G-7 Countries:

U.S. Department of Transportation
Bureau of Transportation Statistics

November 1999
ACKNOWLEDGMENTS

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**Introduction**

This report provides summary statistics on the physical characteristics, use, and performance of transportation networks in the United States, Canada, France, Germany, Italy, the United Kingdom, and Japan—the Group of Seven (G-7) countries.\(^1\) Data on safety, transportation-related energy use, and environmental impacts are also given. The Bureau of Transportation Statistics (BTS) used many sources to assemble these data, but relied primarily on statistical compendiums published by international agencies to obtain data about Japan and European G-7 countries. Although basic socioeconomic data are readily available for these countries, transportation statistics are generally less accessible and, for a given country, are often the responsibility of several government agencies.

Data-collection and processing procedures also vary by country, making it very difficult to compare figures. Some data may be compiled from administrative and regulatory documents, while other data are collected through surveys. Furthermore, methodologies, definitions, and terminologies may differ from country to country. Every effort was made in this report to use comparable data or identify differences. In some instances, countries did not report all data requested by the international agency preparing the compilation. In such cases, the tables indicate that the data are unavailable from the cited sources. In some cases, however, such data could be obtained from sources in the individual country.

Most of the U.S. data were compiled by BTS from various sources. Source and accuracy profiles for much of the U.S. data can be found in the BTS report, *National Transportation Statistics 1998* (NTS98), available on the Internet at [http://www.bts.gov](http://www.bts.gov), or in the forthcoming edition of this report for 1999. Users should note, however, that the data categories in some of the tables in this report differ from those in the NTS98. For other G-7 countries, readers should consult the source documents regarding methods of data collection and measures of statistical reliability.

This report is one of several efforts by BTS to provide international transportation data and analysis to U.S. decisionmakers, as called for in the 1998 Transportation Equity Act for the 21st Century. An electronic version of this report, including downloadable spreadsheet files in metric and U.S. measures, will be available on the BTS website. Other BTS reports are also available on the Internet at [http://www.bts.gov](http://www.bts.gov) or can be ordered by calling (202) 366-DATA.

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\(^1\)In 1975, these countries created the G-7 to promote balanced economic growth and stability of exchange rates. In 1998, the G-8 was formed, when Russia became a full participating member. However, the G-7 still exists alongside the G-8. Russia was not included in this publication due to its recent introduction to the group and lack of readily available data.
Table 1

Country Overview: 1996

<table>
<thead>
<tr>
<th></th>
<th>Canada</th>
<th>France</th>
<th>Germany</th>
<th>Italy</th>
<th>Japan</th>
<th>United Kingdom</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>National population (millions)</td>
<td>30</td>
<td>58</td>
<td>82</td>
<td>57</td>
<td>126</td>
<td>59</td>
<td>265</td>
</tr>
<tr>
<td>Population density (number of people per square kilometer)</td>
<td>3</td>
<td>110</td>
<td>230</td>
<td>200</td>
<td>330</td>
<td>240</td>
<td>29</td>
</tr>
<tr>
<td>Urban population (% of total national population)</td>
<td>78</td>
<td>75</td>
<td>87</td>
<td>67</td>
<td>78</td>
<td>89</td>
<td>80</td>
</tr>
<tr>
<td>Land area (thousands of square kilometers)</td>
<td>9,215</td>
<td>550</td>
<td>349</td>
<td>294</td>
<td>377</td>
<td>242</td>
<td>9,159</td>
</tr>
</tbody>
</table>

Notes

All countries
The numbers in this table were taken from many sources. Data-collection and processing procedures vary by country making cross-country comparison difficult. Data users should consult the source documents for indications of statistical reliability and comparability.

Canada
Urban population: Based on areas with minimum population concentrations of 1,000 and a population density of at least 400 people per square kilometer.

European G-7 countries and Japan
National population: Taken from country submissions to the World Bank. Annual population figures are generally extrapolated from the most recent national census, but the frequency and quality of these censuses vary by country. Total population includes all residents, except, for the most part, refugees not permanently settled in the country of asylum.

Land area: Data are gathered annually from national agencies by the Food and Agriculture Organization, a specialized agency of the United Nations. Land area is a country’s total area, excluding area under inland water bodies (generally major rivers and lakes). Land area differs from surface area, which includes inland bodies of water and some coastal waterways, and gross area, which may include offshore territorial waters.

United States
Urban population: In general, an urbanized area is comprised of one or more places (central place) and the adjacent densely settled surrounding territory (urban fringe) that together have a minimum of 50,000 persons.
Sources

Land area: Data include U.S. territories. Data exclude U.S. inland water, coastal water, territorial seas, and Great Lakes water.

Canada


European G-7 countries and Japan

United States

### Table 2

**Physical System Extent: 1996**

<table>
<thead>
<tr>
<th>SYSTEM LENGTH (kilometers)</th>
<th>Canada</th>
<th>France</th>
<th>Germany</th>
<th>Italy</th>
<th>Japan</th>
<th>United Kingdom</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road, total</td>
<td>912,200</td>
<td>892,500</td>
<td>633,700</td>
<td>316,400</td>
<td>1,152,070</td>
<td>371,870</td>
<td>6,331,000</td>
</tr>
<tr>
<td>Motorways</td>
<td>16,600</td>
<td>9,500</td>
<td>11,300</td>
<td>9,500</td>
<td>6,070</td>
<td>3,270</td>
<td>88,605</td>
</tr>
<tr>
<td>Highways—main and national</td>
<td>15,000</td>
<td>28,000</td>
<td>41,600</td>
<td>46,900</td>
<td>59,000</td>
<td>15,400</td>
<td>748,972</td>
</tr>
<tr>
<td>Secondary/ regional</td>
<td>224,800</td>
<td>355,000</td>
<td>75,800</td>
<td>118,000</td>
<td>121,000</td>
<td>36,200</td>
<td>695,407</td>
</tr>
<tr>
<td>Other roads</td>
<td>655,800</td>
<td>500,000</td>
<td>505,000</td>
<td>142,000</td>
<td>966,000</td>
<td>317,000</td>
<td>4,774,585</td>
</tr>
<tr>
<td>Inland waterways, total</td>
<td>2,825</td>
<td>c5,736</td>
<td>a6,663</td>
<td>2,400</td>
<td>a1,770</td>
<td>d1,631</td>
<td>43,000</td>
</tr>
<tr>
<td>Pipeline, total</td>
<td>314,124</td>
<td>32,292</td>
<td>105,154</td>
<td>23,251</td>
<td>2,206</td>
<td>16,726</td>
<td>2,364,985</td>
</tr>
<tr>
<td>Gas</td>
<td>277,166</td>
<td>24,746</td>
<td>97,564</td>
<td>19,400</td>
<td>1,800</td>
<td>12,800</td>
<td>2,042,312</td>
</tr>
<tr>
<td>Oil</td>
<td>36,959</td>
<td>7,546</td>
<td>7,590</td>
<td>3,851</td>
<td>406</td>
<td>3,926</td>
<td>a322,673</td>
</tr>
<tr>
<td>Rail, total</td>
<td>77,387</td>
<td>c52,204</td>
<td>41,718</td>
<td>a16,003</td>
<td>a27,318</td>
<td>a33,063</td>
<td>286,000</td>
</tr>
<tr>
<td>Transit rail, total</td>
<td>N</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>4,259</td>
<td>U</td>
<td>6,961</td>
</tr>
</tbody>
</table>

| NUMBER OF FACILITIES       |        |         |         |       |       |                |               |
| Airports                   | 1,141  | 460     | 613     | 132   | 164   | 387            | 13,175        |
| Marine ports and facilities| 172    | U       | U       | U     | U     | U              | 321           |

**Key:**
- N = data are nonexistent.
- U = data are unavailable from cited sources.
- a Data year is 1995.
- b Commercially navigable.
- c Data year is 1994.
- d Data year is 1990.
**Notes**

**All countries**
The numbers in this table were taken from many sources. Data-collection and processing procedures vary by country making cross-country comparison difficult. Data users should consult the source documents for indications of statistical reliability and comparability.

**Canada**
Rail: Yard tracks, sidings, and parallel lines; includes freight and intercity rail only.

Airports:Aerodromes (facilities that are registered with Transport Canada as aircraft landing and takeoff sites). Data do not include heliports, STOLports (airports designed for short takeoff and landing aircraft, separate from conventional airport facilities), and seaplane bases.

Marine ports or facilities: Those reporting domestic and international cargo via either Statistics Canada’s *Domestic Shipping Report* or Revenue Canada’s *Customs Declaration*.

**European G-7 countries and Japan**
Road: Data represent a sum of the motorways; highways, main and national; secondary/regional; and other roads. This may differ from primary source data.
Rail: One or more adjacent running tracks forming a route between two points. Unless noted, data include yard tracks and sidings. Data also may include transit rail. French, Japanese, and British data include tracks and sidings, while German and Italian data do not. Japanese data are for Japan Rail (a national carrier) and large and mid-sized privatized railroad companies. Japanese transit rail extent is based on data for subways, monorail systems, automated guideway transit systems, cable cars, and tram cars.

Airports: The total number of airports with paved and unpaved runways (concrete or asphalt surfaces), including military landing fields, based on information from the U.S. Department of Defense National Imagery and Mapping Agency. Data exclude heliports. Information is not available as to whether STOLports and seaplane bases are included.

United States
Road: The road total includes data for Puerto Rico, however, data for Puerto Rico are not included in the individual road categories. Individual categories represented include: motorways—Interstate, urban and rural, principal arterial (other freeways and expressways); highways, main and national—principal arterial, other, urban and rural; minor arterial—urban and rural; secondary/regional—major collector, rural; other roads—local, urban and rural; and minor collector—rural.

Inland waterways: Estimated length of inland waterways on which commercial traffic was reported to the U.S. Army Corps of Engineers.

Rail: Length of track owned including yard tracks, sidings, and parallel lines of Class I freight railroads and intercity passenger rail (Amtrak). Class I railroads accounted for 73% of the industry’s distance operated.

Transit rail: Commuter rail, heavy rail, and light rail. Data are one-way, fixed guideway.

Airports: Civilian and joint-use civilian-military airports. Purely military airports are excluded. Data do not include heliports, STOLports, and seaplane bases.

Marine ports and facilities: Those with activity exceeding one U.S. short ton per year, either domestic or foreign. Includes ports in U.S. territories.

Sources
Canada


European G-7 countries


Japan


**United States**


### Table 3

**Number of Road Motor Vehicles: 1996**

<table>
<thead>
<tr>
<th></th>
<th>Canada</th>
<th>France</th>
<th>Germany</th>
<th>Italy</th>
<th>Japan</th>
<th>United Kingdom</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ROAD VEHICLES, total</strong></td>
<td>17,182,626</td>
<td>29,514,673</td>
<td>45,103,886</td>
<td>U</td>
<td>a71,776,000</td>
<td>24,444,000</td>
<td>210,236,393</td>
</tr>
<tr>
<td><strong>Personal vehicles, total</strong></td>
<td>13,562,927</td>
<td>25,661,000</td>
<td>42,672,000</td>
<td>34,674,671</td>
<td>61,286,000</td>
<td>21,788,000</td>
<td>202,533,376</td>
</tr>
<tr>
<td>Passenger vehicles</td>
<td>13,251,146</td>
<td>b24,900,000</td>
<td>c40,404,000</td>
<td>c31,700,000</td>
<td>40,477,000</td>
<td>21,022,000</td>
<td>129,728,341</td>
</tr>
<tr>
<td>Light trucks</td>
<td>N</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>19,584,000</td>
<td>U</td>
<td>68,933,798</td>
</tr>
<tr>
<td>Motorcycles</td>
<td>311,781</td>
<td>b761,000</td>
<td>c2,268,000</td>
<td>d2,974,671</td>
<td>1,225,000</td>
<td>766,000</td>
<td>3,871,237</td>
</tr>
<tr>
<td><strong>Buses, total</strong></td>
<td>64,550</td>
<td>b79,300</td>
<td>c86,258</td>
<td>c77,100</td>
<td>242,000</td>
<td>159,000</td>
<td>696,609</td>
</tr>
<tr>
<td><strong>Commercial freight vehicles, total</strong></td>
<td>206,305</td>
<td>b3,774,373</td>
<td>b2,345,628</td>
<td>U</td>
<td>U</td>
<td>2,497,000</td>
<td>7,006,408</td>
</tr>
<tr>
<td>Single-unit trucks</td>
<td>35,290</td>
<td>b3,606,037</td>
<td>b2,215,236</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>5,264,554</td>
</tr>
<tr>
<td>Truck-tractors</td>
<td>92,059</td>
<td>b168,336</td>
<td>b130,392</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>1,741,854</td>
</tr>
</tbody>
</table>

**Key:**
- N = data are nonexistent.
- U = data are unavailable from cited sources.
- a Includes freight vehicles not separately listed.
- b Data year is 1994.
- c Data year is 1995.
- d Data year is 1990.

### Notes

**All countries**

The numbers in this table were taken from many sources. Data-collection and processing procedures vary by country making cross-country comparisons difficult. Data users should consult the source documents for indications of statistical reliability and comparability.

**Personal vehicles:** Sum of the passenger vehicles, light trucks, and motorcycles categories. Vehicles in these categories are used mostly for personal transportation, although in some countries an important share is used in business.

**Light trucks:** Many countries do not separately break out data for light trucks (e.g., minivans, pickup trucks, and sport utility vehicles). In many cases, light trucks are included in a country’s figures for passenger vehicles.

**Canada**

Road vehicles: The total number of registered vehicles. Data for individual vehicle categories do not sum to the overall total for road vehicles because two different data sources are used for the individual vehicle categories. The overall total also includes light trucks. However, light trucks cannot be broken out in any of the road subcategories.

Personal vehicles: Passenger vehicles and motorcycles. Does not include light trucks, such as minivans and pickup trucks.
Passenger vehicles: Registered passenger cars, taxis, for-hire cars, and other passenger road vehicles, as defined by provincial and territorial jurisdictions. Does not include light trucks.

Buses: Intercity, charter, school, local transit buses.

Commercial freight vehicles: Data are based on Statistics Canada's Motor Carriers of Freight Survey, supplemented by data from Canada's vehicle registration files. The figure for commercial freight vehicles is not a sum of single-unit trucks and truck-tractors, because other types of freight vehicles are included in the commercial freight vehicles total. Data for single-unit trucks and truck-tractors are estimates for owner-operators and/or Canadian for-hire motor carriers earning annual revenues greater than or equal to $25,000 (Canadian).

European G-7 countries
Personal vehicles: The sum of the passenger vehicles and motorcycles categories. Light trucks are not broken out as a separate category, but may be included in passenger vehicles.

Passenger vehicles: Defined as road motor vehicles designed to seat no more than 9 persons (including the driver). Includes passenger automobiles, taxis, and hired passenger vehicles with fewer than 10 seats. May also include pickup trucks, minivans, and sport utility vehicles.

Buses: Road motor vehicles designed to seat more than 9 persons (including the driver), including local, charter, and intercity buses.

Single-unit trucks: Rigid road motor vehicles designed, exclusively or primarily, to carry goods. Includes commercial vans with a gross vehicle weight of not more than 3,500 kg, and may also include pickup trucks used commercially. Based on trucks in use at the end of the year.

Truck-tractors: Road motor vehicles designed, exclusively or primarily, to haul semi-trailers or other road vehicles that are not power-driven. Excludes agricultural tractors.

Japan
Road vehicles: The overall total includes some commercial freight vehicles as well as other Japanese vehicle type categories not separately listed in this table.

United States
Road vehicles: Registered vehicles, except local motor buses, that are active passenger vehicles.

Passenger vehicles: Taxis, passenger automobiles.

Light trucks: Vans, pickup trucks, sport utility vehicles.

Buses: Intercity, charter, school, local transit buses.

Sources
Canada
____. Trucking in Canada (Ottawa, Ontario: 1997).

European G-7 countries

Japan

United States
Table 4

Road Vehicle-Kilometers: 1996 (Billions)

<table>
<thead>
<tr>
<th></th>
<th>Canadaa</th>
<th>France</th>
<th>Germany</th>
<th>Italy</th>
<th>Japan</th>
<th>United Kingdom</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROAD, total</td>
<td>317.1</td>
<td>473.3</td>
<td>575.0</td>
<td>467.2</td>
<td>U</td>
<td>442.5</td>
<td>3,994.7</td>
</tr>
<tr>
<td>Personal vehicles, total</td>
<td>271.1</td>
<td>370.0</td>
<td>511.8</td>
<td>407.0</td>
<td>U</td>
<td>366.6</td>
<td>3,690.1</td>
</tr>
<tr>
<td>Passenger vehicles</td>
<td>216.4</td>
<td>364.0</td>
<td>500.0</td>
<td>393.0</td>
<td>421.0</td>
<td>362.4</td>
<td>2,362.7</td>
</tr>
<tr>
<td>Motorcycles</td>
<td>1.0</td>
<td>b6.0</td>
<td>11.8</td>
<td>14.0</td>
<td>U</td>
<td>4.2</td>
<td>15.9</td>
</tr>
<tr>
<td>Light trucks</td>
<td>53.7</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>1,312.1</td>
</tr>
<tr>
<td>Buses, total</td>
<td>1.7</td>
<td>2.3</td>
<td>3.5</td>
<td>5.2</td>
<td>6.8</td>
<td>4.8</td>
<td>10.5</td>
</tr>
<tr>
<td>Commercial freight vehicles, total</td>
<td>44.3</td>
<td>101.0</td>
<td>59.7</td>
<td>55.0</td>
<td>U</td>
<td>71.1</td>
<td>294.2</td>
</tr>
<tr>
<td>Single-unit trucks</td>
<td>N</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>103.0</td>
</tr>
<tr>
<td>Truck-tractors</td>
<td>N</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>191.2</td>
</tr>
</tbody>
</table>

Key:
- N = data are nonexistent.
- U = data are unavailable from cited sources.
- E = estimate, see note.

Notes

All countries
The numbers in this table were taken from many sources. Data-collection and processing procedures vary by country making cross-country comparisons difficult. Data users should consult the source documents for indications of statistical reliability and comparability.

Canada
All data are based on a Transport Canada estimate for 1995 of the number of vehicle-kilometers traveled by passenger vehicles, light trucks, and commercial freight vehicles.

European G-7 countries (excluding the United Kingdom) and Japan
Road: Data are based on country submissions to the International Road Federation. Data for Germany, Italy, and Japan are preliminary for 1996. Data for France, Germany, and Italy are the sum of the personal vehicles, buses, and commercial freight vehicles categories.

Personal vehicles: Data for France, Germany, and Italy are the sum of the passenger vehicles and motorcycles categories.

Passenger vehicles: Generally includes taxis and may include light trucks.
Commercial freight vehicles: Includes trucks and vans used in goods transport.

**United Kingdom**
Personal vehicles: The sum of the passenger vehicles and motorcycles categories. Light trucks are not broken out as a separate category, but may be included under passenger vehicles.

Passenger vehicles: Includes taxis.

Motorcycles: Includes motorcycles, scooters, and mopeds.

Commercial freight vehicles: All vehicles engaged in goods transport with a gross vehicle weight over 3,500 kilograms.

**United States**
Road, total: Includes vehicle categories not separately identified in this table.

Passenger vehicles: Includes taxis.

Light trucks: Includes vans, pickup trucks, and sport utility vehicles.

Buses: Includes intercity, charter, school, and local transit buses.

**Sources**

**Canada**

**European G-7 countries and Japan**

**United Kingdom**

**United States**
### Table 5

**Domestic Passenger Travel by Mode: 1996**
(Passenger-kilometers, billions)

<table>
<thead>
<tr>
<th></th>
<th>Canada</th>
<th>France</th>
<th>Germany</th>
<th>Italy</th>
<th>Japan</th>
<th>United Kingdom</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PASSENGER-KILOMETERS, total</strong></td>
<td>$b523$</td>
<td>$b824$</td>
<td>$b915$</td>
<td>$b831$</td>
<td>$b1,409$</td>
<td>$b705$</td>
<td>$6,843$</td>
</tr>
<tr>
<td><strong>Air, total</strong></td>
<td>N</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>716</td>
</tr>
<tr>
<td>Air carriers</td>
<td>25</td>
<td>$a22$</td>
<td>$a6$</td>
<td>$a7$</td>
<td>$a60$</td>
<td>$a6$</td>
<td>700</td>
</tr>
<tr>
<td><strong>Road, total</strong></td>
<td>$E497$</td>
<td>732</td>
<td>836</td>
<td>766</td>
<td>788</td>
<td>$c661$</td>
<td>$6,082$</td>
</tr>
<tr>
<td>Personal vehicles</td>
<td>$E466$</td>
<td>691</td>
<td>759</td>
<td>679</td>
<td>693</td>
<td>609</td>
<td>5,860</td>
</tr>
<tr>
<td>Motorcycles</td>
<td>$E1$</td>
<td>17</td>
<td>11</td>
<td>53</td>
<td>U</td>
<td>4</td>
<td>18</td>
</tr>
<tr>
<td>Light trucks</td>
<td>$E97$</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>73</td>
<td>U</td>
<td>2,086</td>
</tr>
<tr>
<td>Buses</td>
<td>$E31$</td>
<td>41</td>
<td>77</td>
<td>87</td>
<td>95</td>
<td>44</td>
<td>223</td>
</tr>
<tr>
<td><strong>Rail, total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercity passenger rail</td>
<td>2</td>
<td>60</td>
<td>65</td>
<td>53</td>
<td>252</td>
<td>32</td>
<td>8</td>
</tr>
<tr>
<td><strong>Transit, total</strong></td>
<td>N</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>$p66$</td>
</tr>
<tr>
<td>Transit rail</td>
<td>N</td>
<td>10</td>
<td>8</td>
<td>5</td>
<td>151</td>
<td>7</td>
<td>$p34$</td>
</tr>
</tbody>
</table>

*a Data year is 1995.

*b Does not include general aviation and some portions of transit.

*c Includes mopeds and scooters.

### Key:
- E = estimate, see note.
- U = data are unavailable from cited sources.
- P = preliminary.
- N = data are nonexistent.

### Notes

**All countries**
The numbers in this table were taken from many sources. Data-collection and processing procedures vary by country making cross-country comparison difficult. Data users should consult the source documents for indications of statistical reliability and comparability. Bicycling and walking are not included in the calculations of total passenger-kilometers as data are unavailable.

**Canada**

Road: All data are based on a Transport Canada estimate for 1995 of the number of vehicle-kilometers traveled by personal vehicles (including passenger vehicles, motorcycles, and light trucks) and buses.

Buses: Includes intercity, charter, school, and local transit buses.

(Notes continued on page 16)
Share of Total Domestic Passenger Travel by Mode: 1996
(Percentage of total domestic passenger-kilometers)

**Air carriers**

- Canada: 4.8%
- France: 2.7%
- Germany: 6.7%
- Italy: 6.8%
- Japan: 4.3%
- United Kingdom: 0.9%
- United States: 10.2%

**Personal vehicles**

- Canada: 88.1%
- France: 43.9%
- Germany: 83.0%
- Italy: 81.7%
- Japan: 49.2%
- United Kingdom: 90.4%
- United States: 95.8%

**Buses**

- Canada: 5.9%
- France: 5.9%
- Germany: 8.4%
- Italy: 9.4%
- Japan: 6.7%
- United Kingdom: 6.2%
- United States: 3.3%

**Intercity passenger rail**

- Canada: 9.3%
- France: 7.3%
- Germany: 7.1%
- Italy: 8.4%
- Japan: 12.9%
- United Kingdom: 6.5%
- United States: 0.1%

N = data are nonexistent.
European G-7 countries (excluding the United Kingdom)

Air carrier: Includes domestic scheduled and nonscheduled operations.

Road: The sum of personal vehicles and buses.

Personal vehicles: The sum of passenger vehicles and motorcycles. Some light trucks (e.g., minivans, pickups trucks, and sport utility vehicles) may be included.

Passenger vehicles: Road motor vehicles intended for the carriage of passengers and designed to seat no more than 9 persons (including the driver). Includes taxis and other hired passenger vehicles, and may include light trucks.

Buses: Passenger road motor vehicles designed to seat more than 9 persons (including the driver). Includes intercity, charter, school, and local transit buses.

Transit rail: Defined as urban, suburban, or similar rail lines wholly operating within the boundaries of one or more built-up areas. Includes trams and subways.

United Kingdom

Passenger-kilometers, total: The sum of air carriers, road, buses, intercity passenger rail, and transit rail categories.

Air: Revenue passenger-kilometers on scheduled and nonscheduled services (including Northern Ireland and the Channel Islands), but not passengers paying less than 25% of the full fare on scheduled and nonscheduled services, air taxi services, and private flying.

Personal vehicles: Includes taxis and may include light trucks such as minivans, pickup trucks, and sport utility vehicles.

Motorcycles: Motorcycles only (does not include mopeds or scooters).

Transit rail: See definition under European G-7 countries.

United States

Passenger-kilometers, total: Not the sum of subcategories, because local motor bus is included in both the road and transit totals. This double-counting has been removed from the overall total.

Air: Includes general aviation.

Road: Passenger vehicles include taxis. Light trucks include vans, pickup trucks, and sports utility vehicles. Buses include intercity, charter, school, and local motor bus.

Transit rail: Includes commuter rail, heavy rail, and light rail.

Transit: Total includes other U.S. transit categories not individually specified in subcategories, including local motor bus, ferries, and transit for the disabled. Local motor buses included here are not included in the passenger-kilometers, total.

Japan

Passenger-kilometers, total: Includes some passenger travel not counted in the subcategories. Hence, the total does not equal the sum of the subcategories.

Air carriers: Includes domestic scheduled and nonscheduled operations.

Passenger vehicles: Includes both commercial and private-use vehicles.

Intercity rail: Includes only Japan Railways (a national carrier).

Transit rail: Includes subways, monorail systems, automated guideway transit systems, cable cars, and tram cars.
Sources

Canada


European G-7 countries (excluding the United Kingdom)


Japan


United Kingdom


United States


Domestic Passenger-Kilometers Traveled per Capita: 1996

<table>
<thead>
<tr>
<th>Country</th>
<th>Total passenger travel (billions of passenger-kilometers(^a))</th>
<th>Passenger-kilometers per capita(^b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>523</td>
<td>17,000</td>
</tr>
<tr>
<td>France</td>
<td>824</td>
<td>14,000</td>
</tr>
<tr>
<td>Germany</td>
<td>915</td>
<td>11,000</td>
</tr>
<tr>
<td>Italy</td>
<td>831</td>
<td>15,000</td>
</tr>
<tr>
<td>Japan</td>
<td>1,409</td>
<td>11,000</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>705</td>
<td>12,000</td>
</tr>
<tr>
<td>United States</td>
<td>6,843</td>
<td>26,000</td>
</tr>
</tbody>
</table>

\(^a\) Rounded to the nearest billion.  \(^b\) Rounded to the nearest thousand.

Notes and Sources

All countries

Data are from table 5, Domestic Passenger Travel by Mode, and table 1, Country Overview. For specific notes and sources for individual countries, refer to tables 1 and 5.
Table 7

Passenger Vehicles per 1,000 Residents and per Square Kilometer: 1996

<table>
<thead>
<tr>
<th>Country</th>
<th>Number of passenger vehicles (millions)</th>
<th>Passenger vehicles per 1,000 residents</th>
<th>Passenger vehicles per square kilometer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>13.3</td>
<td>442</td>
<td>1</td>
</tr>
<tr>
<td>France</td>
<td>24.9</td>
<td>429</td>
<td>45</td>
</tr>
<tr>
<td>Germany</td>
<td>40.4</td>
<td>493</td>
<td>116</td>
</tr>
<tr>
<td>Italy</td>
<td>31.7</td>
<td>556</td>
<td>108</td>
</tr>
<tr>
<td>Japana</td>
<td>Passenger vehicles 40.5</td>
<td>321</td>
<td>107</td>
</tr>
<tr>
<td>Japan</td>
<td>Passenger vehicles and light trucks 60.0</td>
<td>477</td>
<td>159</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>21.0</td>
<td>356</td>
<td>87</td>
</tr>
<tr>
<td>United Statesa</td>
<td>Passenger vehicles 129.7</td>
<td>490</td>
<td>14</td>
</tr>
<tr>
<td>United States</td>
<td>Passenger vehicles and light trucks 198.7</td>
<td>750</td>
<td>22</td>
</tr>
</tbody>
</table>

- **Country:** Data generally represent passenger automobiles and taxis. Data for France, Germany, and Italy may include light trucks (e.g., minivans, pickup trucks, and sport utility vehicles). It is not possible to separate light trucks for these countries, while it is for the United States and Japan. Therefore, for this table, Japan and the United States data are represented two ways: one with light trucks and one without. For additional technical notes, see table 3, Number of Road Motor Vehicles.

Notes

**All countries**
The numbers in this table were taken from many sources. Data-collection and processing procedures vary by country making cross-country comparison difficult. Data users should consult the source documents for indications of statistical reliability and comparability.

**Canada**
Canadian data for passenger vehicles are underrepresented because light trucks are not included in Canada’s total for passenger vehicles.

Sources

**All countries**
Number of passenger vehicles: See table 3, Number of Road Motor Vehicles.

Passenger vehicles per 1,000 inhabitants and per square kilometer: See table 1, Country Overview, for the population and land data for these calculations.
## Table 8

### Domestic Freight Activity by Mode: 1996

(Metric ton-kilometers, billions)

<table>
<thead>
<tr>
<th>TON-KILOMETERS, total</th>
<th>Canada</th>
<th>France</th>
<th>Germany</th>
<th>Italy</th>
<th>Japan</th>
<th>United Kingdom</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air</td>
<td>0.6</td>
<td>b0.2</td>
<td>b0.02</td>
<td>b0.3</td>
<td>b0.7</td>
<td>b0.03</td>
<td>16.0</td>
</tr>
<tr>
<td>Water</td>
<td>40.2</td>
<td>12.7</td>
<td>61.2</td>
<td>34.8</td>
<td>461.8</td>
<td>56.1</td>
<td>1,116.4</td>
</tr>
<tr>
<td>Coastal shipping</td>
<td>10.3</td>
<td>b7.0</td>
<td>c0.5</td>
<td>34.6</td>
<td>241.8</td>
<td>46.9</td>
<td>595.8</td>
</tr>
<tr>
<td>Inland waterways</td>
<td>24.5</td>
<td>5.7</td>
<td>60.7</td>
<td>0.2</td>
<td>220.0</td>
<td>c0.2</td>
<td>435.5</td>
</tr>
<tr>
<td>Pipeline (oil only)</td>
<td>105.0</td>
<td>21.9</td>
<td>14.4</td>
<td>12.6</td>
<td>U</td>
<td>13.0</td>
<td>904.0</td>
</tr>
<tr>
<td>Rail</td>
<td>221.4</td>
<td>50.5</td>
<td>68.2</td>
<td>23.5</td>
<td>25.0</td>
<td>15.0</td>
<td>1,979.7</td>
</tr>
<tr>
<td>Road</td>
<td>71.5</td>
<td>158.2</td>
<td>203.8</td>
<td>197.6</td>
<td>303.4</td>
<td>154.0</td>
<td>1,439.5</td>
</tr>
</tbody>
</table>

### Notes

All countries

The numbers in this table were taken from many sources. Data-collection and processing procedures vary by country making cross-country comparison difficult. Data users should consult the source documents for indications of statistical reliability and comparability.

Canada

Air: Weight of freight, express, and diplomatic bags carried on each flight stage multiplied by the stage distance. Data include domestic activity, and scheduled and nonscheduled operations.

Water: Total includes Great Lakes data which are not separately identified in this table.

Pipeline: Natural gas totaled 175.6 billion ton-kilometers in 1996. If natural gas activity was included in Canada’s overall total, it would be 614.3 rather than 438.7.

Road: Includes only the activity of Canadian-domiciled for-hire carriers with annual intercity revenues greater than or equal to $1 million Canadian; excludes local (less than 24 kilometers) deliveries and deliveries made by private trucks and small for-hire carriers.

European G-7 countries (excluding the United Kingdom)

Air: Weight of the freight, express, and diplomatic bags carried on each flight stage multiplied by the stage distance. Data include domestic activity, and scheduled and nonscheduled operations.

---

(U = data are unavailable from cited sources.)

(Notes continued on page 22)
Share of Total Domestic Freight Activity by Mode: 1996
(Percentage of total domestic metric ton-kilometers)

U = oil pipeline data are unavailable from cited sources for Japan.

* Scale for Air differs from other modal scales.

Note: For Japan, shares are calculated without reference to pipeline.
Coastal shipping: Includes all coastwise and one-port freight movement of goods shipped to offshore installations, for dumping at sea, or reclaimed from the seabed and unloaded in ports. Movements of goods on inland waterways vessels between seaports and inland waterway ports are excluded, as are movements of goods carried internally between different basins or docks of the same port.

**Japan**
Total: Data represent a sum of air, water, rail, and road. Data for pipeline are unavailable.

Air: See definition under European G-7 countries.

**United Kingdom**
Air: See definition under European G-7 countries.

Water: Includes all coastwise and one-port freight movements by sea, and inland waterway traffic. Data are collected only for Great Britain and do not include Northern Ireland. Data will not equal the sum of coastal shipping and inland waterways because other United Kingdom water categories are not separately represented in this table. These other categories are included in the water total for the United Kingdom.

Road: Does not include Northern Ireland.

**United States**
Air: Enplaned revenue ton-kilometers of all certificated carriers (scheduled and nonscheduled service, excluding military cargo moved by civilian carriers).

Water: Total includes Great Lakes data, which are not shown separately in this table.

Inland waterways: The sum of internal and intraport waterway data.

Rail: Data are measured in revenue ton-kilometers and tons originated and are for Class I railroads only. (Class I railroads have annual gross operating revenues in excess of about $255 million (based on $1996) and comprise only 2% of railroads in the United States, but account for 73% of the industry’s operating distance, 89% of its employees, and 91% of its freight revenues). Rail data reflect shipments that originated in the United States.

Road: Data are based on estimates for intercity traffic only.

**Sources**

**Canada**


**European G-7 countries**
(excluding the United Kingdom)


**Japan**

All other data are from: Japan Transport Economics Research Center, *Transportation Outlook in Japan ‘98* (Tokyo, Japan: 1998).

**United Kingdom**


**United States**


TRANSPORTATION, AND THE ECONOMY
### Table 9

**Economic Overview: 1996**

<table>
<thead>
<tr>
<th></th>
<th>Canada</th>
<th>France</th>
<th>Germany</th>
<th>Italy</th>
<th>Japan</th>
<th>United Kingdom</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gross Domestic Product</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(billions of current $U.S.)</td>
<td>$608</td>
<td>1,540</td>
<td>2,353</td>
<td>1,208</td>
<td>4,600</td>
<td>1,146</td>
<td>7,662</td>
</tr>
<tr>
<td><strong>International merchandise trade, total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(billions of current $U.S.)</td>
<td>369</td>
<td>557</td>
<td>955</td>
<td>454</td>
<td>758</td>
<td>543</td>
<td>1,416</td>
</tr>
<tr>
<td><strong>Exports</strong></td>
<td>199</td>
<td>283</td>
<td>512</td>
<td>251</td>
<td>410</td>
<td>259</td>
<td>625</td>
</tr>
<tr>
<td><strong>Imports</strong></td>
<td>170</td>
<td>274</td>
<td>443</td>
<td>203</td>
<td>347</td>
<td>284</td>
<td>791</td>
</tr>
<tr>
<td><strong>National labor force</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(thousands)</td>
<td>15,100</td>
<td>26,000</td>
<td>41,000</td>
<td>25,000</td>
<td>66,000</td>
<td>29,000</td>
<td>133,900</td>
</tr>
<tr>
<td><strong>Employment in transportation and related industries</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(thousands)</td>
<td>1,068</td>
<td>a854</td>
<td>U</td>
<td>a1,183</td>
<td>U</td>
<td>a872</td>
<td>10,261</td>
</tr>
</tbody>
</table>

- a Data year is 1992.

### Notes

**All countries**

The numbers in this table were taken from many sources. Data-collection and processing procedures vary by country making cross-country comparison difficult. Data users should consult the source documents for indications of statistical reliability and comparability.

**Canada**

International merchandise trade: Includes value of exported goods, free on board (f.o.b. is the cost of the goods delivered to the frontier of the exporting country for shipment and includes inland freight charges) to the rest of the world valued in U.S. dollars. The value of imported goods is c.i.f. (cost, insurance, and freight) and is generally recorded as the cost of the goods when purchased by the importer plus the cost of transportation and insurance to the frontier of the importing country.

National labor force: All Canadian residents over the age of 15 who are employed or unemployed.

Employment in transportation and related industries: Businesses that have transportation as their primary function are included. Related industries include transportation equipment manufacturing and others. Employment data for these related industries include nontransportation occupations. Government employment is not included in Canada’s totals.

**European G-7 countries and Japan**

International merchandise trade: See notes above for Canada.

National labor force: The economically active population defined as people who supply labor for the production of goods and services during a specified period. National practices vary. Part-time
or seasonal workers may or may not be counted. Generally, the labor force includes the armed forces, the unemployed, and first-time job seekers, but not homemakers, other unpaid caregivers, and workers in the informal sector.

Employment in transportation and related industries: The average number of persons working during a given period in the transportation sector, as well as persons working outside the sector but who are directly paid by it.

**United States**

International merchandise trade: Import value is for U.S. general imports, custom value basis. Export value is f.a.s. (free along ship) and represents the value of exports at the port of export, including the transaction price and inland freight, insurance, and other charges. Excludes data for imports that are valued at less than $1,250, and exports that are valued at less than $2,500.

National labor force: The U.S. civilian labor force, which includes all U.S. citizens ages 16 and older who have jobs, excluding those who work for the U.S. military, and those without jobs, who are available and looking for work. Includes Puerto Rico and the U.S. territories.

Employment in transportation and related industries: Businesses that have transportation as their primary function are included. Related industries include transportation equipment manufacturing and others. Employment data for these related industries include nontransportation occupations. Annual employment estimates are arithmetic averages of the 12 monthly estimates for a particular year.

**Sources**

**Canada**


**European G-7 countries**

All data with the exception of employment in transportation was taken from: The World Bank, *World Development Indicators* (Washington, DC: 1998).


**United States**


### Table 10

**U.S. Merchandise Trade with G-7 Countries: 1996** (Millions of current $U.S.)

<table>
<thead>
<tr>
<th></th>
<th>Canada</th>
<th>France</th>
<th>Germany</th>
<th>Italy</th>
<th>Japan</th>
<th>United Kingdom</th>
<th>Total U.S. trade with G-7 countries</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total U.S. merchandise trade with</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exports to</td>
<td>290,174</td>
<td>33,058</td>
<td>62,417</td>
<td>27,007</td>
<td>182,754</td>
<td>59,808</td>
<td>655,218</td>
</tr>
<tr>
<td>Imports from</td>
<td>133,668</td>
<td>14,428</td>
<td>23,474</td>
<td>8,785</td>
<td>67,536</td>
<td>30,916</td>
<td>278,807</td>
</tr>
<tr>
<td></td>
<td>156,506</td>
<td>18,630</td>
<td>38,943</td>
<td>18,222</td>
<td>115,218</td>
<td>28,892</td>
<td>376,411</td>
</tr>
<tr>
<td><strong>Total U.S. maritime trade with</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exports to</td>
<td>7,034</td>
<td>11,287</td>
<td>30,114</td>
<td>12,151</td>
<td>116,720</td>
<td>20,710</td>
<td>198,017</td>
</tr>
<tr>
<td>Imports from</td>
<td>2,066</td>
<td>3,862</td>
<td>7,630</td>
<td>3,513</td>
<td>36,384</td>
<td>8,176</td>
<td>61,631</td>
</tr>
<tr>
<td></td>
<td>4,968</td>
<td>7,424</td>
<td>22,485</td>
<td>8,638</td>
<td>80,336</td>
<td>12,535</td>
<td>136,386</td>
</tr>
<tr>
<td><strong>Total U.S. air trade with</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exports to</td>
<td>18,866</td>
<td>17,202</td>
<td>25,770</td>
<td>12,088</td>
<td>60,915</td>
<td>32,026</td>
<td>166,867</td>
</tr>
<tr>
<td>Imports from</td>
<td>12,541</td>
<td>9,083</td>
<td>13,416</td>
<td>4,138</td>
<td>28,514</td>
<td>18,392</td>
<td>86,085</td>
</tr>
<tr>
<td></td>
<td>6,325</td>
<td>8,119</td>
<td>12,354</td>
<td>7,950</td>
<td>32,401</td>
<td>13,634</td>
<td>80,783</td>
</tr>
</tbody>
</table>

*The majority of U.S. trade with Canada is conducted by land modes of transportation.*

### Notes

**U.S. merchandise trade with Canada, the European G-7 countries and Japan**

Import value is for U.S. general imports, custom value basis. Export value is f.a.s. (free along ship) and represents the value of exports at the port of export, including the transaction price and inland freight, insurance, and other charges. Excludes data for imports that are valued at less than $1,250, and exports that are valued at less than $2,500. Although U.S. total merchandise trade figures are adjusted and revised, individual modal totals are not. Therefore, U.S. total trade with a particular country will not equal the sum of air and maritime trade.

### Sources


Share of the Value of U.S. International Merchandise Trade
(Percent)

- Percentage of total U.S. merchandise trade by value
- Percentage of total U.S. maritime trade by value
- Percentage of total U.S. air trade by value

<table>
<thead>
<tr>
<th>Country</th>
<th>Canada</th>
<th>France</th>
<th>Germany</th>
<th>Italy</th>
<th>Japan</th>
<th>United Kingdom</th>
<th>All U.S. G-7 trade partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>20.5</td>
<td>4.9</td>
<td>4.5</td>
<td>6.7</td>
<td>12.3</td>
<td>16.9</td>
<td>48.2</td>
</tr>
<tr>
<td>Maritime</td>
<td>1.2</td>
<td>2.3</td>
<td>2.1</td>
<td>3.2</td>
<td>4.2</td>
<td>3.5</td>
<td>33.5</td>
</tr>
<tr>
<td>Air</td>
<td>2.3</td>
<td>1.9</td>
<td></td>
<td></td>
<td>2.1</td>
<td>3.5</td>
<td>43.7</td>
</tr>
</tbody>
</table>

Source: U.S. Department of Commerce
Table 11

Transportation Fatalities by Mode: 1996

<table>
<thead>
<tr>
<th></th>
<th>Canada</th>
<th>France</th>
<th>Germany</th>
<th>Italy</th>
<th>Japan</th>
<th>United Kingdom</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>FATALITIES, total</td>
<td>3,502</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>44,697</td>
</tr>
<tr>
<td>Air</td>
<td>75</td>
<td>67</td>
<td>106</td>
<td>U</td>
<td>U</td>
<td>50</td>
<td>1,089</td>
</tr>
<tr>
<td>Air carriers</td>
<td>28</td>
<td>1</td>
<td>10</td>
<td>U</td>
<td>U</td>
<td>7</td>
<td>457</td>
</tr>
<tr>
<td>General aviation</td>
<td>47</td>
<td>66</td>
<td>96</td>
<td>U</td>
<td>18</td>
<td>43</td>
<td>632</td>
</tr>
<tr>
<td>Road</td>
<td>3,091</td>
<td>8,541</td>
<td>8,758</td>
<td>6,688</td>
<td>11,674</td>
<td>3,740</td>
<td>42,065</td>
</tr>
<tr>
<td>Passenger cars and</td>
<td>2,264</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>32,437</td>
</tr>
<tr>
<td>light trucks</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Passenger cars</td>
<td>U</td>
<td>5,539</td>
<td>5,622</td>
<td>4,112</td>
<td>3,111</td>
<td>1,884</td>
<td>22,505</td>
</tr>
<tr>
<td>Motorcycles</td>
<td>128</td>
<td>1,288</td>
<td>998</td>
<td>1,805</td>
<td>2,154</td>
<td>447</td>
<td>2,161</td>
</tr>
<tr>
<td>Buses</td>
<td>0</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>21</td>
</tr>
<tr>
<td>Large trucks</td>
<td>59</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>621</td>
</tr>
<tr>
<td>Pedestrians</td>
<td>460</td>
<td>1,043</td>
<td>1,178</td>
<td>1,957</td>
<td>3,298</td>
<td>1,039</td>
<td>5,449</td>
</tr>
<tr>
<td>Other</td>
<td>180</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>1,374</td>
</tr>
<tr>
<td>Pipeline</td>
<td>0</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>53</td>
</tr>
<tr>
<td>Rail</td>
<td>119</td>
<td>150</td>
<td>309</td>
<td>213</td>
<td>U</td>
<td>210</td>
<td>1,039</td>
</tr>
</tbody>
</table>

Key:
U = data are unavailable from cited sources.

Notes

All countries
The numbers in this table were taken from many sources. Data-collection and processing procedures vary by country making cross-country comparison difficult. Data users should consult the source documents for indications of statistical reliability and comparability.

Canada
Fatalities, total: Figures will be less than the sum of the individual modes because some fatalities are counted in more than one mode. Water transportation fatalities are included in Canada’s total, although they do not appear in this table.

Air carriers: Data represent Canadian flag carriers comprising both scheduled and nonscheduled flights for domestic and international operations of passenger and all-cargo flights. Commuter flights and on-demand air taxis are also included.

European G-7 countries and Japan
Air:
France and Germany: Air carrier data represent French flag carriers comprising both scheduled and
nonscheduled flights for domestic and international operations of passenger and all-cargo flights.

Japan: One death in general aviation was the result of natural causes.

United Kingdom: Air carrier data represent British flag carriers comprising both scheduled and nonscheduled flights for domestic and international operations of passenger and all-cargo flights. Includes five fatalities from a helicopter crash.

Road: Data are based on country information supplied to the Organization for Economic Cooperation and Development’s International Road Traffic Accident Database. Road total does not represent the sum of the individual categories, because not all road fatality categories for European G-7 countries and Japan are included in this table.

Passenger cars: Data are based on occupants of passenger cars.

Rail (except Japan): Data include persons killed in accidents involving freight rail and passenger carriers.

**United States**

Fatalities, total: Data are different from the sum of the components because some types of fatalities are counted in more than one category. Water transportation and transit fatalities are included in the United States total although those categories do not appear in this table.

Air carrier: Fatalities include crashes of U.S. flag carriers (scheduled and nonscheduled flights; domestic and international flights), commuter air, and air taxis.

Road total: Data include two fatalities that could not be assigned to a subcategory. Data are for occupant fatalities unless otherwise noted.

Buses: Occupant fatalities in intercity buses, school buses, and local transit buses.

Light truck: Occupants fatalities in trucks of 4,536 kg (10,000 pounds) gross vehicle weight rating or less.

Large truck: Occupants fatalities in trucks over 4,536 kg gross vehicle weight rating.

Other: Pedalcyclists, other nonoccupants, and unknown.

Rail: Data are for fatalities at rail grade crossings and railroad facilities including workers, trespassers, and others not on trains, and fatalities involving train and nontrain incidents. Data include intercity passenger, commuter, and freight rail fatalities.

**Sources**

**Canada**

Air: Transportation Safety Board of Canada, special tabulation, 1998.


**European G-7 countries and Japan**


Air:


Germany—German Embassy, Washington, DC, personal communication, June 1999.

Japan—Aircraft Accident Investigation Commission of Japan, special tabulation, 1999.
  General Aviation:


**United States**


### Table 12

**Motor Vehicle Fatalities and Fatality Rates: 1996**

<table>
<thead>
<tr>
<th></th>
<th>Canadaa</th>
<th>France</th>
<th>Germany</th>
<th>Italy</th>
<th>Japan</th>
<th>United Kingdom</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road motor vehicle fatalities</td>
<td>3,351</td>
<td>8,541</td>
<td>8,758</td>
<td>6,688</td>
<td>11,674</td>
<td>3,740</td>
<td>42,065</td>
</tr>
<tr>
<td>Fatality rate per 100 million vehicle-kilometersb</td>
<td>£1.1</td>
<td>1.8</td>
<td>1.5</td>
<td>1.4</td>
<td>U</td>
<td>0.8</td>
<td>1.1</td>
</tr>
<tr>
<td>Fatality rate per 10,000 road motor vehicles</td>
<td>2.0</td>
<td>2.9</td>
<td>1.9</td>
<td>U</td>
<td>1.6</td>
<td>1.5</td>
<td>2.0</td>
</tr>
<tr>
<td>Road vehicle-kilometers (billions)</td>
<td>£317.1</td>
<td>473.3</td>
<td>575.0</td>
<td>467.2</td>
<td>U</td>
<td>442.5</td>
<td>3,994.7</td>
</tr>
<tr>
<td>Number of road motor vehicles (millions)</td>
<td>17.0</td>
<td>29.5</td>
<td>45.1</td>
<td>U</td>
<td>71.8</td>
<td>24.4</td>
<td>210.2</td>
</tr>
<tr>
<td>National population (millions)</td>
<td>30.0</td>
<td>58.0</td>
<td>82.0</td>
<td>57.0</td>
<td>126.0</td>
<td>59.0</td>
<td>265.0</td>
</tr>
</tbody>
</table>

*a Data year is 1995.

b Fatality rate per 100 million vehicle-kilometers: Caution must be used in drawing conclusions about the relative road safety among these countries because of the error bar in vehicle road-kilometers.

### Notes and Sources

**All countries**

The numbers in this table were taken from many sources. Data-collection and processing procedures vary by country making cross-country comparison difficult. Data users should consult the source documents for indications of statistical reliability and comparability.

Road motor vehicle fatalities: See notes and sources in table 11, Transportation Fatalities by Mode.

Road vehicle-kilometers: See notes and sources in table 4, Road Vehicle-Kilometers.

Number of road motor vehicles: See notes and sources in table 3, Number of Road Motor Vehicles.

National population: See notes and sources in table 1, Country Overview.
TRANSPORTATION, ENERGY, AND THE ENVIRONMENT


Table 13

Energy Consumption by the Transportation Sector: 1995
(Exajoules, $10^{18}$)

<table>
<thead>
<tr>
<th>Energy consumption, total for all sectors</th>
<th>Canada</th>
<th>France</th>
<th>Germany</th>
<th>Italy</th>
<th>Japan</th>
<th>United Kingdom</th>
<th>United States</th>
<th>G-7 total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>9.5</td>
<td>9.1</td>
<td>13.6</td>
<td>7.0</td>
<td>18.8</td>
<td>9.2</td>
<td>92.4</td>
<td>159.7</td>
</tr>
<tr>
<td>Transportation consumption</td>
<td>2.1</td>
<td>2.0</td>
<td>2.7</td>
<td>1.7</td>
<td>3.6</td>
<td>2.0</td>
<td>22.8</td>
<td>34.8</td>
</tr>
<tr>
<td>Transportation's share of total energy consumption</td>
<td>22%</td>
<td>21%</td>
<td>20%</td>
<td>24%</td>
<td>19%</td>
<td>22%</td>
<td>25%</td>
<td>22%</td>
</tr>
</tbody>
</table>

Notes

All countries
The numbers in this table were taken from many sources. Data-collection and processing procedures vary by country making cross-country comparison difficult. Data users should consult the source documents for indications of statistical reliability and comparability.

United States
Energy consumption, total: Data reported by the U.S. Department of Energy (USDOE), Energy Information Administration in their Annual Energy Review, 1997 (table 2.1) are 95.86 exajoules (i.e., 90.86 quadrillion Btu), which differs slightly from the number reported by the United Nations in this table. The difference arises from a combination of factors, including the treatment of renewable resources, the treatment of fuel in international bunkers, the attribution of different heating values for fossil fuels, and possibly other factors.

Transportation consumption, total: Data as reported by USDOE as cited above are 25.40 exajoules (i.e., 24.07 quadrillion Btu), which differs from the number reported by the Organization for Economic Cooperation and Development (OECD) in this table. The difference is probably largely explained by two factors: 1) USDOE's Annual Energy Review uses the higher heating value of fossil fuels, and OECD uses the lower heating value; 2) the Annual Energy Review counts fuel in bunkers and OECD does not. The Annual Energy Review also includes electricity and electrical system energy losses, but these are small for transportation.

Sources

European G-7 countries, Canada, Japan, and the United States

Table 14
Unleaded Gasoline as a Percentage of Motor Vehicle Gasoline Consumption: 1992–93

<table>
<thead>
<tr>
<th>Country</th>
<th>Unleaded gasoline (percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>100</td>
</tr>
<tr>
<td>France</td>
<td>62</td>
</tr>
<tr>
<td>Germany</td>
<td>95</td>
</tr>
<tr>
<td>Italy</td>
<td>44</td>
</tr>
<tr>
<td>Japan</td>
<td>100</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>67</td>
</tr>
<tr>
<td>United States</td>
<td>100</td>
</tr>
</tbody>
</table>

Source
## Metric to U.S. Conversions and Energy Equivalents

<table>
<thead>
<tr>
<th>Length (approximate)</th>
<th>Energy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 kilometer (km) = 0.6 miles (mi)</td>
<td>1 joule = 0.24 calories (cal)</td>
</tr>
<tr>
<td>1 square kilometer (km²) = 0.4 square miles</td>
<td>1055 joules = 250 calories = 1 British</td>
</tr>
<tr>
<td>(sq mi, mi²)</td>
<td>thermal unit (Btu)</td>
</tr>
<tr>
<td></td>
<td>1 exajoule = 10¹⁸ joules</td>
</tr>
</tbody>
</table>

**Mass/Weight (approximate)**

| 1 metric ton (t) = 1,000 kilograms (kg)    | Source: U.S. Department of Commerce, National |
| = 1.1 short tons                            | Institute of Standards and Technology.      |

**Source:** U.S. Department of Commerce, National Institute of Standards and Technology.