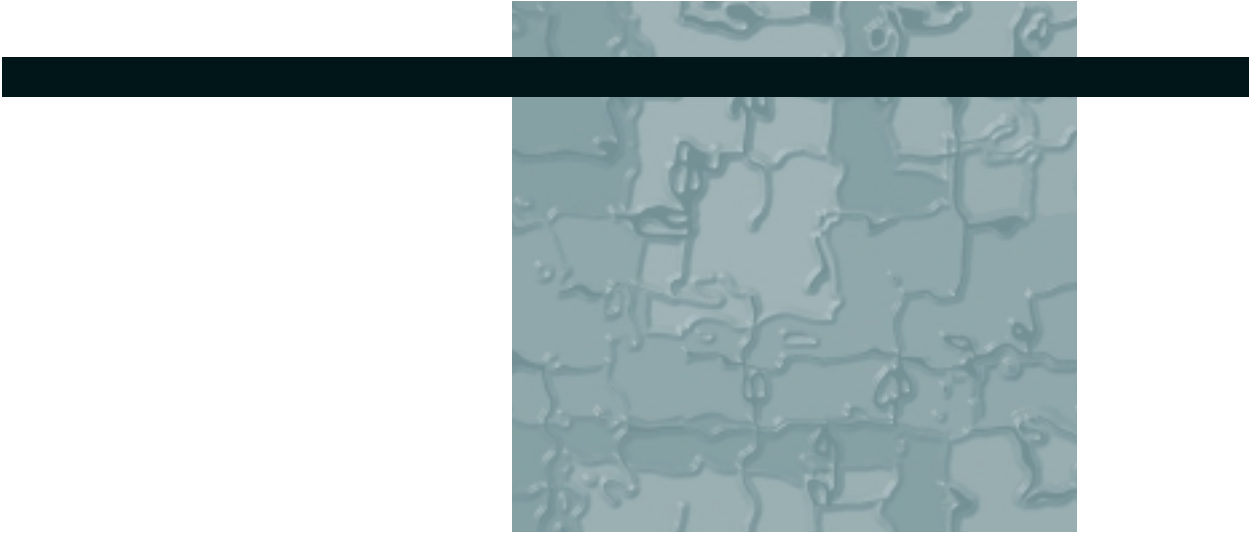




# **North American Transportation Highlights**

**U.S. Department of Transportation  
Bureau of Transportation Statistics**





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U.S. Department of Transportation  
Bureau of Transportation Statistics

December 1999

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***The Vision—***

Data and information of high quality supporting every significant transportation policy decision, thus advancing the quality of life and the economic well-being of all Americans.

***The Mission—***

To lead in developing transportation data and information of high quality and to advance their effective use in public and private transportation decision-making.

## Acknowledgments

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## Introduction

The rate of global economic growth and the integration of trade, finance, and manufacturing have increased greatly over the last two decades. Transportation plays a vital role in the changing global economy, linking people and places, facilitating trade and tourism, and encouraging economic competition and specialization. The North American<sup>1</sup> experience mirrors these worldwide trends. Reduced trade barriers and increasingly mobile populations have created a heightened need for information on transportation infrastructure and services within and across Canada, Mexico, and the United States. Two major initiatives, the Canada-U.S. Free Trade Agreement (FTA)<sup>2</sup> and the subsequent North American Free Trade Agreement (NAFTA),<sup>3</sup> were significant milestones in the liberalization of trade in goods and services between the three countries on this continent.

This summary report, *North American Transportation Highlights*, provides key statistics on passenger travel, freight activity, transportation safety, and transportation energy use for Canada, Mexico, and the United States. It was developed under the framework of the North American Transportation Statistics Interchange, representing the transportation and statistical agencies of Canada, Mexico, and the United States, and was produced by the U.S. Department of Transportation, Bureau of Transportation Statistics (BTS).

Since 1997, a tricountry working group has been examining transportation and transportation-related statistics in the context of a North American Transportation Statistics project. The group's work forms the basis for the data tables included in this report. Participating

agencies include BTS and the Census Bureau from the United States; the Secretaría de Comunicaciones y Transportes (Ministry of Communications and Transportation), the Instituto Mexicano del Transporte (Mexican Institute of Transportation), and the Instituto Nacional de Estadística, Geografía e Informática (INEGI) (National Institute of Statistics, Geography and Informatics) from Mexico; and Statistics Canada and Transport Canada from Canada.

*North American Transportation Highlights* provides data for 1996, the last year for which comparable data are readily available. All of the value data are reported in current U.S. dollars. Users should note that, for the sake of greater comparability across the three countries, data categories and definitions were extensively reviewed and modified when necessary. Therefore, data categories and definitions used in this compendium may not always correspond to those used in the specific national publications of Canada, Mexico, and the United States. Users who require data in original categories, currencies, or measures, a complete time series, or additional information, should contact the appropriate source agency in each country.

A number of standard symbols were adopted for use on the statistical tables:

- C = data are confidential
- N = data are nonexistent
- NA = not applicable
- NS = not significant
- P = data are preliminary
- U = data are unavailable
- e = data are estimated
- r = data are revised.

The unit "billions" in this publication means "thousand millions," i.e., 10<sup>9</sup>.

---

<sup>1</sup>For the purposes of this report, North America will refer to the countries of Canada, Mexico, and the United States.

<sup>2</sup>The FTA entered into force on January 1, 1989.

<sup>3</sup>NAFTA entered into force on January 1, 1994.

An electronic version of *North American Transportation Highlights*, including downloadable spreadsheet files, will be available on the Internet sites of the agencies involved in the North American Transportation Statistics project. The specific agency addresses are as follows:

**Canada**

Statistics Canada  
[www.statcan.ca](http://www.statcan.ca)

Transport Canada  
[www.tc.gc.ca](http://www.tc.gc.ca)

**Mexico**

Instituto Mexicano del Transporte (Mexican Institute of Transportation)  
[www.imt.mx](http://www.imt.mx)

Instituto Nacional de Estadística, Geografía e Informática (INEGI) (National Institute of Statistics, Geography and Informatics)  
[www.inegi.gob.mx](http://www.inegi.gob.mx)

Secretaría de Comunicaciones y Transportes (Ministry of Communications and Transportation)  
[www.sct.gob.mx](http://www.sct.gob.mx)

**United States**

Bureau of Transportation Statistics, U.S. Department of Transportation  
[www.bts.gov](http://www.bts.gov)

Census Bureau, U.S. Department of Commerce  
[www.census.gov](http://www.census.gov)

A more in-depth, trilingual print publication and online Internet database, *North American Transportation in Figures*, is underway and is planned for release in calendar year 2000. Over 90 different data tables will be included, supported by figures, maps, and extensive technical documentation. The publication and database will be an official product of the transportation and statistical agencies in Canada, Mexico, and the United States that were involved in its development through the North American Transportation Statistics working group.



THE  
TRANSPORTATION  
SYSTEM



**Table 1**

## Country Overview Data: 1996

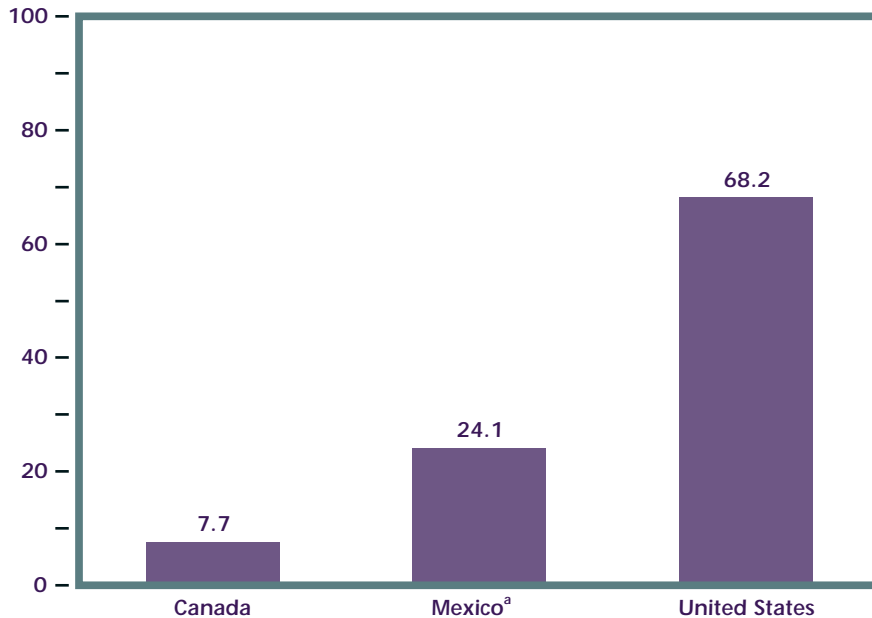
	Canada	Mexico	United States	North America, total
<b>AREA</b>				
<b>AREA, total</b>				
Thousands of square miles	3,850	839	3,718	8,407
Thousands of square kilometers	9,971	2,173	9,629	21,773
<b>Land area</b>				
Thousands of square miles	3,558	756	3,536	7,851
Thousands of square kilometers	9,215	1,959	9,159	20,334
<b>Water area</b>				
Thousands of square miles	292	83	182	556
Thousands of square kilometers	755	214	470	1,439
<b>DEMOGRAPHIC</b>				
<b>NATIONAL POPULATION, total (millions)</b>	<b>30</b>	<b><sup>a</sup>94</b>	<b>265</b>	<b>389</b>
Percentage of total population age 14 years and under	20.0	34.9	21.8	24.8
Percentage of total population age 15 to 34 years	29.7	35.9	28.9	30.6
Percentage of total population age 35 to 64 years	38.3	24.3	36.6	33.8
Percentage of total population age 65 years and over	12.0	4.9	12.7	10.8
<b>Population density</b>				
Number of people per square mile of land	8	<sup>a</sup> 112	71	50
Number of people per square kilometer of land	3	<sup>a</sup> 48	29	19
<b>Urban population</b>				
Percentage of total national population	78	<sup>a</sup> 74	80	U
<b>ECONOMIC</b>				
<b>Gross Domestic Product, total</b>				
Billions of current U.S. dollars (\$)	<sup>P</sup> 608	302	7,662	8,572
<b>Employed labor force</b>				
Thousands	10,967	28,282	126,708	165,957
<b>Employment in transportation and related industries</b>				
Thousands	1,068	1,910	10,125	13,103

<sup>a</sup> Data year is 1997.

Key:  
**P** = data are preliminary.      **U** = data are unavailable.

**Figure 1**

Share of North American Population: 1996  
(Percent)



<sup>a</sup> Mexican population data are for 1997.

**Notes: Table 1 and Figure 1**

**All countries**

- **Employed labor force:** Represents the total employed civilian labor force and does not correspond to figures for national labor forces, which measure both those who are employed and those who are currently seeking work.
- **Employment in transportation and related industries:** Data are based on annual averages. U.S. and Canadian data are based on the number of employees. Mexican data are based on the number of full-time positions. Employment includes the following categories: transport sectors (air; trucking, warehousing, and storage; local and intercity passenger transport; railroad; water; pipeline; and transportation services), transportation vehicle and equipment manufacturing and related industries (auto repair

services; gasoline service stations; highway and street construction; road motor vehicle wholesalers; and new and used car and light truck dealers), and government employment. Employment data for related industries include nontransportation employment occupations.

**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.
- **Water area:** Water data represent inland waters, Great Lakes waters, and coastal waters. Water data do not include offshore waters such as fishing zones, internal salt waters, and territorial seas.

**Mexico**

- National population, Population density, and Urban population: Data are for 1997. Urban population is based on sites with a minimum population of 2,500.
- Water area: Represents inland waters (such as ponds, bays, inlets, lagoons, marshes, etc.), coastal waters, and territorial seas (waters within 12 nautical miles of the Mexican shoreline).

**United States**

- Urban population: Represents a percentage that is available only in decennial census years (every 10 years). 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.
- Water area: Represents the total of four major water classifications: inland water (all lakes, ponds, rivers, streams, creeks, or similar bodies of water (with the exception of the Great Lakes)); coastal water (major bays and non-enclosed areas); territorial seas (water located within three nautical miles of the U.S. shoreline); and Great Lakes water (includes the five Great Lakes, Lake St. Clair, and the St. Lawrence Seaway).

**Sources: Table 1 and Figure 1****Canada**

National population: Statistics Canada, *Annual Demographics Statistics*, Catalogue 91-213-XPB (Ottawa, Ont.: 1998); and special tabulations.

Urban population: Statistics Canada, Census Division, Ottawa, Ont., 1996.

Area: Natural Resources Canada GeoAccess Division, Ottawa, Ont., 1998.

Gross domestic product: Statistics Canada, Input-Output Division, special tabulations, Ottawa, Ont., 1998.

Employed labor force: Statistics Canada, *Employment, Earnings and Hours: Payrolls and Hours*, Catalogue 72-002-XPB (Ottawa, Ont.: Various years); and special tabulations.

Employment in transportation and related industries: Statistics Canada, *Employment, Earnings and Hours: Payrolls and Hours*, Catalogue 72-002-XPB (Ottawa, Ont.: 1998); and special tabulations.

**Mexico**

National and Urban population: Instituto Nacional de Estadística, Geografía e Informática. *Encuesta nacional de la dinámica demográfica, 1997* (Aguascalientes, Ags: 1997).

Area: Instituto Nacional de Estadística, Geografía e Informática. Dirección General de Geografía (Aguascalientes, Ags: 1998).

Gross domestic product: Instituto Nacional de Estadística, Geografía e Informática. Dirección General de Contabilidad Nacional, Estudios Socioeconómicos y Precios. *Sistema de cuentas nacionales de México, 1988–1996* (Aguascalientes, Ags: 1998).

Employed labor force and Employment in transportation and related industries: Instituto Nacional de Estadística, Geografía e Informática. Dirección General de Contabilidad Nacional, Estudios Socioeconómicos y Precios. *Sistema de Cuentas Nacionales de México, 1988–1996* (Aguascalientes, Ags: 1998).

(Sources continued on page 8)

**United States**

National population and Area: U.S. Department of Commerce, Census Bureau, *Statistical Abstract of the United States, 1998* (Washington, DC: 1998).

Urban Population: U.S. Department of Commerce, Census Bureau, *Estimates of the Population of Metropolitan Areas: Annual Times Series, July 1, 1991 to July 1, 1996* (Washington, DC: 1997).

Gross Domestic Product: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (Washington, DC: January 1999).

Employed labor force: U.S. Department of Labor, Bureau of Labor Statistics, *Household Data Annual Averages, 1998*, table 1, available at [www.stats.bls.gov](http://www.stats.bls.gov).

Employment in transportation and related industries: U.S. Department of Transportation, Bureau of Transportation Statistics, special tabulation based on data from U.S. Department of Labor, Bureau of Labor Statistics, *National Employment, Hours, and Earnings 1996* (Washington, DC: 1997).



**Table 2****Physical System Extent: 1996**

(Miles, kilometers (Km), or number)

SYSTEM LENGTH	Canada		Mexico		United States		North America, total	
	Miles	Km	Miles	Km	Miles	Km	Miles	Km
<b>Road</b>	<b><sup>b</sup>560,537</b>	<b><sup>b</sup>901,904</b>	<b>194,096</b>	<b>312,301</b>	<b>3,934,000</b>	<b>6,331,000</b>	<b>4,688,633</b>	<b>7,545,205</b>
Paved	<sup>b</sup> 197,588	<sup>b</sup> 317,919	61,631	99,165	2,380,000	3,830,000	2,639,219	4,247,084
Major road system	N	N	58,986	94,908	433,000	697,000	N	N
<i>Less than four lanes</i>	N	N	53,043	85,346	292,000	470,000	N	N
<i>Four or more lanes</i>	<sup>b</sup> 10,299	<sup>b</sup> 16,571	5,943	9,562	141,000	227,000	157,242	253,133
Local	N	N	N	N	1,947,000	3,133,000	N	N
Unpaved	<sup>b</sup> 362,949	<sup>b</sup> 583,985	132,465	213,136	1,554,000	2,501,000	2,049,414	3,298,121
<b>Great Lakes</b>	<b>1,654</b>	<b>2,662</b>	<b>NA</b>	<b>NA</b>	<b>4,400</b>	<b>7,000</b>	<b>6,054</b>	<b>9,662</b>
<b>Inland waterways<sup>a</sup></b>	<b>1,756</b>	<b>2,825</b>	<b>NA</b>	<b>NA</b>	<b>26,000</b>	<b>43,000</b>	<b>27,756</b>	<b>45,825</b>
<b>Pipeline</b>	<b>195,230</b>	<b>314,124</b>	<b>9,651</b>	<b>15,529</b>	<b>1,469,534</b>	<b>2,364,985</b>	<b>1,674,415</b>	<b>2,694,639</b>
Gas	172,259	277,166	7,052	11,346	1,269,034	2,694,638	1,448,345	2,330,824
Oil	22,970	36,959	2,600	4,183	200,500	322,673	226,070	363,815
<b>Rail</b>	<b>48,096</b>	<b>77,387</b>	<b>16,546</b>	<b>26,623</b>	<b>178,000</b>	<b>286,000</b>	<b>242,643</b>	<b>390,010</b>
Transit rail	N	N	171	275	4,326	6,961	N	N
<b>NUMBER OF FACILITIES</b>								
<b>Air</b>								
Number of airports		1,141		1,116		13,175		15,432
<b>Water</b>								
Number of water ports and facilities		172		87		321		580

<sup>a</sup> Commercially navigable.<sup>b</sup> Data year is 1995.

Key:

N = data are nonexistent.

NA = not applicable.

**Notes: Table 2****For all countries**

- Road: The overall road total for Canada and the United States includes all roads (highways, local, and others). Canada cannot disaggregate its data for local roads into paved and unpaved.
- Air: Data exclude heliports, STOLports (short take-off and landing ports), and seaplane bases.

**Canada**

- Rail: Yard tracks, sidings, and parallel lines; includes freight and intercity passenger rail only.
- Air: Aerodromes (facilities that are registered with Transport Canada as aircraft landing and take-off sites).

(Notes continued on page 10)

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

### Mexico

- Road: Data do not include local roads.
- Road, paved: Data include major roads plus minor rural roads.

### United States

- Road: All of the road categories include data for Puerto Rico.
- Great Lakes and Inland waterways: Estimated length of the U.S. Great Lakes and 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 percent of the industry's distance operated in 1996.
- Transit rail: Commuter rail, heavy rail, and light rail. Data are one-way, fixed guideway.
- Air: Includes civilian and joint-use civilian-military airports. Purely military airports are excluded.
- Water 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: Table 2

### Canada

Road: Transportation Association of Canada, *Transportation in Canada: A Statistical Overview—1995* (Ottawa: Ont.: 1998).

Inland waterways: Transport Canada, *Marine Distance Library, 1997* (Ottawa, Ont.: 1998).

Pipeline: Statistics Canada, Gas Utilities, *Transport and Distribution Systems*, Catalogue 57-205-XPB 1997 (Ottawa, Ont.: 1997).

\_\_\_\_\_. *Oil Pipe Line Transport*, Catalogue 55-201-XPB 1997 (Ottawa, Ont.: 1997).

Rail: Statistics Canada, *Rail in Canada*, Catalogue 52-216-XPB 1997 (Ottawa, Ont.: 1998).

Airports: Natural Resources Canada, *Canada Flight Supplement* (Ottawa, Ont.: 1998).

Water ports and facilities: Statistics Canada, Transportation Division, special tabulation, Ottawa, Ont., 1998.

### Mexico

Road: Secretaría de Comunicaciones y Transportes. Dirección General de Evaluación. *Longitud de la infraestructura carretera, 1996* (Mexico City, D.F.: 1997).

Pipeline: Instituto Nacional de Estadística, Geografía e Informática, based on data from Petróleos Mexicanos. Subdirección de Planeación y Coordinación y del *Anuario estadístico* (1990) (Aguascalientes, Ags: 1997).

Rail: Ferrocarriles Nacionales de México. *Serie estadísticas 1996* (Mexico City, D.F.: 1997).

Transit: Instituto Nacional de Estadística, Geografía e Informática, based on data collected by the Sistema de Transporte Colectivo and the Sistema de Transporte Eléctrico de la ciudad de México, the Sistema de Transporte Colectivo de la Zona Metropolitana de Guadalajara, and the Sistema de Transporte Colectivo de la ciudad de Monterrey (Mexico City, D.F.: 1997).

Air: Secretaría de Comunicaciones y Transportes. Dirección General de Aeronáutica Civil (Mexico City, D.F.: 1997).

Water ports and facilities: Secretaría de Comunicaciones y Transportes. Coordinación General de Puertos y Marina Mercante. *Los Puertos Mexicanos en cifras 1990–1996* (Mexico City, D.F.: 1997).

### United States

Road: U.S. Department of Transportation, Federal Highway Administration, special tabulation, Washington, DC, 1998.

Great Lakes and Inland waterways: U.S. Army Corps of Engineers, Navigation Data Center, special tabulation, New Orleans, LA, 1998.

Gas pipeline: American Gas Association, *Gas Facts 1996* (Arlington, VA: 1997).

Oil pipeline: Eno Transportation Foundation, Inc., *Transportation in America* (Lansdowne, VA: 1997).

Rail: Association of American Railroads, *Railroad Facts* (Washington, DC: 1997). National Railroad Passenger Corp., *Amtrak Annual Report 1996* (Washington, DC: 1996), *statistical appendix*.

Transit rail: American Public Transit Association, *Transit Fact Book 1996* (Washington, DC: 1996).

Air: U.S. Department of Transportation, Federal Aviation Administration, *Statistical Handbook of Aviation–1996*, available at <http://www.bts.gov/ntda/shafaa/prod.html>.

Water ports and facilities: U.S. Army Corps of Engineers, Navigation Data Center, special tabulation, New Orleans, LA, 1998.

**Table 3**

Road Motor Vehicles: 1996

(Thousands)

	Canada	Mexico	United States	North America, total
<b>ROAD MOTOR VEHICLES, total</b>	<b>17,183</b>	<b>12,395</b>	<b>210,236</b>	<b>239,815</b>
<b>Personal vehicles</b>	<b>13,563</b>	<b>8,623</b>	<b>202,533</b>	<b>224,719</b>
Passenger cars	13,251	8,437	129,728	151,416
Light trucks	N	N	68,934	N
Motorcycles	312	186	3,871	4,369
<b>Buses</b>	<b>65</b>	<b>P98</b>	<b>697</b>	<b>861</b>
<b>Commercial freight vehicles</b>	<b>206</b>	<b>3,674</b>	<b>7,006</b>	<b>10,886</b>
Single-unit trucks	35	U	5,265	U
Tractors	92	U	1,742	U

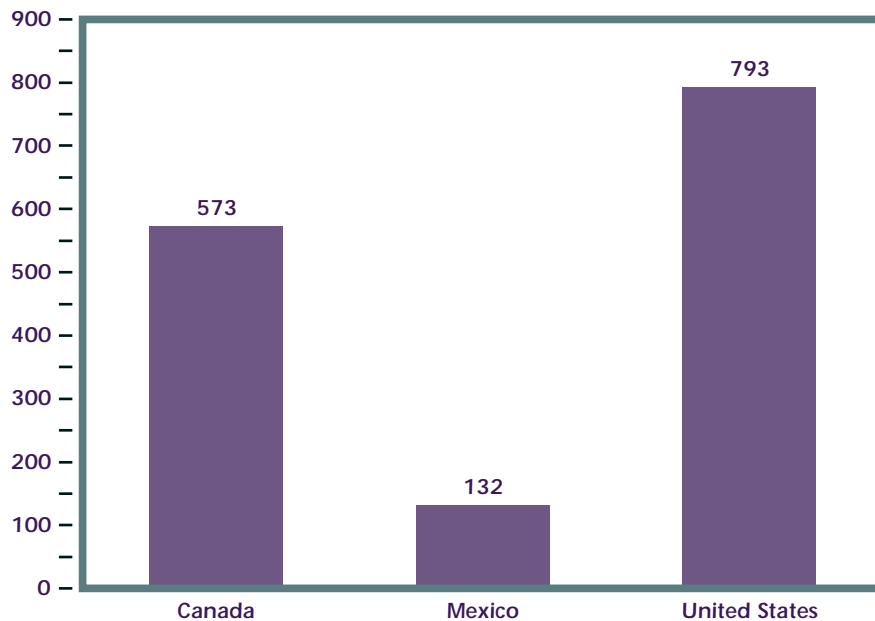
Key:

N = data are nonexistent.  
U = data are unavailable.

P = data are preliminary.

**Figure 3**

Total Road Motor Vehicles per 1,000 Residents: 1996



## Notes: Table 3 and Figure 3

### All countries

■ Data for the number of road motor vehicles are approached differently in the three countries. At the overall level, the data are comparable. However, there are some definitional differences between Canada, Mexico, and the United States for the subcategories, especially for light trucks. (Light trucks include vehicles such as sport utility vehicles, vans, pickup trucks, minivans, etc.) In Canada, light trucks are included in the overall total for the number of road motor vehicles, but light trucks are not included in the Canadian data for personal vehicles or in the subcategories for commercial freight vehicles. In the United States, light trucks are included within the category for personal vehicles and can be differentiated from passenger cars. Therefore, the U.S. and Canadian data for the number of personal vehicles are not exactly comparable. Mexico has included light trucks in both the overall total for road motor vehicles and the total for personal vehicles, although light trucks cannot be differentiated from passenger cars. Light trucks used for commercial purposes are also included in Mexico's data for commercial freight vehicles.

### Canada

■ Number of road motor vehicles, total: Overall total includes Canadian vehicle registrations recorded in the files of Canada's provinces and territorial regions and compiled by Statistics Canada for its annual publication *Road Motor Vehicles—Registrations*. Vehicle type categories in Canada's registration files include passenger automobiles (including taxis and for-hire cars); trucks and truck tractors; buses (separated between school buses and other); motorcycles; registered mopeds; and "other road motor vehicles" (including vehicles such as ambulances, fire trucks,

etc.). These categories do not correspond directly with the vehicle type categories used in table 3. Although the total includes all registered vehicles, the table categories of personal vehicles, buses, and commercial freight vehicles are based on data that indicate only a portion of the total number of Canadian vehicle registrations.

■ Buses: Data include all types of buses and are obtained from a sample of Canadian companies engaged in scheduled intercity, local transit, school, charter, and other types of bus service from Statistics Canada's annual *Survey of the Passenger Bus and Urban Transit Industry*.

■ 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.

### Mexico

■ Buses: Data are given for all types of buses, including intercity, charter, local transit, school, and shuttle buses.

### United States

■ Buses: Data are given for all types of buses, including intercity, charter, school, and local transit buses.

### Sources: Table 3 and Figure 3

#### Canada

Road: Statistics Canada, *Road Motor Vehicles: Registrations*, Catalogue 53-219-XPB (Ottawa, Ont.: 1997).

\_\_\_\_\_. *Passenger Bus and Urban Transport Statistics*, Catalogue 53-215-XPB (Ottawa, Ont.: 1997).

\_\_\_\_\_. *Trucking in Canada* (Ottawa, Ont.: 1997).

#### Mexico

Road: Instituto Nacional de Estadística, Geografía e Informática, based on data collected by the

Departamento del Distrito Federal, Dirección General de Autotransporte Urbano, Direcciones de Policía y Tránsito Estatales y Municipales (Mexico City, D.F.: 1998)

#### United States

U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics 1996* (Washington, DC: 1997), tables MV-1, 7, 9, 10, and 11.

**Table 4****Road Vehicle-Miles/Vehicle-Kilometers: 1996**

(Billions)

	Canada <sup>a</sup>		Mexico		United States	
	Vehicle-miles	Vehicle-kilometers	Vehicle-miles	Vehicle-kilometers	Vehicle-miles	Vehicle-kilometers
<b>ROAD, total</b>	<sup>e</sup> 197.1	<sup>e</sup> 317.1	N	N	2,482.2	3,994.7
<b>Personal vehicles</b>	<sup>e</sup> 168.5	<sup>e</sup> 271.1	N	N	2,292.9	3,690.1
Passenger cars	<sup>e</sup> 134.5	<sup>e</sup> 216.4	N	N	1,467.7	2,362.0
Motorcycles	<sup>e</sup> 0.6	<sup>e</sup> 1.0	N	N	9.9	15.9
Light trucks	<sup>e</sup> 33.4	<sup>e</sup> 53.7	N	N	815.3	1,312.1
<b>Buses</b>	1.0	1.7	N	N	6.5	10.5
<b>Commercial freight vehicles</b>	27.6	44.3	N	N	182.8	294.2
Single-unit trucks	N	N	N	N	64.0	103.0
Tractors	N	N	N	N	118.8	191.2

<sup>a</sup> Data year is 1995.

Key:

N = data are nonexistent.

e = data are estimated.

**Notes: Table 4****Canada**

- All data except bus 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.
- Bus: All bus data are from a sample of Canadian companies engaged in scheduled intercity, urban transit, school, charter, and other types of bus service from Statistics Canada's annual *Survey of the Passenger Bus and Urban Transit Industry*.

**Mexico**

- Road: Although no data are collected for vehicle travel on all Mexican roads, the Mexican Institute of Transport (IMT) estimates that the total for vehicle-kilometers for all types of passenger cars, trucks, and buses using the main interurban road corridors (of which there are 10) is approximately 36 billion vehicle-kilometers per year. (Main interurban road corridors comprise 15,656 miles (25,190 kilometers) or

approximately five percent of the Mexican national highway network. For additional information on main interurban road corridors and Mexico's national road network, see the Secretaría de Comunicaciones y Transportes (SCT) report, *Modernization of the Main Highway System* (Mexico City, D.F.: 1998.)

**Sources: Table 4****Canada**

Transport Canada, *Transportation in Canada 1997: Annual Report* (Ottawa, Ont.: 1998).  
 Statistics Canada, *Passenger Bus and Urban Transit Statistics*, Catalogue 53-215-XPB, 1996 (Ottawa, Ont.: 1998).

**United States**

U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics 1996* (Washington, DC: 1997), table VM-1.

**Table 5****Domestic Passenger Travel by Mode: 1996**

(Billions of domestic passenger-miles or passenger-kilometers)

	Canada <sup>a</sup>		Mexico		United States	
	Passenger- miles	Passenger- kilometers	Passenger- miles	Passenger- kilometers	Passenger- miles	Passenger- kilometers
<b>DOMESTIC PASSENGER TRAVEL, total</b>	<sup>e</sup> 325	<sup>e</sup> 523	N	N	4,253	6,843
<b>Air</b>	N	N	<sup>e</sup> 8	<sup>e</sup> 13	445	716
Air carriers	16	25	<sup>e</sup> 8	<sup>e</sup> 13	435	700
<b>Road</b>	<sup>e</sup> 309	<sup>e</sup> 497	N	N	3,780	6,082
Personal vehicles	<sup>e</sup> 290	<sup>e</sup> 466	N	N	3,642	5,860
<i>Passenger vehicles</i>	<sup>e</sup> 229	<sup>e</sup> 368	N	N	2,334	3,756
<i>Motorcycles</i>	<sup>e</sup> 7	<sup>e</sup> 1	N	N	11	18
<i>Light trucks</i>	<sup>e</sup> 60	<sup>e</sup> 97	N	N	1,296	2,086
Buses	<sup>e</sup> 19	<sup>e</sup> 31	<sup>e</sup> 243	<sup>e</sup> 391	139	223
<b>Rail</b>						
Intercity passenger rail	1	2	1	2	5	8
<b>Transit</b>	N	N	N	N	<sup>P</sup> 41	<sup>P</sup> 66
Transit rail	N	N	N	N	<sup>P</sup> 21	<sup>P</sup> 34
<b>Water transport</b>	N	N	0.1	0.2	N	N
<b>DOMESTIC PASSENGER-KILOMETERS OR -MILES PER CAPITA</b>	11,000	17,000	N	N	16,000	26,000

<sup>a</sup> Data year is 1995.**Key:**P = data are preliminary.  
e = data are estimated.

N = data are nonexistent.

**Notes: Table 5****All countries**

- **Air:** U.S. total for air represents both air carriers and general aviation. Mexican air total represents only scheduled air carriers. However, non-scheduled and general aviation represents a very small share of passenger travel in Mexico. Canadian data for total air activity is nonexistent because data for general aviation is not collected.
- **Road:** Data do not include passenger travel by commercial freight vehicles.

- **Transit and Water transport:** For the United States, ferry activity is included in the total for transit. For Mexico, data for overall transit activity are nonexistent because the data are not collected. However, Mexican data for water transport do represent ferry activity. Canadian data for transit overall and ferry activity are nonexistent because the data are not collected.

**Canada**

- **Total:** Data are approximate because the total includes data for air carrier and intercity passenger rail and



estimated data for road. In addition, transit and general aviation data are not included in the total.

- Air: Includes Levels I to III Canadian air carriers.
- 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.

#### Mexico

- Buses: Data for all types of buses are nonexistent because these data are not collected. The data in table 5 represent only intercity buses utilizing Mexico's national highway system and do not include local transit buses.

#### United States

- Total: Is not the sum of the sub-categories 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 sport 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, such as local motor bus, ferries, and transit for the disabled. Local motor buses included here are not part of the passenger-kilometers total because they are also counted in the road total.

## Sources: Table 5

### Canada

Air carriers: Statistics Canada, *Canadian Civil Aviation*, Catalogue 51-206-XPB, 1997 (Ottawa, Ont.: 1997).

Road: Transport Canada, *Transportation in Canada 1997. Annual Report* (Ottawa, Ont.: 1998).

Intercity passenger rail: Statistics Canada, *Rail in Canada*, Catalogue 52-216-XPB, 1996 (Ottawa, Ont.: 1998).

### Mexico

Air: Secretaría de Comunicaciones y Transportes. Dirección General de Aeronáutica Civil (Mexico City, D.F.: 1998).

Rail: Ferrocarriles Nacionales de México. *Series estadísticas, 1996* (Mexico City, D.F.: 1997).

Water: Secretaría de Comunicaciones y Transportes. Coordinación General de Puertos y Marina Mercante (Mexico City, D.F.: 1998)

### United States

Air and Air carrier: U.S. Department of Transportation, Bureau of Transportation Statistics, Office of Airline Information, *Air Carrier Traffic Statistics 1996* (Washington, DC: 1997).

U.S. Department of Transportation, Federal Aviation Administration, Statistical Handbook of Aviation 1996, available at [www.bts.gov/ntda/shafaa/prod.html](http://www.bts.gov/ntda/shafaa/prod.html).

Road: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics 1996* (Washington, DC: 1997), table VM-1.

Intercity passenger rail: National Railroad Passenger Corp., *Amtrak Annual Report 1996* (Washington, DC: 1996), *statistical appendix*.

Transit and Transit rail: American Public Transit Association, *Transit Fact Book 1996* (Washington, DC: 1996).

**Table 6****Domestic Freight Activity by Mode: 1996**

(Billions of ton-miles or metric ton-kilometers)

	Canada		Mexico		United States		NAFTA, total	
	Ton- miles	Ton-km	Ton- miles	Ton-km	Ton- miles	Ton-km	Ton- miles	Ton-km
<b>DOMESTIC</b>								
<b>FREIGHT ACTIVITY, total</b>	<b>420.8</b>	<b>614.3</b>	<sup>b</sup> 145.7	<sup>b</sup> 212.7	<b>4,052.3</b>	<b>5,916.2</b>	<sup>c</sup> 4,618.7	<sup>c</sup> 6,743.2
<b>Air</b>	<b>0.4</b>	<b>0.6</b>	<b>0.7</b>	<b>1.0</b>	<b>10.9</b>	<b>16.0</b>	<b>12.0</b>	<b>17.6</b>
<b>Water transport</b>	<b>27.5</b>	<b>40.2</b>	<b>13.6</b>	<b>19.9</b>	<b>764.7</b>	<b>1,116.4</b>	<b>805.8</b>	<b>1,176.5</b>
Coastal shipping	7.1	10.3	13.6	19.9	408.1	595.8	428.8	626.0
Great Lakes	3.7	5.4	NA	NA	58.4	85.2	62.1	90.6
Inland waterways <sup>a</sup>	16.8	24.5	NA	NA	298.3	435.5	315.0	460.0
<b>Pipeline</b>	<b>192.2</b>	<b>280.6</b>	<b>U</b>	<b>U</b>	<b>934.7</b>	<b>1,364.6</b>	<b>U</b>	<b>U</b>
Crude oil and petroleum products	71.9	105.0	U	U	619.2	904.0	U	U
Natural gas	120.3	175.6	U	U	315.5	460.6	U	U
<b>Rail</b>	<b>151.6</b>	<b>221.4</b>	<b>14.4</b>	<b>21.0</b>	<b>1,356.0</b>	<b>1,979.7</b>	<b>1,522.0</b>	<b>2,222.1</b>
<b>Road</b>	<b>49.0</b>	<b>71.5</b>	<b>117.0</b>	<b>170.8</b>	<b>986.0</b>	<b>1,439.5</b>	<b>1,152.0</b>	<b>1,681.8</b>

<sup>a</sup> Commercially navigable.<sup>b</sup> Total excludes pipeline.<sup>c</sup> Total excludes Mexican pipeline.

Key:

U = data are unavailable.

**Notes: Table 6****Canada**

- Pipeline: Data are for both pipeline and natural gas.

- 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.

**Mexico**

- Total: Does not include pipeline activity due to data unavailability.

- Road: Includes only intercity truck activity on the Mexican federal highway system.

**United States**

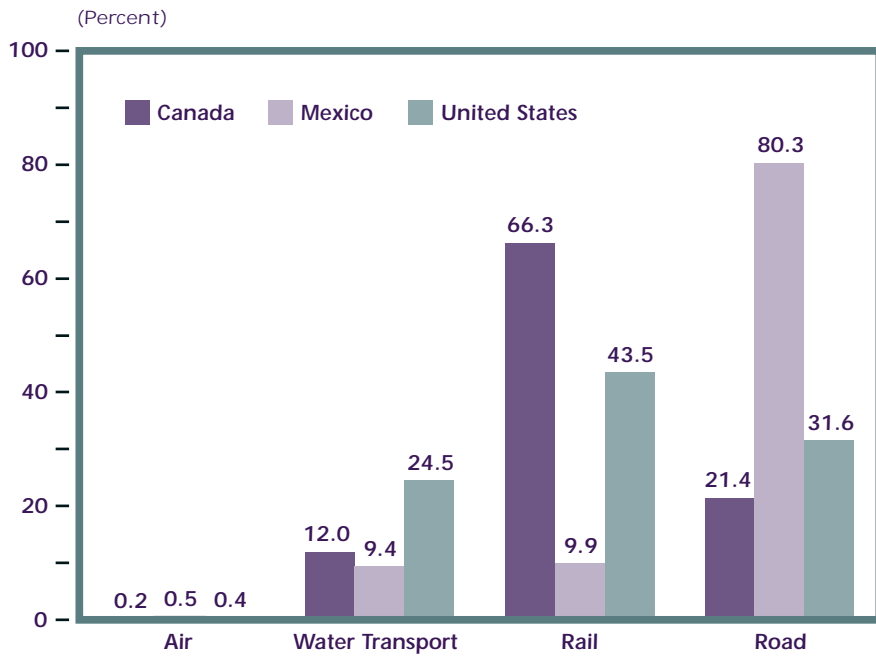
- Total: The sum of individual modes will not sum to the U.S. total because not all U.S. freight categories have been specifically identified in this table. All data categories have been included in the total, however.

- Pipeline: Data are for both pipeline and natural gas.

- Road: Data are for intercity for-hire and private truck only.

**Figure 6a**

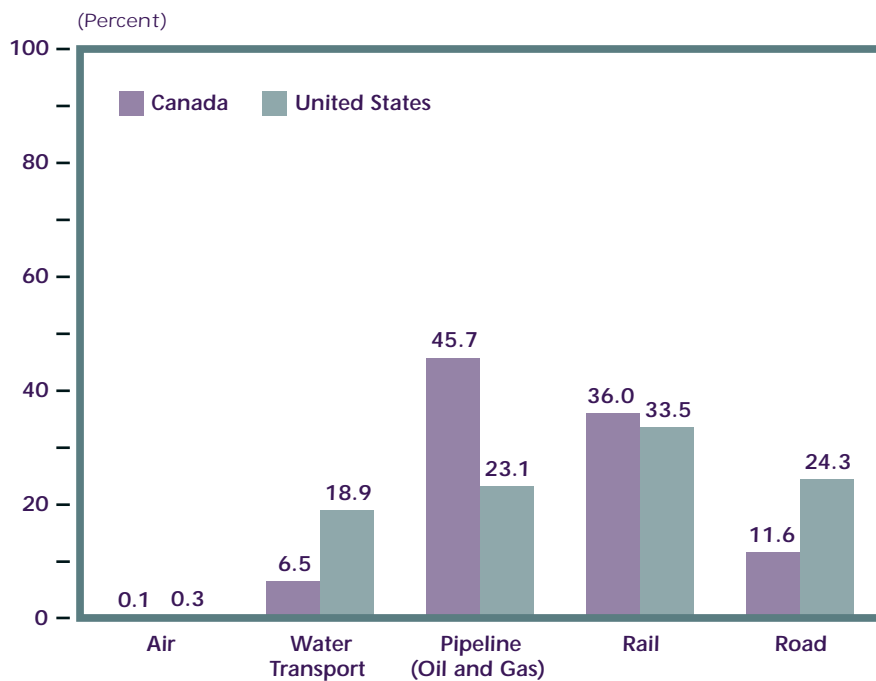
Modal Share, Excluding Pipeline, of Total Domestic Ton-Kilometers: 1996



Notes and Sources: Because pipeline data for Mexico are unavailable, pipeline has been excluded from each country's total for overall ton-kilometers and the derived modal shares in this figure. Figure 6b shows the modal shares for Canada and the United States when pipeline (both oil and gas) are included. Also see table 6.

**Figure 6b**

Modal Share, Including Pipeline, of Total Domestic Ton-Kilometers: 1996



Notes and Sources: Figure 6b shows the modal shares for Canada and the United States when pipelines (both oil and gas) are included. Figure 6b more accurately portrays modal shares for Canada and the United States than figure 6a, which excludes pipeline data. Also see table 6.

**Sources: Table 6 and Figures 6****Canada**

Air: Statistics Canada, *Canadian Civil Aviation*, Catalogue 51-206-XPB (Ottawa, Ont.: 1997).

Water transport and Rail: Transport Canada, Economic Analysis Directorate, adapted from Statistics Canada data (Ottawa, Ont.: 1998).

Pipeline: Statistics Canada, *Oil Pipeline Transport*, Catalogue 55-201-XPB (Ottawa, Ont.: 1997).  
 \_\_\_\_\_. *Gas Utilities Transport and Distribution Systems*, Catalogue 57-205-XPB (Ottawa, Ont.: 1998).

Road: Statistics Canada, *Trucking in Canada*, Catalogue 53-222-XPB, 1997 (Ottawa, Ont.: 1998).

**Mexico**

Air: Secretaría de Comunicaciones y Transportes. Dirección General de Aeronáutica Civil. *La Aviación Mexicana en cifras, 1990–1996* (Mexico City, D.F.: 1998).

Water: Secretaría de Comunicaciones y Transportes. Coordinación General de Puertos y Marina Mercante. *Los Puertos Mexicanos en cifras, 1990–1996* (Mexico City, D.F.: 1997).

Rail: Ferrocarriles Nacionales de México. *Series estadísticas, 1996* (Mexico City, D.F.: 1997).

Road: Secretaría de Comunicaciones y Transportes. Dirección General de Autotransporte Federal (Mexico City, D.F.: 1997).

**United States**

Air: U.S. Department of Transportation, Bureau of Transportation Statistics, Office of Airline Information, *Air Carrier Traffic Statistics 1996* (Washington, DC: 1997).

Coastal shipping, Great Lakes, and Inland waterways: U.S. Army Corps of Engineers, *Waterborne Commerce of the U.S., Part 5* (New Orleans, LA: Annual issues), section 1, table 1-4.

Pipeline: Data for crude oil and petroleum products are from the Association of Oil Pipelines, *Shifts in Petroleum Transportation* (Washington, DC:1996), table 1. Natural gas data are Bureau of Transportation Statistics estimates based on Department of Energy data.

Rail: Association of American Railroads, *Railroad Facts* (Washington, DC: 1997), p. 27.

Road: Eno Transportation Foundation, Inc., *Transportation in America* (Landsdowne, VA: 1997), p. 44.



NORTH AMERICAN  
TRADE AND  
TRAVEL



**Table 7**

## Canadian Merchandise Trade with Mexico and the United States by Mode of Transportation: 1996

(Millions of current U.S. dollars (\$))

<b>MERCHANDISE TRADE, total</b>	<b>with Mexico</b>	<b>with the United States</b>	<b>North America, total</b>
<b>Total</b>	<b>5,347</b>	<b>278,871</b>	<b>284,218</b>
Air	375	17,912	18,287
Water	431	6,905	7,336
Road	3,091	188,531	191,622
Rail	1,328	47,184	48,512
Pipeline and Other <sup>a</sup>	121	18,339	18,460
<b>CANADIAN MERCHANDISE IMPORTS</b>	<b>from Mexico</b>	<b>from the United States</b>	<b>North America, total</b>
<b>Total</b>	<b>4,426</b>	<b>115,188</b>	<b>119,614</b>
Air	253	10,597	10,850
Water	54	1,771	1,825
Road	2,791	91,997	94,788
Rail	1,207	10,134	11,341
Pipeline and Other <sup>a</sup>	121	691	812
<b>CANADIAN MERCHANDISE EXPORTS</b>	<b>to Mexico</b>	<b>to the United States</b>	<b>North America, total</b>
<b>Total</b>	<b>922</b>	<b>163,682</b>	<b>164,604</b>
Air	122	7,315	7,437
Water	377	5,134	5,511
Road	301	96,534	96,835
Rail	122	37,050	37,172
Pipeline and Other <sup>a</sup>	NS	17,648	U

<sup>a</sup> Mostly pipeline; also includes mail, parcel post, and other miscellaneous modes of transport.

Key:

NS = not significant.

U = data are unavailable.

### Sources: Table 7

#### Canada

Statistics Canada, International Trade

Division, special tabulations, Ottawa, Ont., 1998.

**Table 8**

## Mexican Merchandise Trade with Canada and the United States by Mode of Transportation: 1996

(Millions of current U.S. dollars(\$))

MERCHANDISE TRADE, total	with Canada	with the United States	North America, total
<b>Total</b>	<b>3,914</b>	<b>147,977</b>	<b>151,891</b>
Air	237	4,438	4,675
Water	551	14,620	15,171
Road	1,501	101,933	103,434
Rail	1,467	17,541	19,008
Pipeline	NA	U	U
MEXICAN MERCHANDISE IMPORTS	from Canada	from the United States	North America, total
<b>Total</b>	<b>1,744</b>	<b>67,437</b>	<b>69,181</b>
Air	134	2,341	2,475
Water	370	3,314	3,684
Road	895	48,181	49,076
Rail	195	4,859	5,054
Pipeline	NA	U	U
MEXICAN MERCHANDISE EXPORTS	to Canada	to the United States	North America, total
<b>Total</b>	<b>2,170</b>	<b>80,541</b>	<b>82,711</b>
Air	103	2,097	2,200
Water	181	11,306	11,487
Road	606	53,752	54,358
Rail	1,272	12,681	13,953
Pipeline	NA	U	U

Key:

NA = not applicable.

U = data are unavailable.

### Notes: Table 8

#### Mexico

- Mexican total merchandise trade with Canada and the United States: Individual modes do not sum to total trade figures because not all Mexican modes of transportation are included here.

### Sources: Table 8

#### Mexico

Instituto Nacional de Estadística, Geografía e Informática (INEGI), based on data developed through an inter-agency working group including the Secretaría de Hacienda y Crédito Público, Banco de México, and INEGI.



**Table 9**

## U.S. Merchandise Trade with Canada and Mexico by Mode of Transportation: 1996

(Millions of current U.S. dollars(\$))

MERCHANDISE TRADE, total	with Canada	with Mexico	North America, total
<b>Total</b>	<b>290,194</b>	<b>129,724</b>	<b>419,918</b>
Air	18,866	4,232	23,188
Water	7,034	11,941	18,975
Road	201,144	92,442	293,586
Rail	55,490	17,417	72,907
Pipeline	12,958	10	12,968
U.S. MERCHANDISE IMPORTS	from Canada	from Mexico	North America, total
<b>Total</b>	<b>156,506</b>	<b>72,963</b>	<b>229,469</b>
Air	6,325	1,870	8,195
Water	4,968	8,797	13,765
Road	98,401	48,350	146,751
Rail	39,811	12,298	52,109
Pipeline	12,796	8	12,804
U.S. MERCHANDISE EXPORTS	to Canada	to Mexico	North America, total
<b>Total</b>	<b>133,688</b>	<b>56,761</b>	<b>190,449</b>
Air	12,541	2,362	14,903
Water	2,066	3,143	5,209
Road	102,743	44,092	146,835
Rail	15,679	5,119	20,798
Pipeline	162	2	164

### Notes: Table 9

#### United States

■ U.S. total trade with Canada and Mexico: Individual modes do not sum to total trade figures because not all U.S. modes of transportation are included here. In addition, in some cases a summation of the individual modal categories will exceed the reported total trade value because transshipment data are included in the data for land modes of transportation. Transshipment data cannot be separated from the

modal totals for road, rail, and pipeline for 1996; thus, it is not possible to calculate modal percentage shares for 1996. However, transshipment data are not included in the 1997 data, so the modal shares for 1997 can be calculated. The 1997 modal shares for total U.S. merchandise trade with Canada and Mexico are as follows: air (5.8%), water (4.6%), road (68.0%), rail (14.7%), pipeline (3%), and other (3.9%).

**Sources: Table 9****United States**

Total trade, Air, and Water: U.S. Department of Commerce, Census Bureau, Foreign Trade Division, *FT920 Report, U.S. Merchandise Trade: Selected Highlights* (Washington, DC: December 1996).

Road, Rail, Pipeline, and Other: U.S. Department of Transportation, Bureau of Transportation Statistics, *Transborder Surface Freight Data* (Washington, DC: 1998).

**Table 10****Canada-Mexico and Mexico-Canada Travel by Mode of Transportation: 1996**

(Thousands of visitors)

CANADIAN SOURCE DATA		MEXICAN SOURCE DATA	
<b>Canadian Resident Overnight Travel to Mexico, 1996</b>		<b>Canadian Resident Overnight Travel to Mexico, 1996</b>	
	<b>438</b>		<b>269</b>
Air	N	Air	233
Land	N	Land	35
<b>Mexican Resident Overnight Travel to Canada, 1996</b>		<b>Mexican Resident Overnight Travel to Canada, 1996</b>	
	<b>81</b>		<b>N</b>
Air	N	Air	17
Land	N	Land	N

Key:  
N = data are nonexistent.

**Sources: Table 10****Canada**

Statistics Canada, *International Travel, Travel Between Canada and Other Countries (Touriscope)*, Catalogue 66-201-XPB (Ottawa, Ont.: 1997).

**Mexico**

Banco de México. Dirección General de Investigación Económica. Dirección de Medición Económica (Mexico City, D.F.: 1999).

**Table 11**

## Canada-U.S. and U.S.-Canada Travel by Mode of Transportation: 1996

(Thousands of visitors)

CANADIAN SOURCE DATA					
<b>Canadian Resident Overnight Travel to the United States, 1996</b>		<b>15,301</b>	<b>U.S. Resident Overnight Travel to Canada, 1996</b>		<b>12,909</b>
Air		4,496	Air		3,047
Land			Land		
Motor vehicles		10,251	Motor vehicles		9,097
Personal vehicles		9,579	Personal vehicles		8,325
Intercity and charter buses		672	Intercity and charter buses		772
Intercity rail		33	Intercity rail		72
Pedestrians		N	Pedestrians		N
Other <sup>a</sup>		521	Other <sup>a</sup>		692
<b>Canadian Resident Same-Day Travel to the U.S., 1996</b>		<b>37,398</b>	<b>U.S. Resident Same-Day Travel to Canada, 1996</b>		<b>25,563</b>
Air		124	Air		365
Land			Land		
Motor vehicles		37,159	Motor vehicles		24,700
Personal vehicles		36,267	Personal vehicles		23,804
Intercity and charter buses		892	Intercity and charter buses		896
Intercity rail		N	Intercity rail		6
Pedestrians		N	Pedestrians		N
Other <sup>a</sup>		115	Other <sup>a</sup>		492

<sup>a</sup> Other includes boats, pedestrians, and cyclists.

 Key:  
 N = data are nonexistent.

### Notes: Table 11

#### United States

- The United States does not collect data on same-day travel to or from the United States or for Canadian resident overnight travel to the United States. Although not used for the purposes of this table, the Bureau of Transportation Statistics' American Travel Survey provides mode of transportation data on U.S. resident travel to Canada for trips longer than 100 miles (approximately 160 kilometers).

### Sources: Table 11

#### Canada

Statistics Canada, *International Travel, Travel Between Canada and Other Countries (Touriscope)*, Catalogue 66-201-XPB (Ottawa, Ont.: Various years).

**Table 12****Mexico-U.S. and U.S.-Mexico Travel by Mode of Transportation: 1996**

(Thousands of visitors)

<b>MEXICAN SOURCE DATA</b>			
<b>Mexican Resident Overnight Travel to the United States, 1996</b>		<b>8,709</b>	
Air		983	
Land		7,726	
Motor vehicles		N	
<i>Personal vehicles</i>		N	
<i>Intercity and charter buses</i>		N	
Intercity rail		NA	
Pedestrians		N	
Other		N	
<b>Mexican Resident Same-Day Travel to the U.S., 1996</b>		<b><sup>a</sup>94,399</b>	
Air		N	
Land		94,399	
Motor vehicles		N	
<i>Personal vehicles</i>		N	
<i>Intercity and charter buses</i>		N	
Intercity rail		NA	
Pedestrians		N	
Other		N	
<b>U.S. Resident Overnight Travel to Mexico, 1996</b>			<b>20,302</b>
Air			5,361
Land			14,941
Motor vehicles			N
<i>Personal vehicles</i>			N
<i>Intercity and charter buses</i>			N
Intercity rail			NA
Pedestrians			N
Other			N
<b>U.S. Resident Same-Day Travel to Mexico, 1996</b>			<b><sup>a</sup>66,859</b>
Air			N
Land			66,859
Motor vehicles			N
<i>Personal vehicles</i>			N
<i>Intercity and charter buses</i>			N
Intercity rail			NA
Pedestrians			N
Other			N

<sup>a</sup> Excludes air.

Key:

N = data are nonexistent.

NA = not applicable.

**Notes: Table 12****United States**

- The United States does not collect data on same day travel to or from the United States or for Mexican resident overnight travel to the United States. Although not used for the purposes of this table, the Bureau of Transportation Statistics' American Travel Survey provides mode of transportation data on U.S. resident travel to Mexico for trips longer than 100 miles (approximately 160 kilometers).

**Sources: Table 12****Mexico**

Banco de México. Dirección General de Investigación Económica. Dirección de Medición Económica (Mexico City, D.F.: 1999).

**Table 13****Border Crossings, U.S.-Canada: 1996**

(Thousands)

	Northbound	Southbound	U.S.-Canadian Border, total
<b>Freight activity</b>			
Trucks	5,465	5,405	10,870
Rail (number of trains)	C	31	U
<b>Passenger travel</b>			
Personal vehicles	38,858	39,537	78,394
Passengers in personal vehicles	77,975	100,444	178,419
Buses <sup>a</sup>	N	174	N
Passengers on buses <sup>a</sup>	3,232	3,871	7,103
Pedestrians	965	614	1,579

<sup>a</sup> Includes charter, intercity, and school buses.

Key:

C = data are confidential.

N = data are nonexistent.

U = data are unavailable.

**Notes: Table 13****United States and Canada**

- Data on the number of rail cars was not available for all ports on the U.S.-Canadian border. The number of trains has been used instead.

**Sources: Table 13****United States, Southbound**

U.S. Department of Treasury, U.S. Customs Service, Office of Field Operations, Operations Management Database, special tabulation, 1998.

**Canada, Northbound**

Statistics Canada, Culture, Tourism and the Center for Education Statistics Division, Ottawa, Ont., special tabulation, 1998.

**Table 14****Border Crossings, U.S.-Mexico: 1996**

(Thousands)

	Northbound	Southbound	U.S.-Mexican Border, total
<b>Freight activity</b>			
Trucks	3,235	N	N
Rail (number of full and empty rail cars)	286	201	487
<b>Passenger travel</b>			
Personal vehicles	75,589	N	N
Passengers in personal vehicles	203,999	N	N
Buses <sup>a</sup>	208,468	N	N
Passengers on buses <sup>a</sup>	2,755	N	N
Pedestrians	42,541	N	N

<sup>a</sup> Includes buses of any of the following types: charter, intercity, and school.

Key:  
N = data are nonexistent.

**Sources: Table 14****United States, Northbound**

U.S. Department of Treasury, U.S. Customs Service,  
Office of Field Operations, Operations Management  
Database, special tabulation, 1998.

**Mexico, Southbound**

Instituto Mexicano del Transporte, *Manual estadístico del  
sector transporte 1996* (Querétaro, Qro.: 1998).







TRANSPORTATION  
SAFETY



**Table 15**

## Transportation Fatalities by Mode: 1996

	Canada	Mexico	United States	North America, total
<b>FATALITIES, total</b>	<b>3,502</b>	<b>9,472</b>	<b>44,697</b>	<b>54,672</b>
<b>Air</b>	<b>75</b>	<b>86</b>	<b>1,089</b>	<b>1,250</b>
Air carriers	28	0	457	485
General aviation	47	86	632	765
<b>Road</b>	<b>3,091</b>	<b>9,305</b>	<b>42,065</b>	<b>54,461</b>
Passenger cars and light trucks	2,264	2,562	32,437	37,263
Passenger cars	U	U	22,505	U
Motorcycles	128	142	2,161	2,431
Buses	0	279	21	300
Large trucks	59	176	621	856
Pedestrians	460	1,111	5,449	7,020
Other	180	225	1,374	1,779
<b>Pipeline (oil and gas)</b>	<b>0</b>	<b>U</b>	<b>53</b>	<b>U</b>
<b>Rail</b>	<b>119</b>	<b>81</b>	<b>1,039</b>	<b>1,239</b>
<b>Transit</b>	<b>N</b>	<b>U</b>	<b>264</b>	<b>N</b>
<b>Water transport</b>	<b>217</b>	<b>N</b>	<b>759</b>	<b>N</b>

## Key:

N = data are nonexistent.

U = data are unavailable.

**Notes: Table 15****All countries**

■ **Fatalities, total:** For the United States, the number for total fatalities is less than the sum of the fatalities listed for individual modes because some fatalities are counted in more than one mode. That is, the United States has corrected for double counting in calculating total fatalities. For Canada, the total shown is the sum of the modal totals, and has not been corrected for double counting. (Note, also, that Canadian fatality data for transit does not exist. This data, if available, would increase the Canadian fatality total slightly.) For Mexico, the total is the sum of air, road, and rail only and therefore the total number of transportation fatalities is underrepresented.

■ **Air:** U.S. and Canada include fatalities from both passenger and all-cargo flights. Mexico includes fatalities from passenger flights only. For all three countries, the air carrier data is for their own national flag carriers, operating both domestic and international flights.

■ **Road,** all data except Pedestrians and Other: Refers to occupants of road motor vehicles.

■ **Rail:** Includes all types of rail fatalities and fatalities occurring from rail-grade crossings.

(Notes continued on page 36)

- Water transport: Includes fatalities occurring on commercial passenger vessels (such as ferries or cruise ships), recreational boats, and commercial freight vessels.

**Canada**

- 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.

- Water transport: Includes fatalities occurring on commercial passenger vessels (such as ferries or cruise ships), recreational boats, and commercial freight vessels. Data for commercial freight vessels included in the water transport total are for Canadian and foreign flag vessels operating in Canadian territorial waters.

**Mexico**

- Road: Includes 4,810 fatalities that occurred on the federal highway network but that cannot be allocated to a specific type of vehicle category.

**United States**

- Air carrier: Fatalities from the operations of U.S. flag carriers (scheduled and nonscheduled flights, domestic and international flights, and passenger and all-cargo flights), commuter air, and air taxis.
- Road, total: Includes two fatalities that were not assigned to a sub-category.
- Buses: Occupant fatalities in intercity buses, school buses, and local transit buses.
- Light truck: Occupant fatalities in trucks of 10,000 pounds (4,536 kg) gross vehicle weight rating or less.

- Large truck: Occupant fatalities in trucks over 10,000 pounds (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 accidents and train and nontrain incidents. Data include intercity passenger, commuter, and freight rail fatalities.

- Water transport: Fatalities occurring on commercial freight or passenger vessels (e.g., ferries or cruise ships) and recreational boats. Data for commercial freight vessels in the water transport total represent all vessels under U.S. jurisdiction, including foreign flag vessels within U.S. jurisdiction and U.S. flag vessels operating anywhere in the world.

**Sources: Table 15**

**Canada**

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

Road: Transport Canada, Road Safety and Motor Vehicle Regulation, *Traffic Accident Information Database* (Ottawa, Ont.: 1998), special tabulation.

Rail: Transportation Safety Board of Canada, *TSB Statistical Summary: Railway Occurrences—1997* (Ottawa, Ont.: 1998).

**Mexico**

Air carriers: SCT. Dirección General de Aeronáutica Civil. Aeropuertos y Servicios Auxiliares (Mexico City, D.F.: 1998), special tabulation.

Road and Rail: Instituto Nacional de Estadística, Geografía e Informática, based on data collected by the Procuraduría General de Justicia del Distrito Federal and the Direcciones de Seguridad Pública y Vialidad and their equivalent agencies at the state and local levels (Mexico City, D.F.: 1998).

Secretaría de Comunicaciones y Transportes. Dirección General de Policía Federal de Caminos (Mexico City, D.F.: 1998).

**United States**

U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics 1999* (Washington, DC: Forthcoming).

**Table 16**

Motor Vehicle Fatalities and Fatality Rates: 1996

	Canada <sup>a</sup>	Mexico	United States
<b>ROAD MOTOR VEHICLE FATALITIES, total</b>	<b>3,351</b>	<b>9,305</b>	<b>42,065</b>
Fatality rate per 100 million vehicle-miles	<sup>e</sup> 1.7	N	1.7
Fatality rate per 100 million vehicle-kilometers	<sup>e</sup> 1.1	N	1.1
Fatality rate per 10,000 road motor vehicles	2.0	7.5	2.0
Road vehicle-miles, total (billions)	<sup>e</sup> 197.1	N	2,482.2
Road vehicle-kilometers, total (billions)	<sup>e</sup> 317.1	N	3,994.7
Number of road motor vehicles, total (millions)	17.0	12.4	210.2
National population (millions)	30	<sup>b</sup> 94	265

<sup>a</sup> Data year is 1995.

<sup>b</sup> Data year is 1997.

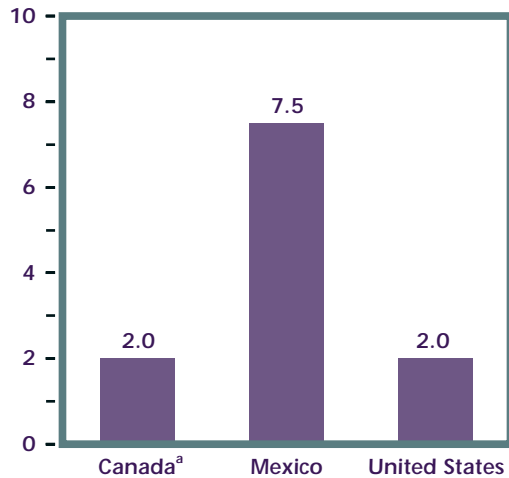
Key:

N = data are nonexistent.

e = data are estimated.

**Figure 16**

Road Fatality Rates per 10,000 Motor Vehicles: 1996



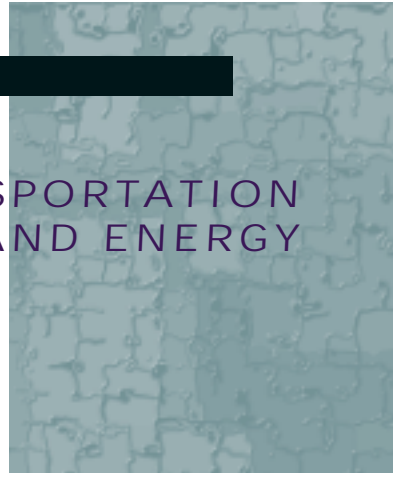
<sup>a</sup> Data year is 1995.

**Notes and Sources: Table 16**

- Road motor vehicle fatalities: See notes and sources for table 15, Transportation Fatalities by Mode.
- Road vehicle-kilometers: See notes and sources for table 4, Road Vehicle-Miles/Vehicle-Kilometers.
- Number of road motor vehicles: See notes and sources for table 3, Road Motor Vehicles.



TRANSPORTATION  
AND ENERGY







**Table 17****Energy Consumption by All Sectors and by the Transportation Sector: 1996**(Exajoules) ( $10^{18}$  joules)

	Canada	Mexico	United States	North America, total
<b>ENERGY CONSUMPTION, total<sup>a</sup></b>	<b>8.98</b>	<b>5.90</b>	<b>99.04</b>	<b>113.9</b>
<b>Transportation consumption, total<sup>b</sup></b>	<b>2.33</b>	<b>1.44</b>	<b>26.02</b>	<b>29.8</b>
Transportation's share of total energy consumption	25.9%	24.4%	26.3%	26.2%
Fossil fuels, total exajoules <sup>c</sup>	2.31	N	25.98	N
<i>Natural gas (exajoules)</i>	<i>0.25</i>	<i>N</i>	<i>0.77</i>	<i>N</i>
Trillion cubic meters	0.0065	N	0.0201	N
<i>Petroleum (exajoules)</i>	<i>2.06</i>	<i>1.43</i>	<i>25.20</i>	<i>28.7</i>
Million barrels	359	249	4,385	4,993
Electricity <sup>b</sup>	0.014	0.004	0.014	0.032

<sup>a</sup> For all three countries, "ENERGY CONSUMPTION, total" includes electrical system energy losses.

<sup>b</sup> For all three countries, "Transportation consumption, total" and "Electricity" do not include electrical system energy losses.

<sup>c</sup> Coal is not included in this table, because all three countries use negligible amounts of coal for transportation.

Key:

N = data are nonexistent.

**Notes: Table 17****Canada**

- Energy consumption, total: Includes renewable energy.
- Transportation consumption, total: Includes fuel used in fisheries and in private trucking, but excludes fuel consumption by public administrations.

**Mexico**

- Natural gas: Data are nonexistent, but natural gas consumption in Mexico is estimated to be quite small.

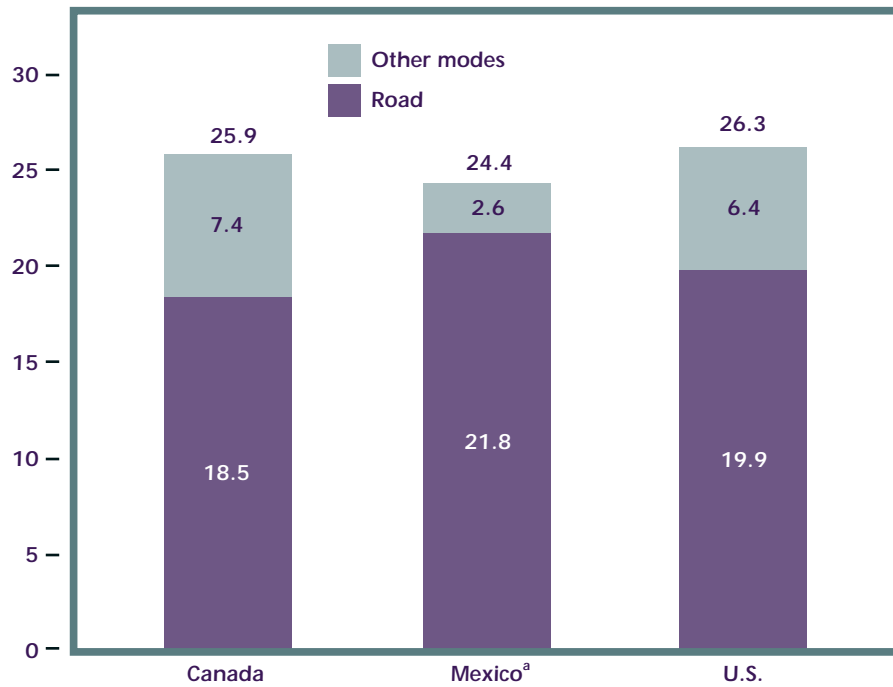
**United States**

- Energy consumption, total: Includes renewable energy.
- Transportation consumption, total: Total is greater than the sum of the components, because electrical system energy losses are not listed. Fisheries are not included, but fuel consumption by public administrations is included.

**Figure 17**

Transportation's Share of Total Energy Consumption  
by Country: 1996

(Percent)



<sup>a</sup> Pipeline energy consumption is not included in Mexico's transportation energy consumption figures. If pipeline data were included, the share of other modes would be greater and transportation's share of total energy consumption would also be more.

**Sources: Table 17 and Figure 17**

**Canada**

Statistics Canada, *Energy Supply-Demand in Canada*, Catalogue 57-003-XPB, 1997 (Ottawa, Ont.: 1998), Quarterly report.

**Mexico**

Secretaría de Energía. 1997. *Balance nacional, energía. 1996* (Mexico City, D.F.: 1998).

**United States**

U.S. Department of Energy, Energy Information Agency, *Annual Energy Review 1997* (Washington, DC: 1998).

U.S. Department of Energy, Energy Information Agency, *Monthly Energy Review* (Washington, DC: August 1998).

**Table 18****Average Price<sup>a</sup> of Fossil Fuel to End-Users: 1996**

(Current U.S. cents per liter and U.S. cents per gallon)

	Canada		Mexico		United States	
	U.S. cents per liter	U.S. cents per gallon	U.S. cents per liter	U.S. cents per gallon	U.S. cents per liter	U.S. cents per gallon
<b>MOTOR VEHICLE FUEL</b>						
<b>Gasoline</b>						
Leaded	NA	NA	36.8	139.3	NA	NA
Unleaded premium	49.4	187.0	41.8	158.2	37.3	141.3
Unleaded regular	42.5	160.9	37.9	143.5	32.5	123.1
<b>Average over all types</b>						
Price with taxes	U	U	U	U	34.0	128.8
Taxes	19.9	75.3	U	U	9.8	37.0
<b>Diesel</b>						
Price with taxes	31.7	120.0	28.2	106.7	32.6	123.5
Taxes	12.3	46.6	U	U	11.4	43.3
<b>AVIATION FUEL</b>						
Gasoline	31.6	119.6	37.9	143.5	29.5	111.6
Jet fuel	15.4	58.3	23.4	88.6	17.1	64.8
<b>RAIL FUEL</b>						
Diesel	17.1	64.7	28.2	106.7	17.9	67.7
<b>WATER TRANSPORTATION</b>						
Combined fuels	11.6	43.9	13.2	50.0	11.0	41.7

<sup>a</sup> Unless otherwise stated in the Notes below, prices include the cost of the fuel and taxes. Taxes are given separately in this table only for "All Types" of motor vehicle gasoline, and for motor vehicle diesel fuel.

Key:

NA = not applicable.

U = data are unavailable.

**Notes: Table 18****Mexico**

- Data refers to the sale price as of December 31st of each year.

**United States**

- Motor vehicle fuel taxes: Sales weighted average of federal and state fuel taxes only. Does not include state sales taxes, which we estimate would raise the average tax in 1996 by roughly one-half cent per

liter for both gasoline and diesel. Note that the motor vehicle fuel prices include state sales taxes.

- Aviation fuel: Does not include any taxes. Price of jet fuel is that paid by the large certificated air carriers.
- Rail fuel: Includes federal taxes only.

**Sources: Table 18****Canada**

Natural Resources Canada, Office of Energy Efficiency  
(Ottawa, Ont.: 1998).

**Mexico**

PEMEX. *Anuario estadístico 1998* (Mexico City, D.F.:  
1998).

PEMEX Refinación. Subgerencia de Planeación  
(Mexico City, D.F.: 1999).

**United States**

Motor vehicle fuel: U.S. Department of Energy, Energy  
Information Administration, *Annual Energy Review*  
1997 (Washington, DC: July 1998), table 5.22.

Motor vehicle fuel taxes: U.S. Department of  
Transportation, Federal Highway Administration,  
*Highway Statistics 1996* (Washington, DC: 1997),  
tables FE 101A, MF-205, MF-121T (second page),  
and MF2.

*Aviation fuel:*

*Gasoline*: U.S. Department of Energy, Energy  
Information Administration, *Annual Energy Review*,  
1997 (Washington, DC: July 1998), table 5-20.

*Jet fuel*: U.S. Department of Transportation, Bureau of  
Transportation Statistics, Office of Airline Informa-  
tion, Private Communication, based on Form 41  
Financial Reports submitted by the large certificated  
air carriers.

Rail fuel: Association of American Railroads, *Railroad  
Facts, 1997 Edition* (Washington, DC: 1997) page  
60.

Rail fuel taxes: Association of American Railroads, pri-  
vate communication.

Water transport: U.S. Department of Transportation,  
Maritime Administration (MARAD), personal com-  
munication, based on reports from major U.S. flag  
liner operators to MARAD.

**Metric to U.S. Conversions and Energy Equivalents****Length (approximate)**

1 kilometer (km) = 0.6214 miles (mi)

**Area (approximate)**

1 square kilometer (km<sup>2</sup>) = 0.3861 square miles  
(sq mi, mi<sup>2</sup>)

**Mass/Weight (approximate)**

1 metric ton (t) = 1,000 kilograms (kg)  
= 1.102 short tons

**Energy**

1055 joules = 1 British thermal unit (Btu)  
1 exajoule = 10<sup>18</sup> joules







**December 1999**  
**BTS99-07**