 automated guideway

Numbered boats: 1.0 million

Geographic

Land area: 56,804 sq. miles (rank: 22)

Percent of land area owned by federal government: 11.2² (rank: 15) Persons per square mile: 175.0 (rank: 15)

Highest point: Mount Arvon (1,979 ft.)

Lowest point: Lake Erie (571 ft.)

¹2002

²1999

³1997

⁴Apportionment based on 2000 census ⁵1990

Political Subdivisions

Counties: 83 Municipal governments: 534³ Congressional districts: 15⁴

Demographic Population: 9,938,444 (rank: 8) Percent urban population: 71⁵ (rank: 20)

Socioeconomic

Gross state product: \$308 billion² (rank: 9) Civilian labor force: 5.2 million² (rank: 8) Median household income: \$46,181 (rank: 15)

Commuting (percent of workers)

Car, truck, or van—drove alone: 83.8 Car, truck, or van—carpooled: 9.1 Public transportation (including taxi): 1.1 Walked: 2.0 Other means: 1.3 Worked at home: 2.7

State Transportation Department

Michigan Department of Transportation (MDOT) 425 West Ottawa Street Lansing, MI 48909 (517) 373-2160 http://www.mdot.state.mi.us/ The Bureau of Transportation Statistics (BTS) presents a profile of transportation in New Jersey—part of a series covering the 50 states and the District of Columbia. This collection of transportation information from BTS, other federal government agencies, and other national sources provides a picture of the state's infrastructure, freight movement and passenger travel, safety, vehicles, economy and finance, and energy and environment.

All tables do not necessarily appear in every state profile report due to geographic and other characteristics. For example, border-crossing data are given only for states bordering Canada and Mexico. Data source and accuracy profiles are provided at the end of the report.

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Map: Michigan Major Transportation Facilities

A Infrastructure

| | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 |
|--------------------------------|---------|---------|---------|---------|---------|---------|
| Total rural and urban | 117,611 | 117,620 | 119,183 | 121,482 | 121,722 | 121,979 |
| Rural | 89,528 | 89,478 | 89,549 | 91,745 | 91,790 | 91,972 |
| Interstate | 740 | 740 | 740 | 741 | 741 | 741 |
| Other principal arterial | 2,753 | 2,755 | 2,755 | 2,762 | 2,762 | 2,765 |
| Minor arterial | 3,999 | 4,024 | 4,026 | 4,082 | 4,072 | 4,112 |
| Major arterial | 17,026 | 16,985 | 17,024 | 16,988 | 16,994 | 16,963 |
| Minor collector | 6,315 | 6,314 | 6,233 | 6,229 | 6,194 | 6,202 |
| Local | 58,695 | 58,660 | 58,771 | 60,943 | 61,027 | 61,189 |
| Urban | 28,083 | 28,142 | 29,634 | 29,737 | 29,932 | 30,007 |
| Interstate | 500 | 499 | 500 | 500 | 500 | 500 |
| Other freeways and expressways | 218 | 221 | 221 | 223 | 224 | 224 |
| Other principal arterial | 1,973 | 1,974 | 1,977 | 1,976 | 1,973 | 1,975 |
| Minor arterial | 3,425 | 3,435 | 3,402 | 3,406 | 3,413 | 3,415 |
| Collector | 2,506 | 2,522 | 2,533 | 2,544 | 2,549 | 2,545 |
| Local | 19,461 | 19,491 | 21,001 | 21,088 | 21,273 | 21,348 |

Table 1-1: Michigan Public Road Length, Miles by Functional System

SOURCE: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics,* Washington, DC: annual editions, table HM-20, available at http://www.fhwa.dot.gov/ohim/hs00/hm20.htm as of Feb. 1, 2002.

Table 1-2: Michigan Public Road Length, Miles by Ownership: 2000

| | National | Other | | |
|---------------------------------|----------|-------------|-------------|---------|
| | Highway | federal-aid | Nonfederal- | |
| | System | highway | aid highway | Total |
| Total | 4,721 | 28,521 | 88,738 | 121,980 |
| State highway agency | 4,412 | 5,287 | 14 | 9,713 |
| County | 213 | 19,829 | 69,457 | 89,499 |
| Town, township, municipal | 96 | 3,405 | 17,165 | 20,666 |
| Other jurisdiction ¹ | 0 | 0 | 0 | 0 |
| Federal agency ² | 0 | 0 | 2,102 | 2,102 |

¹ Includes state park, state toll, other state agency, other local agency, and roadways not identified by ownership.

² Roadways in federal parks, forests, and reservations that are not part of the state and local highway systems.

SOURCE: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics*, Washington, DC: annual editions, table HM-14, available at http://www.fhwa.dot.gov/ohim/hs00/hm14.htm as of Feb. 1, 2002.

| Facility | Financing or operating authority Location | | Length in miles | Toll collection direction | Electronic collection system | |
|-----------------------------------|--|--|-----------------------|---------------------------------|---|--|
| Interstate | achiomy | Estanon | | ancentri | 3/316111 | |
| Mackinac Bridge (Interstate 75) | Mackinac Bridge Authority of Michigan | From Mackinac City, MI to St. Ignace, MI | 4.4 | Both ways | No | |
| Sault Ste. Marie (Interstate 75) | International Bridge Authority of Michigan | From Sault Ste. Marie, MI to Sault Ste. Marie, ON | 2.4 | Both ways | No | |
| Blue Water Bridge (Interstate 94) | Michigan Department of Transportation | From Port Huron, MI to Pointe Edward, ON | 1.5 | Both ways | Card for trucks | |
| New Blue Water Bridge | Michigan Department of Transportation | From Port Huron, MI to Pointe Edward, ON | 1.2 | East | Card for trucks | |
| Noninterstate | | | | | | |
| Grosse Isle | Grosse Isle Bridge Authority | From Riverview, MI to Grosse Isle, MI | 0.5 | Both ways | No | |
| Ambassador | Detroit International Bridge Authority | From Detroit, MI to Windsor, ON | 1.7 | Both ways | Card system and AVI-trucks and commuters only | |
| Detroit-Windsor | Detroit and Canada Tunnel Corporation; Detroit, MI | From Detroit, MI to Windsor, ON | 1.0 | Both ways | Card for trucks | |
| Vehicular toll ferries | | | | | | |
| Harson's Island | Champion Auto Ferry, Inc. | From Algonac, MI to Harson's Island, MI | U | Both ways | No | |
| St. Mary's River Ferry System | Eastern Upper Peninsula Transit Authority | From Sault Ste. Marie, MI to Sugar Island, MI | U | Both ways | No | |
| St. Mary's River Ferry System | Eastern Upper Peninsula Transit Authority | From Barbeau, MI to Neebish Island, MI | U | Both ways | No | |
| St. Mary's River Ferry System | Eastern Upper Peninsula Transit Authority | From Detour, MI to Drummond Island, MI | U | Both ways | No | |
| Ironton | Charlevoix County Transit Authority | From Ironton, MI to Ironton, MI | U | Both ways | No | |
| Charlevoix/Beaver Island | Beaver Island Boat Company/Beaver Island Transit Authority | From Charlevoix, MI to Beaver Island, MI | U | Both ways | No | |
| Cheboygan | Raymond Plaunt Ferry Service | From Cheboygan, MI to Bois Blanc Isle, MI | U | Both ways | No | |
| Algonac | Walpole - Algonac Ferry Company | From Algonac, MI to Walpole Isle, ON | U | Both ways | No | |
| Marine City | Bluewater Ferry | From Marine City, MI to Sombra, ON | U | Both ways | No | |
| Detroit Windsor Truck Ferry | Detroit Windsor Truck Ferry | From Detroit, MI to Windsor, ON | U | Both ways | No | |
| Ludington - Manitowoc | Lake Michigan Car Ferry Service, Inc. | From Ludington, MI to Manitowoc, WI | U | Both ways | No | |

Table 1-3: Michigan Toll Bridges, Tunnels, and Ferries: 2001

KEY: U = data are unavailable; AVI = automatic vehicle identification.

SOURCE: U.S. Department of Transportation, Federal Highway Administration, *Toll Facilities in the United States: Bridges-Roads-Tunnels-Ferries,* Washington, DC: June 2001, available at http://www.fhwa.dot.gov/ohim/tollpage.htm as of Feb. 18, 2002.

| | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 |
|---|-------|-------|-------|-------|-------|-------|
| Interstate (total reported) | 740 | 740 | 739 | 742 | 741 | 742 |
| Very good | 89 | 70 | 70 | 35 | 67 | 67 |
| Good | 280 | 287 | 286 | 257 | 257 | 257 |
| Fair | 207 | 186 | 186 | 172 | 187 | 185 |
| Mediocre | 142 | 165 | 165 | 212 | 182 | 185 |
| Poor | 22 | 32 | 32 | 66 | 48 | 48 |
| Not reported | 0 | 0 | 0 | 0 | 0 | 0 |
| Other principal arterial (total reported) | 2,739 | 2,743 | 2,743 | 2,744 | 2,750 | 2,749 |
| Very good | 360 | 251 | 248 | 330 | 470 | 470 |
| Good | 1,160 | 1,203 | 1,218 | 1,046 | 1,128 | 1,117 |
| Fair | 1,129 | 1,145 | 1,136 | 1,191 | 1,013 | 1,022 |
| Mediocre | 77 | 122 | 120 | 141 | 104 | 107 |
| Poor | 13 | 22 | 21 | 36 | 35 | 33 |
| Not reported | 14 | 12 | 12 | 18 | 12 | 15 |
| Minor arterial (total reported) | 3,973 | 4,024 | 4,026 | 4,081 | 4,072 | 4,113 |
| Very good | 347 | 363 | 397 | 851 | 867 | 878 |
| Good | 1,619 | 1,681 | 1,893 | 1,658 | 1,666 | 1,666 |
| Fair | 1,577 | 1,580 | 1,483 | 1,411 | 1,385 | 1,406 |
| Mediocre | 388 | 308 | 216 | 96 | 87 | 96 |
| Poor | 42 | 92 | 37 | 65 | 67 | 67 |
| Not reported | 26 | 0 | 0 | 0 | 0 | 0 |
| Major collector (total reported) | N | N | Ν | Ν | Ν | N |
| Very good | N | N | Ν | Ν | Ν | N |
| Good | N | N | Ν | Ν | Ν | N |
| Fair | N | N | Ν | Ν | Ν | N |
| Mediocre | N | N | Ν | Ν | Ν | N |
| Poor | N | N | Ν | Ν | Ν | N |
| Not reported | N | Ν | Ν | Ν | Ν | N |

Table 1-4: Michigan Road Condition by Functional System -- Rural (Miles)

NOTE: In 2000, the Federal Highway Administration began reporting road condition for rural major collectors using the International Roughness Index, if available. In prior years, data were only available using the Present Serviceability Rating.

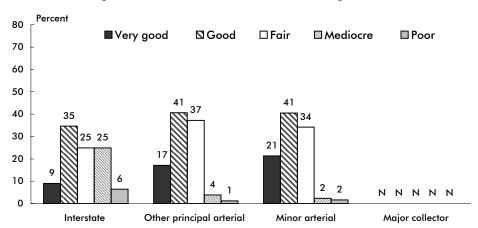


Figure 1-1: Rural Road Conditions in Michigan: 2000

NOTE: Numbers may not add to 100 due to rounding.

KEY FOR DATA ON THIS PAGE: N = data do not exist.

NOTE FOR DATA ON THIS PAGE: Road condition is based on measured pavement roughness using the International Roughness Index (IRI). IRI is a measure of surface condition. A comprehensive measure of pavement condition would require data on other pavement distresses such as rutting, cracking, and faulting.

SOURCE FOR DATA ON THIS PAGE: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics*, Washington, DC: annual editions, tables HM-63 and HM-64, available at http://www.fhwa.dot.gov/ as of Feb. 1, 2002.

Infrastructure

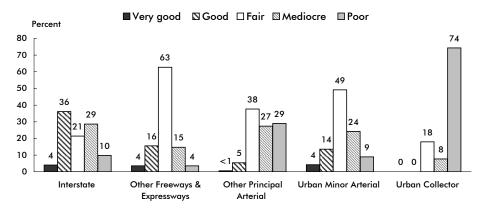
Table 1-5: Michigan Road Condition by Functional System -- Urban (Miles)

| | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 |
|---|-------|-------|-------|-------|-------|-------|
| Interstate (total reported) | 500 | 499 | 502 | 500 | 499 | 499 |
| Very good | 29 | 23 | 23 | 15 | 20 | 20 |
| Good | 193 | 189 | 192 | 129 | 179 | 180 |
| Fair | 108 | 117 | 117 | 131 | 112 | 107 |
| Mediocre | 144 | 137 | 137 | 151 | 138 | 143 |
| Poor | 26 | 33 | 33 | 74 | 50 | 49 |
| Not reported | 0 | 0 | 0 | 0 | 1 | 1 |
| Other freeways and expressways (total reported) | 218 | 221 | 221 | 221 | 225 | 225 |
| Very good | 2 | 2 | 2 | 0 | 8 | 8 |
| Good | 58 | 45 | 45 | 36 | 35 | 35 |
| Fair | 137 | 154 | 154 | 152 | 141 | 141 |
| Mediocre | 20 | 19 | 19 | 28 | 33 | 33 |
| Poor | 1 | 1 | 1 | 5 | 8 | 8 |
| Not reported | 0 | 0 | 0 | 3 | 0 | C |
| Other principal arterial (total reported) | 1,875 | 1,922 | 1,970 | 1,959 | 1,972 | 1,973 |
| Very good | 9 | 9 | 9 | 13 | 12 | 12 |
| Good | 112 | 109 | 110 | 103 | 106 | 106 |
| Fair | 769 | 841 | 869 | 739 | 744 | 742 |
| Mediocre | 505 | 480 | 483 | 541 | 533 | 540 |
| Poor | 480 | 483 | 499 | 563 | 577 | 573 |
| Not reported | 98 | 52 | 6 | 17 | 1 | 2 |
| Urban minor arterial (total reported) | N | Ν | N | Ν | N | 517 |
| Very good | N | N | N | N | N | 22 |
| Good | N | N | N | N | N | 70 |
| Fair | N | N | N | N | N | 254 |
| Mediocre | N | N | N | N | N | 125 |
| Poor | N | N | N | N | N | 46 |
| Not reported | Ν | Ν | Ν | Ν | N | N |
| Urban collector (total reported) | N | Ν | N | N | N | 39 |
| Very good | N | Ν | Ν | Ν | N | C |
| Good | N | Ν | Ν | Ν | N | C |
| Fair | N | Ν | Ν | Ν | N | 7 |
| Mediocre | N | Ν | Ν | Ν | N | 3 |
| Poor | N | Ν | Ν | Ν | N | 29 |
| Not reported | Ν | N | Ν | N | N | N |

KEY: N = data do not exist.

NOTE: In 2000, the Federal Highway Administration began reporting road condition for urban minor arterials and urban collectors using the International Roughness Index, if available. In prior years, data were only available using the Present Serviceability Rating.

Figure 1-2: Urban Road Conditions in Michigan: 2000



NOTE: Numbers may not add to 100 due to rounding.

NOTE FOR DATA ON THIS PAGE: Road condition is based on measured pavement roughness using the International Roughness Index (IRI). IRI is a measure of surface condition. A comprehensive measure of pavement condition would require data on other pavement distresses such as rutting, cracking, and faulting.

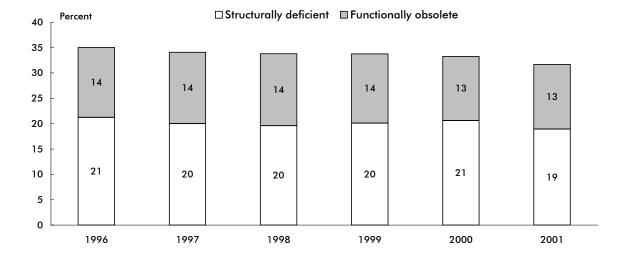
SOURCE FOR DATA ON THIS PAGE: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics*, Washington, DC: annual editions, tables HM-63 and HM-64, available at http://www.fhwa.dot.gov/ as of Feb. 1, 2002.

| | | Structurally | Functionally | T 1 | | |
|-------------------------|-------------|--------------|--------------|---------------|-----------|--|
| C 1 1 | All bridges | deficient | obsolete | Total of both | | |
| State | (number) | (number) | (number) | (number) | (percent) | |
| Alabama | 15,641 | 2,677 | 2,245 | 4,922 | 31.5 | |
| Alaska | 1,433 | 169 | 243 541 | 412 | 28.8 | |
| Arizona | 6,918 | 194 | | 735 | 10.6 | |
| Arkansas | 12,434 | 1,479 | 1,996 | 3,475 | 27.9 | |
| California | 23,770 | 2,636 | 4,204 | 6,840 | 28.8 | |
| Colorado | 8,082 | 596 | 847 | 1,443 | 17.9 | |
| Connecticut | 4,171 | 362 | 943 | 1,305 | 31.3 | |
| Delaware | 829 | 47 | 82 | 129 | 15.6 | |
| District of Columbia | 243 | 25 | 136 | 161 | 66.3 | |
| Florida | 11,303 | 300 | 1,814 | 2,114 | 18.7 | |
| Georgia | 14,394 | 1,578 | 1,924 | 3,502 | 24.3 | |
| Hawaii | 1,071 | 193 | 344 | 537 | 50.1 | |
| Idaho | 4,069 | 320 | 436 | 756 | 18.6 | |
| Illinois | 25,529 | 2,725 | 2,099 | 4,824 | 18.9 | |
| Indiana | 18,067 | 2,257 | 2,161 | 4,418 | 24.5 | |
| lowa | 25,030 | 5,036 | 2,060 | 7,096 | 28.3 | |
| Kansas | 25,638 | 3,465 | 2,959 | 6,424 | 25.1 | |
| Kentucky | 13,442 | 1,189 | 2,864 | 4,053 | 30.2 | |
| Louisiana | 13,426 | 2,425 | 2,166 | 4,591 | 34.2 | |
| Maine | 2,367 | 354 | 512 | 866 | 36.6 | |
| Maryland | 4,957 | 436 | 1,010 | 1,446 | 29.2 | |
| , Massachusetts | 4,986 | 696 | 1,792 | 2,488 | 49.9 | |
| Michigan | 10,631 | 2,012 | 1,354 | 3,366 | 31.7 | |
| Minnesota | 12,830 | 1,221 | 563 | 1,784 | 13.9 | |
| Mississippi | 16,825 | 3,694 | 1,308 | 5,002 | 29.7 | |
| Mississippi Missouri | • | 6,083 | 2,747 | • | 37.4 | |
| | 23,604 | • | 560 | 8,830 | | |
| Montana | 5,009 | 570 | | 1,130 | 22.6 | |
| Nebraska | 15,493 | 2,676 | 1,661 | 4,337 | 28.0 | |
| Nevada | 1,510 | 67 | 154 | 221 | 14.6 | |
| New Hampshire | 2,354 | 387 | 415 | 802 | 34.1 | |
| New Jersey | 6,366 | 930 | 1,420 | 2,350 | 36.9 | |
| New Mexico | 3,790 | 348 | 355 | 703 | 18.5 | |
| New York | 17,378 | 2,406 | 4,182 | 6,588 | 37.9 | |
| North Carolina | 16,991 | 2,513 | 2,794 | 5,307 | 31.2 | |
| North Dakota | 4,517 | 871 | 266 | 1,137 | 25.2 | |
| Ohio | 27,952 | 3,304 | 3,862 | 7,166 | 25.6 | |
| Oklahoma | 22,708 | 7,605 | 1,518 | 9,123 | 40.2 | |
| Oregon | 7,309 | 362 | 1,291 | 1,653 | 22.6 | |
| Pennsylvania | 22,092 | 5,418 | 4,022 | 9,440 | 42.7 | |
| Rhode Island | 749 | 187 | 192 | 379 | 50.6 | |
| South Carolina | 9,064 | 1,187 | 869 | 2,056 | 22.7 | |
| South Dakota | 6,001 | 1,398 | 346 | 1,744 | 29.1 | |
| Tennessee | 19,362 | 1,761 | 2,940 | 4,701 | 24.3 | |
| Texas | 48,085 | 3,182 | 7,373 | 10,555 | 22.0 | |
| Utah | 2,743 | 389 | 245 | 634 | 23.1 | |
| Vermont | 2,714 | 452 | 503 | 955 | 35.2 | |
| Virginia | 12,789 | 1,222 | 2,243 | 3,465 | 27.1 | |
| Washington | 7,939 | 551 | 1,591 | 2,142 | 27.0 | |
| West Virginia | 6,767 | 1,172 | 1,495 | 2,667 | 39.4 | |
| Wisconsin | 13,516 | 1,862 | 795 | 2,657 | 19.7 | |
| Wyoming | 3,076 | 389 | 253 | 642 | 20.9 | |
| | , | | | | | |

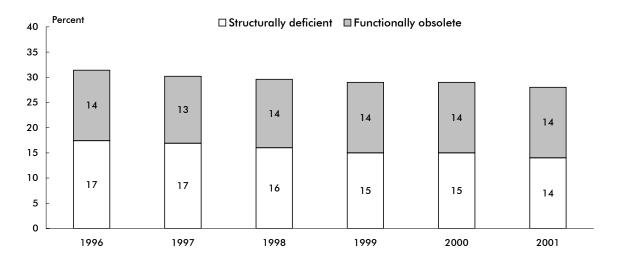
SOURCE: U.S. Department of Transportation, Federal Highway Administration, National Bridge Inventory: Deficient Bridges by State and Highway System, Washington, DC: 2001, available at http://www.fhwa.dot.gov/bridge/britab.htm as of Jan. 31, 2002.

Figure 1-3: Highway Bridge Condition

Michigan



United States



SOURCE: U.S. Department of Transportation, Federal Highway Administration, National Bridge Inventory: Deficient Bridges by State and Highway System, Washington, DC: 2001, available at http://www.fhwa.dot.gov/bridge/britab.htm as of Jan. 31, 2002.

| | Directional route-miles | | | | |
|--|-------------------------------|----------------------------|-----------------------|--|--|
| Transit agency | Exclusive right-of- way | Controlled right-of-way | Mixed right-of-way | | |
| Ann Arbor Transportation Authority | 0.0 | 0.0 | 393.3 | | |
| Battle Creek Transit | 0.0 | 0.0 | 92.1 | | |
| Bay Metropolitan Transit Authority | 0.0 | 0.0 | 457.0 | | |
| Blue Water Area Transportation | 0.0 | 0.0 | 66.0 | | |
| Capital Area Transportation Authority | 0.0 | 0.0 | 446.0 | | |
| City of Detroit Department of Transportation | 0.0 | 0.0 | 1,323.9 | | |
| Interurban Transit | 0.0 | 0.0 | 337.1 | | |
| Jackson Transportation Authority | 0.0 | 0.0 | 67.0 | | |
| Kalamazoo Metropolitan Transit System | 0.0 | 0.0 | 172.0 | | |
| Mass Transportation Authority | 0.0 | 0.0 | 275.0 | | |
| Muskegon Area Transit System | 0.0 | 0.0 | 116.0 | | |
| Suburban Mobility Authority Regional Transit | 0.0 | 0.0 | 1,446.5 | | |
| Twin Cities Area Transportation | 0.0 | 0.0 | 16.5 | | |
| University of Michigan | 0.0 | 0.0 | 24.0 | | |
| Total | 0.0 | 0.0 | 5,232.4 | | |

Table 1-7: Characteristics of Directly Operated Motor Bus Transit in Michigan:2000

NOTES: Directional route-miles is the mileage in each direction over which public transportation vehicles travel while in revenue service. Directional route-miles are a measure of the facility or roadway, not the service carried on the facility such as the number of routes or vehicle-miles. Directional route-miles are computed with regard to direction of service, but without regard to the number of traffic lanes or rail tracks existing in the right-of-way. Exclusive right-of-way refers to lanes reserved at all times for transit use and other high occupancy vehicles (HOVs). Controlled right-of-way refers to lanes restricted for at least a portion of the day for use by transit vehicles and other HOVs. Mixed right-of-way refers to lanes used for general automobile traffic.

Directly operated transit is service provided by a public transit agency using its own employees to operate transit vehicles. Transit service purchased under contract by a public transit agency is not considered directly operated transit.

SOURCE: U.S. Department of Transportation, Federal Transit Administration, National Transit Database, Data Tables, available at http://www.ntdprogram.com/ as of Feb. 19, 2002.

| Transit agency | Directional route-miles | Miles of track | Number of crossings | Number of stations | Number of ADA accessible stations |
|--|----------------------------|-------------------|------------------------|-----------------------|---|
| Light rail Detroit Downtown Trolley | 1.2 | 1.2 | U | 0 | 0 |
| Automated guideway Detroit Transportation Corporation | 2.9 | 2.9 | 0 | 13 | 13 |

Table 1-8: Characteristics of Rail Transit in Michigan: 2000

KEY: ADA = Americans with Disabilities Act of 1990; U = data are unavailable.

NOTE: Directional route-miles is the mileage in each direction over which public transportation vehicles travel while in revenue service. Directional route-miles are a measure of the facility or roadway, not the service carried on the facility such as the number of routes or vehicle-miles. Directional route-miles are computed with regard to direction of service, but without regard to the number of traffic lanes or rail tracks existing in the right-of-way.

SOURCE: American Public Transportation Association, *Public Transportation Fact Book, 2001, Washington, DC*: 2001, available at http://www.apta.com/stats/ as of June 27, 2002.

| | | | | Seaplane | |
|---------------------|----------|-----------|-------------------|----------|-------|
| Ownership and usage | Airports | Heliports | STOL ports | bases | Total |
| Publicly owned | 129 | 8 | 0 | 0 | 137 |
| Open to public | 129 | 1 | 0 | 0 | 130 |
| Closed to public | 0 | 7 | 0 | 0 | 7 |
| Privately owned | 251 | 77 | 2 | 7 | 337 |
| Open to public | 99 | 1 | 0 | 1 | 101 |
| Closed to public | 152 | 76 | 2 | 6 | 236 |
| Total | 380 | 85 | 2 | 7 | 474 |

Table 1-9: Civil and Joint-Use Airports, Heliports, STOLports, and Seaplane Bases in Michigan: 2002¹

¹Data are current as of Jan. 31, 2002.

KEY: STOLport = Short take-off and landing airport.

NOTE: Publicly owned facilities are open for public use with no prior authorization or permission. Publicly owned facilities closed to the public include medical, law enforcement, and other such facilities.

SOURCE: U.S. Department of Transportation, Federal Aviation Administration, Office of Airports, Airport Safety Data Branch.

| Airport | Large certificated air carriers | Commuter and small certificated air carriers | Air taxi commuter operators | Foreign air carriers | Total enplanements |
|--------------------------------------|---------------------------------------|---|-----------------------------------|-------------------------|--------------------|
| Detroit Metropolitan Wayne County | 16,945,119 | 70,818 | 586 | 310,252 | 17,326,775 |
| Gerald R. Ford International | 873,979 | 81,421 | 616 | 4,624 | 960,640 |
| Bishop International | 306,178 | 32,745 | 71 | 0 | 338,994 |
| Capital City | 243,222 | 89,303 | 144 | 0 | 332,669 |
| MBS International | 267,473 | 15,052 | 23 | 0 | 282,548 |
| Kalamazoo/Battle Creek International | 224,979 | 35,722 | 87 | 0 | 260,788 |
| Cherry Capital | 165,399 | 30,226 | 1,435 | 0 | 197,060 |
| Detroit City | 124,598 | 0 | 573 | 0 | 125,171 |
| Muskegon County | 23,151 | 21,887 | 628 | 0 | 45,666 |
| Sawyer International | 37,503 | 7,791 | 0 | 0 | 45,294 |
| Pellston Regional Airport of Emmet | 31,535 | 0 | 36 | 0 | 31,571 |
| Houghton County Memorial | 31,187 | 70 | 6 | 0 | 31,263 |
| Delta County | 15,618 | 3,701 | 23 | 0 | 19,342 |
| Chippewa County International | 15,516 | 45 | 5 | 0 | 15,566 |
| Charlevoix Municipal | 0 | 0 | 15,357 | 0 | 15,357 |
| Alpena County Regional | 10,701 | 1,894 | 14 | 0 | 12,609 |
| Ford | 0 | 8,866 | 8 | 0 | 8,874 |
| Southwest Michigan Regional | 2,776 | 0 | 47 | 0 | 2,823 |

Table 1-10: Michigan Commercial Service Airport Enplanements: 2000 (For airports with scheduled service and 2,500 or more passengers enplaned)

NOTE: Rank order by total enplaned passengers on air carriers of all types, including foreign air carriers. Data differ from those in table 4-4, which includes only enplanements on large certificated carriers.

SOURCE: U.S. Department of Transportation, Federal Aviation Administration, Office of the Associate Administrator for Airports, CY 2000 Enplanement Activity at U.S. Commercial Service Airports, available at http://www.faa.gov/arp/ Planning/v3.htm as of Mar. 26, 2002.

| | Number of railroads | | Miles operated ² | | | | |
|------------------------|------------------------|----------|-----------------------------|---------------------------------|---------------------------------|--------------------------|--|
| | | | | Michigan | | | |
| Type of railroad | United States | Michigan | United States | Excluding trackage rights | Including trackage rights | Percent of U.S. total | |
| Total | 562 | 26 | 172,101 | 3,687 | 4,425 | 2.6 | |
| Class I | 8 | 4 | 120,597 | 1,525 | 2,228 | 1.8 | |
| Regional | 35 | 3 | 20,978 | 742 | 766 | 3.7 | |
| Local | 304 | 9 | 21,512 | 1,095 | 1,101 | 5.1 | |
| Switching and terminal | 213 | 9 | 7,425 | 319 | 324 | 4.4 | |
| Canadian ¹ | 2 | 1 | 1,589 | 6 | 6 | 0.4 | |

Table 1-11: Freight Railroads in Michigan and the United States: 2000

¹ Refers to non-Class I, Canadian-owned lines.

² Miles operated is in terms of railroad so that a mile of single track is counted the same as a mile of double track. Sidings, turnouts, yard switching mileage, and mileage not operated are excluded. Miles operated under trackage rights provided by another (owning) railroad are included.

NOTES:

1. As defined by the Surface Transportation Board in 2000, a Class I Railroad is a railroad with operating revenues of at least \$261.9 million.

2. A Regional Railroad is a non-Class I, line-haul railroad operating 350 or more miles of road or with revenues of at least \$40 million or both.

3. A Local Railroad is a railroad which is neither a Class I nor a Regional Railroad, and is engaged primarily in line-haul service.

4. A Switching and Terminal Railroad is a non-Class I Railroad engaged primarily in switching and/or terminal services for other railroads.

SOURCE: Association of American Railroads, *Railroads and States - 2000,* Washington, DC: 2002, available at http://www.aar.org/AboutTheIndustry/StateInformation.asp as of Mar. 19, 2002.

| | Miles operated in |
|--|-----------------------|
| Railroad | Michigan ¹ |
| Class I railroads | 2,228 |
| CSX Transportation | 838 |
| Grand Trunk Western Railroad, Inc. | 485 |
| Norfolk Southern Corporation | 643 |
| Soo Line Railroad Company | 262 |
| Regional railroads | 766 |
| The Indiana and Ohio Railway | 22 |
| Tuscola and Saginaw Bay Railway | 396 |
| Wisconsin Central Ltd. | 348 |
| Local railroads | 1,101 |
| Ann Arbor Railroad Company | 47 |
| Central Michigan Railway Company | 92 |
| Escanaba and Lake Superior Railroad | 226 |
| Huron and Eastern Railway | 181 |
| Indiana Northeastern Railroad Company | 48 |
| Lake State Railway Company | 231 |
| Lake Superior and Ishpeming Railroad | 50 |
| Saginaw Valley Railway Company, Inc. | 66 |
| Sault Ste. Marie Bridge Company | 160 |
| Switching and terminal railroads | 324 |
| Adrian & Blissfield Railroad Company | 27 |
| Coe Rail | 8 |
| Conrail, Inc. | 101 |
| Delray Connecting Railroad | 1 |
| Grand Rapids Eastern Railroad | 50 |
| Michigan Shore Railroad | 6 |
| Michigan Southern Railroad Company, Inc. | 46 |
| Mid-Michigan Railroad, Inc. | 67 |
| West Michigan Railroad Company | 18 |
| Canadian railroads | 6 |
| Canadian Nation Railway Company | 6 |

Table 1-12: Freight Railroads Operating in Michigan by Class:2000

¹Miles operated is in terms of railroad so that a mile of single track is counted the same as a mile of double track. Sidings, turnouts, yard switching mileage, and mileage not operated are excluded. Miles operated under trackage rights provided by another (owning) railroad are included.

NOTE: For definition of railroad types see previous table.

SOURCE: Association of American Railroads, *Railroads and States - 2000*, Washington, DC: 2002, available at http://www.aar.org/AboutTheIndustry/StateInformation.asp as of Mar. 19, 2002.

| | | Millio | ns of short t | tons |
|-----------------|-----------|--------|---------------|----------|
| Port | U.S. rank | Total | Foreign | Domestic |
| Detroit | 41 | 17.3 | 5.3 | 12.0 |
| Presque Isle | 53 | 10.7 | 2.5 | 8.2 |
| Escanaba | 63 | 8.6 | 0.0 | 8.6 |
| Calcite | 66 | 8.5 | 1.4 | 7.1 |
| Stoneport | 67 | 7.8 | 0.3 | 7.6 |
| St. Clair | 73 | 5.6 | <0.1 | 5.6 |
| Port Inland | 74 | 5.5 | 0.5 | 5.0 |
| Marine City | 89 | 4.0 | 0.1 | 3.9 |
| Alpena | 99 | 3.4 | 0.2 | 3.2 |
| Port Dolomite | 102 | 3.2 | 0.2 | 3.0 |
| Muskegon | 114 | 2.4 | 0.5 | 2.0 |
| Charlevoix | 127 | 1.7 | 0.2 | 1.6 |
| Grand Haven | 133 | 1.6 | 0.5 | 1.0 |
| Drummond Island | 140 | 1.4 | 0.0 | 1.4 |
| Marysville | 145 | 1.2 | 0.5 | 0.7 |

Table 1-13: Michigan Water Ports Ranked in Top 150 U.S.Ports by Tonnage: 2000

SOURCE: U.S. Army Corps of Engineers, Waterborne Commerce of the United States, Calendar Year 2000, Part 5 National Summaries, Alexandria, VA: 2001, available at http://www.iwr.usace.army.mil/ as of Apr. 15, 2002.

B Safety

| | | | | | Fatality rate per | | | |
|----------------------|------------|--------------|-------------|---------------|-------------------|------------|-------------|--|
| | | Licensed | Registered | Vehicle-miles | 100,000 | 100,000 | 100 million | |
| | Traffic | drivers | vehicles | traveled | licensed | registered | vehicle- | |
| State | fatalities | (thousands) | (thousands) | (millions) | drivers | vehicles | miles | |
| Alabama | 995 | 3,521 | 4,015 | 56,534 | 28.3 | 24.8 | 1.8 | |
| Alaska | 103 | 465 | 611 | 4,613 | 22.2 | 16.9 | 2.2 | |
| Arizona | 1,036 | 3,434 | 3,960 | 49,768 | 30.2 | 26.2 | 2.1 | |
| Arkansas | 652 | 1,948 | 1,865 | 29,167 | 33.5 | 35.0 | 2.2 | |
| California | 3,753 | 21,244 | 28,146 | 306,649 | 17.7 | 13.3 | 1.2 | |
| Colorado | 681 | 3,107 | 3,724 | 41,771 | 21.9 | 18.3 | 1.6 | |
| Connecticut | 342 | 2,653 | 2,907 | 30,756 | 12.9 | 11.8 | 1.1 | |
| Delaware | 123 | 557 | 641 | 8,240 | 22.1 | 19.2 | 1.5 | |
| District of Columbia | 49 | 348 | 244 | 3,498 | 14.1 | 20.1 | 1.4 | |
| Florida | 2,999 | 12,853 | 12,036 | 152,136 | 23.3 | 24.9 | 2.0 | |
| Georgia | 1,541 | 5,550 | 7,243 | 105,010 | 27.8 | 21.3 | 1.5 | |
| Hawaii | 131 | 769 | 758 | 8,543 | 17.0 | 17.3 | 1.5 | |
| Idaho | 276 | 884 | 1,220 | 13,534 | 31.2 | 22.6 | 2.0 | |
| Illinois | 1,418 | 7,961 | 9,168 | 102,866 | 17.8 | 15.5 | 1.4 | |
| Indiana | 875 | 3,976 | 5,689 | 70,862 | 22.0 | 15.4 | 1.2 | |
| lowa | 445 | 1,953 | 3,233 | 29,433 | 22.8 | 13.8 | 1.5 | |
| Kansas | 461 | 1,908 | 2,346 | 28,130 | 24.2 | 19.7 | 1.6 | |
| Kentuckv | 820 | 2,694 | 2,870 | 46,803 | 30.4 | 28.6 | 1.8 | |
| Louisiana | 937 | 2,759 | 3,605 | 40,849 | 34.0 | 26.0 | 2.3 | |
| Maine | 169 | , 920 | 1,053 | 14,190 | 18.4 | 16.1 | 1.2 | |
| Maryland | 588 | 3,382 | 3,897 | 50,174 | 17.4 | 15.1 | 1.2 | |
| Massachusetts | 433 | 4,490 | 5,372 | 52,796 | 9.6 | 8.1 | 0.8 | |
| Michigan | 1,382 | 6,925 | 8,619 | 97,792 | 20.0 | 16.0 | 1.4 | |
| Minnesota | 625 | 2,941 | 4,773 | 52,601 | 21.3 | 13.1 | 1.2 | |
| Mississippi | 949 | 2,008 | 2,321 | 35,536 | 47.3 | 40.9 | 2.7 | |
| Missiouri | 1,157 | 3,856 | 4,641 | 67,083 | 30.0 | 24.9 | 1.7 | |
| Montana | 237 | 3,858 679 | 1,053 | • | 30.0 | 24.9 | 2.4 | |
| Nebraska | 237 | | , | 9,882 | 23.1 | 16.8 | 2.4 1.5 | |
| | 323 | 1,195 | 1,640 | 18,081 | 23.1 | 25.9 | | |
| Nevada | | 1,371 | 1,245 | 17,639 | | | 1.8 | |
| New Hampshire | 126 | 930 | 1,100 | 12,021 | 13.6 | 11.5 | 1.0 | |
| New Jersey | 731 | 5,655 | 6,502 | 67,446 | 12.9 | 11.2 | 1.1 | |
| New Mexico | 430 | 1,239 | 1,557 | 22,760 | 34.7 | 27.6 | 1.9 | |
| New York | 1,458 | 10,871 | 10,342 | 129,057 | 13.4 | 14.1 | 1.1 | |
| North Carolina | 1,472 | 5,690 | 6,305 | 89,504 | 25.9 | 23.3 | 1.6 | |
| North Dakota | 86 | 459 | 711 | 7,217 | 18.7 | 12.1 | 1.2 | |
| Ohio | 1,351 | 8,206 | 10,722 | 105,898 | 16.5 | 12.6 | 1.3 | |
| Oklahoma | 652 | 2,295 | 3,072 | 43,355 | 28.4 | 21.2 | 1.5 | |
| Oregon | 451 | 2,495 | 3,091 | 35,010 | 18.1 | 14.6 | 1.3 | |
| Pennsylvania | 1,520 | 8,229 | 9,476 | 102,337 | 18.5 | 16.0 | 1.5 | |
| Rhode Island | 80 | 654 | 779 | 8,359 | 12.2 | 10.3 | 1.0 | |
| South Carolina | 1,065 | 2,843 | 3,146 | 45,538 | 37.5 | 33.9 | 2.3 | |
| South Dakota | 173 | 544 | 822 | 8,432 | 31.8 | 21.0 | 2.1 | |
| Tennessee | 1,306 | 4,251 | 4,891 | 65,732 | 30.7 | 26.7 | 2.0 | |
| Texas | 3,769 | 13,462 | 14,257 | 220,064 | 28.0 | 26.4 | 1.7 | |
| Utah | 373 | 1,463 | 1,656 | 22,597 | 25.5 | 22.5 | 1.7 | |
| Vermont | 79 | 506 | 537 | 6,811 | 15.6 | 14.7 | 1.2 | |
| Virginia | 930 | 4,837 | 6,107 | 74,801 | 19.2 | 15.2 | 1.2 | |
| Washington | 632 | 4,155 | 5,235 | 53,330 | 15.2 | 12.1 | 1.2 | |
| West Virginia | 410 | 1,347 | 1,468 | 19,242 | 30.4 | 27.9 | 2.1 | |
| Wisconsin | 799 | 3,770 | 4,545 | 57,266 | 21.2 | 17.6 | 1.4 | |
| Wyoming | 152 | 371 | 605 | 8,090 | 41.0 | 25.1 | 1.9 | |
| United States | 41,821 | 190,625 | 217,028 | 2,749,803 | 21.9 | 19.3 | 1.5 | |

Table 2-1: Highway Traffic Fatalities and Fatality Rates: 2000

SOURCES: U.S. Department of Transportation, National Highway Traffic Safety Administration, *Traffic Safety Facts 2000*, Washington, DC: 2001, available at http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/TSFAnn/TSF2000.pdf as of Jan. 4, 2002; U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics 2000*, Washington, DC: 2001, available at http://www.fhwa.dot.gov/ohim/ohimstat.htm as of Dec. 6, 2001.

| | Restraint used | | No restraint used | | Restraint use | unknown | Total occupants killed | | |
|----------------------|----------------|---------|-------------------|--------------|---------------|------------|---------------------------|---------|--|
| State | Number | Percent | Number | Percent | Number | Percent | Number | Percent | |
| Alabama | 204 | 38.2 | 308 | 57.7 | 22 | 4.1 | 534 | 100.0 | |
| Alaska | 11 | 39.3 | 17 | 60.7 | 0 | 0.0 | 28 | 100.0 | |
| Arizona | 131 | 36.0 | 183 | 50.3 | 50 | 13.7 | 364 | 100.0 | |
| Arkansas | 95 | 32.3 | 160 | 54.4 | 39 | 13.3 | 294 | 100.0 | |
| California | 917 | 53.5 | 499 | 29.1 | 298 | 17.4 | 1,714 | 100.0 | |
| Colorado | 129 | 47.1 | 142 | 51.8 | 3 | 1.1 | 274 | 100.0 | |
| Connecticut | 69 | 38.1 | 90 | 49.7 | 22 | 12.2 | 181 | 100.0 | |
| Delaware | 20 | 29.0 | 47 | 68.1 | 2 | 2.9 | 69 | 100.0 | |
| District of Columbia | 4 | 22.2 | 7 | 38.9 | 7 | 38.9 | 18 | 100.0 | |
| Florida | 523 | 37.7 | 836 | 60.3 | 27 | 1.9 | 1,386 | 100.0 | |
| Georgia | 337 | 42.9 | 351 | 44.7 | 98 | 12.5 | 786 | 100.0 | |
| Hawaii | 23 | 37.7 | 29 | 47.5 | 9 | 14.8 | 61 | 100.0 | |
| Idaho | 42 | 35.9 | 69 | 59.0 | 6 | 5.1 | 117 | 100.0 | |
| Illinois | 234 | 34.3 | 311 | 45.6 | 137 | 20.1 | 682 | 100.0 | |
| Indiana | 203 | 43.0 | 222 | 47.0 | 47 | 10.0 | 472 | 100.0 | |
| lowa | 107 | 41.6 | 98 | 38.1 | 52 | 20.2 | 257 | 100.0 | |
| Kansas | 77 | 33.2 | 127 | 54.7 | 28 | 12.1 | 232 | 100.0 | |
| Kentucky | 156 | 36.3 | 269 | 62.6 | 5 | 1.2 | 430 | 100.0 | |
| Louisiana | 127 | 30.1 | 232 | 55.0 | 63 | 14.9 | 422 | 100.0 | |
| Maine | 37 | 36.6 | 58 | 57.4 | 6 | 5.9 | 101 | 100.0 | |
| Maryland | 167 | 55.3 | 117 | 38.7 | 18 | 6.0 | 302 | 100.0 | |
| Marsachusetts | 63 | 25.9 | 128 | 52.7 | 52 | 21.4 | 243 | 100.0 | |
| | | | | | | | | | |
| Michigan | 364 | 51.3 | 260 | 36.6 | 86 | 12.1 | 710 | 100.0 | |
| Minnesota | 129 | 37.5 | 174 | 50.6 | 41 | 11.9 | 344 | 100.0 | |
| Mississippi | 144 | 28.3 | 354 | 69.5 | 11 | 2.2 | 509 | 100.0 | |
| Missouri | 198 | 33.4 | 326 | 55.0 | 69 | 11.6 | 593 | 100.0 | |
| Montana | 38 | 37.3 | 56 | 54.9 | 8 | 7.8 | 102 | 100.0 | |
| Nebraska | 35 | 27.1 | 76 | 58.9 | 18 | 14.0 | 129 | 100.0 | |
| Nevada | 52 | 38.2 | 81 | 59.6 | 3 | 2.2 | 136 | 100.0 | |
| New Hampshire | 13 | 21.0 | 43 | 69.4 | 6 | 9.7 | 62 | 100.0 | |
| New Jersey | 161 | 42.4 | 197 | 51.8 | 22 | 5.8 | 380 | 100.0 | |
| New Mexico | 72 | 41.9 | 90 | 52.3 | 10 | 5.8 | 172 | 100.0 | |
| New York | 360 | 50.8 | 290 | 40.9 | 59 | 8.3 | 709 | 100.0 | |
| North Carolina | 369 | 45.0 | 354 | 43.2 | 97 | 11.8 | 820 | 100.0 | |
| North Dakota | 8 | 19.0 | 33 | 78.6 | 1 | 2.4 | 42 | 100.0 | |
| Ohio | 319 | 41.5 | 396 | 51.6 | 53 | 6.9 | 768 | 100.0 | |
| Oklahoma | 128 | 40.4 | 187 | 59.0 | 2 | 0.6 | 317 | 100.0 | |
| Oregon | 147 | 67.1 | 60 | 27.4 | 12 | 5.5 | 219 | 100.0 | |
| Pennsylvania | 265 | 31.7 | 443 | 53.1 | 127 | 15.2 | 835 | 100.0 | |
| Rhode Island | 8 | 18.6 | 33 | 76.7 | 2 | 4.7 | 43 | 100.0 | |
| South Carolina | 158 | 38.3 | 246 | 59.7 | 8 | 1.9 | 412 | 100.0 | |
| South Dakota | 11 | 15.3 | 58 | 80.6 | 3 | 4.2 | 72 | 100.0 | |
| Tennessee | 207 | 28.6 | 479 | 66.1 | 39 | 5.4 | 725 | 100.0 | |
| Texas | 914 | 54.7 | 723 | 43.2 | 35 | 2.1 | 1,672 | 100.0 | |
| Utah | 66 | 39.3 | 97 | 57.7 | 5 | 3.0 | 168 | 100.0 | |
| Vermont | 23 | 57.5 | 15 | 37.5 | 2 | 5.0 | 40 | 100.0 | |
| Virginia | 199 | 40.4 | 264 | 53.7 | 29 | 5.9 | 492 | 100.0 | |
| Washington | 153 | 40.4 | 185 | 53.8 | 6 | 1.7 | 344 | 100.0 | |
| West Virginia | 71 | 31.1 | 165 | 66.2 | 6 | 2.6 | 228 | 100.0 | |
| Wisconsin | 161 | 37.3 | 231 | 53.5 | 40 | 9.3 | 432 | 100.0 | |
| Wyoming | 23 | 46.0 | 231 | 53.5 54.0 | 40 | 9.3 0.0 | 432 | 100.0 | |
| United States | 8,472 | 40.0 | 10,229 | 49.9 | 1,791 | 8.7 | 20,492 | 100.0 | |

Table 2-2: Passenger Car Occupants Killed and Restraint Use: 2000

NOTE: Fatalities in this table include passenger car occupants only. Occupants of other vehicle types - light trucks, heavy trucks, motorcycles, and buses - are excluded as are other types of highway related fatalities such as pedestrian fatalities. Hence, the fatalities represented here are lower then those in table 2-1. Percents may not add to totals due to rounding.

SOURCE: U.S. Department of Transportation, National Highway Traffic Safety Administration, *Traffic Safety Facts 2000*, Washington, DC: 2002, available at http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/TSFAnn/TSF2000.pdf as of Jan. 4, 2002.

| State | Effective ¹ | Enforcement ² | Fine | Seats | Vehicles exempted ³ |
|-----------------------------|-------------------------------|--------------------------|-------------------|-------|--|
| Alabama | 7/18/1992 | Primary | \$25 | Front | Designed for more than 10 passengers |
| Alaska | 9/12/1990 | Secondary | \$15 | All | School bus |
| Arizona | 1/1/1991 | Secondary | \$10 | Front | Designed for more than 10 passengers; model year before 1972 |
| Arkansas | 7/15/1991 | Secondary | \$25 ⁴ | Front | School bus, church bus, public bus |
| California | 1/1/1986 | Primary | \$20 ⁵ | All | None |
| Colorado | 7/1/1987 | Secondary | \$15 | Front | Passenger bus, school bus |
| Connecticut | 1/1/1986 | Primary | \$15 | Front | Truck or bus over 15,000 lbs. |
| Delaware | 1/1/1992 | Secondary | \$20 | Front | None |
| District of Columbia | 12/12/1985 | Primary | \$50 ⁶ | All | Seating more than 8 people |
| Florida | 7/1/1986 | Secondary | \$30 | Front | School bus, public bus, truck over 5,000 lbs. |
| Georgia | 9/1/1988 | Primary | \$15 | Front | Designed for more than 10 passengers, pickup |
| Hawaii | 2/16/1985 | Primary | \$45 | Front | Bus or school bus over 10,000 lbs. |
| daho | 7/1/1986 | Secondary | \$5 | Front | Over 8,000 lbs. |
| llinois | 7/1/1985 | Secondary | \$25 | Front | None |
| ndiana | 7/1/1987 | Primary | \$25 | Front | Truck, tractor, RV |
| owa | 7/1/1986 | Primary | \$10 | Front | None |
| Gwa Gansas | 7/1/1986 | Secondary | \$10 | Front | Designed for more than 10 people, truck over |
| | | | | | 12,000 lbs. |
| (entucky | 7/13/1994 | Secondary | \$25 | All | Designed for more than 10 people |
| ouisiana | 7/1/1986 | Primary | \$25 ⁷ | Front | Manufactured before 1/1/81 |
| Maine | 12/27/1995 | Secondary | \$50 | All | None |
| Maryland | 7/1/1986 | Primary | \$25 | Front | Historic vehicle |
| Aassachusetts | 2/1/1994 | Secondary | \$25 | All | Truck over 18,000 lbs., bus, taxi |
| Michigan | 7/1/1985 | Primary | \$25 | Front | Bus |
| Ainnesota | 8/1/1986 | Secondary | \$25 | Front | Farm pickup truck |
| ٨ississippi | 3/20/1990 | Secondary | \$25 | Front | Farm vehicle, bus |
| Aissouri | 9/28/1985 | Secondary | \$10 | Front | Designed for more than 10 people, truck over 12,000 lbs. |
| Nontana | 10/1/1987 | Secondary | \$20 | All | None |
| Nebraska | 1/1/1993 | Secondary | \$25 | Front | Manufactured before 1973 |
| Nevada | 7/1/1987 | Secondary | \$25 | All | Taxi, bus, school bus |
| New Hampshire | None | NA | NA | NA | NA |
| New Jersey | 3/1/1985 | Secondary | \$20 | Front | None |
| New Mexico | 1/1/1986 | Primary | \$25 | Front | Vehicle over 10,000 lbs. |
| New York | 12/1/1984 | Primary | \$50 | Front | Bus, school bus, taxi |
| North Carolina | 10/1/1985 | Primary | \$25 | Front | Designed for more than 10 people |
| North Dakota | 7/14/1994 | Secondary | \$20 | Front | Designed for more than 10 people |
| Dhio | 5/6/1986 | Secondary | \$25 | Front | None |
| Oklahoma | 2/1/1987 | Primary | \$20 | Front | Farm vehicle, truck, truck tractor, RV |
| Dregon | 12/7/1990 | Primary | \$75 | All | None |
| Pennsylvania | 11/23/1987 | Secondary | \$10 | Front | Truck over 7,000 lbs. |
| Rhode Island | 6/18/1991 | Secondary | \$50 | All | None |
| South Carolina | 7/1/1989 | Secondary | \$10 | All | School bus, public bus |
| South Dakota | 1/1/1995 | Secondary | \$20 | Front | Bus, school bus |
| ennessee | 4/21/1986 | Secondary | \$50 | Front | Vehicle over 8,500 lbs. |
| exas | 9/1/1985 | Primary | \$50 | Front | Designed for more than 10 people, truck over 15.000 lbs. |
| Jtah | 4/28/1986 | Secondary | \$45 | Front | Vehicle over 10,000 lbs., school/public bus, taxi |
| /ermont | 1/1/1994 | Secondary | \$45 \$10 | All | Bus, taxi |
| /irginia | 1/1/1988 | Secondary | \$25 | Front | Designed for more than 10 people, taxi |
| Washington | 6/11/1986 | Secondary | \$25 \$35 | All | Designed for more than 10 people, laxi Designed for more than 10 people |
| Washington West Virginia | 9/1/1993 | Secondary | \$35 \$25 | Front | Designed for more than 10 people |
| Wisconsin | 12/1/1993 | Secondary | \$25 \$10 | All | Taxi, farm truck |
| | | | | | |
| Wyoming | 6/8/1989 | Secondary | \$25 | Front | Designed for more than 10 people, bus |

Table 2-3: Key Provisions of Safety Belt Use Laws: 2000

¹ Effective date of first belt law in the state; ² Primary enforcement enables police officers to stop vehicles and write citations whenever they observe a violation of the seat belt law. Secondary enforcement allows police officers to write a citation for seat belt infractions only after stopping a vehicle for some other traffic infraction; ³ Most states exempt vehicles not manufactured with seat belts; ⁴ Plus 3 points on license; ⁵ Fine for first offense; ⁶ Plus 2 points on license; ⁷ Penalty could include 30 days in jail.

KEY: NA = not applicable; RV = recreational vehicle.

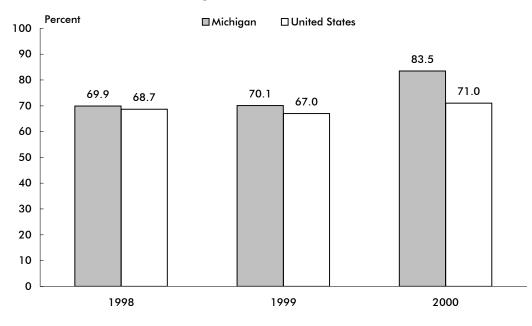
SOURCE: U.S. Department of Transportation, National Highway Traffic Safety Administration, *Traffic Safety Facts 2000*, Washington, DC: 2001, available at http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/TSFAnn/TSF2000.pdf as of Jan. 4, 2002.

| State | Percent | State | Percer | |
|----------------------|---------|----------------|--------|--|
| Alabama | 70.6 | Montana | 75.6 | |
| Alaska | 61.0 | Nebraska | 70.5 | |
| Arizona | 75.2 | Nevada | 78.5 | |
| Arkansas | 52.4 | New Hampshire | N | |
| California | 88.9 | New Jersey | 74.2 | |
| Colorado | 65.1 | New Mexico | 86.6 | |
| Connecticut | 76.3 | New York | 77.3 | |
| Delaware | 66.1 | North Carolina | 80.5 | |
| District of Columbia | 82.6 | North Dakota | 47.7 | |
| Florida | 64.8 | Ohio | 65.3 | |
| Georgia | 73.6 | Oklahoma | 67.5 | |
| Hawaii | 80.4 | Oregon | 83.6 | |
| Idaho | 58.6 | Pennsylvania | 70.7 | |
| Illinois | 70.2 | Rhode Island | 64.4 | |
| Indiana | 62.1 | South Carolina | 73.9 | |
| lowa | 78.0 | South Dakota | 53.4 | |
| Kansas | 61.6 | Tennessee | 59.0 | |
| Kentucky | 60.0 | Texas | 76.6 | |
| Louisiana | 68.2 | Utah | 75.7 | |
| Maine | N | Vermont | 61.6 | |
| Maryland | 85.0 | Virginia | 69.6 | |
| Massachusetts | 50.0 | Washington | 81.6 | |
| Michigan | 83.5 | West Virginia | 49.5 | |
| Minnesota | 73.4 | Wisconsin | 65.4 | |
| Mississippi | 50.4 | Wyoming | 66.8 | |
| Missouri | 67.7 | | | |

Table 2-4: Shoulder Belt Use: 2000

KEY: N = data do not exist.





SOURCE FOR DATA ON THIS PAGE: U.S. Department of Transportation, National Highway Traffic Safety Administration, 1998-2000 State Shoulder Belt Use Survey Results, Research Note, Washington, DC: May 2001, available at http://www-nrd.nhtsa.dot.gov/departments/nrd-30/ncsa/ availinf.html as of Mar. 20, 2002.

| | Total | | Pedestrian fatalities as | State | Pedestrian fatality rate per |
|------------------------|-----------------|-------------|-----------------------------|--------------|---------------------------------|
| | traffic | Pedestrians | percent of | population | 100,000 |
| State | fatalities | killed | total | (thousands) | population |
| Alabama | 995 | 61 | 6.1 | 4,451 | 1.4 |
| Alaska | 103 | 8 | 7.8 | 653 | 1.2 |
| Arizona | 1,036 | 130 | 12.5 | 4,798 | 2.7 |
| Arkansas | 652 | 38 | 5.8 | 2,631 | 1.4 |
| California | 3,753 | 670 | 17.9 | 32,521 | 2.1 |
| Colorado | 681 | 80 | 11.7 | 4,168 | 1.9 |
| Connecticut | 342 | 49 | 14.3 | 3,284 | 1.5 |
| Delaware | 123 | 22 | 17.9 | 768 | 2.9 |
| District of Columbia | 49 | 18 | 36.7 | 523 | 3.4 |
| Florida | 2,999 | 492 | 16.4 | 15,233 | 3.2 |
| Georgia | 1,541 | 137 | 8.9 | 7,875 | 1.7 |
| Hawaii | 131 | 29 | 22.1 | 1,257 | 2.3 |
| Idaho | 276 | 6 | 2.2 | 1,237 | 0.4 |
| Illinois | 1,418 | 187 | 13.2 | 12,051 | 1.6 |
| Indiana | 875 | 51 | 5.8 | 6,045 | 0.8 |
| lowa | 445 | 25 | 5.6 | | 0.8 |
| Iowa Kansas | 445 | 25 19 | 5.0 4.1 | 2,900 | 0.9 |
| | | 53 | | 2,668 | |
| Kentucky | 820 | | 6.5 | 3,995 | 1.3 |
| Louisiana | 937 | 100 | 10.7 | 4,425 | 2.3 |
| Maine | 169 | 15 | 8.9 | 1,259 | 1.2 |
| Maryland | 588 | 91 | 15.5 | 5,275 | 1.7 |
| Massachusetts | 433 | 82 | 18.9 | 6,199 | 1.3 |
| Michigan | 1,382 | 170 | 12.3 | 9,679 | 1.8 |
| Minnesota | 625 | 38 | 6.1 | 4,830 | 0.8 |
| Mississippi | 949 | 64 | 6.7 | 2,816 | 2.3 |
| Missouri | 1,157 | 88 | 7.6 | 5,540 | 1.6 |
| Montana | 237 | 11 | 4.6 | 950 | 1.2 |
| Nebraska | 276 | 20 | 7.2 | 1,705 | 1.2 |
| Nevada | 323 | 43 | 13.3 | 1,871 | 2.3 |
| New Hampshire | 126 | 7 | 5.6 | 1,224 | 0.6 |
| New Jersey | 731 | 145 | 19.8 | 8,178 | 1.8 |
| New Mexico | 430 | 47 | 10.9 | 1,860 | 2.5 |
| New York | 1,458 | 335 | 23.0 | 18,146 | 1.8 |
| North Carolina | 1,472 | 144 | 9.8 | 7,777 | 1.9 |
| North Dakota | [′] 86 | 5 | 5.8 | 662 | 0.8 |
| Ohio | 1,351 | 96 | 7.1 | 11,319 | 0.8 |
| Oklahoma | 652 | 43 | 6.6 | 3,373 | 1.3 |
| Oregon | 451 | 50 | 11.1 | 3,397 | 1.5 |
| Pennsylvania | 1,520 | 170 | 11.2 | 12,202 | 1.4 |
| Rhode Island | 80 | 6 | 7.5 | 998 | 0.6 |
| South Carolina | 1,065 | 84 | 7.9 | 3,858 | 2.2 |
| South Dakota | 173 | 13 | 7.5 | 777 | 1.7 |
| Tennessee | 1,306 | 99 | 7.6 | 5,657 | 1.7 |
| Texas | 3,769 | 412 | 10.9 | 20,119 | 2.0 |
| Utah | 3,709 | 33 | 8.8 | 20,119 | 1.5 |
| | 373 79 | 33 7 | o.o 8.9 | | |
| Vermont Virginia | | / 92 | 8.9 9.9 | 617 6 997 | 1.1 |
| Virginia Washington | 930 | | | 6,997 | 1.3 |
| Washington | 632 | 66 | 10.4 | 5,858 | 1.1 |
| West Virginia | 410 | 25 | 6.1 | 1,841 | 1.4 |
| Wisconsin Wyoming | 799 152 | 51 12 | 6.4 | 5,326 | 1.0 2.3 |
| | | 10 | 7.9 | 525 | |

Table 2-5: Pedestrian Fatalities Involving Motor Vehicles: 2000

SOURCE: U.S. Department of Transportation, National Highway Traffic Safety Administration, National Center for Statistics and Analysis, *Traffic Safety Facts 2000: Pedestrians,* Washington, DC: 2001, available at http://www.nhtsa.dot.gov/people/ncsa/factshet.html as of Dec. 5, 2001.

Safety

| | | 1995 | | | 2000 | | | |
|-----------------------------|------------|------------|----------|-----------------|----------------|----------|--|--|
| | Fatalities | | | | | | | |
| | | involving | | | Fatalities | | | |
| | Total | high blood | | Total | involving high | | | |
| State | fatalities | alcohol | Percent | fatalities | blood alcohol | Percent | | |
| Alabama | 1,113 | 381 | 34 | 995 | 326 | 33 | | |
| Alaska | 87 | 37 | 42 | 103 | 44 | 43 | | |
| Arizona | 1,031 | 347 | 34 | 1,036 | 354 | 34 | | |
| Arkansas | 631 | 148 | 23 | 652 | 139 | 21 | | |
| California | 4,192 | 1,308 | 31 | 3,753 | 1,061 | 28 | | |
| Colorado | 645 | 226 | 35 | 681 | 198 | 29 | | |
| Connecticut | 317 | 130 | 41 | 342 | 119 | 35 | | |
| Delaware | 121 | 38 | 31 | 123 | 49 | 40 | | |
| District of Columbia | 58 | 25 | 44 | 49 | 14 | 29 | | |
| Florida | 2,805 | 873 | 31 | 2,999 | 930 | 31 | | |
| Georgia | 1,488 | 400 | 27 | 1,541 | 438 | 28 | | |
| Hawaii | 130 | 41 | 32 | 131 | 37 | 28 | | |
| Idaho | 262 | 69 | 27 | 276 | 81 | 29 | | |
| Illinois | 1,586 | 551 | 35 | 1,418 | 489 | 34 | | |
| Indiana | 960 | 263 | 27 | 875 | 214 | 24 | | |
| lowa | 527 | 159 | 30 | 445 | 100 | 22 | | |
| Kansas | 442 | 152 | 34 | 461 | 118 | 26 | | |
| Kentucky | 849 | 227 | 27 | 820 | 203 | 25 | | |
| Louisiana | 883 | 353 | 40 | 937 | 352 | 38 | | |
| Maine | 187 | 44 | 40 24 | 169 | 38 | 22 | | |
| | 671 | 176 | 24 | 588 | 161 | 27 | | |
| Maryland | 444 | 178 | 33 | 433 | 153 | 35 | | |
| Massachusetts | | | | | | | | |
| Michigan | 1,530 | 483 | 32 | 1,382 | 397 | 29 | | |
| Minnesota | 597 | 215 | 36 | 625 | 207 | 33 | | |
| Mississippi | 868 | 306 | 35 | 949 | 289 | 30 | | |
| Missouri | 1,109 | 450 | 41 | 1,157 | 387 | 33 | | |
| Montana | 215 | 79 | 37 | 237 | 92 | 39 | | |
| Nebraska | 254 | 64 | 25 | 276 | 70 | 25 | | |
| Nevada | 313 | 127 | 41 | 323 | 112 | 35 | | |
| New Hampshire | 118 | 30 | 25 | 126 | 40 | 31 | | |
| New Jersey | 773 | 243 | 32 | 731 | 231 | 32 | | |
| New Mexico | 485 | 202 | 42 | 430 | 159 | 37 | | |
| New York | 1,674 | 405 | 24 | 1,458 | 293 | 20 | | |
| North Carolina | 1,448 | 399 | 28 | 1,472 | 419 | 28 | | |
| North Dakota | 74 | 32 | 44 | 86 | 36 | 42 | | |
| Ohio | 1,366 | 344 | 25 | 1,351 | 411 | 30 | | |
| Oklahoma | 669 | 205 | 31 | 652 | 169 | 26 | | |
| Oregon | 572 | 176 | 31 | 451 | 132 | 29 | | |
| Pennsylvania | 1,480 | 485 | 33 | 1,520 | 511 | 34 | | |
| Rhode Island | , 69 | 22 | 32 | [′] 80 | 31 | 38 | | |
| South Carolina | 881 | 229 | 26 | 1,065 | 329 | 31 | | |
| South Dakota | 158 | 63 | 40 | 173 | 66 | 38 | | |
| Tennessee | 1,259 | 420 | 33 | 1,306 | 399 | 31 | | |
| Texas | 3,181 | 1,407 | 44 | 3,769 | 1,450 | 38 | | |
| Utah | 326 | 69 | 21 | 373 | 68 | 18 | | |
| Vermont | 106 | 33 | 31 | 79 | 27 | 34 | | |
| Virginia | 900 | 272 | 30 | 930 | 257 | 28 | | |
| - | 653 | 272 | 30 | 632 | 237 | 28 34 | | |
| Washington West Virginia | | | | | | | | |
| West Virginia Wissensin | 376 | 132 | 35 | 410 | 149 | 36 | | |
| Wisconsin | 745 | 263 | 35 | 799 | 288 | 36 | | |
| Wyoming | 170 | 63 | 37 | 152 | 40 | 26 | | |
| United States | 41,798 | 13,564 | 32 | 41,821 | 12,892 | 31 | | |

Table 2-6: Motor Vehicle Fatalities Involving High Blood Alcohol Concentration (BAC \ge 0.10 grams per deciliter)

SOURCE: U.S. Department of Transportation, National Highway Traffic Safety Administration, National Center for Statistics and Analysis, *Traffic Safety Facts 2000: State Alcohol Estimates,* Washington, DC: 2001, available at http://www.nhtsa.dot.gov/people/ncsa/factshet.html as of Dec. 5, 2001.

| | | | | License sanction (Mandatory minimum for a DWI conviction) | | | |
|----------------------|-----------------------|----------------|---|---|-------------|--------------------|--|
| . | Administrative per se | Illegal per se | Lower BAC for youthful DWI offenders | | Second | Third | |
| State | (BAC level) | (BAC level) | (BAC level and age) | First offense | | offense | |
| Alabama | Y-0.08 | 0.08 | Y-0.02 (<21) | S-90 days | R-1 yr | R-3 yrs | |
| Alaska | Y-0.10 | 0.10 | Y-0.00 (<21) | R-30 days | R-1 yr | R-10 yrs | |
| Arizona | Y-0.10 | 0.10 | Y-0.00 (<21) | S-90 days | R-1 yr | R-3 yrs | |
| Arkansas | Y-0.10 | 0.10 | Y-0.02 (<21) | Nms | Nms | Nms | |
| California | Y-0.08 | 0.08 | Y-0.01 (<21) | Nms | Nms | R-18 mos | |
| Colorado | Y-0.10 | 0.10 | Y-0.02 (<21) | Nms | R-1 yr | R-1 yr | |
| Connecticut | Y-0.10 | 0.10 | Y-0.02 (<21) | Nms | Nms | Nms | |
| Delaware | Y-0.10 | 0.10 | Y-0.02 (<21) | Nms | R-6 mos | R-6 mos | |
| District of Columbia | Y-0.05 | 0.08 | Y-0.00 (<21) | R-6 mos | R-1 yr | R-2 yrs | |
| lorida | Y-0.08 | 0.08 | Y-0.02 (<21) | Nms | R-12 mos | R-24 mos | |
| Georgia | Y-0.10 | 0.10 | Y-0.02 (<21) | Nms | S-120 days | R-5 yrs | |
| lawaii | Y-0.08 | 0.08 | Y-0.02 (<21) | S-30 days | S-1 yr | R-1 yr | |
| daho | Y-0.08 | 0.08 | Y-0.02 (<21) | S-30 days | S-1 yr | S-1 yr | |
| linois | Y-0.08 | 0.08 | Y-0.02 (<21) | Nms | Nms | Nms | |
| ndiana | Y-0.10 | 0.10 | Y-0.02 (<21) | S-30 days | S-1 yr | S-1 yr | |
| owa | Y-0.10 | 0.10 | Y-0.02 (<21) | R-30 days | , R-1 yr | R-1 yr | |
| ansas | Y-0.08 | 0.08 | Y-0.02 (<21) | S-30 days | ý S-1 yr | S-1 yr | |
| (entucky | А | 0.08 | Y-0.02 (<21) | S-30 days | R-12 mos | R-24 mos | |
| ouisiana | Y-0.10 | 0.10 | Y-0.02 (<21) | Nms | Nms | Nms | |
| Naine | Y-0.08 | 0.08 | Y-0.00 (<21) | S-60 davs | S-18 mos | S-4 yrs | |
| Naryland | Y-0.10 | 0.10 | Y-0.02 (<21) | Nms | Nms | Nms | |
| Aassachusetts | Y-0.08 | N | Y-0.02 (<21) | S-45 days | R-6 mos | R-2 yrs | |
| Nichigan | N | 0.10 | | Nms | R-1 yr | S-5 yrs | |
| • | | | Y-0.02 (<21) | | | | |
| Ainnesota | Y-0.10 | 0.10 | Y-0.00 (<21) | R-15 days | R-90 days | R-90 days | |
| Aississippi | Y-0.10 | 0.10 | Y-0.02 (<21) | S-30 days | S-1 yr | S-3 yrs | |
| Aissouri | Y-0.10 | 0.10 | Y-0.02 (<21) | S-30 days | R-2 yrs | R-3 yrs | |
| Aontana | N | 0.10 | Y-0.02 (<21) | Nms | R-3 mos | R-3 mos | |
| Vebraska | Y-0.10 | 0.10 | Y-0.02 (<21) | R-60 days | R-1 yr | R-1 yr | |
| Vevada | Y-0.10 | 0.10 | Y-0.02 (<21) | R-45 days | R-1 yr | R-1.5 yrs | |
| New Hampshire | Y-0.08 | 0.08 | Y-0.02 (<21) | R-90 days | R-3 yrs | R-3 yrs | |
| lew Jersey | Ν | 0.10 | Y-0.01 (<21) | R-6 mos | R-2 yrs | R-10 yrs | |
| New Mexico | Y-0.08 | 0.08 | Y-0.02 (<21) | Nms | R-30 days | R-30 days | |
| √ew York | Α | 0.10 | Y-0.02 (<21) | Nms | R-I yr | R-1 yr | |
| North Carolina | Y-0.08 | 0.08 | Y-0.00 (<21) | Nms | R-2 yrs | R-3 yrs | |
| North Dakota | Y-0.10 | 0.10 | Y-0.02 (<21) | S-30 days | S-365 days | S-2 yrs | |
| Dhio | Y-0.10 | 0.10 | Y-0.02 (<21) | S-15 days | S-30 days | S-180 days | |
| Oklahoma | Y-0.10 | 0.10 | Y-0.00 (<21) | Nms | R-1 yr | R-1 yr | |
| Dregon | Y-0.08 | 0.08 | Y-0.00 (<21) | Nms | S-90 days | S-1 yr | |
| ennsylvania | Ν | 0.10 | Y-0.02 (<21) | S-1 mo | S-12 mos | S-12 mos | |
| hode Island | Ν | 0.08 | Y-0.02 (<21) | S-3 mos | S-1 yr | S-2 yrs | |
| outh Carolina | Y-0.15 | 0.10 | Y-0.02 (<21) | Nms | S-1 yr | S-4 yrs | |
| outh Dakota | N | 0.10 | Y-0.02 (<21) | Nms | R-1 yr | R-1 yr | |
| ennessee | N | 0.10 | Y-0.02 (<21) | Nms | R-2 yrs | R-3 yrs | |
| exas | Y-0.08 | 0.08 | Y-0.00 (<21) | Nms | Nms | Nms | |
| Itah | Y-0.08 | 0.08 | Y-0.00 (<21) | S-90 days | R-1 yrs | R-1 yrs | |
| /ermont | Y-0.08 | 0.08 | Y-0.02 (<21) | S-90 days | S-18 mos | R-2 yrs | |
| 'irginia | Y-0.08 | 0.08 | Y-0.02 (<21) | Nms | R-1 yr | R-2 yrs R-3 yrs | |
| • | | | · · · | | , | | |
| Vashington | Y-0.08 | 0.08 | Y-0.02 (<21) | S-30 days | R-1 yr | R-2 yrs | |
| Vest Virginia | Y-0.10 | 0.10 | Y-0.02 (<21) | R-30 days | R-1 yr | R-1 yr | |
| Visconsin | Y-0.10 | 0.10 | Y-0.02 (<21) | Nms | R-60 days | R-90 days | |
| Vyoming | Y-0.10 | 0.10 | Y-0.02 (<21) | Nms | S-1 yr | R-3 yrs | |

Table 2-7: Impaired Driving Laws: 2000

KEY: BAC = blood alcohol concentration; DWI = driving while intoxicated; Y = yes; N = no; A = alternative; S = suspension; R = revocation; Nms = no mandatory sanction.

NOTES: An "administrative per se law" allows a state's driver licensing agency to either suspend or revoke a driver's license based on a specific alcohol (or drug) concentration or on some other criterion related to alcohol or drug use and driving. Such action is independent of any licensing action related to a DWI criminal offense. The term "illegal per se" refers to state laws that make it a criminal offense to operate a motor vehicle at or above a specified alcohol (or drug) concentration in the blood, breath, or urine. In those columns showing mandatory sanctions, "nms" does not mean that a state does not have a sanction. It only means that the state does not have a mandatory sanction for that offense or violation.

SOURCE: U.S. Department of Transportation, National Highway Traffic Safety Administration, *Traffic Safety Facts 2000*, Washington, DC: 2001, available at http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/TSFAnn/TSF2000.pdf as of Jan. 4, 2002.

Safety

| | Intersto | ite | Other limited- | | |
|----------------------|----------------|----------|---------------------------|--------------------|--|
| State | Rural | Urban | access roads ² | Other roads | |
| Alabama | 70 | 70 | 65 | 65 | |
| Alaska | 65 | 55 | 65 | 55 | |
| Arizona | 75 | 55 | 55 | 55 | |
| Arkansas | 70, Trucks: 65 | 55 | 60 | 55 | |
| California | 70, Trucks: 55 | 65 | 70 | 55 | |
| Colorado | 75 | 65 | 65 | 55 | |
| Connecticut | 65 | 55 | 65 | 55 | |
|)elaware | 65 | 55 | 65 | 55 | |
| District of Columbia | NA | 55 | NA | 25 | |
| lorida | 70 | 65 | 70 | 65 | |
| | 70 70 | 65 | 65 | 65 | |
| Georgia | 55 | 50 | | | |
| lawaii | | | 45 | 45 | |
| laho | 75, Trucks: 65 | 65 | 65 | 65 | |
| linois | 65, Trucks: 55 | 55 | 65 | 55 | |
| ndiana | 65, Trucks: 60 | 55 | 55 | 55 | |
| owa | 65 | 55 | 65 | 55 | |
| ansas | 70 | 70 | 70 | 65 | |
| lentucky | 65 | 55 | 55 | 55 | |
| ouisiana | 70 | 55 | 70 | 65 | |
| Naine | 65 | 55 | 55 | 55 | |
| Naryland | 65 | 65 | 65 | 55 | |
| Nassachusetts | 65 | 65 | 65 | 55 | |
| ۸ichigan | 70, Trucks: 55 | 65 | 70 | 55 | |
| Ainnesota | 70 | 65 | 65 | 55 | |
| Nississippi | 70 | 70 | 70 | 65 | |
| Aissouri | 70 | 60 | 70 | 65 | |
| Nontana | 75, Trucks: 65 | 65 | Day: 70, Night: 65 | Day: 70, Night: 65 | |
| lebraska | 75 | 65 | 65 | 60 | |
| levada | 75 | 65 | 70 | 70 | |
| New Hampshire | 65 | 65 | 55 | 55 | |
| lew Jersey | 65 | 55 | 65 | 55 | |
| lew Mexico | 75 | 55 | 65 | 55 | |
| lew York | 65 | 65 | 65 | 55 | |
| lorth Carolina | 70 | 65 | 65 | 55 | |
| lorth Dakota | 70 | 55 | 65 | Day: 65, Night: 55 | |
| Dhio | 65, Trucks: 55 | 65 | 55 | 55 | |
| Oklahoma | 75 | 70 | 70 | 70 | |
| Dregon | 65, Trucks: 55 | 55 | 55 | 55 | |
| ennsylvania | 65 | 55 | 65 | 55 | |
| hode Island | 65 | 55 | 55 | 55 | |
| outh Carolina | 70 | 70 | 60 | 55 | |
| outh Dakota | 70 75 | 65 | 65 | 65 | |
| | 75 | 85 70 | 65 70 | 65 55 | |
| ennessee | | | | | |
| exas | 70 | 70 | 70 | 70 | |
| ltah | 75 | 65 | 55 | 55 | |
| ermont | 65 | 55 | 50 | 50 | |
| irginia | 65 | 55 | 65 | 55 | |
| Vashington | 70, Trucks: 60 | 60 | 55 | 55 | |
| Vest Virginia | 70 | 55 | 65 | 55 | |
| Visconsin | 65 | 65 | 65 | 55 | |
| Vyoming | 75 | 60 | 65 | 65 | |

Table 2-8: Maximum Posted Speed Limits by System: 2001 (Speed limit in miles per hour)¹

¹ Many roads, particularly urban interstates, often have a lower posted speed limit than the maximum allowable shown in this table.

² Limited-access roads are multilaned roads with restricted access using exit and entrance ramps rather than intersections.

KEY: NA = not applicable.

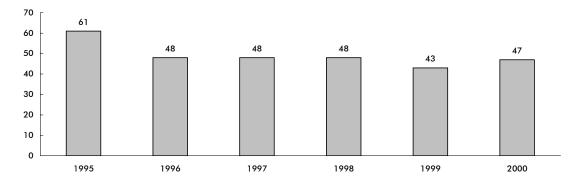
NOTE: Interstates are divided into urban and rural sections based primarily on population size and population density.

SOURCE: Insurance Institute for Highway Safety, Highway Loss Data Institute, available at http://www.hwysafety.org/safety_facts/state_laws/speed_limit_laws.htm as of Oct. 1, 2001.

| | Accidents/ | | | | Accidents/ | | |
|----------------------|------------|------------|----------|----------------|------------|------------|----------|
| State | Incidents | Fatalities | Injuries | State | Incidents | Fatalities | Injuries |
| Alabama | 257 | 20 | 143 | Montana | 156 | 4 | 108 |
| Alaska | 89 | 2 | 82 | Nevada | 40 | 1 | 25 |
| Arizona | 222 | 27 | 147 | New Hampshire | 18 | 0 | 15 |
| Arkansas | 371 | 30 | 225 | New Jersey | 528 | 28 | 432 |
| California | 1,133 | 101 | 808 | Nebraska | 362 | 8 | 247 |
| Colorado | 199 | 10 | 112 | New Mexico | 138 | 4 | 106 |
| Connecticut | 203 | 6 | 159 | New York | 1,330 | 32 | 1,168 |
| Delaware | 59 | 2 | 47 | North Carolina | 243 | 24 | 121 |
| District of Columbia | 107 | 0 | 90 | North Dakota | 122 | 9 | 82 |
| Florida | 405 | 45 | 303 | Ohio | 575 | 28 | 339 |
| Georgia | 395 | 23 | 231 | Oklahoma | 231 | 22 | 124 |
| Hawaii | 0 | 0 | 0 | Oregon | 214 | 9 | 152 |
| Idaho | 109 | 11 | 53 | Pennsylvania | 752 | 23 | 583 |
| Illinois | 1,484 | 69 | 1,109 | Rhode Island | 21 | 1 | 19 |
| Indiana | 540 | 36 | 317 | South Carolina | 192 | 20 | 141 |
| lowa | 367 | 9 | 211 | South Dakota | 64 | 3 | 43 |
| Kansas | 337 | 21 | 226 | Tennessee | 296 | 15 | 163 |
| Kentucky | 272 | 14 | 170 | Texas | 1,260 | 90 | 777 |
| Louisiana | 465 | 16 | 310 | Utah | 129 | 5 | 88 |
| Maine | 79 | 2 | 58 | Vermont | 29 | 1 | 22 |
| Maryland | 173 | 9 | 103 | Virginia | 252 | 13 | 169 |
| Massachusetts | 228 | 17 | 183 | Washington | 317 | 16 | 230 |
| Michigan | 434 | 23 | 300 | West Virginia | 128 | 9 | 93 |
| Minnesota | 431 | 11 | 303 | Wisconsin | 390 | 20 | 258 |
| Mississippi | 250 | 17 | 120 | Wyoming | 156 | 2 | 107 |
| Missouri | 367 | 29 | 221 | United States | 16,919 | 937 | 11,643 |

Table 2-9: Total Rail Accidents/Incidents: 2000

Figure 2-2: Michigan Train Accidents (Excludes highway-grade crossing incidents and other incidents)



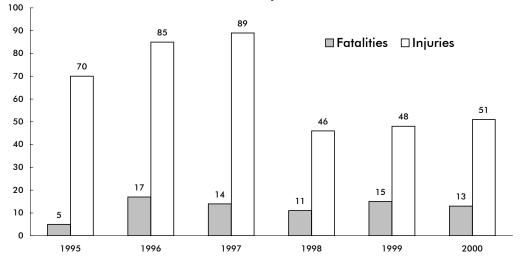
NOTE FOR DATA ON THIS PAGE: "Accidents/incidents" includes all events reportable to the U.S. Department of Transportation, Federal Railroad Administration under applicable regulations. These include: train accidents, reported on Form F 6180.54, comprised of collisions, derailments, and other events involving the operation of on-track equipment and causing reportable damage above an established threshold (\$6,600 in 1998); highway-rail grade crossing incidents, reported on Form F 6180.57, involving impact between railroad on-track equipment and highway users at crossings; and other incidents, reported on Form F 6180.55a, involving all other reportable incidents or exposures that cause a fatality or injury to any person, or an occupational illness to a railroad employee.

SOURCE FOR DATA ON THIS PAGE: U.S. Department of Transportation, Federal Railroad Administration, Railroad Safety Statistics Annual Report 2000, Washington, DC: 2001, table 2-11, available at http://safetydata.fra.dot.gov/officeofsafety/ as of Oct. 22, 2001.

| State | Number of grade crossings | Incidents | Fatalities | Injuries | State | Number of grade crossings | Incidents | Fatalities | Injuries |
|----------------------|---------------------------------|-----------|------------|----------|----------------|---------------------------------|-----------|------------|----------|
| Alabama | 5,418 | 95 | 10 | 39 | Montana | 3,514 | 24 | 1 | 2 |
| Alaska | 336 | 7 | 0 | 0 | Nebraska | 6,575 | 55 | 7 | 14 |
| Arizona | 1,628 | 29 | 8 | 13 | Nevada | 571 | 2 | 0 | 0 |
| Arkansas | 4,655 | 115 | 27 | 36 | New Hampshire | 637 | 3 | 0 | 0 |
| California | 12,775 | 174 | 27 | 54 | New Jersey | 2,493 | 36 | 5 | 10 |
| Colorado | 3,271 | 36 | 6 | 8 | New Mexico | 1,355 | 17 | 0 | 11 |
| Connecticut | 624 | 8 | 2 | 0 | New York | 6,216 | 41 | 5 | 14 |
| Delaware | 456 | 10 | 0 | 7 | North Carolina | 7,813 | 113 | 14 | 25 |
| District of Columbia | 42 | 2 | 0 | 0 | North Dakota | 6,343 | 17 | 6 | 2 |
| Florida | 5,324 | 86 | 15 | 67 | Ohio | 9,633 | 148 | 15 | 38 |
| Georgia | 8,453 | 128 | 10 | 38 | Oklahoma | 5,913 | 89 | 12 | 47 |
| Hawaii | 8 | 0 | 0 | 0 | Oregon | 5,213 | 30 | 0 | 13 |
| Idaho | 2,645 | 33 | 11 | 1 | Pennsylvania | 8,946 | 69 | 8 | 17 |
| Illinois | 13,916 | 217 | 31 | 68 | Rhode Island | 189 | 0 | 0 | 0 |
| Indiana | 9,129 | 194 | 23 | 55 | South Carolina | 4,270 | 80 | 10 | 24 |
| lowa | 9,317 | 109 | 6 | 31 | South Dakota | 3,495 | 11 | 0 | 5 |
| Kansas | 10,756 | 67 | 11 | 18 | Tennessee | 5,062 | 90 | 8 | 26 |
| Kentucky | 5,037 | 69 | 5 | 20 | Texas | 18,289 | 388 | 52 | 164 |
| Louisiana | 6,726 | 181 | 14 | 88 | Utah | 1,755 | 18 | 2 | 7 |
| Maine | 1,680 | 8 | 1 | 1 | Vermont | 1,192 | 2 | 0 | 0 |
| Maryland | 1,390 | 19 | 1 | 2 | Virginia | 4,829 | 54 | 3 | 21 |
| Massachusetts | 1,679 | 12 | 1 | 4 | Washington | 5,749 | 45 | 1 | 10 |
| Michigan | 8,028 | 134 | 13 | 51 | West Virginia | 3,632 | 20 | 1 | 8 |
| Minnesota | 8,219 | 91 | 6 | 40 | Wisconsin | 7,043 | 122 | 15 | 49 |
| Mississippi | 4,850 | 113 | 15 | 44 | Wyoming | 1,151 | 3 | 0 | 0 |
| Missouri | 8,001 | 88 | 17 | 27 | United States | 256,241 | 3,502 | 425 | 1,219 |

Table 2-10: Highway-Rail Grade Crossing Incidents: 2000





NOTE FOR DATA ON THIS PAGE: Any impact, regardless of severity, between railroad on-track equipment and any user of a public or private crossing site must be reported to the U.S. Department of Transportation, Federal Railroad Administration on Form F 6180.57. The crossing site includes sidewalks and pathways at, or associated with, the crossing. Counts of fatalities and injuries include motor vehicle occupants, people not in vehicles or on the trains, as well as people on the train or railroad equipment.

SOURCE FOR DATA ON THIS PAGE: U.S. Department of Transportation, Federal Railroad Administration, Railroad Safety Statistics Annual Report 2000, Washington, DC: 2001, available at http://safetydata.fra.dot.gov/officeofsafety/ as of Oct. 22, 2001.

Fatalities

| | Mich | nigan | United States | | |
|------------------------|--------|---------|---------------|---------|--|
| | Number | Percent | Number | Percent | |
| Total | 8,028 | 100.0 | 256,241 | 100.0 | |
| Public, motor vehicle | 5,405 | 67.3 | 155,370 | 60.6 | |
| Private, motor vehicle | 2,557 | 31.9 | 98,918 | 38.6 | |
| Pedestrian | 66 | 0.8 | 1,953 | 0.8 | |

Table 2-11: Highway-Rail Grade Crossings by Type: 2000

SOURCE: U.S. Department of Transportation, Federal Railway Administration, Office of Railway Safety, *Railroad Safety Statistics Annual Report 2000,* Washington, DC: 2001, table 9-2, available at http://safetydata.fra.dot.gov/officeofsafety as of Nov. 21, 2001.

Table 2-12: Warning Devices at Public Highway-Rail Grade Crossings: 2000

| | Mich | nigan | United | States |
|-----------------|--------|---------|---------|---------|
| | Number | Percent | Number | Percent |
| Total | 5,405 | 100.0 | 155,370 | 100.0 |
| Cross bucks | 1,187 | 22.0 | 71,468 | 46.0 |
| Gates | 944 | 17.5 | 34,296 | 22.1 |
| Flashing lights | 1,384 | 25.6 | 27,100 | 17.4 |
| Stop signs | 1,680 | 31.1 | 11,630 | 7.5 |
| Unknown | 57 | 1.1 | 5,253 | 3.4 |
| Special warning | 97 | 1.8 | 3,723 | 2.4 |
| HWTS, WW, bells | 42 | 0.8 | 1,417 | 0.9 |
| Other | 14 | 0.3 | 483 | 0.3 |

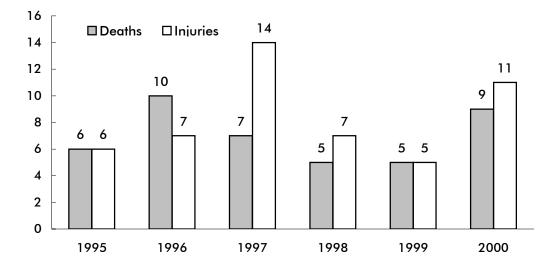
KEY: HWTS = highway traffic signals; WW = wigwags.

SOURCE: U.S. Department of Transportation, Federal Railway Administration, Office of Railway Safety, Railroad Safety Statistics Annual Report 2000, Washington, DC: 2001, table 9-4, available at http://safetydata.fra.dot.gov/officeofsafety as of Nov. 21, 2001.

| Type of person | Fatalities | Injuries |
|---------------------------------------|------------|----------|
| Worker on duty (railroad employee) | 0 | 216 |
| Employee not on duty | 0 | 4 |
| Passenger on train | 0 | 7 |
| Nontrespasser | 9 | 37 |
| Trespasser | 12 | 19 |
| Worker on duty (contractor) | 1 | 12 |
| Contractor (other) | 1 | 2 |
| Worker on duty (volunteer) | 0 | 0 |
| Volunteer (other) | 0 | 0 |
| Nontrespasser (off railroad property) | 0 | 3 |

Table 2-13: Types of People Injured in Michigan Train Accidents/Incidents: 2000 (Includes highway-rail crossing)

Figure 2-4: Railroad Trespasser Deaths and Injuries in Michigan (Excludes highway-rail crossing)



NOTE FOR DATA ON THIS PAGE: As defined by the U.S. Department of Transportation, Federal Railroad Administration, a trespasser is any person on a part of railroad property used in railroad operations whose presence is prohibited, forbidden, or unlawful. Employees who are trespassing on railroad property are reported as trespassers.

SOURCE FOR DATA ON THIS PAGE: U.S. Department of Transportation, Federal Railroad Administration, *Railroad Safety Statistics Annual Report 2000, Washington, DC: 2001, available at http://safetydata.fra.dot.gov/officeofsafety/ as of Oct. 22, 2001.*

Table 2-14: Michigan Transit Safety Data: 2000

| | Collision | | | | | | |
|--------------------|------------------------|------------|----------|------------------------|------------|----------|--|
| | Number of incidents | Fatalities | Injuries | Number of incidents | Fatalities | Injuries | Total property damage (\$ thousands) |
| Automated guideway | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Cable car | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Commuter rail | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Demand responsive | 64 | 0 | 29 | 50 | 0 | 53 | 160 |
| Ferry boat | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Heavy rail | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Light rail | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Motor bus | 269 | 4 | 354 | 227 | 1 | 232 | 2,817 |
| Trolley bus | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Van pool | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Table 2-15: U.S. Transit Safety Data: 2000

| | Collision | | | 1 | Noncollision | | | |
|--------------------|------------------------|------------|----------|------------------------|--------------|----------|--|--|
| | Number of incidents | Fatalities | Injuries | Number of incidents | Fatalities | Injuries | Total property damage (\$ thousands) | |
| Automated guideway | 1 | 0 | 0 | 16 | 0 | 15 | 34 | |
| Cable car | 10 | 0 | 15 | 10 | 0 | 11 | 10 | |
| Commuter rail | 267 | 104 | 95 | 1,981 | 2 | 1,865 | 8,047 | |
| Demand responsive | 3,055 | 6 | 1,603 | 1,510 | 11 | 1,494 | 6,910 | |
| Ferry boat | 7 | 0 | 6 | 719 | 0 | 730 | 106 | |
| Heavy rail | 389 | 55 | 316 | 12,388 | 22 | 10,530 | 5,034 | |
| Light rail | 343 | 30 | 361 | 979 | 0 | 978 | 3,062 | |
| Motor bus | 23,184 | 93 | 20,800 | 19,847 | 8 | 20,967 | 43,717 | |
| Trolley bus | 122 | 0 | 103 | 257 | 0 | 265 | 103 | |
| Van pool | 186 | 1 | 65 | 5 | 0 | 5 | 563 | |

NOTES FOR DATA ON THIS PAGE: Collision includes at-grade crossings and suicides. Noncollision includes: 1) derailments/buses going off road; 2) personal casualties in parking facilities, inside vehicles, on right of way, boarding/alighting, and in station/bus stops; and 3) nonarson fires.

SOURCE FOR DATA ON THIS PAGE: U.S. Department of Transportation, Federal Transit Administration, 2000 National Transit Database, available at http://www.ntdprogram.com as of Dec. 5, 2001.

| | Michigan | United States |
|---------------------|----------|---------------|
| Number of accidents | | |
| Total | 227 | 7,740 |
| Fatal | 26 | 616 |
| Nonfatal injury | 103 | 3,292 |
| Property damage | 98 | 3,832 |
| Number of persons | | |
| Killed | 31 | 701 |
| Injured | 138 | 4,355 |

Table 2-16: Recreational Boating Accidents: 2000

NOTE: Guam, Puerto Rico, and the Virgin Islands are included in the U.S. total.

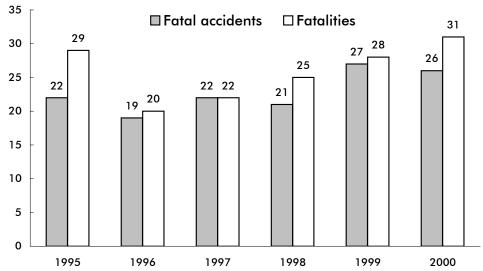


Figure 2-5: Michigan Recreational Boating Accidents

NOTES FOR DATA ON THIS PAGE: An accident is listed under one category only, with fatal being the highest priority, followed by nonfatal injury, followed by property damage. For example, if two vessels are in an accident resulting in a fatality and a nonfatal injury, the accident is counted as a fatal accident involving two vessels.

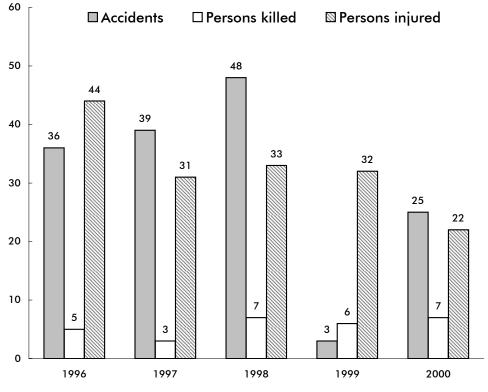
These data do not include: 1) accidents involving only slight injury not requiring medical treatment beyond first-aid; 2) accidents involving property damage of \$500 or less; 3) accidents not caused or contributed to by a vessel, its equipment, or its appendages; and 4) accidents in which the boat was used solely as a platform for other activities, such as swimming or skin diving. Such cases are not included because the victims freely left the safety of a boat. However, the data do include accidents involving people in the water who are struck by their boat or another boat.

SOURCE FOR DATA ON THIS PAGE: U.S. Department of Transportation, U.S. Coast Guard, *Boating Statistics, 2000,* Washington, DC: 2001, available at http://www.uscgboating.org/Saf/pdf/Boating_Statistics_2000.pdf as of Nov. 14, 2001.

| | | 1999 | 2000 | | |
|---------------------|----------|----------------------|----------|----------------------|--|
| | Michigan | United States | Michigan | United States | |
| Number of accidents | | | | | |
| Total | 3 | 633 | 25 | 696 | |
| Number of persons | | | | | |
| Killed | 6 | 191 | 7 | 215 | |
| Injured | 32 | 476 | 22 | 542 | |

Table 2-17: Alcohol Involvement in Recreational Boating





NOTE FOR DATA ON THIS PAGE: Alcohol involvement in a boating accident includes any accident in which alcoholic beverages are consumed in the boat and the investigating official has determined that the operator was impaired or affected while operating the boat.

SOURCES FOR DATA ON THIS PAGE: U.S. Department of Transportation, U.S. Coast Guard, Boating Statistics 2000, Washington, DC: 2001; U.S. Department of Transportation, U.S. Coast Guard, Boating Statistics 1999, Washington, DC: 2000, available at http://www.uscgboating.org/Saf/pdf/Boating_Statistics_2000.pdf and http://www.uscgboating.org/Saf/pdf/Boating_Statistics_1999.pdf as of Nov. 14, 2001.

| Table 2-18: | Hazardous Materials Incidents: 2000 |
|---------------|-------------------------------------|
| (Not includin | ıg pipelines) |

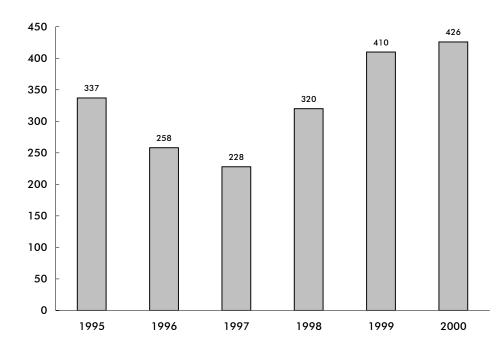
| | | | | Injuries | Damages | |
|---------------|-----------|--------|-------|----------|---------|----------------|
| | Incidents | Deaths | Total | Major | Minor | (\$ thousands) |
| Michigan | 426 | 0 | 5 | 0 | 5 | 303 |
| United States | 17,514 | 13 | 246 | 18 | 228 | 72,728 |

NOTES: U.S. total includes U.S. territories or foreign locations.

Hazardous material incident locations are often listed as the terminals or sorting centers where they are discovered. Therefore, states with this type of a facility may show a disproportionate number of incidents.

Hazardous materials transportation incidents required to be reported are defined in the Code of Federal Regulations (CFR), 49 CFR Part 171.15, 171.16 (Form F 5800.1). Hazardous materials deaths and injuries are caused by the hazardous material in commerce.





NOTE FOR DATA ON THIS PAGE: Hazardous materials incident data are subject to revision and correction by the Office of Hazardous Materials Safety.

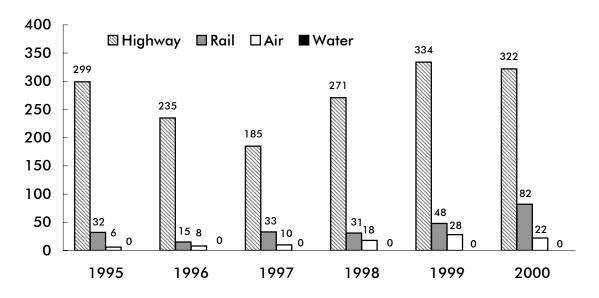
SOURCE FOR DATA ON THIS PAGE: U.S. Department of Transportation, Research and Special Programs Administration, Office of Hazardous Materials Safety, *Hazmat Summary by State for Calendar Year 2000*, and earlier years, Washington, DC: 2002, available at http://hazmat.dot.gov as of Apr. 24, 2002.

| | | | Inju | Damages | |
|--------------------|------------------------|--------|-------|---------|----------------|
| Mode | Total incidents | Deaths | Major | Minor | (\$ thousands) |
| Highway | 322 | 0 | 0 | 5 | 294 |
| Rail | 82 | 0 | 0 | 0 | 9 |
| Air | 22 | 0 | 0 | 0 | 0 |
| Water ¹ | 0 | 0 | 0 | 0 | 0 |
| Total | 426 | 0 | 0 | 5 | 303 |

Table 2-19: Michigan Hazardous Materials Incidents by Mode: 2000(Not including pipelines)

¹Includes only packaged shipments (i.e., nonbulk shipments).





NOTE FOR DATA ON THIS PAGE: Hazardous materials incident data are subject to revision and correction by the Office of Hazardous Materials Safety.

SOURCE FOR DATA ON THIS PAGE: U.S. Department of Transportation, Research and Special Programs Administration, Office of Hazardous Materials Safety, *Hazmat Summary by State for Calendar Year 2000*, and earlier years, Washington, DC: 2002, available at http://hazmat.dot.gov/ as of Apr. 24, 2002.

Safety

| | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 |
|--------------------------------|--------|---------------------|--------|--------|--------|--------|
| Michigan | | | | | | |
| Number of incidents | 4 | 4 | 10 | 5 | 12 | 3 |
| Number of fatalities | 0 | 2 | 2 | 1 | 6 | 2 |
| Number of injuries | 2 | 1 | 3 | 3 | 4 | 2 |
| Property damage (\$ thousands) | 1,131 | 200 | 1,720 | 400 | 1,295 | 450 |
| United States, total | | | | | | |
| Number of incidents | 97 | 110 | 102 | 137 | 119 | 154 |
| Number of fatalities | 16 | 47 ¹ | 9 | 17 | 19 | 22 |
| Number of injuries | 43 | 109 ¹ | 67 | 65 | 85 | 59 |
| Property damage (\$ thousands) | 10,951 | 16,253 ¹ | 12,493 | 19,055 | 25,914 | 23,399 |

Table 2-20: Natural Gas Distribution Pipeline Incidents

¹ Includes 33 fatalities, 42 injuries, and \$5,000,000 property damage associated with an incident in San Juan, Puerto Rico that was attributed to natural gas at the time. The cause of the incident is currently in dispute and subject to litigation.

NOTE: Incidents are reported on Form RSPA F 7100.1.

| | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 |
|--------------------------------|-------|--------|--------|--------|--------|--------|
| Michigan | | | | | | |
| Number of incidents | 1 | 2 | 2 | 1 | 2 | 2 |
| Number of fatalities | 0 | 0 | 0 | 0 | 0 | 0 |
| Number of injuries | 2 | 0 | 0 | 0 | 0 | 2 |
| Property damage (\$ thousands) | 0 | 585 | 23 | 1,414 | 863 | 299 |
| United States, total | | | | | | |
| Number of incidents | 64 | 77 | 73 | 99 | 54 | 80 |
| Number of fatalities | 2 | 1 | 1 | 1 | 2 | 15 |
| Number of injuries | 10 | 5 | 5 | 11 | 8 | 18 |
| Property damage (\$ thousands) | 9,958 | 13,078 | 12,078 | 29,749 | 17,696 | 17,868 |

Table 2-21: Natural Gas Transmission Pipeline Incidents

NOTE: Incidents are reported on Form RSPA F 7100.2.

NOTES FOR DATA ON THIS PAGE: Incident means any of the following events:

I. An event that involves a release of gas from a pipeline or of liquefied natural gas (LNG) facility and a) a death or personal injury necessitating in-patient hospitalization or b) estimated property damage, including cost of gas lost, of the operator or others, or both, of \$50,000 or more.

II. An event that results in an emergency shutdown of an LNG facility.

III. An event that is significant, in the judgment of the operator, even though it did not meet the criteria of I or II.

Historical totals may change as the Office of Pipeline Safety receives supplemental information on incidents.

SOURCE FOR DATA ON THIS PAGE: U.S. Department of Transportation, Research and Special Programs Administration, Office of Pipeline Safety, available at http://ops.dot.gov as of Jan. 7, 2002.

| | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 |
|--------------------------------|--------|--------|--------|--------|--------|---------|
| Michigan | | | | | | |
| Number of incidents | 0 | 4 | 1 | 2 | 3 | 1 |
| Number of fatalities | 0 | 0 | 0 | 0 | 0 | 0 |
| Number of injuries | 0 | 1 | 0 | 0 | 0 | 0 |
| Property damage (\$ thousands) | 0 | 272 | 65 | 185 | 530 | 1,000 |
| United States, total | | | | | | |
| Number of incidents | 188 | 193 | 171 | 153 | 168 | 147 |
| Number of fatalities | 3 | 5 | 0 | 2 | 4 | 1 |
| Number of injuries | 11 | 13 | 5 | 6 | 20 | 4 |
| Property damage (\$ thousands) | 32,519 | 81,083 | 42,811 | 62,865 | 43,109 | 115,704 |

Table 2-22: Hazardous Liquid Pipeline Incidents

NOTES: Historical totals may change as the Office of Pipeline Safety receives supplemental information on incidents.

Incidents are reported on Form RSPA F 7100.1. An accident report is required for each failure in a pipeline system in which there is a release of the hazardous liquid or carbon dioxide transported resulting in any of the following:

1. Explosion or fire not intentionally set by the operator;

2. Loss of 50 or more barrels (8 or more cubic meters) of hazardous liquid or carbon dioxide;

3. Escape to the atmosphere of more than 5 barrels (0.8 cubic meters) a day of highly volatile liquids;

4. Death of any person;

5. Bodily harm to any person resulting in: a. loss of consciousness; or b. necessity to carry the person from the scene; or c. necessity for medical treatment; or d. disability which prevents the discharge of normal duties or the pursuit of normal activities beyond the day of the accident;

6. Estimated property damage, including cost of clean-up and recovery, value of lost product, and damage to the property of the operator or others, or both, exceeding \$50,000.

SOURCE: U.S. Department of Transportation, Research and Special Programs Administration, Office of Pipeline Safety, available at http://ops.dot.gov as of Jan. 7, 2002.

C Freight Transportation

| State of origin | Rank | Value (\$ millions) | Weight (thousand short tons) | State of origin | Rank | Value (\$ millions) | Weight (thousand short tons) |
|-----------------|------|------------------------|------------------------------------|----------------------|------|------------------------|------------------------------------|
| Michigan | 1 | 149,271 | 278,128 | Oregon | 27 | 641 | 411 |
| Ohio | 2 | 33,840 | 21,089 | Washington | 28 | 1,273 | 403 |
| Illinois | 3 | 17,887 | 11,340 | South Dakota | 29 | S | 390 |
| Indiana | 4 | 20,052 | 10,730 | Kansas | 30 | 1,109 | 371 |
| West Virginia | 5 | 1,611 | 6,669 | Maryland | 31 | 1,087 | 361 |
| Wisconsin | 6 | 9,447 | 5,984 | Massachusetts | 32 | 2,024 | 316 |
| Pennsylvania | 7 | 5,830 | 4,613 | Idaho | 33 | 450 | 309 |
| Kentucky | 8 | 7,829 | 3,836 | North Dakota | 34 | 176 | 258 |
| Wyoming | 9 | 165 | 2,693 | New Hampshire | 35 | 997 | 139 |
| Georgia | 10 | 3,845 | 2,062 | Connecticut | 36 | 1,464 | 138 |
| Tennessee | 11 | 5,194 | 1,844 | Utah | 37 | 578 | 111 |
| New York | 12 | 7,298 | 1,816 | Maine | 38 | 295 | 80 |
| lowa | 13 | 3,206 | 1,800 | Delaware | 39 | 161 | 78 |
| California | 14 | 9,098 | 1,667 | New Mexico | 40 | 206 | 49 |
| Virginia | 15 | 2,183 | 1,484 | Nevada | 41 | 147 | 37 |
| Alabama | 16 | 2,472 | 1,348 | Rhode Island | 42 | 225 | 8 |
| Louisiana | 17 | 1,639 | 1,283 | Alaska | 43 | 1 | S |
| North Carolina | 18 | 4,162 | 1,133 | Arizona | 43 | 792 | S |
| New Jersey | 19 | 5,760 | 1,043 | Colorado | 43 | 1,360 | S |
| Missouri | 20 | 4,122 | 1,031 | District of Columbia | 43 | S | S |
| Florida | 21 | 1,860 | 818 | Hawaii | 43 | S | S |
| Mississippi | 22 | 1,263 | 760 | Minnesota | 43 | 3,532 | S |
| South Carolina | 23 | 2,472 | 711 | Montana | 43 | 117 | S |
| Nebraska | 24 | 1,364 | 688 | Texas | 43 | 10,301 | S |
| Arkansas | 25 | 1,201 | 667 | Vermont | 43 | 250 | S |
| Oklahoma | 26 | 749 | 488 | From all states | | 331,821 | 388,841 |

Table 3-1: Domestic Shipments to Michigan by State: 1997(Descending order by weight)

KEY: S = data do not meet publication standards because of high sampling variability or other reasons.

NOTES: The Commodity Flow Survey covers business establishments in mining, manufacturing, wholesale trade, and selected retail industries. The survey also covers selected auxiliary establishments (e.g., warehouses) of in-scope multiunit and retail companies. The survey excludes establishments classified as farms, forestry, fisheries, governments, construction, transportation, foreign establishments, services, and most establishments in retail. Due to industry-wide reporting problems, shipments by oil and gas extraction establishments are also excluded. "From all states" total includes all domestic shipments to the destination state, including intrastate shipments.

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics and U.S. Department of Commerce, U.S. Census Bureau, 1997 Commodity Flow Survey, Washington, DC: 1999, available at http://www.bts.gov/ntda/cfs/cfs97od.html as of Nov. 2, 2001.

| State of destination | Rank | Value (\$ millions) | Weight (thousand short tons) | State of destination | Rank | Value (\$ millions) | Weight (thousand short tons) |
|-------------------------|------|------------------------|------------------------------------|----------------------|------|------------------------|------------------------------------|
| Michigan | 1 | 149,271 | 278,128 | Kansas | 27 | 1,526 | 516 |
| Ohio | 2 | 25,870 | 28,835 | Arkansas | 28 | 861 | 482 |
| Indiana | 3 | 10,685 | 16,227 | Massachusetts | 29 | 2,598 | 477 |
| Illinois | 4 | 12,554 | 11,005 | Colorado | 30 | 1,418 | 387 |
| Wisconsin | 5 | 5,298 | 7,119 | Louisiana | 31 | 1,587 | 382 |
| Pennsylvania | 6 | 6,422 | 4,452 | Oregon | 32 | 1,193 | 304 |
| Minnesota | 7 | 3,135 | 4,125 | Mississippi | 33 | 705 | 303 |
| Texas | 8 | 13,809 | 2,793 | Arizona | 34 | 2,118 | 269 |
| Missouri | 9 | 9,320 | 2,430 | Nebraska | 35 | 1,523 | 238 |
| North Carolina | 10 | 3,665 | 2,316 | Utah | 36 | 1,307 | 222 |
| New York | 11 | 5,575 | 1,986 | New Hampshire | 37 | 251 | 151 |
| California | 12 | 9,640 | 1,972 | Maine | 38 | 364 | 116 |
| Kentucky | 13 | 4,532 | 1,892 | Nevada | 39 | 535 | 91 |
| Georgia | 14 | 6,596 | 1,721 | South Dakota | 40 | 191 | 80 |
| New Jersey | 15 | 6,613 | 1,647 | North Dakota | 41 | 241 | 58 |
| Maryland | 16 | 3,126 | 1,497 | Vermont | 42 | 182 | 55 |
| Tennessee | 17 | 4,348 | 1,444 | New Mexico | 43 | 551 | 52 |
| Virginia | 18 | 3,616 | 1,252 | Idaho | 44 | 189 | 47 |
| Oklahoma | 19 | 2,255 | 1,101 | Rhode Island | 45 | 135 | 30 |
| Alabama | 20 | 1,258 | 1,093 | Montana | 46 | 233 | 29 |
| Florida | 21 | 6,087 | 1,076 | District of Columbia | 47 | 88 | 17 |
| South Carolina | 22 | 1,852 | 883 | Alaska | 48 | 13 | 1 |
| lowa | 23 | 1,622 | 771 | Delaware | 50 | 567 | S |
| West Virginia | 24 | 933 | 736 | Hawaii | 49 | S | S |
| Washington | 25 | 2,816 | 605 | Wyoming | 51 | 58 | S |
| Connecticut | 26 | 1,099 | 537 | To all states | | 320,536 | 382,277 |

Table 3-2: Domestic Shipments from Michigan by State: 1997(Descending order by weight)

KEY: S = data do not meet publication standards because of high sampling variability or other reasons.

NOTES: The Commodity Flow Survey covers business establishments in mining, manufacturing, wholesale trade, and selected retail industries. The survey also covers selected auxiliary establishments (e.g., warehouses) of in-scope multiunit and retail companies. The survey excludes establishments classified as farms, forestry, fisheries, governments, construction, transportation, foreign establishments, services, and most establishments in retail. Due to industry-wide reporting problems, shipments by oil and gas extraction establishments are also excluded. "To all states" total includes all domestic shipments from the state of origin, including intrastate shipments.

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics and U.S. Department of Commerce, U.S. Census Bureau, 1997 Commodity Flow Survey, Washington, DC: 1999, available at http://www.bts.gov/ntda/cfs/ cfs97od.html as of Nov. 2, 2001.

| | Valu | е | Short tons | | Ton-m | iles |
|---|---------------|---------|-------------|---------|------------|---------|
| | Number | | Number | | Number | |
| | (\$ millions) | Percent | (thousands) | Percent | (millions) | Percent |
| All modes | 320,536 | 100.0 | 382,277 | 100.0 | 70,963 | 100.0 |
| Single modes | 268,337 | 83.7 | 355,111 | 92.9 | 59,202 | 83.4 |
| Truck | 227,120 | 70.9 | 289,401 | 75.7 | 34,767 | 49.0 |
| For-hire | 140,068 | 43.7 | 148,872 | 38.9 | 26,315 | 37.1 |
| Private truck | 85,506 | 26.7 | 135,113 | 35.3 | 8,150 | 11.5 |
| Rail | 36,965 | 11.5 | 30,876 | 8.1 | 14,036 | 19.8 |
| Water | 433 | 0.1 | 29,979 | 7.8 | 9,779 | 13.8 |
| Shallow draft | S | S | S | S | S | S |
| Great Lakes | 433 | 0.1 | 29,979 | 7.8 | 9,779 | 13.8 |
| Deep draft | S | S | S | S | S | S |
| Air (including truck and air) | 2,704 | 0.8 | 290 | Z | 204 | 0.3 |
| Pipeline | S | S | S | S | S | S |
| Multiple modes | 33,468 | 10.4 | 16,816 | 4.4 | 10,084 | 14.2 |
| Parcel, U.S. Postal Service, or courier | 19,871 | 6.2 | 653 | 0.2 | 352 | 0.5 |
| Truck and rail intermodal combination | 13,375 | 4.2 | 2,142 | 0.6 | 2,898 | 4.1 |
| Truck and water | S | S | 6,224 | 1.6 | 3,392 | 4.8 |
| Rail and water | S | S | S | S | S | S |
| Other multiple modes | 25 | Z | 3,937 | 1.0 | 1,099 | 1.5 |
| Other and unknown modes | 18,732 | 5.8 | s | S | 1,677 | 2.4 |

Table 3-3: Shipments Originating in Michigan by Mode of Transportation: 1997

KEY: S = data do not meet publication standards because of high sampling variability or other reasons; Z = zero or less than 1 unit of measure.

NOTE: The Commodity Flow Survey covers business establishments in mining, manufacturing, wholesale trade, and selected retail industries. The survey also covers selected auxiliary establishments (e.g., warehouses) of in-scope multiunit and retail companies. The survey excludes establishments classified as farms, forestry, fisheries, governments, construction, transportation, foreign establishments, services, and most establishments in retail. Due to industry-wide reporting problems, shipments by oil and gas extraction establishments are also excluded.

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics and U.S. Department of Commerce, U.S. Census Bureau, 1997 Commodity Flow Survey, Washington, DC: 1999, available at http://www.bts.gov/ntda/cfs/cfs97od.html as of Nov. 2, 2001.

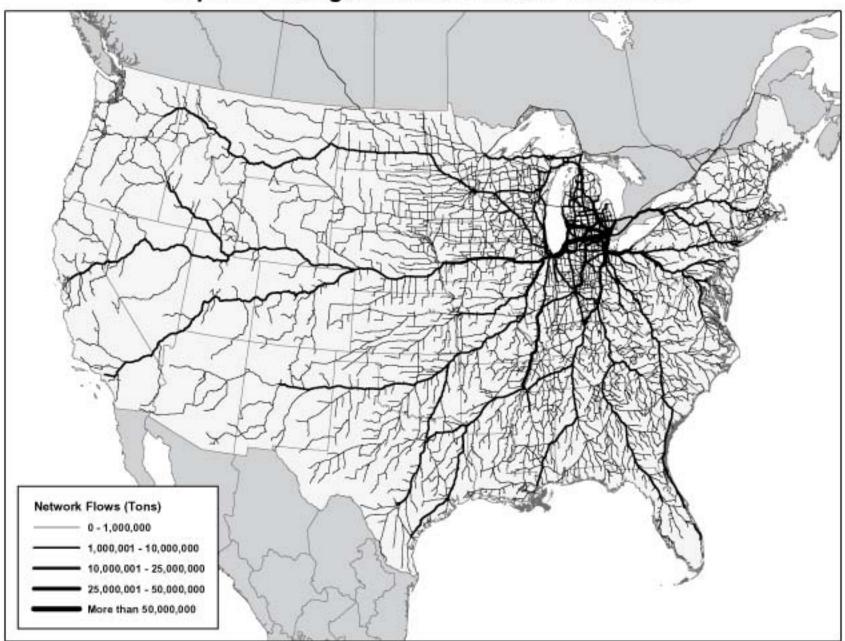
| State of destination | Value (\$ millions) | Weight (thousand short tons) |
|----------------------|------------------------|------------------------------------|
| Michigan | 129,165 | 234,503 |
| Ohio | 19,241 | 16,273 |
| Indiana | 8,310 | 8,428 |
| Illinois | 9,239 | 5,844 |
| Wisconsin | 4,035 | 2,765 |
| Pennsylvania | 3,766 | 2,602 |
| Texas | 5,844 | 1,636 |
| Missouri | 4,774 | 1,311 |
| Kentucky | 3,326 | 1,295 |
| New York | 3,115 | 1,174 |
| All other states | 36,305 | 13,570 |
| Total, all states | 227,120 | 289,401 |

Table 3-4: Domestic Shipments from Michiganby Truck: 1997 (Descending order by weight)

Table 3-5: Domestic Shipments to Michigan byTruck: 1997 (Descending order by weight)

| State of origin | Value (\$ millions) | Weight (thousand short tons) |
|-------------------|------------------------|------------------------------------|
| Michigan | 129,165 | 234,503 |
| Ohio | 28,800 | 17,015 |
| Indiana | 18,353 | 9,221 |
| Illinois | 12,783 | 7,333 |
| Wisconsin | 7,954 | 5,171 |
| Pennsylvania | 3,808 | 2,161 |
| Minnesota | 2,376 | 1,773 |
| Kentucky | 5,647 | 1,705 |
| Tennessee | 4,661 | 1,581 |
| New York | 5,515 | 1,580 |
| All other states | 45,990 | 18,509 |
| Total, all states | 265,052 | 300,552 |

SOURCE FOR DATA ON THIS PAGE: U.S. Department of Transportation, Bureau of Transportation Statistics and U.S. Department of Commerce, U.S. Census Bureau, *1997 Commodity Flow Survey*, Washington, DC: 2000, data from CD-ROM, CD-EC97-CFS.



Map 3-1: Michigan Network Truck Flows: 1998

SOURCE: U.S. Department of Transportation, Federal Highway Administration, Operations Core Business Unit, Office of Freight Management and Operations

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Table 3-6: Truck Shipments from Michigan by Commodity: 1997(Descending order by weight)

| Commodity (2-digit commodity code) | Value (\$ millions) | Weight (thousand short tons) |
|---|------------------------|------------------------------------|
| Gravel and crushed stone (12) | 271 | 46,592 |
| Base metal in primary or semifinished forms and in finished basic shapes (32) | 18,903 | 44,501 |
| Gasoline and aviation turbine fuel (17) | S | 35,806 |
| Nonmetallic mineral products (31) | 2,684 | 20,869 |
| Natural sands (11) | 128 | 15,827 |
| Motorized and other vehicles (including parts) (36) | 52,044 | 15,770 |
| Other prepared foodstuffs and fats and oils (07) | 10,588 | 12,078 |
| Coal and petroleum products, n.e.c. (19) | 1,875 | 9,482 |
| Fuel oils (18) | 1,811 | 7,843 |
| Waste and scrap (41) | 1,652 | 7,458 |
| Wood products (26) | 2,798 | 4,884 |
| Articles of base metal (33) | 10,631 | 4,823 |
| Machinery (34) | 24,077 | 4,235 |
| Mixed freight (43) | 7,555 | 4,142 |
| Basic chemicals (20) | 2,217 | 3,694 |
| Other agricultural products (03) | 2,469 | 3,281 |
| Nonmetallic minerals, n.e.c. (13) | 231 | 3,104 |
| Chemical products and preparations, n.e.c. (23) | 6,206 | 3,082 |
| Cereal grains (02) | 1,253 | 2,900 |
| Animal feed and products of animal origin, n.e.c. (04) | 1,019 | 2,895 |
| All other commodities | S | 36,135 |
| Total, all commodities | 227,120 | 289,401 |

KEY: n.e.c. = not elsewhere classified; S = data do not meet publication standards because of high sampling variability or other reasons.

NOTE: There are 41 two-digit Standard Classification of Transported Goods (SCTG) commodity codes.

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics and U.S. Department of Commerce, U.S. Census Bureau, 1997 Commodity Flow Survey, Washington, DC: 2000, data from CD-ROM, CD-EC97-CFS.

| | | Percent of | F | Percent of |
|------------------------|------------|------------|------------|------------|
| Commodity | 1999 total | | 2000 | total |
| Coal | 20,057,228 | 39.6 | 19,380,688 | 37.3 |
| Metallic ores | 8,551,139 | 16.9 | 9,176,295 | 17.6 |
| Chemicals | 4,366,620 | 8.6 | 4,654,270 | 9.0 |
| Primary metal products | 3,644,280 | 7.2 | 3,797,926 | 7.3 |
| Petroleum | U | U | 2,323,233 | 4.5 |
| Mixed freight | 2,065,160 | 4.1 | U | U |
| All other commodities | 11,996,833 | 23.7 | 12,666,021 | 24.4 |
| Michigan, total | 50,681,260 | 100.0 | 51,998,433 | 100.0 |

Table 3-7: Rail Shipments Terminating in Michigan(Short tons)

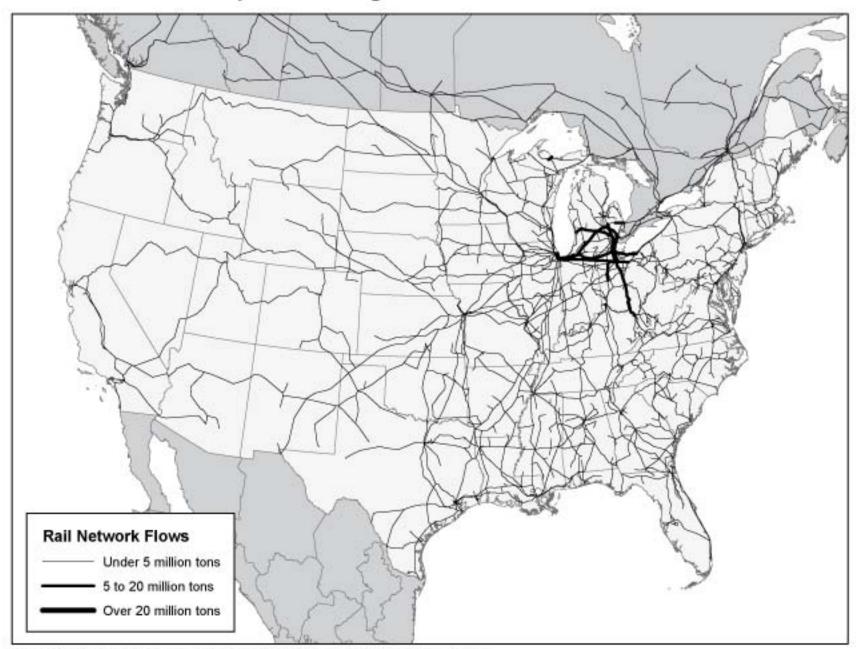
KEY: U = data are unavailable.

Table 3-8: Rail Shipments Originating in Michigan(Short tons)

| | | Percent of | | Percent of |
|--------------------------|------------|------------|------------|------------|
| Commodity | 1999 | total | 2000 | total |
| Metallic ores | 8,465,138 | 27.0 | 9,101,938 | 27.7 |
| Transportation equipment | 7,591,676 | 24.2 | 7,772,374 | 23.6 |
| Primary metal products | 2,375,914 | 7.6 | 3,066,635 | 9.3 |
| Farm products | 2,646,765 | 8.4 | 2,720,183 | 8.3 |
| Waste and scrap material | 2,357,652 | 7.5 | 2,282,324 | 6.9 |
| All other commodities | 7,912,264 | 25.2 | 7,972,076 | 24.2 |
| Michigan, total | 31,349,409 | 100.0 | 32,915,530 | 100.0 |

NOTE FOR DATA ON THIS PAGE: Includes the five largest commodities (by tonnage terminated or originated) of the 38 two-digit Standard Transportation Commodity Code groupings plus all others for state total. Includes intrastate shipments.

SOURCES FOR DATA ON THIS PAGE: Association of American Railroads, *Railroads and States-2000*, Washington, DC: January 2002, available at http://www.aar.org/abouttheindustry/stateinformation.asp as of Mar. 18, 2002; and *Railroads and States -1999*, Washington, DC: January 2002, available at http://www.aar.org/abouttheindustry/stateinformation.asp as of Mar. 18, 2002.



Map 3-2: Michigan Total Rail Flows: 1999

SOURCE: U.S. Department of Transportation, Federal Railroad Administration, Office of Policy

| | | Percent of |
|-------------------------------|------------|------------|
| Destination | Short tons | total |
| Total originating in Michigan | 48,973,807 | 100.0 |
| Michigan (intrastate) | 15,455,815 | 31.6 |
| Indiana | 10,188,471 | 20.8 |
| Ohio | 9,020,673 | 18.4 |
| Canada | 5,810,771 | 11.9 |
| Wisconsin | 2,577,973 | 5.3 |
| Minnesota | 2,464,952 | 5.0 |
| Illinois | 2,238,554 | 4.6 |
| Pennsylvania | 659,204 | 1.3 |
| New York | 501,352 | 1.0 |
| Foreign (excluding Canada) | 56,042 | <0.1 |

Table 3-9: Foreign and Domestic Waterborne ShipmentsOriginating in Michigan by Destination: 2000

Table 3-10: Foreign and Domestic Waterborne Shipments toMichigan by Origin: 2000

| | | Percent of |
|----------------------------|------------|------------|
| Origin | Short tons | total |
| Total shipped to Michigan | 45,765,656 | 100.0 |
| Michigan (intrastate) | 15,455,815 | 33.8 |
| Wisconsin | 14,121,666 | 30.9 |
| Canada | 7,129,454 | 15.6 |
| Ohio | 4,877,322 | 10.7 |
| Foreign (excluding Canada) | 1,383,489 | 3.0 |
| Illinois | 1,284,477 | 2.8 |
| Indiana | 1,180,854 | 2.6 |
| Minnesota | 332,396 | 0.7 |
| Pennsylvania | 183 | <0.1 |

SOURCE FOR DATA ON THIS PAGE: U.S. Army Corps of Engineers, Waterborne Commerce Statistics Center, Origin and Destination of Waterborne Commerce of the United States, 2000, available at http://www.iwr.usace.army.mil as of Feb. 12, 2002.

| Commodity | Short tons | Percent of total |
|--|------------|------------------|
| Total | 48,973,807 | 100.0 |
| Sand, gravel, shells, clay, salt, and slag | 26,665,557 | 54.4 |
| Iron ore, iron, and steel waste and scrap | 12,818,288 | 26.2 |
| Primary nonmetal products | 3,978,578 | 8.1 |
| Petroleum products | 216,492 | 0.4 |
| Chemicals excluding fertilizers | 126,908 | 0.3 |
| Coal, lignite, and coal coke | 68,376 | 0.1 |
| Manufactured goods | 38,395 | <0.1 |
| Primary metal products | 36,332 | <0.1 |
| Food and food products | 2,000 | <0.1 |
| Unknown and not elsewhere classified products ² | 5,022,881 | 10.3 |

Table 3-11: Foreign and Domestic Waterborne ShipmentsOriginating in Michigan by Commodity: 20001

Table 3-12: Domestic Waterborne Shipments Originating inMichigan by Commodity: 20001

| Commodity | Short tons | Percent of total |
|--|------------|------------------|
| Total | 43,106,994 | 100.0 |
| Sand, gravel, shells, clay, salt, and slag | 23,948,542 | 55.6 |
| Iron ore, iron, and steel waste and scrap | 10,289,121 | 23.9 |
| Primary nonmetal products | 3,592,845 | 8.3 |
| Petroleum products | 216,492 | 0.5 |
| Manufactured goods | 37,113 | <0.1 |
| Unknown and not elsewhere classified products ² | 5,022,881 | 11.7 |

¹ "Domestic" includes intrastate shipments.

² To protect confidentiality, if three or more vessel operating companies do not carry a particular commodity from a state of origin to a state of destination, then that commodity is reclassified to "unknown and not elsewhere classified products."

SOURCE FOR DATA ON THIS PAGE: U.S. Army Corps of Engineers, Waterborne Commerce Statistics Center, State to State and Region to Region Commodity Tonnages, Public Domain database, available at http://www.iwr.usace.army.mil/ as of Oct. 30, 2001.

| | | Percent of |
|--|------------|------------|
| Commodity | Short tons | total |
| Total | 39,034,337 | 100.0 |
| Coal, lignite, and coal coke | 16,795,050 | 43.0 |
| Sand, gravel, shells, clay, salt, and slag | 15,403,064 | 39.5 |
| Primary nonmetal products | 2,667,206 | 6.8 |
| Iron ore, iron, and steel waste and scrap | 1,729,147 | 4.4 |
| Petroleum products | 1,227,614 | 3.1 |
| Primary metal products | 851,402 | 2.2 |
| Chemicals excluding fertilizers | 143,922 | 0.4 |
| Lumber, logs, wood chips, and pulp | 123,634 | 0.3 |
| Manufactured goods | 52,543 | 0.1 |
| Chemical fertilizers | 40,755 | 0.1 |
| Food and food products | 11,000 | <0.1 |
| Unknown and not elsewhere classified products ² | 6,720,319 | 17.2 |

Table 3-13: Foreign and Domestic Waterborne Shipments toMichigan by Commodity: 20001

Table 3-14: Domestic Waterborne Shipments to Michigan byCommodity: 20001

| | | Percent of |
|--|------------|------------|
| Commodity | Short tons | total |
| Total | 37,252,713 | 100.0 |
| Coal, lignite, and coal coke | 16,435,618 | 44.1 |
| Sand, gravel, shells, clay, salt, and slag | 11,792,884 | 31.7 |
| Petroleum products | 1,135,854 | 3.0 |
| Primary nonmetal products | 1,130,925 | 3.0 |
| Manufactured goods | 37,113 | <0.1 |
| Unknown and not elsewhere classified products ² | 6,720,319 | 18.0 |

¹ "Domestic" includes intrastate shipments.

² To protect confidentiality, if three or more vessel operating companies do not carry a particular commodity from a state of origin to a state of destination, then that commodity is reclassified to "unknown and not elsewhere classified products."

SOURCE FOR DATA ON THIS PAGE: U.S. Army Corps of Engineers, Waterborne Commerce Statistics Center, State to State and Region to Region Commodity Tonnages, Public Domain database, available at http://www.iwr.usace.army.mil/ as of Oct. 30, 2001.

| | _ | Vessel type | | | | | |
|----------------------|---------|---------------------|---------|-----------|------------------------|--|--|
| | | Dry-bulk Full Other | | | | | |
| Cargo discharged in | Total | Tanker | carrier | container | freighter ¹ | | |
| Texas | 215,154 | 177,950 | 31,448 | 3,442 | 2,314 | | |
| Louisiana | 140,682 | 98,723 | 37,092 | 1,101 | 3,766 | | |
| California | 75,162 | 31,143 | 10,345 | 29,169 | 4,505 | | |
| New York | 55,174 | 30,575 | 11,814 | 10,701 | 2,084 | | |
| Pennsylvania | 37,381 | 25,980 | 8,319 | 1,140 | 1,943 | | |
| Florida | 28,509 | 10,565 | 10,166 | 3,656 | 4,112 | | |
| Virgin Islands | 21,954 | 19,634 | 2,294 | 16 | 10 | | |
| Maine | 20,795 | 19,616 | 1,521 | 29 | 629 | | |
| Mississippi | 18,719 | 16,446 | 1,435 | 556 | 282 | | |
| Washington | 18,311 | 2,585 | 6,708 | 5,915 | 3,093 | | |
| New Jersey | 17,842 | 14,230 | 2,916 | 41 | 655 | | |
| Alabama | 14,211 | 5,620 | 8,046 | 53 | 492 | | |
| Maryland | 14,090 | 1,448 | 8,948 | 1,462 | 2,232 | | |
| Puerto Rico | 14,058 | 8,863 | 3,096 | 1,049 | 1,050 | | |
| Massachusetts | 12,588 | 9,538 | 2,347 | 501 | 202 | | |
| Virginia | 10,705 | 4,032 | 1,903 | 4,064 | 706 | | |
| Georgia | 9,614 | 2,353 | 3,845 | 2,403 | 1,013 | | |
| South Carolina | 8,755 | 384 | 3,455 | 4,257 | 659 | | |
| Delaware | 7,957 | 4,656 | 1,474 | 1,275 | 552 | | |
| Michigan | 6,771 | 173 | 6,302 | 81 | 215 | | |
| Hawaii | 5,955 | 4,832 | 957 | 82 | 84 | | |
| Ohio | 5,257 | 69 | 4,930 | 20 | 238 | | |
| Illinois | 4,883 | 231 | 4,489 | 25 | 138 | | |
| Oregon | 4,369 | 1,215 | 1,776 | 421 | 957 | | |
| Rhode Island | 3,650 | 2,662 | 919 | 23 | 46 | | |
| North Carolina | 3,256 | 1,575 | 1,077 | 320 | 284 | | |
| New Hampshire | 3,212 | 1,505 | 1,691 | 4 | 12 | | |
| Connecticut | 2,930 | 1,534 | 786 | 78 | 532 | | |
| Wisconsin | 1,383 | Z | 1,280 | 5 | 98 | | |
| Alaska | 1,241 | 967 | 224 | 19 | 31 | | |
| Minnesota | 629 | 23 | 399 | 4 | 203 | | |
| District of Columbia | 53 | Z | 48 | Z | 5 | | |
| Indiana | Z | Z | Z | Z | Z | | |
| United States, total | 785,243 | 498,124 | 182,050 | 71,914 | 33,155 | | |

Table 3-15: U.S. Waterborne Imports by State and Vessel Type: 1999 (Thousands of metric tons)

¹ Roll-on/roll-off, breakbulk ships, partial containerships, refrigerated cargo ships, barge carriers, and specialized cargo ships.

KEY: Z = zero or less than 1 unit of measure.

SOURCE: U.S. Department of Transportation, Maritime Administration, Waterborne Databank the Office of Statistical and Economic Analysis, May 29, 2002.

| | | Vessel type | | | | |
|----------------------|---------|-------------|----------|-----------|------------------------|--|
| | | | Dry-bulk | Full | Other | |
| Cargo loaded in | Total | Tanker | carrier | container | freighter ¹ | |
| Louisiana | 97,093 | 9,842 | 77,773 | 3,669 | 5,809 | |
| Texas | 50,331 | 23,279 | 18,917 | 4,769 | 3,366 | |
| California | 34,585 | 4,778 | 11,074 | 17,011 | 1,722 | |
| Washington | 30,810 | 2,459 | 19,189 | 6,897 | 2,265 | |
| Virginia | 27,374 | 269 | 22,106 | 4,018 | 981 | |
| Florida | 17,797 | 692 | 9,332 | 2,773 | 5,000 | |
| Ohio | 12,936 | 74 | 12,505 | 130 | 227 | |
| Oregon | 12,712 | 501 | 8,535 | 2,181 | 1,495 | |
| Alaska | 10,122 | 5,794 | 3,300 | 319 | 709 | |
| New York | 9,644 | 508 | 2,992 | 5,476 | 668 | |
| Michigan | 8,392 | 190 | 7,673 | 348 | 181 | |
| Maryland | 7,834 | 129 | 6,257 | 734 | 714 | |
| Alabama | 7,724 | 126 | 4,656 | 366 | 2,576 | |
| Wisconsin | 7,492 | 117 | 7,007 | 142 | 226 | |
| Georgia | 6,291 | 173 | 1,323 | 3,246 | 1,549 | |
| South Carolina | 5,929 | 39 | 222 | 5,157 | 511 | |
| Minnesota | 3,994 | 45 | 3,721 | 125 | 103 | |
| North Carolina | 2,614 | 305 | 1,212 | 323 | 774 | |
| Mississippi | 2,456 | 421 | 1,095 | 329 | 611 | |
| Puerto Rico | 1,054 | 593 | 33 | 238 | 190 | |
| Virgin Islands | 772 | 699 | 35 | 14 | 24 | |
| Illinois | 624 | 1 | 521 | 90 | 12 | |
| Pennsylvania | 616 | 89 | 116 | 276 | 135 | |
| Massachusetts | 576 | 19 | 226 | 297 | 34 | |
| Hawaii | 509 | 328 | 63 | 57 | 61 | |
| Delaware | 513 | 17 | 173 | 189 | 134 | |
| Maine | 329 | 57 | 61 | 44 | 167 | |
| New Jersey | 285 | 113 | 63 | 47 | 62 | |
| Connecticut | 126 | 8 | 81 | 19 | 18 | |
| Rhode Island | 111 | 9 | 98 | 2 | 2 | |
| New Hampshire | 23 | 20 | Z | 1 | 2 | |
| Indiana | 18 | Z | 18 | Z | Z | |
| District of Columbia | Z | Z | Z | Z | Z | |
| United States, total | 360,697 | 51,696 | 219,382 | 59,289 | 30,330 | |

Table 3-16: U.S. Waterborne Exports by State and Vessel Type: 1999 (Thousands of metric tons)

¹ Roll-on/roll-off, breakbulk ships, partial containerships, refrigerated cargo ships, barge carriers, and specialized cargo ships.

KEY: Z = zero or less than 1 unit of measure.

SOURCE: U.S. Department of Transportation, Maritime Administration, Waterborne Databank the Office of Statistical and Economic Analysis, May 29, 2002.

| | | eight | | Mail |
|----------------------|-----------|--------------|-----------|--------------|
| State | Scheduled | Nonscheduled | Scheduled | Nonscheduled |
| Alabama | 17,233 | 139,250 | 6,796 | 25 |
| Alaska | 467,057 | 141,482 | 52,354 | 10,232 |
| Arizona | 70,430 | 66,143 | 36,115 | 27,465 |
| Arkansas | 1,886 | 12,578 | 6,534 | 2,95 |
| California | 1,176,476 | 504,757 | 237,537 | 87,278 |
| Colorado | 106,816 | 61,503 | 55,370 | 31,71 |
| Connecticut | 14,802 | 54,627 | 10,260 | 1,575 |
| Delaware | 0 | 3,251 | 0 | (|
| District of Columbia | 92,526 | 6,208 | 46,511 | 6,61 |
| Florida | 461,831 | 334,177 | 85,818 | 14,182 |
| Georgia | 204,986 | 66,293 | 116,174 | 3,96 |
| Hawaii | 208,048 | 52,473 | 33,768 | 470 |
| Idaho | 11,231 | 5,064 | 3,065 | 1,30 |
| Illinois | 318,957 | 202,867 | 112,959 | 9,11 |
| Indiana | 408,262 | 85,326 | 24,814 | 134,145 |
| lowa | 15,346 | 53,766 | 7,429 | 3,984 |
| Kansas | 6,200 | 20,199 | 2,597 | 18 |
| Kentucky | 16,427 | 823,924 | 5,093 | (|
| Louisiana | 29,577 | 21,753 | 11,399 | 1,75 |
| Maine | 8,428 | 11,368 | 185 | 9 |
| Maryland | 25,723 | 24,781 | 19,850 | 3,573 |
| Massachusetts | 114,243 | 422,158 | 31,133 | 9,38 |
| Michigan | 87,127 | 68,108 | 41,678 | 4,848 |
| Vinnesota | 85,691 | 51,285 | 59,550 | 9,19 |
| Nississippi | , 398 | 11,338 | 2,198 | , |
| Missouri | 71,317 | 67,157 | 67,876 | 4,12 |
| Nontana | 16,261 | 7,917 | 1,987 | 3,34 |
| Nebraska | 12,188 | 26,366 | 10,825 | 6,54 |
| Nevada | 45,636 | 12,641 | 30,407 | 1,37 |
| New Hampshire | 17,995 | 30,439 | 740 | 1 |
| New Jersey | 352,556 | 115,712 | 54,837 | 4,55 |
| New Mexico | 12,845 | 29,355 | 9,327 | 3,37 |
| New York | 317,258 | 167,388 | 113,892 | 5,62 |
| North Carolina | 85,996 | 85,765 | 35,985 | 3,49 |
| North Dakota | 5,424 | 383 | 222 | 2,82 |
| Ohio | 283,292 | 292,529 | 48,750 | 6,44 |
| Oklahoma | 25,773 | 16,804 | 9,022 | -, |
| Oregon | 73,035 | 59,101 | 12,655 | 22,72 |
| Pennsylvania | 156,043 | 312,359 | 45,377 | 9,03 |
| Puerto Rico | 78,117 | 44,530 | 4,319 | 3,31: |
| Rhode Island | 3,883 | 2,753 | 2,543 | -, |
| South Carolina | 17,237 | 76,688 | 3,234 | |
| South Dakota | 8,114 | 12,298 | 1,040 | 4,58 |
| Tennessee | 1,324,829 | 60,779 | 31,342 | 6,41 |
| Texas | 440,864 | 482,724 | 138,548 | 47,64 |
| Utah | 66,549 | 133,609 | 30,908 | 25,073 |
| Vermont | 3,257 | 100,007 | 122 | 25,07 |
| Virginia | 20,961 | 35,881 | 5,189 | 3,492 |
| Washington | 152,299 | 84,367 | 34,449 | 55,97 |
| West Virginia | 4,306 | 128 | 4 | 55,77 |
| Wisconsin | 30,060 | 19,618 | 11,558 | 1,08 |
| Wyoming | 6,786 | 17,018 | 5 | 1,08 |
| United States, total | 7,582,577 | 5,422,002 | 1,714,348 | 584,95 |

Table 3-17: Scheduled and Nonscheduled Air Freight andMail Enplaned: 2000 (Short tons)

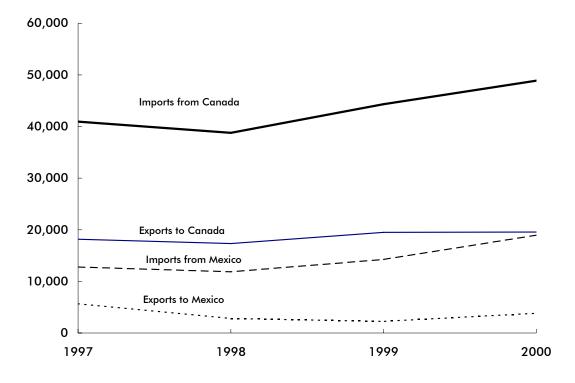
SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, Airport Activity Statistics of Certificated Air Carriers: Summary Tables, Twelve Months Ending December 31, 2000, Washington, DC: 2001, available at

http://www.bts.gov/publications/ airactstats2000/ as of Oct. 29, 2001.

| | Expor | ts to | Impo | rts from |
|----------------------|----------|--------|---------|----------|
| | Canada N | | Canada | Mexico |
| Michigan | 19,559 | 3,833 | 48,879 | 18,961 |
| United States, total | 154,847 | 97,159 | 210,270 | 113,437 |

Table 3-18: Surface Merchandise Trade with Canada and Mexico:2000 (Millions of current dollars)





SOURCE FOR DATA ON THIS PAGE: U.S. Department of Transportation, Bureau of Transportation Statistics, *Transborder Surface Freight Data*, available at http://www.bts.gov/ntda/tbscd/reports.html as of August 2002.

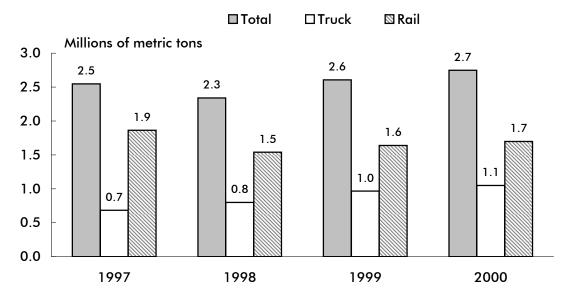
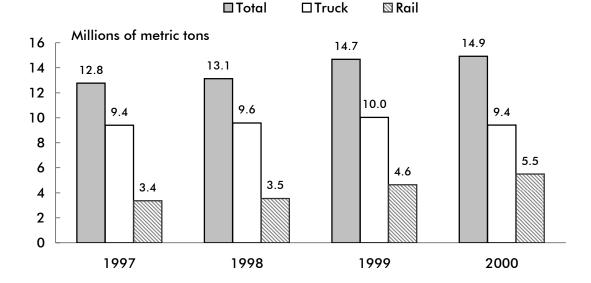


Figure 3-2: Truck and Rail Imports from Mexico to Michigan by Weight

Figure 3-3: Truck and Rail Imports from Canada to Michigan by Weight



NOTES FOR DATA ON THIS PAGE: Data do not include transshipment activity. Transshipments are shipments that enter or exit the United States by way of a U.S. Customs port on the northern or southern border, but whose origin or destination is a country other than Canada or Mexico. All figures are based on the declared gross shipment weight and include packaging. Shipping weight for imports may be underestimated because U.S. Customs Service does not require weight to be reported at the individual commodity level for surface trade.

SOURCE FOR DATA ON THIS PAGE: U.S. Department of Transportation, Bureau of Transportation Statistics, *Transborder Surface Freight Data*, available at http://www.bts.gov/ntda/tbscd/reports.html as of August 2002.

| (moosunus) | | | | | | |
|----------------------|-------|-------|-------|-------|-------|-------|
| State/port | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 |
| Alaska | 12 | 19 | 12 | 11 | 10 | 11 |
| Idaho | 47 | 51 | 52 | 52 | 59 | 59 |
| Maine | 363 | 396 | 405 | 445 | 497 | 536 |
| Michigan | 1,881 | 2,032 | 2,186 | 2,348 | 2,620 | 2,676 |
| Algonac | U | U | U | U | U | U |
| Detroit | 1,206 | 1,332 | 1,441 | 1,564 | 1,759 | 1,769 |
| Port Huron | 618 | 636 | 679 | 715 | 791 | 839 |
| Sault Ste. Marie | 56 | 64 | 66 | 68 | 70 | 67 |
| Minnesota | 136 | 121 | 143 | 115 | 119 | 130 |
| Montana | 133 | 148 | 157 | 166 | 183 | 206 |
| New York | 1,505 | 1,555 | 1,662 | 1,797 | 1,955 | 1,983 |
| North Dakota | 258 | 271 | 301 | 307 | 325 | 345 |
| Vermont | 241 | 240 | 254 | 281 | 313 | 325 |
| Washington | 559 | 597 | 655 | 748 | 736 | 778 |
| United States, total | 5,135 | 5,431 | 5,827 | 6,271 | 6,817 | 7,048 |

Table 3-19: Incoming Truck Crossings, U.S.-Canadian Border (Thousands)

NOTE: Data represent the number of truck crossings, not the number of unique vehicles, and include both loaded and unloaded trucks.

| Table 3-20: Incoming Truck Container (Loaded) Crossings, U.SCanadian Border | |
|---|--|
| (Thousands) | |

| State/port | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 |
|----------------------|------|-------|-------|-------|-------|-------|
| Alaska | U | U | 1 | 8 | 7 | 7 |
| Idaho | U | 45 | 42 | 43 | 47 | 51 |
| Maine | U | 164 | 222 | 332 | 343 | 344 |
| Michigan | U | 656 | 899 | 1,982 | 2,186 | 2,069 |
| Algonac | U | U | U | U | U | U |
| Detroit | U | 55 | 401 | 1,367 | 1,544 | 1,401 |
| Port Huron | U | 553 | 459 | 596 | 642 | 627 |
| Sault Ste. Marie | U | 48 | 39 | 19 | U | 42 |
| Minnesota | U | 31 | 37 | 77 | 83 | 100 |
| Montana | U | 121 | 137 | 147 | 165 | 170 |
| New York | U | 1 | 145 | 805 | 1,544 | 1,708 |
| North Dakota | U | 74 | 1 | 138 | 268 | 305 |
| Vermont | U | 94 | 116 | 148 | 171 | 217 |
| Washington | U | 235 | 367 | 552 | 517 | 363 |
| United States, total | U | 1,421 | 1,966 | 4,232 | 5,331 | 5,335 |

| Table 3-21: Incoming Truck Container (Unloaded) Crossings, U.S | Canadian Border |
|--|-----------------|
| (Thousands) | |

| State/port | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 |
|----------------------|------|------|------|------|------|------|
| Alaska | U | U | < 1 | 3 | 3 | 2 |
| Idaho | U | < 1 | < 1 | 2 | 2 | 2 |
| Maine | U | 44 | 48 | 59 | 52 | 50 |
| Michigan | U | 75 | 130 | 274 | 335 | 402 |
| Algonac | U | U | U | U | U | U |
| Detroit | U | 6 | 56 | 186 | 219 | 254 |
| Port Huron | U | 65 | 71 | 86 | 116 | 140 |
| Sault Ste. Marie | U | 4 | 3 | 2 | U | 8 |
| Minnesota | U | 14 | 17 | 30 | 32 | 31 |
| Montana | U | 18 | 19 | 22 | 19 | 28 |
| New York | U | 1 | 22 | 99 | 191 | 202 |
| North Dakota | U | 10 | < 1 | 26 | 38 | 36 |
| Vermont | U | 10 | 11 | 7 | 6 | 9 |
| Washington | U | 62 | 110 | 163 | 174 | 134 |
| United States, total | U | 235 | 358 | 685 | 852 | 897 |

KEY FOR DATA ON THIS PAGE: U = data are unavailable.

NOTE FOR DATA ON THIS PAGE: The data for incoming trucks will exceed the data for truck containers loaded and empty because the data for trucks include all incoming trucks regardless of whether or not they are carrying a container.

SOURCE FOR DATA ON THIS PAGE: U.S. Department of Transportation, Bureau of Transportation Statistics, special tabulation, April 2002. Based on the following primary data source: U.S. Department of Treasury, U.S. Customs Service, Office of Field Operations, Operations Management Database, special tabulation, Washington, DC: 2001.

Freight

| State/port | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 |
|----------------------|--------|--------|--------|--------|--------|--------|
| Alaska | 227 | 234 | 259 | 277 | 266 | 326 |
| Idaho | 506 | 443 | 482 | 577 | 673 | 699 |
| Maine | 1,201 | 1,357 | 1,380 | 1,698 | 1,653 | 1,428 |
| Michigan | 7,576 | 8,654 | 9,278 | 9,224 | 8,993 | 9,757 |
| Algonac | NA | NA | NA | NA | NA | NA |
| Detroit | 3,368 | 4,078 | 3,967 | 4,071 | 3,784 | 3,919 |
| Port Huron | 3,744 | 3,715 | 4,606 | 4,764 | 4,762 | 5,406 |
| Sault Ste. Marie | 464 | 861 | 705 | 389 | 447 | 432 |
| Minnesota | 10,052 | 9,451 | 9,754 | 11,351 | 9,207 | 9,162 |
| Montana | 366 | 340 | 348 | 373 | 392 | 471 |
| New York | 5,274 | 5,134 | 5,418 | 5,837 | 5,961 | 5,725 |
| North Dakota | 1,268 | 1,283 | 1,406 | 1,621 | 1,596 | 1,728 |
| Vermont | 1,427 | 1,316 | 1,410 | 1,287 | 1,238 | 1,119 |
| Washington | 3,124 | 3,245 | 3,128 | 3,190 | 2,951 | 3,032 |
| United States, total | 31,021 | 31,457 | 32,863 | 35,435 | 32,930 | 33,447 |

Table 3-22: Incoming Train Crossings, U.S.-Canadian Border

Table 3-23: Incoming Rail Container (Full) Crossings, U.S.-Canadian Border

| State/port | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 |
|----------------------|------|---------|---------|---------|-----------|-----------|
| Alaska | NA | NA | NA | NA | NA | NA |
| Idaho | U | 24,912 | 27,371 | 33,623 | 39,872 | 47,263 |
| Maine | U | 9,917 | 11,496 | 23,324 | 31,210 | 28,139 |
| Michigan | U | 197,196 | 269,954 | 433,779 | 459,213 | 528,096 |
| Algonac | NA | NA | NA | NA | NA | NA |
| Detroit | U | U | 72,404 | 214,099 | 206,025 | 192,340 |
| Port Huron | U | 181,960 | 182,706 | 216,058 | 253,188 | 323,246 |
| Sault Ste. Marie | U | 15,236 | 14,844 | 3,622 | Ū | 12,510 |
| Minnesota | U | 20,940 | 44,891 | 175,229 | 210,011 | 204,386 |
| Montana | U | 18,195 | 18,596 | 17,824 | 17,595 | 15,964 |
| New York | U | U | 17,931 | 105,854 | 190,227 | 192,614 |
| North Dakota | U | U | Ū | 20,087 | 102,225 | 112,462 |
| Vermont | U | 15,408 | 21,396 | 33,122 | 34,857 | 37,745 |
| Washington | U | 43,415 | 52,446 | 60,742 | 65,726 | 48,770 |
| United States, total | U | 329,983 | 464,081 | 903,584 | 1,150,936 | 1,215,439 |

Table 3-24: Incoming Rail Containers (Empty) Crossings, U.S.-Canadian Border

| State/port | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 |
|----------------------|------|---------|---------|---------|---------|---------|
| Alaska | NA | NA | NA | NA | NA | NA |
| Idaho | U | 2,095 | 2,295 | 3,956 | 2,464 | 2,977 |
| Maine | U | 16,902 | 17,293 | 23,558 | 35,738 | 32,219 |
| Michigan | U | 75,756 | 116,426 | 153,538 | 140,390 | 151,651 |
| Algonac | NA | NA | NA | NA | NA | NA |
| Detroit | U | U | 17,436 | 61,004 | 56,059 | 45,628 |
| Port Huron | U | 67,753 | 89,162 | 91,980 | 84,331 | 101,965 |
| Sault Ste. Marie | U | 8,003 | 9,828 | 554 | U | 4,058 |
| Minnesota | U | 3,553 | 8,283 | 40,670 | 45,482 | 46,557 |
| Montana | U | 5,095 | 7,323 | 5,905 | 5,737 | 9,291 |
| New York | U | U | 5,331 | 34,568 | 43,950 | 64,541 |
| North Dakota | U | U | U | 6,595 | 36,818 | 42,236 |
| Vermont | U | 5,372 | 5,554 | 10,429 | 11,385 | 13,324 |
| Washington | U | 15,234 | 17,910 | 22,086 | 15,603 | 16,602 |
| United States, total | U | 124,007 | 180,415 | 301,305 | 337,567 | 379,398 |

KEY FOR DATA ON THIS PAGE: NA = not applicable; U= data are unavailable.

SOURCE FOR DATA ON THIS PAGE: U.S. Department of Transportation, Bureau of Transportation Statistics, special tabulation, April 2002. Based on the following primary data source: U.S. Department of Treasury, U.S. Customs Service, Office of Field Operations, Operations Management Database, special tabulation, Washington, DC: 2001.

| | Mode | U.S. rank | Exports | Imports | Tota |
|--|-------|-----------|-------------|-------------------|-------|
| Michigan gateways ¹ in top 50 | | | • | | |
| Port of Detroit | Land | 4 | 49.5 | 44.9 | 94.4 |
| Port of Huron | Land | 10 | 18.8 | 40.9 | 59.7 |
| U.S. gateways ¹ in top 50 | | | | | |
| JFK International Airport, NY | Air | 1 | 56.0 | 75.5 | 131.6 |
| Port of Los Angeles, CA | Water | 2 | 16.7 | 85.1 | 101.8 |
| Port of Long Beach, CA | Water | 3 | 16.9 | 81.3 | 98.2 |
| San Francisco Airport, CA | Air | 5 | 41.8 | 46.9 | 88.7 |
| Port of Laredo, TX | Land | 6 | 39.2 | 44.4 | 83.7 |
| Port of New York, NY and NJ | Water | 7 | 19.7 | 61.2 | 80.9 |
| Los Angeles International Airport, CA | Air | 8 | 41.7 | 35.6 | 77.3 |
| Port of Buffalo-Niagara Falls, NY | Land | 9 | 36.2 | 33.9 | 70.1 |
| Chicago, IL | Air | 1Í | 20.4 | 25.4 | 45.7 |
| Port of Houston, TX | Water | 12 | 18.7 | 24.6 | 43.4 |
| Port of El Paso, TX | Land | 13 | 17.5 | 21.9 | 39.4 |
| Port of Seattle, WA | Water | 13 | 5.4 | 26.9 | 37.4 |
| New Orleans, LA | Air | 14 | 16.2 | 15.9 | 32.0 |
| | Water | 16 | 11.3 | 20.2 | 32.0 |
| Port of Charleston, SC | Water | 17 | 11.3 | 14.1 | 25.2 |
| Port of Norfolk Harbor, VA | Water | 18 | 9.6 | 14.1 | 25.2 |
| Port of Oakland, CA | Air | 18 | 9.0 11.8 | 15.5 | |
| Cleveland, OH | | | | | 24.5 |
| Miami International Airport, FL | Air | 20 | 15.9 | 7.7 | 23.6 |
| Anchorage, AK | Air | 21 | 3.5 | 19.7 | 23.2 |
| Port of Baltimore, MD | Water | 22 | 5.3 | 15.3 | 20.6 |
| Dallas-Fort Worth, TX | Air | 23 | 10.1 | 10.2 | 20.4 |
| Port of Tacoma, WA | Water | 24 | 4.4 | 15.5 | 19.8 |
| Port of Otay Mesa, CA | Land | 25 | 8.1 | 10.7 | 18.8 |
| Port of New Orleans, LA | Water | 26 | 7.6 | 11.2 | 18.8 |
| Port of Miami, FL | Water | 27 | 8.4 | 9.1 | 17.5 |
| Port of Champlain-Rouses Pt., NY | Land | 28 | 6.0 | 11.3 | 17.3 |
| Atlanta, GA | Air | 29 | 8.4 | 8.7 | 17.2 |
| Port of Savannah, GA | Water | 30 | 5.9 | 10.5 | 16.3 |
| Port of Nogales, AZ | Land | 31 | 5.3 | 8.3 | 13.6 |
| Port of Hidalgo, TX | Land | 32 | 6.2 | 6.4 | 12.6 |
| Port of Blaine, WA | Land | 33 | 5.6 | 6.7 | 12.3 |
| Port of Brownsville-Cameron, TX | Land | 34 | 6.2 | 5.9 | 12.1 |
| Port of Alexandria Bay, NY | Land | 35 | 4.6 | 7.4 | 12.0 |
| Port of South Louisiana, LA | Water | 36 | 7.1 | 4.0 | 11.1 |
| Port of Beaumont, TX | Water | 37 | 1.0 | 9.6 | 10.6 |
| Newark, NJ | Air | 38 | 3.9 | 6.7 | 10.6 |
| Port of Pembina, ND | Land | 39 | 5.3 | 5.2 | 10.6 |
| Port of Port Everglades, FL | Water | 40 | 4.7 | 5.8 | 10.5 |
| Port of Portland, OR | Water | 41 | 3.0 | 7.5 | 10.5 |
| Port of Corpus Christi, TX | Water | 42 | 1.6 | 8.7 | 10.3 |
| Port of Jacksonville, FL | Water | 43 | 1.9 | 8.4 | 10.3 |
| Boston Logan Airport, MA | Air | 44 | 5.9 | 4.4 | 10.0 |
| Port of Philadelphia, PA | Water | 45 | 0.5 | 9.5 | 10.0 |
| Port of Morgan City, LA | Water | 45 | 0.1 | 9.3 | 9.4 |
| Seattle-Tacoma International Airport, WA | Air | 40 | 3.7 | 4.8 | 8.5 |
| Port of Calexico-East, CA | Land | 48 | 3.5 | 4.8 | 8.3 |
| Port of Sweetgrass, MT | Land | 48 | 3.4 | 4.8 | 7.8 |
| Port of Highgate Springs-Alburg, VT | Land | 50 | 3.4 | 4.6 | 7.6 |
| Total, top 50 | NA | NA | 619 | 4.0 989 | 1,608 |

Table 3-25: Top 50 U.S. Foreign Trade Freight Gateways: 2000 (Ranked by value of shipments in \$ billions)

¹ Gateway means any port, airport, or border crossing that provides access for the import or export of goods.

KEY: NA = not applicable.

NOTES: Mode of transportation is the type of transportation as a shipment enters or exits at a border port. Flows through individual ports are based on reported data collected from U.S. trade documents. Low-value shipments, generally imports valued at less than \$1,250 and exports valued at less than \$2,500, are not included. Data for air gateways include some shipments (generally less than 3% of the total value) from small user-fee airports located in the same region. Air gateways not identified by airport name include major airport(s) in that geographic area in addition to small regional airports. In addition, due to U.S. Census Bureau confidentiality regulations, data for courier operations are included in the airport totals for JFK International Airport, New Orleans, Los Angeles, Cleveland, Chicago, Miami, and

SOURCES:

Air: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, special tabulation, April 2002. Water: U.S. Department of Transportation, Maritime Administration, Office of Statistical and Economic Analysis, Waterborne Databank, September 2001.

Land: U.S. Department of Transportation, Bureau of Transportation Statistics, Transborder Surface Freight Data, 2001.

D Passenger Travel

Table 4-1: Commuting to Work: 2000

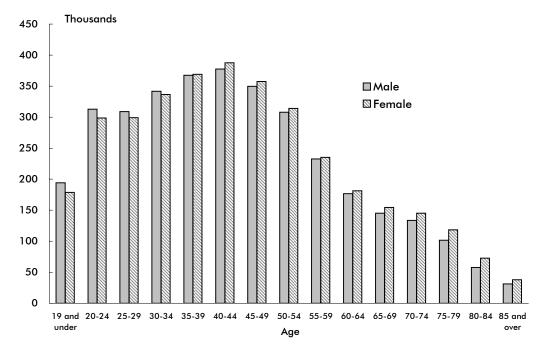
| | Michig | gan | United States | | |
|--|-----------|---------|---------------|---------|--|
| Mode | Number | Percent | Number | Percent | |
| Total | 4,468,604 | 100.0 | 127,448,586 | 100.0 | |
| Car, truck, or van drove alone | 3,742,479 | 83.8 | 97,243,457 | 76.3 | |
| Car, truck, or van carpooled | 406,721 | 9.1 | 14,299,090 | 11.2 | |
| Public transportation (including taxi) | 50,924 | 1.1 | 6,592,685 | 5.2 | |
| Walked | 90,398 | 2.0 | 3,417,546 | 2.7 | |
| Other means | 58,181 | 1.3 | 1,820,578 | 1.4 | |
| Worked at home | 119,901 | 2.7 | 4,075,230 | 3.2 | |
| Mean travel time to work (minutes) | 22.7 | | 24.3 | | |

NOTE: Data are for workers 16 years and over.

SOURCE: U.S. Department of Commerce, U.S. Census Bureau, *Census* 2000 Supplementary Survey, Profile of Selected Economic Characteristics, available at http://www.census.gov/c2ss/www/ as of Oct. 16, 2001.

Table 4-2: Licensed Drivers: 2000

| | Michi | United States | | |
|------------------|-----------|---------------|-------------|---------|
| Licensed drivers | Number | Percent | Number | Percent |
| Total | 6,925,246 | 100.0 | 190,625,023 | 100.0 |
| Male | 3,439,223 | 49.7 | 95,796,069 | 50.3 |
| Female | 3,486,023 | 50.3 | 94,828,953 | 49.7 |





SOURCE FOR TABLE 4-2 and FIGURE 4-1: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics* 2000, Washington, DC: 2001.

Table 4-3: Urban Transit Agencies in Michigan: 2000

| Transit agencies | Modes provided | Urbanized area | Annual unlinked passenger trips (thousands) | Average weekday unlinked trips (thousands) | Operating funds expended (\$ millions) | Capital funds expended (\$ millions) | Vehicles available for maximum service |
|---|------------------------|----------------|---|---|---|---|--|
| City of Detroit Department of Transportation (DDOT) | Bus, demand responsive | Detroit | 44,042 | 152 | 145 | 17 | 560 |
| Suburban Mobility Authority for Regional Transportation (SMART) | Bus, demand responsive | Detroit | 11,598 | 40 | 58 | 30 | 477 |
| Mass Transportation Authority | Bus, demand responsive | Flint | 7,050 | 25 | 19 | 9 | 367 |
| Capital Area Transportation Authority | Bus, demand responsive | Lansing | 6,477 | 22 | 22 | 3 | 189 |
| Interurban Transit | Bus, demand responsive | Grand Rapids | 4,643 | 17 | 18 | 2 | 209 |
| Ann Arbor Transportation Authority | Bus, demand responsive | Ann Arbor | 4,525 | 16 | 18 | 6 | 73 |
| University of Michigan | Bus | Ann Arbor | 4,176 | 16 | 3 | 0 | 51 |
| Kalamazoo Metro Transportation System | Bus, demand responsive | Kalamazoo | 2,126 | 8 | 7 | 3 | 48 |
| Detroit Transportation | Automated guideway | Detroit | 1,486 | 4 | 11 | < 1 | 7 |
| Blue Water Area Transportation | Bus, demand responsive | Port Huron | 906 | 4 | 5 | < 1 | 86 |
| Jackson Transportation Authority | Bus, demand responsive | Jackson | 721 | 3 | 4 | < 1 | 70 |
| Bay Metropolitan Transportation Authority | Bus, demand responsive | Bay City | 611 | 2 | 5 | < 1 | 56 |
| Battle Creek Transit | Bus, demand responsive | Battle Creek | 606 | 2 | 3 | < 1 | 27 |
| Muskegon Area Transit System | Bus, demand responsive | Muskegon | 499 | 2 | 2 | 2 | 22 |
| Twin Cities Area Transportation | Bus, demand responsive | Benton Harbor | 170 | < 1 | 1 | < 1 | 20 |
| City of Holland | Bus, demand responsive | Holland | 142 | < 1 | 2 | < 1 | 19 |
| Niles Dial-A-Ride | Bus, demand responsive | Niles | 95 | < 1 | 0 | < 1 | 9 |

SOURCE: U.S. Department of Transportation, Federal Transit Administration, National Transit Database, available at http://www.ntdprogram.com/NTD/Profiles.nsf/ ProfileInformation?OpenForm&2000&All as of Dec. 6, 2001.

| | | Passenger |
|--|------|--------------|
| Airport | Rank | enplanements |
| Aichigan, all airports | | 19,300,152 |
| Detroit (Detroit Metropolitan) | 7 | 16,929,968 |
| Other top 50 airports | | |
| Atlanta, GA (Hartsfield International) | 1 | 38,255,778 |
| Chicago, IL (O'Hare International) | 2 | 30,888,464 |
| Dallas/Fort Worth, TX (Dallas/Fort Worth International) | 3 | 27,841,040 |
| Los Angeles, CA (Los Angeles International) | 4 | 25,109,993 |
| Denver, CO (Denver International) | 5 | 17,643,261 |
| Phoenix, AZ (Sky Harbor International) | 6 | 17,239,215 |
| Las Vegas, NV (McCarran International) | 8 | 16,738,909 |
| Minneapolis, MN (Minneapolis-St. Paul International) | 9 | 16,710,197 |
| San Francisco, CA (San Francisco International) | 10 | 16,664,399 |
| Houston, TX (George Bush Intercontinental) | 11 | 15,814,709 |
| Newark, NJ (Newark International) | 12 | 15,205,447 |
| St. Louis, MO (Lambert-St.Louis International) | 13 | 15,101,246 |
| Orlando, FL (Orlando International) | 14 | 13,465,706 |
| Seattle, WA (Seattle-Tacoma International) | 15 | 13,308,253 |
| Miami, FL (Miami International) | 16 | 12,654,506 |
| Boston, MA (Logan International) | 17 | 11,505,983 |
| New York, NY (La Guardia) | 18 | 11,425,705 |
| Philadelphia, PA (Philadelphia International) | 19 | 10,973,074 |
| New York, NY (John F. Kennedy International) | 20 | 10,648,410 |
| Charlotte, NC (Charlotte/Douglas International) | 21 | 10,377,837 |
| Cincinnati, OH (Greater Cincinnati) | 22 | 9,962,765 |
| Baltimore, MD (Baltimore-Washington International) | 23 | 8,979,425 |
| Salt Lake City, UT (Salt Lake City International) | 24 | 8,700,973 |
| Honolulu, HI (Honolulu International) | 25 | 8,684,893 |
| Pittsburgh, PA (Pittsburgh International) | 26 | 8,650,976 |
| San Diego, CA (San Diego International-Lindbergh Field) | 27 | 7,624,519 |
| Tampa, FL (Tampa International) | 28 | 7,430,829 |
| Miami/Fort Lauderdale, FL (Fort Lauderdale-Hollywood International) | 29 | 7,140,518 |
| Washington, DC (Ronald Reagan Washington National) | 30 | 6,983,212 |
| Chicago, IL (Midway) | 31 | 6,972,213 |
| Washington, DC (Washington Dulles International) | 32 | 6,649,323 |
| Portland, OR (Portland International Jetport) | 33 | 6,558,859 |
| Cleveland, OH (Cleveland Hopkins International) | 34 | 6,154,094 |
| San Jose, CA (Norman Y. Mineta San Jose International) | 35 | 6,044,278 |
| Kansas City, MO (Kansas City International) | 36 | 5,748,758 |
| Oakland, CA (Metropolitan Oakland International) | 37 | 5,126,648 |
| Memphis, TN (Memphis International) | 38 | 4,977,238 |
| Raleigh-Durham, NC (Raleigh-Durham International) | 39 | 4,838,779 |
| San Juan, PR (Luis Munoz Marin International) | 40 | 4,834,298 |
| New Orleans, LA (Louis Armstrong New Orleans International) | 41 | 4,822,265 |
| Nashville, TN (Nashville International) | 42 | 4,365,127 |
| Houston, TX (William P. Hobby) | 43 | 4,322,108 |
| Sacramento, CA (Sacramento International) | 44 | 3,873,003 |
| Los Angeles, CA (John Wayne Airport-Orange County) | 45 | 3,828,324 |
| Austin, TX (Robert Muller Municipal) | 46 | 3,635,209 |
| Indianapolis, IN (Indianapolis International) | 47 | 3,629,716 |
| Dallas, TX (Dallas Love Field) | 48 | 3,594,539 |
| Hartford/Springfield/Westfield, CT (Windsor Locks Bradley International) | 49 | 3,508,023 |
| San Antonio, TX (San Antonio International) | 50 | 3,466,266 |
| United States, all airports | | 638,902,993 |
| Fop 50 as % of all enplanements | | 84% |

| Table 4-4: Michigan Airports in Top 50 by Passengers Enplo |
|--|
|--|

NOTE: Rank order by total enplaned passengers on large certificated U.S. air carriers, scheduled and nonscheduled operations, at all airports served within the 50 states, the District of Columbia, and other U.S. areas designated by the Federal Aviation Administration. These air carriers operate aircraft with more than 60 seats or a payload capacity of more than 18,000 pounds. Data for commuter, intrastate, and foreign-flag air carriers are not included. Data differ from those in table 1-10 which include enplaned passengers on air carriers of all types, including foreign-flag carriers.

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, Airport Activity Statistics of Certificated Air Carriers: Summary Tables, Twelve Months Ending December 31, 2000, Washington, DC: 2001, available at http://www.bts.gov/publications/airactstats2000/ as of Dec. 28, 2001.

| State/port | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 |
|----------------------|--------|--------|--------|--------|--------|--------|
| Alaska | 125 | 117 | 115 | 124 | 120 | 118 |
| Idaho | 247 | 239 | 234 | 219 | 219 | 209 |
| Maine | 4,436 | 4,273 | 4,263 | 4,026 | 3,903 | 3,909 |
| Michigan | 11,427 | 11,859 | 11,776 | 12,019 | 12,396 | 11,970 |
| Algonac | U | U | U | U | U | U |
| Detroit | 7,806 | 8,252 | 8,125 | 8,551 | 8,919 | 8,360 |
| Port Huron | 2,026 | 2,015 | 2,028 | 2,036 | 2,150 | 2,332 |
| Sault Ste. Marie | 1,595 | 1,592 | 1,623 | 1,432 | 1,327 | 1,277 |
| Minnesota | 1,104 | 1,100 | 1,024 | 1,049 | 1,137 | 1,104 |
| Montana | 560 | 530 | 540 | 526 | 577 | 490 |
| New York | 10,694 | 10,773 | 11,101 | 10,555 | 10,658 | 10,833 |
| North Dakota | 754 | 705 | 666 | 620 | 636 | 632 |
| Vermont | 1,640 | 1,630 | 1,539 | 1,422 | 1,573 | 1,599 |
| Washington | 8,158 | 8,305 | 7,694 | 6,036 | 6,002 | 6,052 |
| United States, total | 39,146 | 39,531 | 38,950 | 36,597 | 37,220 | 36,915 |

Table 4-5: Incoming Personal Vehicle Crossings, U.S.-Canadian Border (Thousands)

| Table 4-6: Incoming Passengers in Personal Vehicles, U.SCanadi | an Border |
|--|-----------|
| (Thousands) | |

| State/port | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 |
|----------------------|--------|---------|--------|--------|--------|--------|
| Alaska | 271 | 259 | 257 | 303 | 260 | 264 |
| Idaho | 595 | 533 | 540 | 497 | 526 | 510 |
| Maine | 9,883 | 9,535 | 9,216 | 8,549 | 8,176 | 7,968 |
| Michigan | 32,425 | 34,869 | 27,690 | 29,634 | 29,456 | 32,471 |
| Algonac | U | U | U | U | U | U |
| Detroit | 21,632 | 24,152 | 16,813 | 19,496 | 19,382 | 21,724 |
| Port Huron | 5,436 | 5,392 | 5,443 | 5,444 | 4,309 | 6,866 |
| Sault Ste. Marie | 5,357 | 5,325 | 5,434 | 4,693 | 5,766 | 3,881 |
| Minnesota | 3,049 | 3,028 | 2,782 | 2,882 | 2,932 | 3,040 |
| Montana | 1,717 | 1,639 | 1,661 | 1,616 | 1,806 | 1,453 |
| New York | 24,583 | 26,097 | 27,579 | 26,083 | 25,478 | 25,302 |
| North Dakota | 1,975 | 1,861 | 1,700 | 1,577 | 1,629 | 1,675 |
| Vermont | 3,408 | 3,541 | 3,275 | 3,042 | 3,302 | 3,123 |
| Washington | 18,901 | 19,708 | 17,948 | 14,100 | 15,803 | 14,239 |
| United States, total | 96,807 | 101,071 | 92,647 | 88,283 | 89,369 | 90,047 |

Table 4-7: Incoming Train Passengers, U.S.-Canadian Border (Thousands)

| State/port | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 |
|----------------------|------|------|------|------|------|------|
| Alaska | 19 | 23 | 22 | 31 | 28 | 35 |
| Idaho | 2 | 1 | 1 | 2 | 2 | 2 |
| Maine | 3 | 3 | 3 | 3 | 3 | 3 |
| Michigan | 36 | 44 | 47 | 53 | 52 | 54 |
| Algonac | NA | NA | NA | NA | NA | NA |
| Detroit | 2 | 12 | 12 | 12 | 12 | 12 |
| Port Huron | 33 | 29 | 33 | 40 | 39 | 41 |
| Sault Ste. Marie | 1 | 3 | 2 | 1 | 1 | 1 |
| Minnesota | 30 | 26 | 26 | 20 | 20 | 20 |
| Montana | 1 | 1 | 1 | 1 | 1 | 1 |
| New York | 82 | 62 | 73 | 76 | 85 | 93 |
| North Dakota | 4 | 4 | 4 | 4 | 5 | 5 |
| Vermont | 13 | 3 | 4 | 3 | 3 | 3 |
| Washington | 39 | 47 | 67 | 52 | 50 | 52 |
| United States, total | 227 | 214 | 249 | 246 | 249 | 270 |

KEY FOR DATA ON THIS PAGE: NA = not applicable; U = data are unavailable.

SOURCE FOR DATA ON THIS PAGE: U.S. Department of Transportation, Bureau of Transportation Statistics, special tabulation, April 2002. Based on the following primary data source: U.S. Department of Treasury, U.S. Customs Service, Office of Field Operations, Operations Management Database, special tabulation, Washington, DC: 2001.

| State/port | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 |
|----------------------|------|------|------|------|------|------|
| Alaska | 7 | 8 | 9 | 10 | 10 | 10 |
| Idaho | <1 | <1 | <1 | 1 | 1 | 1 |
| Maine | 2 | 2 | 2 | 2 | 2 | 2 |
| Michigan | 51 | 53 | 31 | 48 | 51 | 54 |
| Algonac | NA | NA | NA | NA | NA | NA |
| Detroit | 38 | 40 | 21 | 38 | 39 | 41 |
| Port Huron | 3 | 3 | 3 | 3 | 4 | 5 |
| Sault Ste. Marie | 10 | 10 | 7 | 7 | 8 | 8 |
| Minnesota | 5 | 5 | 4 | 4 | 4 | 4 |
| Montana | 2 | 2 | 2 | 2 | 3 | 2 |
| New York | 68 | 71 | 81 | 74 | 77 | 85 |
| North Dakota | 4 | 3 | 3 | 3 | 3 | 3 |
| Vermont | 6 | 6 | 6 | 6 | 6 | 7 |
| Washington | 21 | 23 | 25 | 23 | 24 | 22 |
| United States, total | 166 | 173 | 164 | 173 | 182 | 189 |

Table 4-8: Incoming Bus Crossings, U.S.-Canadian Border (Thousands)

Table 4-9: Incoming Passengers on Buses, U.S.-Canadian Border (Thousands)

| State/port | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 |
|----------------------|-------|-------|-------|-------|-------|-------|
| Alaska | 86 | 107 | 133 | 150 | 156 | 149 |
| Idaho | 9 | 11 | 12 | 14 | 18 | 18 |
| Maine | 74 | 66 | 61 | 110 | 60 | 64 |
| Michigan | 754 | 792 | 671 | 767 | 864 | 1,157 |
| Algonac | NA | NA | NA | NA | NA | NA |
| Detroit | 530 | 564 | 471 | 563 | 625 | 858 |
| Port Huron | 106 | 106 | 123 | 127 | 126 | 155 |
| Sault Ste. Marie | 117 | 122 | 77 | 77 | 113 | 144 |
| Minnesota | 104 | 96 | 100 | 93 | 100 | 98 |
| Montana | 53 | 45 | 46 | 44 | 54 | 40 |
| New York | 1,624 | 1,880 | 2,195 | 1,948 | 2,245 | 2,475 |
| North Dakota | 134 | 117 | 117 | 119 | 117 | 112 |
| Vermont | 165 | 180 | 177 | 174 | 180 | 192 |
| Washington | 526 | 577 | 613 | 550 | 573 | 567 |
| United States, total | 3,530 | 3,870 | 4,124 | 3,970 | 4,367 | 4,873 |

Table 4-10: Incoming Pedestrians, U.S.-Canadian Border (Thousands)

| State/port | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 |
|----------------------|------|------|------|------|------|------|
| Alaska | 1 | 1 | 1 | 1 | <1 | <1 |
| Idaho | 3 | 2 | 4 | 3 | 3 | 3 |
| Maine | 120 | 113 | 112 | 122 | 121 | 122 |
| Michigan | 35 | 33 | 15 | U | U | U |
| Algonac | U | U | U | U | U | U |
| Detroit | NA | NA | NA | NA | NA | NA |
| Port Huron | 35 | 33 | 15 | U | U | U |
| Sault Ste. Marie | NA | NA | NA | NA | NA | NA |
| Minnesota | 39 | 36 | 38 | 45 | 26 | 28 |
| Montana | 13 | 18 | 16 | 16 | 21 | 14 |
| New York | 361 | 267 | 225 | 306 | 313 | 287 |
| North Dakota | 10 | 11 | 10 | 10 | 8 | 7 |
| Vermont | 23 | 22 | 23 | 22 | 29 | 22 |
| Washington | 93 | 105 | 105 | 74 | 67 | 102 |
| United States, total | 698 | 608 | 550 | 598 | 588 | 585 |

KEY FOR DATA ON THIS PAGE: NA = not applicable; U = data are unavailable.

SOURCE FOR DATA ON THIS PAGE: U.S. Department of Transportation, Bureau of Transportation Statistics, special tabulation, April 2002. Based on the following primary data source: U.S. Department of Treasury, U.S. Customs Service, Office of Field Operations, Operations Management Database, special tabulation, Washington, DC: 2001.

| | | 1995 | | | 2000 | | | |
|--------------------|------|-------------|------------|------|-------------|------------|--|--|
| | | Visitors | Share of | | Visitors | Share of | | |
| | Rank | (thousands) | U.S. total | Rank | (thousands) | U.S. total | | |
| California | 2 | 5,304 | 25.7 | 1 | 6,364 | 24.5 | | |
| Florida | 1 | 5,345 | 25.9 | 2 | 6,026 | 23.2 | | |
| New York | 3 | 4,479 | 21.7 | 3 | 5,922 | 22.8 | | |
| Hawaii | 4 | 2,910 | 14.1 | 4 | 2,727 | 10.5 | | |
| Nevada | 5 | 1,858 | 9.0 | 5 | 2,364 | 9.1 | | |
| Massachusetts | 8 | 1,053 | 5.1 | 6 | 1,429 | 5.5 | | |
| Illinois | 7 | 1,115 | 5.4 | 7 | 1,377 | 5.3 | | |
| Guam | 6 | 1,238 | 6.0 | 8 | 1,325 | 5.1 | | |
| Texas | 10 | 867 | 4.2 | 9 | 1,169 | 4.5 | | |
| New Jersey | 11 | 599 | 2.9 | 10 | 909 | 3.5 | | |
| Arizona | 9 | 887 | 4.3 | 11 | 883 | 3.4 | | |
| Georgia | 11 | 599 | 2.9 | 12 | 805 | 3.1 | | |
| Pennsylvania | 11 | 599 | 2.9 | 13 | 649 | 2.5 | | |
| Colorado | 15 | 433 | 2.1 | 14 | 519 | 2.0 | | |
| Michigan | 18 | 372 | 1.8 | 15 | 494 | 1.9 | | |
| Washington | 11 | 599 | 2.9 | 16 | 468 | 1.8 | | |
| Utah | 15 | 433 | 2.1 | 17 | 416 | 1.6 | | |
| North Carolina | 21 | 310 | 1.5 | 17 | 416 | 1.6 | | |
| Louisiana | 17 | 413 | 2.0 | 19 | 390 | 1.5 | | |
| Ohio | 19 | 351 | 1.7 | 19 | 390 | 1.5 | | |
| United States, tot | al | 20,639 | | | 25,975 | | | |

| Table 4-11: Overseas Visitors to the United States: Top 20 Destination States | |
|---|--|
| and Territories ¹ | |

NOTE: A visitor may visit more than one state. "Share of U.S. total" represents the percent of overseas visitors visiting the state. These columns, therefore, do not sum to 100.

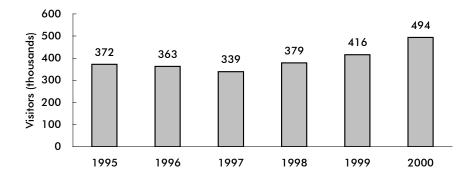


Figure 4-2: Overseas Visitors to Michigan¹

¹ International travelers to the United States from Canada and Mexico are not included.

SOURCES FOR DATA ON THIS PAGE: U.S. Department of Commerce, International Trade Administration, Office of Tourism Industries, Overseas Visitors to Select U.S. States and Territories 2000-1999 (Ranked by 2000 Market Share), Washington, DC: 2001, available at http://tinet.ita.doc.gov/ as of Oct. 19, 2001; U.S. Department of Commerce, International Trade Administration, Office of Tourism Industries, Overseas Visitors to Select U.S. States and Territories 1996-1995, Washington, DC: 2001, available at http://tinet.ita.doc.gov/ as of Nov. 13, 2001.

E Registered Vehicles and Vehicle-Miles Traveled

| Motor vehicle type | Private and commercial | Publicly owned | Michigan total | United States total |
|---------------------|------------------------|-------------------|-------------------|------------------------|
| All motor vehicles | 8,478,544 | 140,769 | 8,619,313 | 225,821,241 |
| Automobiles | 4,976,218 | 47,203 | 5,023,421 | 133,621,420 |
| Buses | 10,495 | 15,332 | 25,827 | 746,125 |
| Trucks ¹ | 3,309,618 | 76,855 | 3,386,473 | 87,107,628 |
| Light trucks | 3,063,378 | U | 3,063,378 | 77,796,827 |
| Farm trucks | 48,986 | U | 48,986 | 1,885,170 |
| Truck tractors | 71,288 | U | 71,288 | 1,587,611 |
| Motorcycles | 182,213 | 1,379 | 183,592 | 4,346,068 |

Table 5-1: Michigan and U.S. Motor-Vehicle Registrations: 2000

¹Includes light trucks (pickups, vans, sport utility vehicles, and other light trucks) as well as medium and large trucks.

KEY: U = data are unavailable.

SOURCE: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics* 2000, Washington, DC: 2001, tables MV-1 and MV-9.

| Туре | Michigan | United States |
|--|-----------|---------------|
| Total | 1,141,906 | 21,541,490 |
| Private and commercial | 1,137,298 | 21,283,681 |
| Commercial trailers ² | 118,987 | 4,685,606 |
| Light farm trailers, car trailers, etc. ³ | 874,409 | 14,113,392 |
| House trailers | 143,902 | 2,484,683 |
| Publicly owned | 4,608 | 257,809 |
| Federal government | 87 | 4,277 |
| State, county, municipal government | 4,521 | 253,532 |

Table 5-2: Michigan and U.S. Trailer and Semi-TrailerRegistrations: 20001

¹ The completeness of data on trailer registrations varies greatly among states. Data are reported to the extent available and, in some cases, are supplemented by estimates of the Federal Highway Administration.

² This row includes all commercial type vehicles and semi-trailers that are in private or for-hire use.

³ Several states do not require the registration of light farm or automobile trailers.

NOTE: Mobile homes and house trailers are shown for states that require registration and are able to segregate them from other trailers. In states where this classification is not available, house trailers are included with light car trailers.

SOURCE: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics* 2000, Washington, DC: 2001, table MV-11.

Table 5-3: Michigan Truck Characteristics and Use: 1997(Percent unless otherwise specified)

| Vehicular and operational characteristics | All trucks | Trucks, excluding pickups, panels, vans, sport utilities, and station wagons | Vehicular and operational characteristics | All trucks | Trucks, excluding pickups, panels, vans, sport utilities, and station wagons |
|--|------------|--|--|------------|--|
| Total, number (thousands) | 2,734.5 | 156.4 | | | |
| Major use | 100.0 | 100.0 | Year model | 100.0 | 100.0 |
| Agriculture | 2.7 | 10.8 | 1 to 2 years old | 17.7 | 10.3 |
| Forestry and lumbering | 0.3 | 2.1 | 3 to 4 years old | 18.4 | 16.5 |
| Mining and guarrying | 0.1 | 1.2 | Over 4 years old | 63.8 | 73.2 |
| Construction | 8.0 | 24.5 | , | | |
| Manufacturina | 1.4 | 7.5 | Vehicle acquisition | 100.0 | 100.0 |
| Wholesale and retail trade | 3.3 | 17.6 | Purchased new | 37.3 | 42.0 |
| For-hire transportation | 1.1 | 13.8 | Purchased used | 51.7 | 47.0 |
| Utilities and service | 5.4 | 14.2 | Leased from someone or | 11.0 | 11.0 |
| Personal transportation | 76.3 | 3.3 | not reported | 11.0 | 11.0 |
| Other and not reported | 1.4 | 4.9 | norreported | | |
| Office and not reported | 1.4 | 4.7 | | | |
| | | | Truck type | 100.0 | 100.0 |
| Body type | 100.0 | 100.0 | Single-unit trucks | 97.2 | 65.8 |
| Pickup, panel, minivan, and | 94.3 | NA | 2 axles | 96.6 | 54.3 |
| sport utility | | | 3 axles or more | 0.7 | 11.5 |
| Platform and cattlerack | 1.7 | 30.0 | Combination | 2.8 | 34.2 |
| Van | 1.3 | 23.6 | 3 axles | 0.6 | 2.1 |
| Public utility | 0.2 | 2.7 | 4 axles | 0.8 | 7.4 |
| Multistop or stepvans | 0.6 | 10.2 | 5 axles or more | 1.4 | 24.7 |
| Dump | 0.8 | 13.5 | Trailer not specified | V | V |
| Tank for liquids or dry bulk | 0.3 | 4.6 | | | |
| Other or not reported | 0.9 | 15.4 | Range of operation | 100.0 | 100.0 |
| | | | Local | 76.6 | 58.3 |
| Vehicle size | 100.0 | 100.0 | Short-range | 15.6 | 23.6 |
| Light | 94.9 | 22.7 | Long-range | 4.3 | 11.7 |
| Medium | 1.7 | 17.5 | Off-the-road or not | 3.4 | 6.5 |
| Light-heavy | 0.7 | 12.7 | reported | | |
| Heavy-heavy | 2.7 | 47.1 | · | | |
| | | | Fuel type | 100.0 | 100.0 |
| Annual miles driven | 100.0 | 100.0 | Gasoline | 93.7 | 39.2 |
| Less than 5,000 | 14.6 | 23.7 | Diesel, liquefied gas, | 6.2 | 59.7 |
| 5,000 to 9,999 | 16.9 | 15.0 | and other | - | |
| 10,000 to 19,999 | 42.3 | 22.1 | Not reported | 0.1 | 1.1 |
| 20,000 to 29,999 | 17.6 | 10.9 | | 0.1 | |
| 30.000 or more | 8.5 | 28.4 | | | |

NOTE: Due to rounding, numbers may not sum to 100.

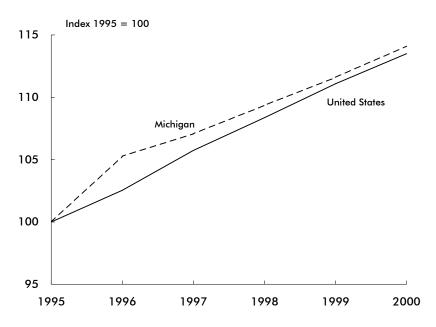
KEY: NA = not applicable; V = less than 0.05 percent.

SOURCE: U.S. Department of Commerce, U.S. Census Bureau, Vehicle Inventory and Use Survey, state-specific report, Washington, DC: 1999, available at http://www.census.gov/econ/www/viusmain.html as of Dec. 27, 2001.

| State | Total VMT (millions) | VMT per capita | State | Total VMT (millions) | VMT per capita |
|-------------------|-------------------------|-------------------|----------------|-------------------------|-------------------|
| Alabama | 56,534 | 12,716 | Montana | 9,882 | 10,812 |
| Alaska | 4,613 | 7,501 | Nebraska | 18,081 | 10,568 |
| Arizona | 49,768 | 11,428 | Nevada | 17,639 | 9,504 |
| Arkansas | 29,167 | 11,107 | New Hampshire | 12,021 | 9,687 |
| California | 306,649 | 9,053 | New Jersey | 67,446 | 8,015 |
| Colorado | 41,771 | 9,712 | New Mexico | 22,760 | 13,580 |
| Connecticut | 30,756 | 9,057 | New York | 129,057 | 6,801 |
| Delaware | 8,240 | 10,510 | North Carolina | 89,504 | 11,120 |
| Dist. of Columbia | 3,498 | 6,115 | North Dakota | 7,217 | 11,241 |
| Florida | 152,136 | 9,609 | Ohio | 105,898 | 9,328 |
| Georgia | 105,010 | 12,969 | Oklahoma | 43,355 | 12,563 |
| Hawaii | 8,543 | 7,014 | Oregon | 35,010 | 11,175 |
| Idaho | 13,534 | 10,467 | Pennsylvania | 102,337 | 8,316 |
| Illinois | 102,866 | 8,225 | Rhode Island | 8,359 | 8,326 |
| Indiana | 70,862 | 12,779 | South Carolina | 45,538 | 7,971 |
| lowa | 29,433 | 10,059 | South Dakota | 8,432 | 11,168 |
| Kansas | 28,130 | 10,599 | Tennessee | 65,732 | 11,698 |
| Kentucky | 46,803 | 11,579 | Texas | 220,064 | 10,613 |
| Louisiana | 40,849 | 9,430 | Utah | 22,597 | 11,226 |
| Maine | 14,190 | 11,129 | Vermont | 6,811 | 11,184 |
| Maryland | 50,174 | 9,809 | Virginia | 74,801 | 10,564 |
| Massachusetts | 52,796 | 8,513 | Washington | 53,330 | 9,251 |
| Michigan | 97,792 | 9,839 | West Virginia | 19,242 | 10,684 |
| Minnesota | 52,601 | 10,693 | Wisconsin | 57,266 | 10,261 |
| Mississippi | 35,536 | 12,187 | Wyoming | 8,090 | 16,410 |
| Missouri | 67,083 | 11,990 | United States | 2,749,803 | 9,811 |

Table 5-4: Highway Vehicle-Miles Traveled (VMT): 2000

Figure 5-1: Highway Vehicle-Miles Traveled, United States and Michigan



SOURCE FOR DATA ON THIS PAGE: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics*, annual editions, available at http://www.fhwa.dot.gov/ohim/ohimstat.htm as of Dec. 6, 2001.

| Table 5-5: Hiahway, [| Demoaraphic, and | d Geoaraphic Characteristics | of Urbanized Areas in Michigan: 2000 |
|-----------------------|------------------|------------------------------|--------------------------------------|
| | | | |

| Federal-aid urbanized area ¹ | Total roadway miles | Total DVMT (thousands) | Estimated population (thousands) | Net land area (square miles) | Persons per square mile | Miles of roadway per thousand persons | Total DVMT per capita | Total estimated freeway lane miles ² | Average daily traffic per freeway lane mile |
|---|---------------------------|---------------------------|--|---------------------------------------|----------------------------------|---|--------------------------------|--|--|
| Detroit | 13,808 | 92,359 | 3,836 | 1,304 | 2,942 | 3.6 | 24.1 | 1,813 | 17,169 |
| Grand Rapids | 2,273 | 12,151 | 530 | 318 | 1,667 | 4.3 | 22.9 | 292 | 12,231 |
| Toledo, OH-MI | 2,121 | 11,830 | 500 | 255 | 1,961 | 4.2 | 23.7 | 319 | 12,615 |
| Flint | 1,700 | 9,699 | 339 | 237 | 1,430 | 5.0 | 28.6 | 322 | 10,570 |
| Lansing-East Lansing | 1,236 | 6,376 | 285 | 157 | 1,815 | 4.3 | 22.4 | 206 | 9,794 |
| Ann Arbor | 991 | 7,131 | 277 | 159 | 1,742 | 3.6 | 25.7 | 244 | 13,590 |
| South Bend-Mishawaka, IN-MI | 1,431 | 5,329 | 240 | 147 | 1,633 | 6.0 | 22.2 | 147 | 6,603 |
| Kalamazoo | 881 | 4,635 | 184 | 123 | 1,496 | 4.8 | 25.2 | 113 | 10,275 |
| Saginaw | 749 | 3,113 | 135 | 78 | 1,731 | 5.5 | 23.1 | 97 | 7,780 |
| Muskegon | 685 | 2,357 | 119 | 87 | 1,368 | 5.8 | 19.8 | 62 | 9,033 |
| Jackson | 544 | 2,204 | 90 | 78 | 1,154 | 6.0 | 24.5 | 87 | 8,307 |
| Holland | 401 | 1,619 | 87 | 58 | 1,500 | 4.6 | 18.6 | 53 | 4,072 |
| Battle Creek | 557 | 2,082 | 81 | 79 | 1,025 | 6.9 | 25.7 | 57 | 9,279 |
| Port Huron | 452 | 1,829 | 78 | 62 | 1,258 | 5.8 | 23.5 | 60 | 6,568 |
| Bay City | 415 | 1,585 | 74 | 49 | 1,510 | 5.6 | 21.4 | 47 | 6,735 |
| Benton Harbor | 412 | 1,891 | 60 | 49 | 1,224 | 6.9 | 31.5 | 84 | 8,950 |

¹A "federal-aid urbanized area" is an area with 50,000 or more persons that, at a minimum, encompasses the land area delineated as the urbanized area by the U.S. Census Bureau. Areas are ranked by population. ²Lane miles estimated by the Federal Highway Administration (FHWA). **KEY**: DVMT = daily vehicle-miles of travel.

SOURCE: U.S. Department of Transportation, Federal Highway Administration, Highway Statistics, 2000, Washington, DC: 2001, available at http://www.fhwa.dot.gov/ohim/ohimstat.htm as of Dec. 6, 2001.

Table 5-6: Michigan and U.S. Recreational BoatRegistrations by Propulsion Type

| | Michi | gan | United States | | |
|------------|---------|-----------|---------------|------------|--|
| | 1999 | 2000 | 1999 | 2000 | |
| Total | 985,732 | 1,000,049 | 12,738,271 | 12,782,143 | |
| Powered | 985,732 | 941,157 | 11,811,562 | 11,648,769 | |
| Nonpowered | 0 | 54,745 | 481,191 | 547,271 | |
| Other | 0 | 4,147 | 445,518 | 590,103 | |

NOTE: Data are derived from reports of states and other jurisdictions with varying registration categories. "Other" includes boats not elsewhere classified by the reporting jurisdiction.

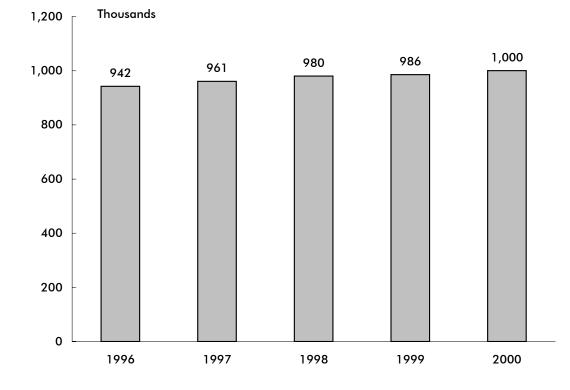


Figure 5-2: Michigan Recreational Boat Registrations

NOTES FOR DATA ON THIS PAGE: U.S. totals include Guam, Puerto Rico, the Virgin Islands, American Samoa, and the Northern Mariana Islands. Michigan statistics include all watercraft except manually propelled boats 16 feet or less in length, and nonmotorized rafts, canoes, and kayaks. U.S. total does not include sailboards, which are numbered in some states.

SOURCES FOR DATA ON THIS PAGE: U.S. Department of Transportation, U.S. Coast Guard, Boating Statistics, 2000 and Boating Statistics, 1999, Washington, DC: 2001, available at http://www.uscgboating.org/Saf/pdf/Boating_Statistics_2000.pdf and 1999.pdf as of Nov. 14, 2001.

Table 5-7: General Aviation and Air Taxi Aircraft and Hours Flown: 2000 (Excludes commuter aircraft)

| | | Hours flown |
|---------------------------|-----------------|-------------|
| State | Active aircraft | (thousands) |
| Alabama | 3,480 | 462 |
| Alaska | 5,925 | 692 |
| Arizona | 6,062 | 824 |
| Arkansas | 2,660 | 442 |
| California | 23,454 | 3,183 |
| Colorado | 5,246 | 651 |
| Connecticut | 1,793 | 241 |
| Delaware | 2,068 | 303 |
| District of Columbia | 152 | 13 |
| Florida | 14,096 | 2,299 |
| Georgia | 4,809 | 702 |
| Hawaii | 435 | 184 |
| Idaho | 2,328 | 336 |
| Illinois | 7,478 | 998 |
| Indiana | 3,964 | 503 |
| lowa | 2,772 | 331 |
| Kansas | 3,611 | 494 |
| Kentucky | 2,033 | 244 |
| Louisiana | 3,012 | 677 |
| Maine | 1,086 | 114 |
| Maryland | 3,436 | 487 |
| Massachusetts | 2,717 | 329 |
| Michigan | 7,236 | 935 |
| Minnesota | 5,141 | 707 |
| Mississippi | 2,038 | 256 |
| Missouri | 3,777 | 545 |
| Montana | 2,374 | 271 |
| Nebraska | 2,013 | 275 |
| Nevada | 2,715 | 774 |
| New Hampshire | 1,485 | 203 |
| New Jersey | 3,791 | 583 |
| New Mexico | 2,990 | 430 |
| New York | 6,082 | 816 |
| North Carolina | 5,620 | 769 |
| North Dakota | 1,585 | 419 |
| Ohio | 6,486 | 840 |
| Oklahoma | 4,080 | 648 |
| Oregon | 4,687 | 564 |
| Pennsylvania | 5,648 | 724 |
| Rhode Island | 393 | 45 |
| South Carolina | | 387 |
| South Dakota | 2,689 1,376 | 157 |
| South Dakota Tennessee | • | 638 |
| Tennessee Texas | 4,228 | 2,980 |
| | 18,869 | |
| Utah | 1,673 | 234 |
| Vermont | 600 | 57 |
| Virginia | 3,354 | 414 |
| Washington | 7,166 | 912 |
| West Virginia | 1,075 | 136 |
| Wisconsin | 4,649 | 590 |
| Wyoming | 778 | 98 |
| United States, total | 217,215 | 30,916 |

NOTE: These data are derived from a sample survey of general aviation and air taxi aircraft. These data are estimates subject to sampling as well as nonsampling error.

SOURCE: U.S. Department of Transportation, Federal Aviation Administration, General Aviation and Air Taxi Activity Survey: 2000, Washington, DC: 2002, available at http://www.api.faa.gov/GASurvey/index.htm as of July 22, 2002.

| | | | | Airplane pilots ² | | | |
|----------------------|---------|----------|--------------|------------------------------|-----------|--------------------|-------------------------|
| | | - | | | Airline | | Flight |
| | Total | Students | Private | Commercial | transport | Misc. ³ | instructor ⁴ |
| Alabama | 7,262 | 1,170 | 3,065 | 1,649 | 1,084 | 294 | 920 |
| Alaska | 8,638 | 833 | 3,686 | 2,130 | 1,906 | 83 | 1,118 |
| Arizona | 17,429 | 2,329 | 6,508 | 3,345 | 4,654 | 593 | 2,617 |
| Arkansas | 4,988 | 776 | 2,153 | 1,206 | 788 | 65 | 634 |
| California | 71,053 | 10,173 | 31,571 | 13,448 | 12,786 | 3,075 | 8,984 |
| Colorado | 17,539 | 2,320 | 6,256 | 3,144 | 5,138 | 681 | 2,549 |
| Connecticut | 6,523 | 944 | 2,714 | 989 | 1,648 | 228 | 837 |
| Delaware | 1,462 | 245 | 532 | 236 | 413 | 36 | 233 |
| District of Columbia | 476 | 86 | 191 | 99 | 69 | 31 | 45 |
| Florida | 47,191 | 6,672 | 16,324 | 10,059 | 13,267 | 869 | 6,890 |
| Georgia | 18,087 | 2,441 | 6,053 | 2,845 | 6,448 | 300 | 2,107 |
| Hawaii | 2,927 | 471 | 611 | 587 | 1,031 | 227 | 399 |
| Idaho | 4,480 | 581 | 2,148 | 950 | 711 | 90 | 535 |
| Illinois | 21,521 | 3,497 | 9,168 | 3,832 | 4,606 | 418 | 3,054 |
| Indiana | 11,715 | 1,874 | 5,728 | 2,091 | 1,867 | 155 | 1,488 |
| owa | 6,135 | 912 | 3,372 | 1,130 | 667 | 54 | 771 |
| Kansas | 8,412 | 1,169 | 4,136 | 1,729 | 1,268 | 110 | 1,184 |
| Kentuckv | 6,720 | 988 | 2,397 | 1,155 | 2,104 | 76 | 919 |
| Louisiana | 5,894 | 911 | 2,224 | 1,474 | 1,035 | 250 | 701 |
| Maine | 3,105 | 444 | 1,494 | 608 | 522 | 37 | 384 |
| Maryland | 8,383 | 1,217 | 3,499 | 1,535 | 1,869 | 263 | 1,194 |
| Massachusetts | 9,692 | 1,583 | 4,535 | 1,711 | 1,480 | 383 | 1,242 |
| Michigan | 17,755 | 3,008 | 8,517 | 3,008 | 2,852 | 370 | 2,388 |
| • | | | | | | 192 | |
| Minnesota | 15,530 | 2,244 | 6,728 | 2,949 | 3,417 | | 2,025 |
| Mississippi | 4,111 | 594 | 1,595 | 1,086 | 750 | 86 | 490 |
| Missouri | 11,070 | 1,549 | 5,008 | 2,045 | 2,312 | 156 | 1,548 |
| Montana | 3,613 | 481 | 1,718 | 878 | 469 | 67 | 431 |
| Nebraska | 4,141 | 654 | 2,054 | 884 | 524 | 25 | 432 |
| Nevada | 6,270 | 691 | 2,131 | 1,141 | 2,095 | 212 | 864 |
| New Hampshire | 4,242 | 499 | 1,544 | 676 | 1,417 | 106 | 613 |
| New Jersey | 11,403 | 1,826 | 4,909 | 1,833 | 2,417 | 418 | 1,517 |
| New Mexico | 4,406 | 787 | 1,788 | 916 | 772 | 143 | 549 |
| New York | 18,649 | 3,628 | 8,020 | 3,305 | 2,819 | 877 | 2,516 |
| North Carolina | 14,769 | 2,148 | 6,144 | 2,600 | 3,615 | 262 | 1,732 |
| North Dakota | 2,458 | 401 | 1,153 | 688 | 199 | 17 | 292 |
| Ohio | 19,301 | 3,065 | 8,602 | 3,338 | 3,857 | 439 | 2,839 |
| Oklahoma | 8,654 | 1,392 | 3,839 | 1,893 | 1,453 | 77 | 1,180 |
| Oregon | 9,942 | 1,625 | 4,972 | 1,910 | 1,175 | 260 | 1,123 |
| Pennsylvania | 18,022 | 2,683 | 7,604 | 3,075 | 4,124 | 536 | 2,575 |
| Rhode Island | 1,216 | 184 | 569 | 210 | 223 | 30 | 136 |
| South Carolina | 6,363 | 933 | 2,708 | 1,343 | 1,244 | 135 | 714 |
| South Dakota | 2,230 | 328 | 1,034 | 549 | 302 | 17 | 263 |
| Tennessee | 12,132 | 1,675 | 4,351 | 2,024 | 3,826 | 256 | 1,600 |
| Texas | 48,396 | 6,613 | 16,857 | 9,044 | 14,839 | 1,043 | 6,487 |
| Utah | 6,591 | 1,205 | 2,678 | 1,116 | 1,468 | 124 | 768 |
| √ermont | 1,487 | 220 | 681 | 261 | 264 | 61 | 162 |
| ∕irginia | 14,640 | 1,987 | 5,114 | 2,835 | 4,299 | 405 | 2,055 |
| Washington | 21,116 | 2,929 | 8,170 | 3,896 | 5,535 | 586 | 2,658 |
| West Virginia | 1,992 | 312 | 953 | 399 | 293 | 35 | 274 |
| Wisconsin | 11,275 | 1,768 | 5,682 | 1,884 | 1,830 | 111 | 1,455 |
| Wvomina | 1,812 | 254 | 5,082 901 | 354 | 273 | 30 | 1,455 |
| United States, total | 593,218 | 87,319 | 244.389 | 112,092 | 134,024 | 15.394 | 78,686 |

Table 5-8: Active Aviation Pilots and Flight Instructors: 2000¹

¹An active pilot is a person who holds a pilot certificate and a valid medical certificate issued within the last 25 months.

²Includes pilots with an airplane only certificate and those with an airplane and a helicopter and/or glider certificate. ³Includes helicopter, glider, and recreational pilots. Does not include pilots holding an airplane certificate. A recreational pilot may fly no more than one passenger in a light, single engine aircraft with no more than four seats during good weather and daylight hours and, unless authorized, no more than 50 miles from the home airport.

⁴Not included in total. A flight instructor must hold a flight instructor certificate in addition to a pilot certificate.

NOTE: Excludes U.S. military personnel holding civilian certificates who are stationed in a foreign country and pilots in U.S. territories.

SOURCE: U.S. Department of Transportation, Federal Aviation Administration, U.S. Civil Airmen Statistics 2000, Washington, DC: 2002, available at http://www.api.faa.gov/CivilAir/index.htm as of July 22, 2002.

F Economy and Finance

| Business type | Establishments ¹ (number) | Number of employees | Annual payroll (\$ thousands) |
|---|---|------------------------|----------------------------------|
| Total transportation and warehousing | 4,963 | 95,562 | 3,470,820 |
| Air transportation | 147 | 17,676 | 807,921 |
| Water transportation | 39 | 250-499 | D |
| Truck transportation | 3,131 | 39,797 | 1,515,956 |
| Transit and ground passenger transportation | 244 | 2,500-4,999 | D |
| Pipeline transportation | 59 | 1,000-2,499 | D |
| Scenic and sightseeing transportation | 45 | 100-249 | D |
| Support activities for transportation | 797 | 10,242 | 327,224 |
| Couriers and messengers | 311 | 18,606 | 542,030 |
| Warehousing and storage | 190 | 2,762 | 78,505 |

Table 6-1: Transportation and Warehousing Establishments and Employment in Michigan: 1999

KEY: D = withheld to avoid disclosing data for individual companies.

Table 6-2: Transportation and Warehousing Establishments and Employment in the United States: 1999

| Business type | Establishments ¹ (number) | Number of employees | Annual payroll (\$ thousands) |
|---|---|------------------------|----------------------------------|
| Total transportation and warehousing | 187,339 | 3,627,057 | 116,682,214 |
| Air transportation | 5,285 | 582,838 | 24,414,357 |
| Water transportation | 1,950 | 71,844 | 3,039,510 |
| Truck transportation | 108,749 | 1,384,178 | 43,626,168 |
| Transit and ground passenger transportation | 16,254 | 370,022 | 6,729,332 |
| Pipeline transportation | 2,550 | 48,149 | 3,032,689 |
| Scenic and sightseeing transportation | 2,267 | 22,877 | 540,702 |
| Support activities for transportation | 31,392 | 440,175 | 14,915,625 |
| Couriers and messengers | 11,938 | 578,368 | 16,725,960 |
| Warehousing and storage | 6,954 | 128,606 | 3,657,871 |

¹ The transportation and warehousing sector (North American Industrial Classification System [NAICS] 48 and 49) includes industries providing transportation of passengers and cargo, warehousing and storage for goods, scenic and sightseeing transportation, and support activities related to modes of transportation. Establishments in these industries use transportation equipment or transportation related facilities as a productive asset. The type of equipment depends on the mode of transportation. The modes of transportation comprise air, rail, water, road, and pipeline.

SOURCE FOR DATA ON THIS PAGE: U.S. Department of Commerce, U.S. Census Bureau, 1999 County Business Patterns, Washington, DC: May 2001, available at http://www.census.gov/epcd/cbp/ view/cbpview.html as of Oct. 25, 2001.

| | 19 | 95 | 19 | 96 | 19 | 997 | 19 | 998 | 19 | 99 |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Mode | State | Local |
| Total (current \$) | 1,468 | 344 | 1,470 | 361 | 1,550 | 393 | 1,827 | 413 | 1,912 | 406 |
| Highway | 1,465 | 93 | 1,470 | 96 | 1,550 | 112 | 1,827 | 122 | 1,911 | 129 |
| Transit | Z | 59 | Z | 57 | Z | 61 | Z | 62 | Z | 64 |
| Air | Z | 193 | 1 | 207 | Z | 219 | Z | 228 | 1 | 212 |
| Water | 4 | Z | Z | Z | Z | 1 | Z | 1 | Z | 1 |
| Total (chained 1996 \$) | 1,502 | 352 | 1,470 | 361 | 1,511 | 383 | 1,752 | 396 | 1,786 | 379 |
| Highway | 1,498 | 95 | 1,470 | 96 | 1,511 | 109 | 1,752 | 117 | 1,785 | 120 |
| Transit | Z | 60 | Z | 57 | Z | 59 | Z | 60 | Z | 60 |
| Air | Z | 197 | 1 | 207 | Z | 214 | Z | 219 | 1 | 198 |
| Water | 4 | Z | Z | Z | Z | 1 | Z | 1 | Z | 1 |

Table 6-3: Transportation Revenues Collected by State and Local Governments in Michigan (\$ millions)

Table 6-4: Transportation Expenditures by State and Local Governments in Michigan¹ (\$ millions)

| | 19 | 995 | 19 | 996 | 19 | 997 | 19 | 798 | 19 | 99 |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Mode | State | Local |
| Total (current \$) | 826 | 1,919 | 893 | 2,046 | 923 | 2,158 | 1,099 | 2,394 | 1,296 | 2,438 |
| Highway | 824 | 1,442 | 885 | 1,511 | 912 | 1,594 | 1,087 | 1,789 | 1,283 | 1,817 |
| Transit | Z | 259 | Z | 293 | 2 | 370 | 2 | 366 | 1 | 359 |
| Air | Z | 218 | 6 | 243 | 7 | 191 | 1 | 236 | 12 | 260 |
| Water | 2 | Z | 2 | Z | 2 | 3 | 9 | 3 | Z | 4 |
| Total (chained 1996 \$) | 853 | 1,963 | 893 | 2,046 | 899 | 2,103 | 1,054 | 2,296 | 1,211 | 2,277 |
| Highway | 843 | 1,475 | 885 | 1,511 | 889 | 1,554 | 1,043 | 1,716 | 1,198 | 1,697 |
| Transit | Z | 265 | Z | 293 | 2 | 361 | 2 | 351 | 1 | 335 |
| Air | 8 | 223 | 6 | 243 | 6 | 186 | 1 | 226 | 11 | 242 |
| Water | 2 | Z | 2 | Z | 2 | 2 | 8 | 3 | Z | 3 |

¹Includes federal grants.

KEY FOR DATA ON THIS PAGE: Z = zero or less than 1 unit of measure.

NOTE FOR DATA ON THIS PAGE: Dollars are converted using a chain-type price index from U.S. Department of Commerce, Bureau of Economic Analysis, National Income and Product Accounts Tables, Washington, DC: 2001, table 7.1, available at http://www.bea.doc.gov/bea/dn/nipaweb/ as of Dec. 12, 2001.

SOURCE FOR DATA ON THIS PAGE: U.S. Department of Commerce, U.S. Census Bureau, State and Local Government Finance Estimates, available at ftp://ftp.census.gov/pub/outgoing/govs/ as of October 2001.

| (Cents per gallon) | | | | |
|-----------------------------|----------------|----------------|---------------------|-----------------------------|
| | | | Liquified | |
| State | Gasoline | Diesel | petroleum | Gasohol ¹ |
| <u>State</u> Alabama | 18.00 | 19.00 | gas 17.00 | 18.00 |
| Alaska | 8.00 | 8.00 | 0.00 | 0.00 |
| Arizona | 18.00 | 27.00 | 18.00 | 18.00 |
| Arkansas | 19.50 | 20.50 | 16.50 | 18.60 |
| California | 18.00 | 18.00 | 6.00 | 18.00 |
| Colorado | 22.00 | 20.50 | 20.50 | 22.00 |
| Connecticut | 32.00 | 18.00 | 0.00 | 31.00 |
| Delaware | 23.00 | 22.00 | 22.00 | 23.00 |
| District of Columbia | 20.00 | 20.00 | 20.00 | 20.00 |
| Florida | 13.10 | 25.10 | 16.00 | 13.10 |
| Georgia | 7.50 | 7.50 | 7.50 | 7.50 |
| Hawaii | 16.00 | 16.00 | 11.00 | 16.00 |
| Idaho | 25.00 | 25.00 | 18.10 | 22.50 |
| Illinois | 19.00 | 21.50 | 19.00 | 19.00 |
| Indiana | 15.00 | 16.00 | 0.00 | 15.00 |
| lowa | 20.00 | 22.50 | 20.00 | 19.00 |
| Kansas | 20.00 | 22.00 | 19.00 | 20.00 |
| Kentucky | 16.40 | 13.40 | 15.00 | 16.40 |
| Louisiana | 20.00 | 20.00 | 16.00 | 20.00 |
| Maine | 19.00 | 20.00 | 18.00 | 19.00 |
| Maryland | 23.50 | 24.25 | 23.50 | 23.50 |
| Massachusetts | 21.00 | 21.00 | 8.10 | 21.00 |
| Michigan | 19.00 | 15.00 | 15.00 | 19.00 |
| Minnesota | 20.00 | 20.00 | 15.00 | 20.00 |
| Mississippi | 18.40 | 18.40 | 17.00 | 18.40 |
| Missouri | 17.00 | 17.00 | 17.00 | 17.00 |
| Montana | 27.00 | 27.75 | 0.00 | 27.00 |
| Nebraska | 22.80 | 22.80 | 22.80 | 27.00 |
| Nevada | 24.75 | 27.75 | 22.00 | 24.75 |
| New Hampshire | 19.50 | 19.50 | 18.00 | 19.50 |
| New Jersey | 10.50 | 13.50 | 5.25 | 10.50 |
| New Mexico | 18.50 | 19.50 | 0.00 | 18.50 |
| New York | 29.30 | 27.95 | 8.00 | 29.30 |
| North Carolina | 21.20 | 21.20 | 21.20 | 21.20 |
| North Dakota | 21.00 | 21.00 | 21.00 | 21.00 |
| Ohio | 22.00 | 22.00 | 22.00 | 22.00 |
| Oklahoma | 17.00 | 14.00 | 17.00 | 17.00 |
| Oregon | 24.00 | 24.00 | 24.00 | 24.00 |
| Pennsylvania | 25.90 | 30.80 | 18.90 | 25.90 |
| Rhode Island | 29.00 | 29.00 | 29.00 | 29.00 |
| South Carolina | 16.00 | 16.00 | 16.00 | 16.00 |
| South Dakota | 22.00 | 22.00 | 20.00 | 20.00 |
| Tennessee | 20.00 | 17.00 | | |
| | 20.00 | 20.00 | 14.00 15.00 | 20.00 |
| Texas Utah | 20.00 | 20.00 | 24.50 | 20.00 24.50 |
| Vermont | 24.50 | 24.50 17.00 | 24.50 0.00 | 24.50 20.00 |
| Virginia | 17.50 | 16.00 | 10.00 | 17.50 |
| | | | | 23.00 |
| Washington West Virginia | 23.00 25.35 | 23.00 25.35 | 0.00 25.35 | 23.00 |
| Wisconsin | 25.35 | 25.35 | 25.35 25.40 | 25.35 25.40 |
| Wyoming | 25.40 14.00 | 25.40 14.00 | 25.40 0.00 | 25.40 14.00 |
| Federal tax | 14.00 | 24.40 | 13.60 | 13.00 |
| | 10.40 | ∠4.4U | 13.00 | 13.00 |

Table 6-5: State Motor-Fuel Tax Rates: 2000 (Cents per gallon)

¹ Tax rates for gasoline blended with 10 percent ethanol.

NOTE: Tax rates in effect as of Jan. 1, 2000.

SOURCE: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics 2000, Washington, DC*: 2001, table MF-121T.

G Energy and Environment

| | | | | Petrol | eum | | | | | | | |
|------------------------------|--------------------------|------------------------|---------------|--------------------------------|-------------|---------------------------|-----------------------|----------------------|--------------------|-----------------|-----------------------------|-----------------------|
| 6 | Natural | Distillate | | Motor | Residual | 0 .1 ³ | | Ethanol ⁴ | F 1 | Net | Electrical system energy | |
| State | gas ¹ 22.9 | fuel (diesel) 118.4 | Jet fuel | gasoline ² 298.0 | fuel 6.5 | Other ³ 3.7 | Total 437.8 | Efficience | Electricity 0.0 | energy 460.7 | losses ⁵ 0.0 | Total 460.7 |
| Alabama | 4.5 | 21.5 | | 32.9 | 1.7 | 3.7 | 437.8 | 0.4 | 0.0 | 480.7 | 0.0 | 460.7 198.0 |
| Alaska Arizona | 4.5 19.0 | 21.5 92.0 | 134.1 54.6 | 283.9 | 0.0 | 3.3 | 433.5 | 1.3 | 0.0 | 452.5 | 0.0 | 452.5 |
| Arkansas | 9.1 | 92.0 84.5 | 25.9 | 172.6 | 0.0 | 5.1 | 288.0 | 0.0 | 0.0 | 452.5 297.2 | 0.0 | 452.5 297.2 |
| California | 12.9 | 373.3 | 25.9 559.5 | 1.749.0 | 175.3 | 23.6 | 2.880.6 | 4.9 | 1.8 | 2.895.3 | 3.6 | 2,898.9 |
| Colorado | 8.4 | 67.8 | 559.5 44.2 | 241.5 | 0.0 | 23.0 | 2,880.8 | 4.9 | 1.0 S | 2,895.3 | 3.0 S | 2,898.9 |
| | 0.4 0.8 | 34.4 | 44.2 13.9 | 183.9 | 0.0 | 3.9 1.9 | 234.2 | 4.5 | 0.0 | 234.9 | 0.0 | 234.9 |
| Connecticut Delaware | 0.8 | 34.4 | 0.6 | 47.7 | 13.2 | 0.5 | 234.2 | 0.3 | 0.0 | 234.9 | 0.0 | 234.9 |
| | | | 0.0 | 20.5 | 0.0 | 0.5 | 24.5 | 0.0 | 0.0 | 25.3 | 1.2 | 26.5 |
| Dist. of Columbia Florida | 0.3 7.2 | 3.6 210.3 | 164.3 | 20.5 | 57.4 | 8.7 | 24.5 1.338.1 | 0.0 | 0.8 | 1.345.4 | 0.4 | 20.5 |
| | | | | | | | , | | | , | | , |
| Georgia | 9.1 | 196.7 | 86.8 | 566.9 | 5.7 | 5.2 0.8 | 861.3 | 0.0 | 0.3 | 870.8 | 0.7 | 871.4 |
| Hawaii | 0.0 | 9.1 | 53.7 | 45.8 | 12.9 | | 122.3 | | | 122.3 | | 122.3 |
| Idaho | 4.7 | 34.0 | 4.9 | 80.8 | 0.0 | 1.2 | 121.0 | 0.0 | 0.0 | 125.7 | 0.0 | 125.7 |
| Illinois | 55.3 | 202.6 | 103.4 | 612.7 | 0.2 | 11.8 | 930.8 | 20.3 | 1.5 | 987.5 | 2.9 | 990.5 |
| Indiana | 14.6 | 186.4 | 63.5 | 373.7 | 1.9 | 5.1 | 630.6 | 9.0 | 0.1 | 645.3 | 0.1 | 645.4 |
| lowa | 7.9 | 74.9 | 5.0 | 185.9 | 0.0 | 3.8 | 269.6 | 6.7 | S | 277.5 | S | 277.5 |
| Kansas | 31.6 | 60.5 | 19.7 | 170.7 | 0.1 | 5.2 | 256.2 | 0.5 | 0.0 | 287.8 | 0.0 | 287.8 |
| Kentucky | 17.2 | 122.9 | 39.5 | 261.0 | 0.0 | 3.6 | 427.0 | 0.3 | 0.0 | 444.2 | 0.0 | 444.2 |
| Louisiana | 50.0 | 147.4 | 192.9 | 255.9 | 153.5 | 5.1 | 754.9 | 0.1 | S | 804.9 | S | 804.9 |
| Maine | 0.0 | 22.2 | 4.9 | 83.7 | 1.4 | 1.0 | 113.2 | 0.0 | S | 113.2 | S | 113.2 |
| Maryland | 3.4 | 73.3 | 22.3 | 295.0 | 7.4 | 2.2 | 400.3 | 0.2 | 0.5 | 404.1 | 1.0 | 405.1 |
| Massachusetts | 2.8 | 57.0 | 45.8 | 328.7 | 0.2 | 4.1 | 435.7 | 0.0 | 0.8 | 439.2 | 1.6 | 440.8 |
| Michigan | 23.3 | 132.7 | 51.7 | 624.5 | 0.3 | 12.2 | 821.4 | 3.4 | S | 844.7 | S | 844.8 |
| Minnesota | 22.5 | 93.4 | 71.4 | 306.5 | S | 5.8 | 477.1 | 19.5 | 0.0 | 499.6 | 0.0 | 499.6 |
| Mississippi | 66.1 | 81.2 | 54.8 | 196.2 | 6.9 | 3.6 | 342.7 | 0.0 | 0.0 | 408.9 | 0.0 | 408.9 |
| Missouri | 6.8 | 172.0 | 72.3 | 364.6 | S | 6.6 | 615.6 | 1.4 | 0.1 | 622.5 | 0.1 | 622.6 |
| Montana | 6.1 | 34.7 | 4.7 | 59.1 | 0.0 | 1.9 | 100.4 | S | 0.0 | 106.5 | 0.0 | 106.5 |
| Nebraska | 2.9 | 76.9 | 8.9 | 103.1 | 0.0 | 2.7 | 191.5 | 2.1 | 0.0 | 194.4 | 0.0 | 194.4 |
| Nevada | 0.9 | 36.9 | 47.4 | 111.7 | 0.0 | 0.9 | 196.9 | 2.3 | 0.0 | 197.8 | 0.0 | 197.8 |
| New Hampshire | S | 14.5 | 4.6 | 80.8 | S | 0.5 | 100.5 | 0.0 | 0.0 | 100.5 | 0.0 | 100.5 |
| New Jersey | 4.3 | 120.9 | 206.1 | 476.6 | 48.9 | 5.1 | 857.6 | 0.7 | 0.5 | 862.4 | 0.9 | 863.3 |
| New Mexico | 47.4 | 55.5 | 15.4 | 113.7 | 0.0 | 1.9 | 186.5 | 2.0 | 0.0 | 233.9 | 0.0 | 233.9 |
| New York | 8.6 | 147.5 | 51.7 | 690.6 | 47.1 | 7.3 | 944.2 | 1.2 | 9.1 | 961.9 | 17.7 | 979.6 |
| North Carolina | 10.9 | 132.6 | 38.6 | 502.6 | 1.0 | 5.3 | 680.0 | 3.0 | 0.0 | 690.9 | 0.0 | 690.9 |
| North Dakota | 9.9 | 26.0 | 2.3 | 43.0 | 0.0 | 1.2 | 72.5 | 0.4 | 0.0 | 82.4 | 0.0 | 82.4 |
| Ohio | 18.5 | 222.5 | 93.3 | 623.2 | 0.1 | 11.1 | 950.2 | 19.6 | 0.2 | 968.9 | 0.3 | 969.2 |
| Oklahoma | 24.5 | 111.7 | 37.3 | 223.3 | 0.0 | 5.7 | 378.0 | 0.0 | 0.0 | 402.5 | 0.0 | 402.5 |
| Oregon | 10.9 | 70.2 | 36.5 | 188.0 | 18.0 | 4.3 | 317.0 | 1.1 | 0.1 | 328.0 | 0.2 | 328.2 |
| Pennsylvania | 37.3 | 197.6 | 90.4 | 607.0 | 37.8 | 9.7 | 942.6 | 1.0 | 1.3 | 981.3 | 2.6 | 983.9 |
| Rhode Island | 0.3 | 9.3 | 6.0 | 49.8 | S | 0.5 | 65.6 | 0.0 | 0.0 | 65.9 | 0.0 | 65.9 |
| South Carolina | 3.7 | 85.8 | 8.7 | 273.0 | 2.8 | 2.3 | 372.7 | 0.0 | 0.0 | 376.4 | 0.0 | 376.4 |
| South Dakota | 6.1 | 21.1 | 4.4 | 51.5 | 0.0 | 1.3 | 78.2 | 1.8 | 0.0 | 84.3 | 0.0 | 84.3 |
| Tennessee | 25.9 | 131.7 | 67.0 | 360.3 | 0.0 | 5.1 | 564.2 | 0.0 | S | 590.1 | S | 590.1 |
| Texas | 73.0 | 479.2 | 594.8 | 1,252.3 | 131.9 | 17.6 | 2,475.8 | 4.8 | 0.1 | 2,548.8 | 0.1 | 2,549.0 |
| Utah | 2.8 | 47.7.2 | 42.2 | 119.2 | 0.0 | 1.7 | 208.2 | 0.9 | S | 2,540.0 | S | 2,547.0 |
| Vermont | 2.0 S | 12.3 | 42.2 | 39.7 | 0.0 | 0.4 | 53.2 | 0.0 | 0.0 | 53.2 | 0.0 | 53.2 |
| Virginia | 8.3 | 142.3 | 52.8 | 438.1 | 9.2 | 3.9 | 646.5 | 2.8 | 0.3 | 655.1 | 0.6 | 655.7 |
| Washington | 8.2 | 95.9 | 125.6 | 325.2 | 57.4 | 4.6 | 608.9 | 2.8 | 0.3 | 617.1 | 0.0 | 617.3 |
| Washington West Virginia | 0.2 31.5 | 46.9 | 125.0 | 100.5 | 0.0 | 4.0 | 150.1 | 2.5 S | 0.1 | 181.6 | 0.0 | 181.6 |
| Wisconsin | 31.5 4.2 | 46.9 101.0 | 1.0 | 303.0 | 0.0 S | 4.3 | 427.6 | s 2.5 | 0.0 S | 431.8 | 0.0 S | 431.8 |
| Wyoming | 4.2 14.5 | 62.4 | 19.3 | 303.0 | 0.0 | 4.3 | 427.8 | 0.0 | 0.0 | 431.8 | 0.0 | 431.8 |
| United States | 761.1 | 5.160.9 | 3,461.8 | | 798.9 | 2.2 | 25,511.8 | 121.6 | 17.5 | 26,290.3 | 34.3 | |
| Unifed States | /01.1 | 5,100.9 | J,401.8 | 15,855.4 | /90.9 | ∠ 34.8 | ∠3,311.8 | 121.0 | 17.5 | 20,290.3 | 34.3 | 26,324.6 |

Table 7-1: Transportation Energy Consumption: 1999 (Trillion Btu)

¹ Includes supplemental gaseous fuels. Transportation use of natural gas is consumed in the operation of pipelines, primarily in compressors, or consumed as vehicle fuel.

² Includes ethanol blended into motor gasoline.

³ "Other" is the sum of aviation gasoline, liquefied petroleum gas (LPG), and lubricants.

⁴ Ethanol blended into motor gasoline, included in motor gasoline, but is also shown separately to display the use of renewable energy by the transportation sector. It is counted only once in the total.

⁵ Incurred in the generation, transmission, and distribution of electricity plus plant use and unaccounted for electrical system energy losses.

KEY: Btu = British thermal unit; S = less than 0.05 trillion Btu.

NOTE: Totals may not equal sum of components due to rounding.

SOURCE: U.S. Department of Energy, Energy Information Administration, State Energy Data Report 1999, Washington, DC: May 2001, table 7, available at http://www.eia.doe.gov/pub/state.data/pdf/sedr.pdf as of Feb. 21, 2002.

Table 7-2: Energy Consumption by End-Use Sector: 1999 (Trillion Btu)

| | | End-use sectors ² | | | | | | | | |
|----------------------|-----------------------|------------------------------|----------|----------|---------|----------|------------|------------|--------------|--|
| | Total energy | Transport | Resident | | Commer | cial | Industrial | | | |
| State | consumed ¹ | Number | Percent | Number | Percent | Number | Percent | Number | Percent | |
| Alabama | 2,004.8 | 460.7 | 23.0 | 341.0 | 17.0 | 226.3 | 11.3 | 976.7 | 48.7 | |
| Alaska | 694.7 | 198.0 | 28.5 | 47.7 | 6.9 | 63.1 | 9.1 | 385.9 | 55.5 | |
| Arizona | 1,219.8 | 452.5 | 37.1 | 279.0 | 22.9 | 266.7 | 21.9 | 221.6 | 18.2 | |
| Arkansas | 1,203.7 | 297.2 | 24.7 | 193.3 | 16.1 | 123.8 | 10.3 | 589.4 | 49.0 | |
| California | 8,375.4 | 2,898.9 | 34.6 | 1,416.2 | 16.9 | 1,236.5 | 14.8 | 2,823.7 | 33.7 | |
| Colorado | 1,155.5 | 365.9 | 31.7 | 261.4 | 22.6 | 255.1 | 22.1 | 273.1 | 23.6 | |
| Connecticut | 839.3 | 234.9 | 28.0 | 245.2 | 29.2 | 196.8 | 23.4 | 162.4 | 19.3 | |
| Delaware | 278.8 | 70.6 | 25.3 | 56.0 | 20.1 | 44.8 | 16.1 | 107.4 | 38.5 | |
| District of Columbia | 169.8 | 26.5 | 15.6 | 33.5 | 19.7 | 106.2 | 62.5 | 3.7 | 2.2 | |
| Florida | 3,852.9 | 1,345.8 | 34.9 | 1,017.8 | 26.4 | 809.5 | 21.0 | 679.8 | 17.6 | |
| Georgia | 2,798.1 | 871.4 | 31.1 | 553.1 | 19.8 | 416.3 | 14.9 | 957.3 | 34.2 | |
| Hawaii | 241.4 | 122.3 | 50.7 | 23.0 | 9.5 | 24.8 | 10.3 | 71.3 | 29.5 | |
| Idaho | 518.3 | 125.7 | 24.3 | 95.9 | 18.5 | 86.9 | 16.8 | 209.8 | 40.5 | |
| Illinois | 3,882.6 | 990.5 | 25.5 | 897.4 | 23.1 | 722.0 | 18.6 | 1,272.6 | 32.8 | |
| Indiana | 2,735.8 | 645.4 | 23.6 | 483.6 | 17.7 | 300.7 | 11.0 | 1,306.2 | 47.7 | |
| lowa | 1,121.7 | 277.5 | 24.7 | 222.5 | 19.8 | 158.5 | 14.1 | , 463.3 | 41.3 | |
| Kansas | 1,050.0 | 287.8 | 27.4 | 200.9 | 19.1 | 169.2 | 16.1 | 392.2 | 37.4 | |
| Kentucky | 1,830.2 | 444.2 | 24.3 | 315.9 | 17.3 | 219.0 | 12.0 | 851.1 | 46.5 | |
| Louisiana | 3,615.4 | 804.9 | 22.3 | 325.0 | 9.0 | 236.5 | 6.5 | 2,249.0 | 62.2 | |
| Maine | 528.6 | 113.2 | 21.4 | 97.6 | 18.5 | 57.6 | 10.9 | 260.2 | 49.2 | |
| Maryland | 1,378.2 | 405.1 | 29.4 | 358.6 | 26.0 | 337.1 | 24.5 | 277.4 | 20.1 | |
| Massachusetts | 1,569.1 | 440.8 | 28.1 | 411.7 | 26.2 | 325.2 | 20.7 | 391.4 | 24.9 | |
| Michigan | 3,239.6 | 844.8 | 26.1 | 744.3 | 23.0 | 568.1 | 17.5 | 1,082.5 | 33.4 | |
| Minnesota | 1,675.3 | 499.6 | 29.8 | 340.2 | 20.3 | 217.9 | 13.0 | 617.7 | 36.9 | |
| Mississippi | 1,208.5 | 408.9 | 33.8 | 202.6 | 16.8 | 145.6 | 12.0 | 451.4 | 37.4 | |
| Missouri | 1,768.0 | 622.6 | 35.2 | 431.7 | 24.4 | 334.1 | 18.9 | 379.6 | 21.5 | |
| Montana | 412.4 | 106.5 | 25.8 | 61.8 | 15.0 | 48.0 | 11.6 | 196.1 | 47.6 | |
| Nebraska | 602.0 | 194.4 | 32.3 | 130.0 | 21.6 | 111.3 | 18.5 | 166.2 | 27.6 | |
| Nevada | 615.3 | 197.8 | 32.1 | 122.4 | 19.9 | 97.1 | 15.8 | 198.0 | 32.2 | |
| New Hampshire | 335.4 | 100.5 | 30.0 | 81.9 | 24.4 | 56.2 | 16.8 | 96.9 | 28.9 | |
| New Jersey | 2,588.7 | 863.3 | 33.3 | 539.9 | 20.9 | 540.8 | 20.9 | 644.7 | 24.9 | |
| New Mexico | 635.0 | 233.9 | 36.8 | 93.2 | 14.7 | 105.6 | 16.6 | 202.4 | 31.9 | |
| New York | 4,283.0 | 979.6 | 22.9 | 1,092.3 | 25.5 | 1,216.1 | 28.4 | 994.9 | 23.2 | |
| North Carolina | 2,446.9 | 690.9 | 28.2 | 562.7 | 23.0 | 439.5 | 18.0 | 753.7 | 30.8 | |
| North Dakota | 365.7 | 82.4 | 22.5 | 54.2 | 14.8 | 42.6 | 11.6 | 186.4 | 51.0 | |
| Ohio | 4,323.4 | 969.2 | 22.4 | 866.7 | 20.0 | 632.1 | 14.6 | 1,855.3 | 42.9 | |
| Oklahoma | 1,377.5 | 402.5 | 29.2 | 259.1 | 18.8 | 197.7 | 14.4 | 518.2 | 37.6 | |
| Oregon | 1,109.2 | 328.2 | 29.6 | 238.4 | 21.5 | 190.5 | 17.2 | 352.1 | 31.7 | |
| Pennsylvania | 3,715.5 | 983.9 | 26.5 | 858.6 | 23.1 | 582.6 | 15.7 | 1,290.4 | 34.7 | |
| Rhode Island | 261.1 | 65.9 | 25.2 | 66.0 | 25.3 | 52.2 | 20.0 | 77.0 | 29.5 | |
| South Carolina | 1,493.0 | 376.4 | 25.2 | 288.1 | 19.3 | 210.3 | 14.1 | 618.2 | 41.4 | |
| South Dakota | 239.0 | 84.3 | 35.3 | 53.3 | 22.3 | 39.2 | 16.4 | 62.2 | 26.0 | |
| Tennessee | 2.070.5 | 590.1 | 28.5 | 441.5 | 21.3 | 328.1 | 15.8 | 710.8 | 34.3 | |
| Texas | 11,501.0 | 2,549.0 | 22.2 | 1,323.3 | 11.5 | 1,147.2 | 10.0 | 6,481.5 | 56.4 | |
| Utah | 693.9 | 211.1 | 30.4 | 127.5 | 18.4 | 120.2 | 17.3 | 235.1 | 33.9 | |
| Vermont | 165.0 | 53.2 | 32.2 | 42.6 | 25.8 | 29.4 | 17.8 | 39.9 | 24.2 | |
| Virginia | 2,227.3 | 655.7 | 29.4 | 42.0 | 22.2 | 462.8 | 20.8 | 614.4 | 24.2 | |
| Washington | 2,240.8 | 617.3 | 27.5 | 435.7 | 19.4 | 332.0 | 14.8 | 855.9 | 38.2 | |
| West Virginia | 735.4 | 181.6 | 24.7 | 141.9 | 19.4 | 101.0 | 14.3 | 310.8 | 42.3 | |
| Wisconsin | 1,810.5 | 431.8 | 24.7 | 375.8 | 20.8 | 285.4 | 15.8 | 717.4 | 42.3 39.6 | |
| Wyoming | 421.8 | 119.8 | 23.8 | 375.8 | 20.8 | 42.1 | 10.0 | 224.0 | 53.1 | |
| United States | 95,682.4 | 26,324.6 | 27.5 | 18,382.3 | 19.2 | 15,058.5 | 15.7 | 35,917.1 | 37.5 | |

¹ U.S. total energy and U.S. industrial sector include 57.7 trillion Btu of net imports of coal coke that is not allocated to the states. State and U.S. totals include 92.6 trillion Btu of net imports of electricity generated from nonrenewable energy sources.

² End-use sector data include electricity sales and associated electrical system energy losses.

KEY: Btu = British thermal unit; Number = trillion Btu.

SOURCE: U.S. Department of Energy, Energy Information Administration, *State Energy Data Report 1999*, Washington, DC: May 2001, available at http://www.eia.doe.gov/pub/state.data/pdf/sedr.pdf as of Feb. 21, 2002.

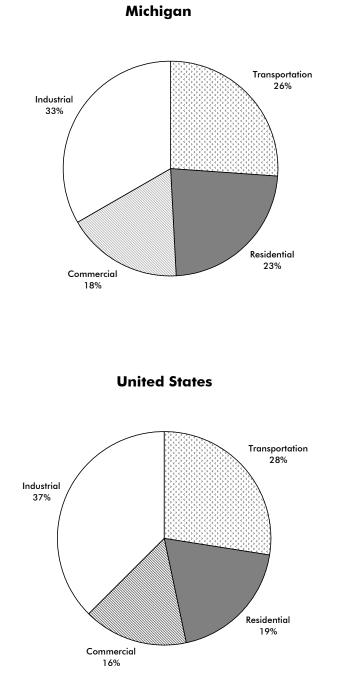


Figure 7-1: Energy Consumption by End-Use Sector: 1999

SOURCE: U.S. Department of Energy, Energy Information Administration, *State Energy Data Report 1999*, Washington, DC: May 2001, table 9, available at http://www.eia.doe.gov/pub/state.data/pdf/sedr.pdf as of Feb. 21, 2002.

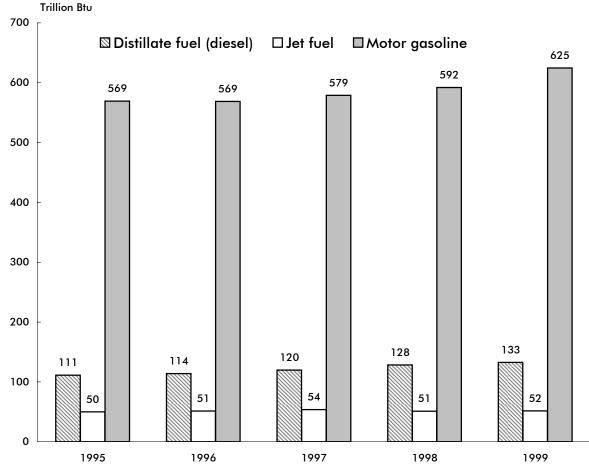


Figure 7-2: Michigan Transportation Energy Consumption

KEY: Btu = British thermal unit.

SOURCE: U.S. Department of Energy, Energy Information Administration, *State Energy Data Report* 1999, Washington, DC: May 2001, available at http://www.eia.doe.gov/pub/state.data/pdf/sedr.pdf as of Feb. 21, 2002.

| | | | | All energy sources | | |
|--------------------------|---------------------------|-------------------------|--|-------------------------|--|--|
| State | Population (thousands) | Total (trillion Btu) | Per capita ¹ (million Btu) | Total (trillion Btu) | Per capita ¹ (million Btu) | |
| Alabama | 4.370 | 437.8 | 100.2 | 460.7 | 105.4 | |
| Alaska | 620 | 193.5 | 312.1 | 198.0 | 319.4 | |
| Arizona | 4,778 | 433.5 | 90.7 | 452.5 | 94.7 | |
| Arkansas | 2,551 | 288.0 | 112.9 | 297.2 | 116.5 | |
| California | 33,145 | 2,880.6 | 86.9 | 2,898.9 | 87.5 | |
| Colorado | 4,056 | 357.4 | 88.1 | 365.9 | 90.2 | |
| Connecticut | 3,282 | 234.2 | 71.4 | 234.9 | 71.6 | |
| Delaware | 754 | 70.6 | 93.6 | 70.6 | 93.6 | |
| District of Columbia | 519 | 24.5 | 47.2 | 26.5 | 51.1 | |
| Florida | 15,111 | 1,338.1 | 88.6 | 1,345.8 | 89.1 | |
| | 7,788 | 861.3 | 110.6 | 871.4 | 111.9 | |
| Georgia Hawaii | | 122.3 | 103.2 | 122.3 | 103.2 | |
| | 1,185 | | | | | |
| Idaho Illinois | 1,252 | 121.0 930.8 | 96.6 76.7 | 125.7 990.5 | 100.4 81.7 | |
| Illinois Indiana | 12,128 | | | | | |
| Indiana | 5,943 | 630.6 | 106.1 | 645.4 | 108.6 | |
| lowa Kana na | 2,869 | 269.6 | 94.0 | 277.5 | 96.7 | |
| Kansas | 2,654 | 256.2 | 96.5 | 287.8 | 108.4 | |
| Kentucky | 3,961 | 427.0 | 107.8 | 444.2 | 112.1 | |
| Louisiana | 4,372 | 754.9 | 172.7 | 804.9 | 184.1 | |
| Maine | 1,253 | 113.2 | 90.3 | 113.2 | 90.3 | |
| Maryland | 5,172 | 400.3 | 77.4 | 405.1 | 78.3 | |
| Massachusetts | 6,175 | 435.7 | 70.6 | 440.8 | 71.4 | |
| Michigan | 9,864 | 821.4 | 83.3 | 844.8 | 85.6 | |
| Minnesota | 4,776 | 477.1 | 99.9 | 499.6 | 104.6 | |
| Mississippi | 2,768 | 342.7 | 123.8 | 408.9 | 147.7 | |
| Missouri | 5,468 | 615.6 | 112.6 | 622.6 | 113.9 | |
| Montana | 883 | 100.4 | 113.7 | 106.5 | 120.6 | |
| Nebraska | 1,666 | 191.5 | 114.9 | 194.4 | 116.7 | |
| Nevada | 1,809 | 196.9 | 108.8 | 197.8 | 109.3 | |
| New Hampshire | 1,201 | 100.5 | 83.7 | 100.5 | 83.7 | |
| New Jersey | 8,143 | 857.6 | 105.3 | 863.3 | 106.0 | |
| New Mexico | 1,740 | 186.5 | 107.2 | 233.9 | 134.4 | |
| New York | 18,197 | 944.2 | 51.9 | 979.6 | 53.8 | |
| North Carolina | 7,651 | 680.0 | 88.9 | 690.9 | 90.3 | |
| North Dakota | 634 | 72.5 | 114.4 | 82.4 | 130.0 | |
| Ohio | 11,257 | 950.2 | 84.4 | 969.2 | 86.1 | |
| Oklahoma | 3,358 | 378.0 | 112.6 | 402.5 | 119.9 | |
| Oregon | 3,316 | 317.0 | 95.6 | 328.2 | 99.0 | |
| Pennsvlvania | 11,994 | 942.6 | 78.6 | 983.9 | 82.0 | |
| Rhode Island | 991 | 65.6 | 66.2 | 65.9 | 66.5 | |
| South Carolina | 3,886 | 372.7 | 95.9 | 376.4 | 96.9 | |
| South Dakota | 733 | 78.2 | 106.7 | 84.3 | 115.0 | |
| | 733 5,484 | 564.2 | | 84.3 590.1 | | |
| Tennessee Tevre | • | | 102.9 | | 107.6 | |
| Texas | 20,044 | 2,475.8 | 123.5 | 2,549.0 | 127.2 | |
| Utah Vana ant | 2,130 | 208.2 | 97.7 | 211.1 | 99.1 | |
| Vermont | 594 | 53.2 | 89.6 | 53.2 | 89.6 | |
| Virginia | 6,873 | 646.5 | 94.1 | 655.7 | 95.4 | |
| Washington | 5,756 | 608.9 | 105.8 | 617.3 | 107.2 | |
| West Virginia | 1,807 | 150.1 | 83.1 | 181.6 | 100.5 | |
| Wisconsin | 5,250 | 427.6 | 81.4 | 431.8 | 82.2 | |
| Wyoming United States | 480 272,691 | 105.3 25,511.8 | 219.4 93.6 | 119.8 26,324.6 | 249.6 96.5 | |

Table 7-3: Transportation Energy Consumption per Capita: 1999

¹Calculated by the Bureau of Transportation Statistics.

KEY: Btu = British thermal unit.

SOURCE: U.S. Department of Energy, Energy Information Administration, *State Energy Data Report 1999*, Washington, DC: May 2001, available at http://www.eia.doe.gov/pub/state.data/pdf/sedr.pdf as of Feb. 21, 2002.

| Table 7-4: Michigan and U.S. Motor-Fuel Use: 2000 ¹ | |
|--|--|
| (Millions of gallons) | |

| | | Gasol | ine | | Special fuel | | | | |
|------------------------|-------------|------------------|----------------|------------------|-----------------|------------------|-----------|------------------|--|
| - | Highway use | | Nonhighway use | | (mainly diesel) | | Total use | | |
| - Vehicle ownership | Michigan | United States | Michigan | United States | Michigan | United States | Michigan | United States | |
| Private and commercial | 4,839 | 126,735 | 115 | 2,876 | 917 | 33,377 | 5,871 | 162,988 | |
| Public use | 66 | 2,149 | 3 | 96 | N | Ν | 69 | 2,245 | |
| Total | 4,905 | 128,884 | 118 | 2,972 | 917 | 33,377 | 5,940 | 165,232 | |

¹Based on reports from state motor-fuel tax agencies. Gasohol is included with gasoline. Public use and nonhighway use were estimated by the Federal Highway Administration.

KEY: N = data do not exist.

NOTE: The term "motor fuel" applies to gasoline and all other fuels, including special fuels, coming under the purview of the state motorfuel tax laws. "Special fuels" include diesel fuel and, to the extent they can be quantified, liquefied petroleum gases such as propane. Gasohol, a blend of gasoline and fuel alcohol, is included with gasoline.

SOURCE: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics* 2000, Washington, DC: October 2001, available at http://www.fhwa.dot.gov/ohim/hs00/pdf/mf21.pdf as of Apr. 20, 2002.

Table 7-5: Michigan Air Quality Nonattainment Areas for Carbon Monoxide (CO)

| County | Area | Nonattainment in year | Redesignation to attainment | Classification | Part or whole county | Population (2000) |
|---------|---------|--------------------------|--------------------------------|----------------|-------------------------|----------------------|
| Macomb | Detroit | 95 96 97 98 99 | 8/30/99 | Not classified | Part | 276,877 |
| Oakland | Detroit | 95 96 97 98 99 | 8/30/99 | Not classified | Part | 432,046 |
| Wayne | Detroit | 95 96 97 98 99 | 8/30/99 | Not classified | Part | 737,896 |

NOTES: Nonattainment areas do not meet the national primary or secondary ambient air quality standard for the specified pollutant. Nonattainment areas are classified based on design values: Serious = an area with a design value of 16.5 parts per million (ppm) and above; Moderate = an area with a design value of 9.1 up to 16.4 ppm.

SOURCE: U.S. Environmental Protection Agency, Green Book, available at http://www.epa.gov/oar/oaqps/greenbk/anay.html as of Apr. 20, 2002.

| | Table 7-6: Michigan Air Qualit | y Nonattainment Areas for Ozone | ≥ (O ₃) |
|--|--------------------------------|---------------------------------|---------------------|
|--|--------------------------------|---------------------------------|---------------------|

| County | Area | Nonattainment in year | Redesignation to attainment | Classification | Part or whole county | Population (2000) |
|----------|--------------------------|-----------------------|--------------------------------|-----------------|-------------------------|----------------------|
| Allegan | Allegan | 95 96 97 98 99 00 | 1/16/01 | Incomplete data | Whole | 105,665 |
| Bay | Saginaw-Bay City-Midland | 95 96 97 98 99 00 | 1/16/01 | Incomplete data | Whole | 110,157 |
| Genesee | Flint | 95 96 97 98 99 00 | 1/16/01 | Section 185A | Whole | 436,141 |
| Kent | Grand Rapids | 95 | 6/21/96 | Moderate | Whole | 574,335 |
| Midland | Saginaw-Bay City-Midland | 95 96 97 98 99 00 | 1/16/01 | Incomplete data | Whole | 82,874 |
| Muskegon | Muskegon | 95 96 97 98 99 00 | 10/18/00 | Moderate | Whole | 170,200 |
| Saginaw | Saginaw-Bay City-Midland | 95 96 97 98 99 00 | 1/16/01 | Incomplete data | Whole | 210,039 |

NOTES: Nonattainment areas do not meet the national primary or secondary ambient air quality standard (NAAQS) for the specified pollutant. Nonattainment areas are classified based on design values: Extreme = design value of 0.280 parts per million (ppm) and above; Severe-17 = design value of 0.190 up to 0.280 ppm and has 17 years to reach attainment; Severe-15 = design value of 0.180 up to 0.190 ppm and has 15 years to reach attainment; Severe-15 = design value of 0.180 up to 0.190 ppm and has 15 years to reach attainment; Severe-15 = design value of 0.180 up to 0.190 ppm and has 15 years to reach attainment; Severe-15 = design value of 0.180 up to 0.190 ppm and has 15 years to reach attainment; Serious = design value of 0.160 up to 0.180 up to 0.180 up to 0.121 up to 0.138 ppm; Section 185A = an area designated as an ozone nonattainment area as of the date of enactment of the Clean Air Act Amendments of 1990 and has not violated the national primary ambient air quality standard for ozone for the 36-month period commencing on Jan. 1, 1987, and ending on Dec. 31, 1989.

SOURCE: U.S. Environmental Protection Agency, Green Book, available at http://www.epa.gov/oar/oaqps/greenbk/anay.html as of Apr. 20, 2002.

| Table 7-7: Michigan Air Qualit | y Nonattainment Areas for Particulate Matter (| PM-10) |
|--------------------------------|--|--------|
| | | |

| | | | Redesignation to | | Part or | Population |
|--------|-------|-----------------------|------------------|----------------|--------------|------------|
| County | Area | Nonattainment in year | attainment | Classification | whole county | (2000) |
| Wayne | Wayne | 92 93 94 95 96 | 10/4/1996 | Moderate | Part | 951,270 |

SOURCE: U.S. Environmental Protection Agency, Green Book, available at http://www.epa.gov/oar/oaqps/greenbk/anay.html as of Apr. 20, 2002.

| Total length | Barrier cost | |
|--------------|--|--|
| (meters) | (\$ 1998) | |
| 0 | 0 | |
| 9,338 | 2,742,486 | |
| 48,593 | 15,130,670 | |
| 1,989 | 653,497 | |
| 777,160 | 487,177,331 | |
| 104,377 | 45,351,408 | |
| 46,049 | 28,335,802 | |
| 1,262 | 242,013 | |
| 0 | 0 | |
| 70,991 | 62,276,735 | |
| 33,530 | 20,247,589 | |
| 3,103 | 1,743,452 | |
| 200 | 583,002 | |
| 97,803 | 70,985,221 | |
| 18,568 | 20,297,106 | |
| 7,857 | 3,215,640 | |
| 2,103 | 2,082,034 | |
| 8,249 | 5,306,199 | |
| 12,077 | 5,974,212 | |
| 561 | 292,861 | |
| 99,587 | 153,227,923 | |
| 10,250 | 5,259,055 | |
| | 60,139,968 | |
| = | 62,694,176 | |
| | 02,074,170 | |
| - | 4,179,360 | |
| | 4,1,7,000 | |
| | 4,026,138 | |
| • | 10,855,220 | |
| | 5,785,519 | |
| | 210,429,029 | |
| | 9,306,885 | |
| | 116,448,616 | |
| | 24,702,615 | |
| | 0 | |
| | 68,064,386 | |
| | 4,229,909 | |
| • | 30,075,899 | |
| | 88,259,488 | |
| 0 | 0 | |
| | 1,713,629 | |
| 0 | 0 | |
| | 20,574,450 | |
| | 39,635,228 | |
| | 24,841,367 | |
| | 356,344 | |
| | 143,003,313 | |
| | 32,296,683 | |
| • | 170,529 | |
| | 28,768,150 | |
| • | 100,271 | |
| | 1,931,107,534 | |
| 2,011,953 | 1,931,107,534 | |
| | (meters) 0 9,338 48,593 1,989 777,160 104,377 46,049 1,262 0 70,991 33,530 3,103 200 97,803 18,568 7,857 2,103 8,249 12,077 561 99,587 10,250 67,071 101,811 0 6,113 0 5,060 17,847 6,392 142,055 21,196 110,698 45,977 0 138,197 13,186 72,552 83,526 0 2,665 | |

Table 7-8: Highway Noise Barriers: 1999

¹Includes 4,061 meters of federal barriers on the Dulles Access Highway.

SOURCE: U.S. Department of Transportation, Federal Highway Administration, Office of Planning, Environment, and Real Estate, available at http://www.fhwa.dot.gov/environment/ab_noise.htm as of Feb. 20, 2002.

H Information on Data Sources

Airline freight and passenger data

The U.S. Department of Transportation's (USDOT) Bureau of Transportation Statistics (BTS) collects and compiles data on the volume of revenue passengers, freight, and mail traffic handled and reported by the nation's large certificated air carriers. These carriers hold Certificates of Public Convenience and Necessity (CPN) issued by the USDOT authorizing the performance of air transportation. Large certificated air carriers operate aircraft with seating capacity of more than 60 seats or a maximum payload capacity of more than 18,000 pounds or conduct international operations. Data for commuters, intrastate, nonscheduled air taxi operators, and foreign flag air carriers are not included in this BTS data.

Additional information:

Contact: USDOT, Bureau of Transportation Statistics, Office of Airline Information

Print source: USDOT, Bureau of Transportation Statistics, Office of Airline Information. *Airport Activity Statistics*. Washington, DC: Annual issues.

Internet: http://www.bts.gov

Commodity Flow Survey

The Commodity Flow Survey (CFS) provides data on the movement of freight by type of commodity shipped and by mode of transport. In 1997, 100,000 domestic establishments were randomly selected from a universe of approximately 800,000 engaged in mining, manufacturing, wholesale, warehouses of multi-establishment companies, and some selected activities in retail and service. The survey excluded establishments classified as farms, forestry, fisheries, governments, construction, transportation, foreign establishments, services, and most establishments in retail. For the 1997 CFS, each selected establishment reported a sample of about 25 outbound shipments for a oneweek period in each of four calendar quarters in 1997. This produced a total sample of over 5 million shipments. Due to industry-wide reporting problems, shipments by oil and gas extraction establishments were excluded from data tabulations.

For each sampled 1997 CFS shipment, zip code of origin and destination, 5-digit Standard Classification of Transported Goods (SCTG) code, weight, value, and modes of transport were provided. Information on whether the shipment was containerized, a hazardous material, or an export was also obtained. Route-distance for each mode, for each shipment, is imputed from a Mode-Distance Table developed by Oak Ridge National Laboratory. Distance was used to compute ton-mileage by mode of transport. The CFS provides nationwide geographic coverage in 89 National Transportation Analysis Regions, stratified by state and, for the 1997 CFS, metropolitan area.

Additional information:

Contact: USDOT, Bureau of Transportation Statistics, Office of Statistical Programs

Print source: USDOT, Bureau of Transportation Statistics and U.S. Department of Commerce, Bureau of the Census, *[state]: 1997 Commodity Flow Survey*. EC97TCF-[state], Washington, DC: 1999.

Internet: http://www.bts.gov/ntda/cfs/

Commuting data

Commuting data are derived from the Census 2000 Supplementary Survey (C2SS). The C2SS used the questionnaire and methods developed for the American Community Survey to collect demographic, social, economic, and housing data from a national sample of 700,000 households. Group quarters were not included in the sample. The C2SS was conducted in 1,203 counties with monthly samples of about 58,000 housing units. Economic, demographic, and housing characteristics from the Census 2000 Supplementary Survey are reported for the United States as a whole, the 50 states, and the District of Columbia.

The Census 2000 Supplementary Survey is not directly comparable with the 1990 Census for several reasons, one being that the former did not include group quarters. This may understate some categories such as walking.

Additional information:

Contact: USDOC, U.S. Census Bureau, Demographic Surveys Division

Internet: http://www.census.gov

Gas and hazardous liquid pipeline data

U.S. fatality and injury data for natural gas pipelines and hazardous liquid pipelines are based on reports filed with the U.S. Department of Transportation, Office of Pipeline Safety (OPS) under 49 CFR 191. Accidents must be reported as soon as possible, but no later than 30 days after discovery. Undetected releases are a possible source of error; even if subsequently detected and reported, it may not be possible to accurately reconstruct the accident. Property damage figures are estimates.

Gas pipeline incidents involve: 1) releases of gas from a pipeline or liquefied natural gas (LNG) or gas from an LNG facility that results in a) death or personal injury necessitating inpatient hospitalization, or b) estimated property damage, including cost of gas lost, of the operator or others, or both, of \$50,000 or more; 2) an event that results in an emergency shutdown of an LNG facility; or 3) an event that is significant, in the judgment of the operator, even though it did not meet the criteria of 1) or 2).

For hazardous liquids pipelines, an accident report is required for each failure in a pipeline system in which there is a release of the hazardous liquid or carbon dioxide transported resulting in any of the following: 1) explosion or fire not intentionally set by the operator: 2) loss of 50 or more barrels (8 or more cubic meters) of hazardous liquid or carbon dioxide; 3) escape to the atmosphere of more than 5 barrels (0.8 cubic meters) a day of highly volatile liquids; 4) death of any person; 5) bodily harm to any person resulting in one or more of the following: a) loss of consciousness, b) an individual being carried from the scene, c) medical treatment, or d) disability which prevents the discharge of normal duties or the pursuit of normal activities beyond the day of the accident; or 6) estimated property damage, including cost of clean-up and recovery, value of lost product, and damage to the property of the operator or others, or both, exceeding \$50,000.

Additional information:

Contact: USDOT, Research and Special Programs Administration, Office of Pipeline Safety

Internet: http://ops.dot.gov

Government transportation revenue and expenditure data

The U.S. Department of Commerce (USDOC), U.S. Census Bureau conducts an Annual Survey of Government Finances. Alternatively, every five years, in years ending in a '2' or '7', a Census of Governments, including a finance portion, is conducted. The survey coverage includes all state and local governments in the United States. For both the Census and annual survey, the finance detail data is equivalent, encompassing the entire range of government finance activities revenue, expenditure, debt, and assets.

The data collection for the annual survey uses two methods: mail canvas and central collection from state sources. Data for local governments includes county, municipal, township, special district, and school district data. Data for state governments are compiled from state government audits, budgets, and other financial reports into the classification categories used for reporting by the Census Bureau.

Reporting of government finances by the Census Bureau involves presentation of data in terms of uniform categories. While often similar to, or identical to, the classification used by the state or local government, there could be instances in which a significant difference exists between the name of a state or local financial item and the final category to which it is assigned by the Census Bureau.

Like financial transactions are combined. The financial categories for revenue involve grouping of items by source. Revenue items of the same kind are merged. Financial transactions for expenditures are classified both by function and by object category. Debt items are classified by term (short- and longterm), as well as by type of debt and, to a limited extent, by purpose. Assets also are put into uniform categories, grouped by type of holding, with holdings for insurance trust systems grouped separately from general government.

The share of government sector financial totals contributed by a state government or by local governments differs materially from one state to another. Users can review the *Government Finance and Employment* *Classification Manual* for additional information regarding the financial categories. The financial amounts in the tables and files are statistical in nature and do not represent accounting statements or conditions.

The local government statistics are developed from a sample survey. Therefore, the local totals, as well as state and local aggregates, are considered estimated amounts subject to sampling error. State government finance data are not subject to sampling. Consequently, state-local aggregates for individual states are more reliable (on a relative standard error basis) than the local government estimates they include.

Additional information:

Contact: USDOC, U.S. Census Bureau, Finance Branch

Print Sources: USDOC, U.S. Census Bureau, *Federal Aid to States: 2000*

Internet: http://www.census.gov

Hazardous materials incidents data

Incidents resulting in certain unintentional releases of hazardous materials must be reported under 49 CFR 171.16. Each carrier must submit a report to the USDOT, Research and Special Programs Administration (RSPA) within 30 days of the incident, including information on the mode of transportation involved, results of the incident, and a narrative description of the accident. These reports are generally made available on RSPA's incident database within 90 days of receipt.

Fatalities and injuries are counted only if directly caused by a hazardous material. For example, a truck operator killed by impact forces during a motor vehicle crash would not be counted as a hazardous-material fatality.

Data Sources

RSPA contacts the submitting carrier by telephone to verify all reported fatalities.

Although RSPA acknowledges that there is some level of underreporting, it believes that the underreporting is mostly limited to small, nonserious incidents. The reporting requirements were extended to intrastate highway carriers on October 1, 1998, and the response rate from this new group is expected to increase over time. Property damage figures are estimates determined by the carrier prior to the 30-day reporting deadline, and are generally not subsequently updated. Property damage figures, therefore, may underestimate actual damages.

Additional information:

Contact: USDOT, Research and Special Programs Administration, Office of Hazardous Materials Planning and Analysis

Print source: USDOT, Research and Special Programs Administration, Office of Hazardous Materials Safety, *Hazmat Summary by State for Calendar Year 2000*. Washington, DC: 2001

Internet: http://hazmat.dot.gov

Highway mileage, condition, and use, driver licenses, and highway vehicle registrations data

Data on roadway mileage, condition, and use are extracted from the Highway Performance Monitoring System (HPMS), which uses a stratified simple random sample of highway links (small sections of roadway) selected from state inventory files. The HPMS sample was designed as a fixed sample to minimize data collection costs, but adjustments to maintain representativeness are carried out periodically. The HPMS also consists of universe reporting (a complete census) for the Interstate and the National Highway System, and tabular summary reporting of limited information.

Data are collected independently by the 50 states, Metropolitan Planning Organizations (MPOs), and lower jurisdictions. Many of the geometric data items rarely change, such as number of lanes; others change frequently, such as traffic. The U.S. Department of Transportation, Federal Highway Administration (FHWA) provides guidelines for data collection in the HPMS *Field Manual*, which the states follow to varying extents depending on matters such as staff, resources, state perspective, uses of the data, and state/MPO/local needs for the data. State Departments of Transportation (DOTs) report HPMS data annually to the FHWA.

HPMS data are subject to sampling and nonsampling error. Nonsampling error is the major concern with these data. For some of the most variable and important data items, such as traffic, guidelines for measurement and data collection have been produced. States have the option of using the guidelines or using their own procedures. Many data items are difficult and costly to collect and are reported as estimates not based on direct measurement. The data are collected and reported by many entities and individuals within the responsible organizations. Most do a reasonably good job, but staff turnover, cost, equipment issues, etc., can create difficulties.

States provide vehicle registration data to the FHWA. Vehicle registration data are shown on a calendar-year basis. Efforts are made to exclude transfers, re-registrations, and any other factors that could result in duplication in the vehicle counts. Registration practices for commercial vehicles differ greatly among the states. Some states register a tractorsemitrailer combination as a single unit; others register the tractor and the semitrailer separately. Some states register buses with trucks or automobiles, while many states do not report house and light utility trailers separately from commercial trailers or semitrailers. Some states do not require registration of car or light utility trailers. In some instances, FHWA has supplemented the data supplied by the states with information obtained from other sources.

States also provide driver licensing data to the FHWA. Although efforts are made to minimize license duplication, drivers who move from one state to another are sometimes counted in both states until the license from the previous state of residence expires. Problems with the data also arise from the fact that: 1) some individuals obtain their drivers licenses in states other than those of legal residence; 2) some individuals fraudulently obtain multiple licenses; 3) not all individuals who drive are licensed; and 4) the purging of expired licenses or licenses from deceased individuals is not performed on a continual basis.

Additional information:

Contact: USDOT, Federal Highway Administration, Office of Highway Policy Information

Print source: USDOT, Federal Highway Administration, *Highway Statistics*. Washington, DC: Annual issues.

Internet: http://www.fhwa.dot.gov/ohim/ index.html

Highway safety data

Fatalities: Highway fatality data are extracted from the Fatality Analysis Reporting System (FARS), which is compiled by the U.S.

Department of Transportation (USDOT), National Highway Traffic Safety Administration (NHTSA). Data are gathered from a census of police accident reports (PARs), state vehicle registration files, state drivers licensing files, state highway department data, vital statistics, death certificates, coroner/medical examiner reports, hospital medical reports, and emergency medical service reports. A separate form is completed for each fatal crash. Blood alcohol concentration (BAC) is estimated when not known. Statistical procedures used for unknown data in FARS can be found in the NHTSA report, A Method for Estimating Posterior BAC Distributions for Persons Involved in Fatal Traffic Accidents, DOT HS 807 094 (Washington, DC: July 1986).

Data are collected from relevant state agencies and electronically submitted for inclusion in the FARs database on a continuous basis. Cross-verification of PARs with death certificates helps prevent undercounting. Moreover, when data are entered, they are checked automatically for acceptable range values and consistency, enabling quick corrections when necessary. Several programs continually monitor the data for completeness and accuracy. Periodically, sample cases are analyzed for accuracy and consistency.

FARS data do not include motor vehicle fatalities on nonpublic roads. These are thought to account for about 2 percent or fewer of the total motor vehicle fatalities per year.

Injuries and crashes: NHTSA's General Estimates System (GES) data are a nationally representative sample of police-reported crashes that contributed to an injury or fatality or resulted in property damage and involved at least one motor vehicle traveling on a trafficway. GES data collectors randomly sample PARs and forward copies to a central contractor for coding into a standard GES system format. Documents such as police diagrams or supporting text provided by the officers might be further reviewed to complete a data entry. A NHTSA study of injuries from motor vehicle crashes estimated the total count of nonfatal injuries at over 5 million compared with the GES's estimate of 3.2 million in 1998.

Additional information:

Contact: USDOT, National Highway Traffic Safety Administration, National Center for Statistics and Analysis

Print source: USDOT, National Highway Traffic Safety Administration, *Traffic Safety Facts*. Washington, DC: Annual issues.

Internet: http://www.nhtsa.dot.gov

International visitors data

Data on international visitors to the United States are based on international arrivals by air to the United States (excluding those from Canada and Mexico). Information is derived from the Immigration and Naturalization Service's (INS) Visitor Arrivals Program (I-94) and the U.S. Department of Commerce, Tourism Industries Office's Survey of International Air Travelers. The survey obtains data on overseas travel patterns, characteristics, and spending patterns of international travelers to and from the United States. Between 69,000 and 95,000 travelers are surveyed each year. The survey results are weighted so they represent the international travel populations of U.S. residents and nonresidents based upon Immigration and Naturalization Service data.

Additional information:

Contact: U.S. Department of Commerce (USDOC), International Trade Administration, Tourism Industries Office

Print source: USDOC, International Trade Administration, Tourism Industries Office, *Overseas Visitors to Select U.S. States and Territories*. Washington, DC: Annual issues; *and* USDOC, International Trade Administration, Tourism Industries Office, *Overseas Visitors to Select U.S. Cities/Hawaiian Islands*. Washington, DC: Annual issues.

Internet: http://tinet.ita.doc.gov/

Passenger border crossing data

U.S. Custom Service personnel collect passenger border-crossing entry data for all U.S. land, air, and maritime ports. These numbers reflect all entries, and it is not possible to divide these data into separate entries for same-day and overnight travel or by country of residence for the traveler. Additionally, for border-crossing figures, the total number of people is not the number of unique individuals, but rather indicates the number of border crossings. Multiple crossings by the same individual count as multiple border crossings.

Additional information:

Contact: USDOT, Bureau of Transportation Statistics, Office of Transportation Analysis

Internet: http://www.bts.gov

Railroad industry and shipments data

The Association of American Railroads (AAR) database aggregates data from several sources concerning the freight railroad industry and movement of freight, both nationally and statewide. The state-specific data include commerce, employment, and financial contributions.

The primary source of data for Class I railroads is Schedule 700 of the R-1 Annual Report to the Surface Transportation Board (STB) by individual carriers (100 percent reporting) and the 2000 Carload Waybill Sample. The primary source of data for non-Class I railroads is AAR's Profiles of U.S. Railroads from statistics supplied annually by nearly all operating U.S. freight railroads. Some of the data are estimated based on more aggregated, national figures.

The STB defines Class I railroads as having operating revenues at or above a threshold indexed to a base of \$250 million (1991) and adjusted annually in concert with changes in the Railroad Freight Rate Index published by the Bureau of Labor Statistics. Declassification from Class I status occurs when a railroad falls below the applicable threshold for three consecutive years. Although few in number, Class I railroads account for over 90 percent of the industry's revenue.

The AAR determines the number of non-Class I railroads through an annual survey sent to each U.S. freight railroad.

Historical reliability may vary due to changes in the railroad industry, including bankruptcies, mergers, and declassification by the STB. Small data errors may also have occurred because of independent rounding in this series by the AAR.

Additional information:

Contact: Association of American Railroads, Policy and Economics Department

Internet: http://www.aar.org

Railroad safety data

Railroads are required to file a report for each accident or incident to the Federal Railroad Administration (FRA). These include: 1) train accidents, reported on Form F 6180.54, comprised of collisions, derailments, and other events involving the operation of on-track equipment and causing reportable damage above an established threshold (\$6,600 in 1998); 2) highway-rail grade crossing incidents, reported on Form F 6180.57, involving impact between railroad on-track equipment and highway users at crossings; and 3) other incidents, reported on Form F 6180.55a, involving all other reportable incidents or exposures that cause a fatality or injury to any person or an occupational illness to a railroad employee.

Railroads are required by FRA regulations to use the current *FRA Guide for Preparing Accident/Incident Reports* when preparing reports.

The Systems Support Division of FRA maintains the Railroad Accident/Incident Reporting System (RAIRS), consisting of four databases: rail equipment, injury/illness, grade-crossing accidents, and railroad summary (freight and passenger). These databases include information on all railroad accidents, grade-crossing accidents, railroad employee casualties, and any other injuries on railroad property, and provide the basis for accident analyses and assessment as well as annual reports. The databases are updated monthly from information submitted by the railroads.

Additional information:

Contact: USDOT, Federal Railroad Administration, Office of Safety

Data Sources

Print publication: USDOT, Federal Railroad Administration, *Railroad Safety Statistics*. Washington, DC: Annual issues.

Internet: http://www.fra.dot.gov

Recreational boating safety and vehicles data

The U.S. Coast Guard, of the U.S. Department of Transportation, collects data on recreational boating accidents from two sources: 1) Boating Accident Report (BAR) data forwarded to the Coast Guard by jurisdictions with an approved boat numbering and casualty reporting system, and 2) reports of Coast Guard investigations of fatal boating accidents that occurred on waters under federal jurisdiction. Recreational Boating Accident Investigation data are used if submitted to the Coast Guard and are relied on as much as possible to provide accident statistics. In the absence of investigations, information is collected from reports filed by boat operators.

Boat operators are required to file a BAR if an accident results in 1) loss of life, 2) personal injury that requires medical treatment beyond first aid, 3) damage to the vessel and other property exceeding \$500, or 4) complete loss of the vessel.

Boat operators are required to report their accidents to authorities in the state where the accident occurred. States with approved boat numbering systems furnish the Coast Guard with BAR data. The minimum reporting requirements are set by federal regulation, but states are allowed to have stricter requirements. The Coast Guard reports recreational boating safety data in the report *Boating Statistics*, which only covers accidents meeting the federal minimum reporting requirements. The statistics in *Boating Statistics* cover boating accidents reported on waters of joint federal and state jurisdiction, and exclusive state jurisdiction.

The Coast Guard believes over 90 percent of fatal accidents are included in *Boating Statistics*. A smaller percentage of nonfatal accidents are reported because of reporting thresholds, ignorance of the law, and difficulties enforcing the law. Federal law does not require the reporting of accidents on private waters where states have no jurisdiction. Reports of accidents on such waters are included when received by the Coast Guard if they satisfy the other requirements of inclusion. Accidents excluded are those in which the boat was used as a platform for other activities (e.g., swimming), and those in which a person dies of natural causes aboard a boat. However, the data do include accidents involving people in the water who are struck by their boat or another boat.

Additional information:

Contact: USDOT, U.S. Coast Guard, Office of Boating Safety

Print source: USDOT, U.S. Coast Guard, Office of Boating Safety, *Boating Statistics*, Washington, DC: Annual issues.

Internet: http://www.uscgboating.org

Transborder surface freight data

The Transborder Surface Freight Dataset is extracted from the Census Foreign Trade Statistics Program and made available by the Bureau of Transportation Statistics. Import and export data are extracted from administrative records required by the Departments of Commerce and Treasury. This dataset incorporates all shipments entering or exiting the United States by surface modes of transport (that is, other than air or maritime vessel) to and from Canada or Mexico. Prior to January 1997, this dataset also included transhipments in its detailed tables, that is, shipments entering or exiting the United States by way of U.S. Customs ports on the northern or southern borders, even when the actual origin or final destination of the goods was other than Canada or Mexico. Shipments that neither originate nor terminate in the United States (i.e., intransit shipments) are beyond the scope of this dataset because they are not considered U.S. international trade shipments.

Users should be aware that the trade data fields (such as value and commodity classification) are typically more rigorously reviewed than transportation data fields (i.e., mode of transportation and port of entry/exit). Users should also be aware that the use of foreign trade data to describe physical transportation flows might not be direct. For example, this dataset provides surface transportation information for individual Customs districts and ports on the northern and southern borders. However, because of filing procedures for trade documents, these ports may or may not reflect where goods physically crossed the border. This is because the filer of information may choose to file trade documents at one port, while shipments actually enter or exit at another port.

Import data are generally more accurate than export data. This is primarily due to the fact that Customs uses import documents for enforcement purposes, while it performs no similar function for exports.

Additional information:

Contact: USDOT, Bureau of Transportation Statistics, Office of Transportation Analysis

Internet: http://www.bts.gov

Transit operating, financial, and safety data

Transit data are from the National Transit Database (NTD) produced by the USDOT, Federal Transit Administration (FTA). Data are collected from transit agencies that receive Urbanized Area Formula Program funds. Transit operators that do not report to FTA are those that do not receive federal funding, typically private, small, and rural operators. FTA reviews and validates information submitted by individual transit agencies. Reliability may vary because some transit agencies cannot obtain accurate information or may interpret certain data definitions differently than intended.

In 2000, 592 agencies reported to the NTD. Of that total, 67 transit agencies received exemptions from detailed reporting because they operated 9 or fewer vehicles, and 7 were excluded because their data were incomplete. Thus, 518 individual reporters were included in the NTD accounting for 90 to 95 percent of transit passenger-miles.

Data are collected on a range of variables including capital and operating funding, transit service supplied and consumed, and transit safety and security. Transit operators must report fatalities, injuries, accidents, incidents, and property damage in excess of \$1,000.

Additional information:

Contact: USDOT, Federal Transit Administration

Print source: USDOT, Federal Transit Administration, *Data Tables*. Washington, DC: Annual issues; and USDOT, Federal Transit Administration, *National Transit Database Reporting Manual*. Washington, DC: Annual issues.

Internet: http://www.fta.dot.gov

Transportation establishment, employees, and payroll data

Data on employees, establishments, and payroll are taken from County Business Patterns, a database of employment in the United States using the North American Industry Classification System (NAICS). Data are collected annually. Data are extracted from the Business Register, the Census Bureau's file of all known single and multiestablishment companies. The Annual Company Organization Survey and quinquennial Economic Censuses provide individual establishment data for multilocation firms. Data for single-location firms are obtained from various programs conducted by the Census Bureau, such as the Economic Censuses, the Annual Survey of Manufactures, and Current Business Surveys. They are also obtained from administrative records of the Internal Revenue Service (IRS), the Social Security Administration (SSA), and the Bureau of Labor Statistics (BLS).

Additional information:

Contact: USDOC, U.S. Census Bureau, Economic Planning and Coordination Division

Print source: USDOC, U.S. Census Bureau, [State]: County Business Patterns 1999. CBP/99-6. Washington, DC: 2001.

Internet: http://www.census.gov/epcd/ cbp/view/cbpview.html

Vehicle Inventory and Use Survey

The Vehicle Inventory and Use Survey (VIUS) collects data on the physical and operational characteristics of private and commercial trucks in the United States. The 1997 VIUS sampled about 131,000 trucks from an estimated universe of over 75 million trucks. The sample excludes vehicles owned by federal, state, and local government including ambulances, buses, motor homes, farm tractors, unpowered trailer units, and trucks reported to have been sold, junked, or wrecked prior to July 1, 1996. Light trucks registered as cars, as is the practice in many states, were included. Unregistered trucks used off-road are not included. Census delivered a mail-out/mail-back survey to the owner identified in the vehicle registration records. Data collection is staggered as state records become available. Owners report data only for the vehicles selected. The response rate for the 1997 VIUS was about 85 percent.

Additional information:

Contact: USDOC, U.S. Census Bureau, Service Sector Statistics Division

Print source: USDOC, U.S. Census Bureau, [state]: 1997 Vehicle Inventory and Use Survey. EC97TV-[state]. Washington, DC: 1999.

Internet: http://www.census.gov/svsd/www/ tiusview.html

Waterborne imports and vessel data

The U.S. Department of Transportation's Maritime Administration (MARAD) classifies merchant-based vessels by size and type and reports this information in its annual publication, *Merchant Fleets of the World*. MARAD compiles these figures from a data service provided by Lloyd's Maritime Information Service. The parent company, Lloyd's Register (LR), collects data from several sources, including its offices around the world, data transfers and agreements with other classification societies, questionnaires to ship owners and shipbuilders, feedback from government agencies, and input from port agents. MARAD's Office of Statistical and Economic Analysis maintains the waterborne databank used to compile the annual import and export statistics from monthly and quarterly data provided by the U.S. Army Corps of Engineers. MARAD publishes the data in reports of vessel movements, trade and cargo by type of service, U.S. and foreign port, country of origin/destination, commodity, value, weight, and containerized cargo.

MARAD distributes the reports and performs special tabulations and customized maritime data reports created for other government agencies and the private sector on a reimbursable basis. MARAD also provides these services for historic data and maintains the Schedule K Classification of Foreign Ports by Geographic Trade Area and Country.

Additional information:

Contact: USDOT, Maritime Administration, Office of Statistical and Economic Analysis

Print source: USDOT, Maritime Administration, *Merchant Fleets of the World*.

Internet: http://www.marad.dot.gov

Waterborne shipments data

The U.S. Army Corps of Engineers' (Corps) Navigation Data Center (NDC) collects data on waterborne commodity and vessel movements, domestic commercial vessel characteristics, port and waterway facilities, and navigation dredging projects.

The NDC's databases contain information on physical characteristics, infrastructure, and commodities for principal facilities on the U.S. coast, Great Lakes, and inland ports. The data consists of listings of port area's waterfront facilities, including information on berthing, cranes, transit sheds, grain elevators, marine repair plants, fleeting areas, and docking and storage facilities. All vessel operators of record report their domestic waterborne traffic movements to the Corps via ENG Forms 3925 and 3925b. Cargo movements are reported according to points of loading and unloading. Excluded cargo movements are: 1) cargo carried on general ferries, 2) coal and petroleum products loaded from shore facilities directly into vessels for fuel use, 3) military cargo moved in U.S. Department of Defense vessels, and 4) cargo weighing less than 100 tons moved on government equipment. The Corps calculates ton-miles by multiplying the cargo's tonnage by the distance between points of loading and unloading.

An annual survey of companies that operate inland waterway vessels is the principal source of data for inland non self-propelled vessels, self-propelled vessels, and flag passenger and cargo vessels. More than 3,000 surveys are sent to these companies, and response rates are typically above 90 percent.

Additional information:

Contact: U.S. Army Corps of Engineers, Waterborne Commerce Statistics Center

Print source: U.S. Army Corps of Engineers, *Waterborne Commerce of the United States*. New Orleans, LA: Annual issues.

Internet: http://www.wrsc.usace.army.mil

I Glossary

British thermal unit (Btu): The amount of energy required to raise the temperature of 1 pound of water 1 degree Fahrenheit (F) at or near 39.2 degrees F and 1 atmosphere of pressure.

Certificated airport: An airport holding an operating certificate issued by the Federal Aviation Administration in accordance with Code of Federal Regulations (CFR) Title 14, Chapter 1, Part 139 allowing it to serve scheduled or unscheduled air carrier aircraft designed for more than 30 passengers.

Commuter rail: Urban passenger train service for short-distance travel between a central city and adjacent suburb. Does not include rapid rail transit or light rail transit service.

Container: A box-like device used to store, protect, and handle a number of packages or items as a unit of transit that can be interchanged between trucks, trains, and ships without rehandling the contents.

Controlled right-of-way: Lanes restricted for at least a portion of the day for use by transit vehicles and other high occupancy vehicles (HOVs).

Demand responsive: Transit service provided without a fixed route and without a fixed schedule that operates in response to calls from passengers or their agents to the transit operator or dispatcher. Service is usually provided using cars, vans, or buses with fewer than 25 seats.

Directional route-miles: The mileage in each direction over which public transportation vehicles travel while in revenue service. Directional route-miles are a measure of the facility or roadway, not the service carried on the facility such as the number of routes or vehicle-miles. Directional route-miles are computed with regard to direction of service, but without regard to the number of traffic lanes or rail tracks existing in the right-of-way.

Dry-bulk carrier (water): A ship with specialized holds for carrying dry cargo such as coal, grain, and iron ore in unpackaged bulk form.

Enplanements: The total number of revenue passengers boarding aircraft.

Exclusive right-of-way: Lanes reserved at all times for transit use and other high occupancy vehicles (HOVs).

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

Full container ship: Ships equipped with permanent container cells, with little or no space for other types of cargo.

Heavy rail: An electric railway with the capacity to transport a heavy volume of passenger traffic and characterized by exclusive rights-of-way, multi-car trains, high speed, rapid acceleration, sophisticated signaling, and high-platform loading. Also known as "subway," "elevated (railway)," or metropolitan railway (metro)."

Light rail: A streetcar-type vehicle operated on city streets, semi-exclusive rights-of-way, or exclusive rights-of-way.

Glossary

Service may be provided by step-entry vehicles or by level boarding.

Major arterial highway: A major highway used primarily for through traffic.

Metric ton: 2,205 pounds (2,000 pounds divided by 0.907).

Minor arterial: In rural areas, roads linking cities and larger towns. In urban areas, roads distributing trips to small geographic area but not penetrating identifiable neighborhoods.

Minor collector highway: In rural areas, routes that serve intracounty rather than statewide travel. In urban areas, streets that provide direct access to neighborhoods and arterials.

Mixed right-of-way: Lanes used for general automobile traffic.

Motor bus: A rubber-tired, self-propelled, manually steered bus with fuel supply onboard the vehicle. Motor bus types include intercity, school, and transit.

Natural gas distribution pipeline: Smaller than transmission pipelines and maintained by companies that distribute natural gas locally (intrastate). Distribution pipeline systems are analogous to networks of lesser roads and residential streets that people travel after getting off the freeway.

Natural gas transmission pipeline:

Analogous to a major freeway, it is the main interstate transportation route for moving large amounts of natural gas from the source of production to points of distribution. Transmission pipelines are designed to move large amounts of natural gas from areas where the gas is extracted and stored to the local distribution companies that provide natural gas to homes and businesses.

Principal arterial highway: Major streets or highways, many of multilane or freeway design, serving high-volume traffic corridor movements that connect major generators of travel.

Short ton: 2,000 pounds.

Tanker: An oceangoing ship designed to haul liquid bulk cargo in world trade.

Ton-mile: The movement of one ton of cargo the distance of one statute mile.

Trackage rights: The authority of one railroad to use the tracks of another railroad for a fee.

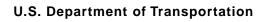
Trolley bus: Rubber-tired, electric transit vehicle, manually steered and propelled by a motor drawing current, normally through overhead wires, from a central power source.

Unlinked passenger trips: The number of passengers who board public transportation vehicles. A passenger is counted each time he or she boards a vehicle even if on the same journey from origin to destination.

Vanpool: Public-sponsored commuter service operating under prearranged schedules for previously formed groups of riders in 8- to 18-seat vehicles. Drivers are also commuters who receive little or no compensation besides the free ride.

Vehicle-miles traveled (highway): Miles of travel by all types of motor vehicles as determined by the states on the basis of actual traffic counts and established estimating procedures.







Bureau of Transportation Statistics