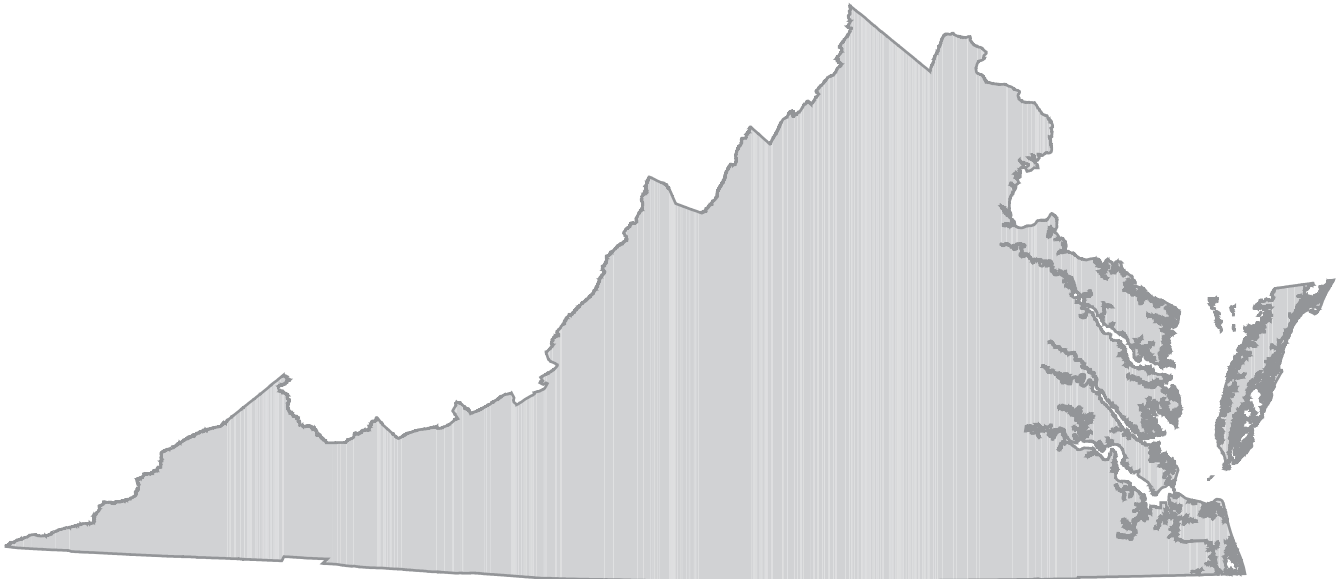


# Virginia



## Transportation Profile



U.S. Department of Transportation



Bureau of Transportation Statistics



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## U.S. Department of Transportation

Norman Y. Mineta  
*Secretary*

Michael P. Jackson  
*Deputy Secretary*

## Bureau of Transportation Statistics

Rick Kowalewski  
*Acting Director*

William J. Chang  
*Associate Director for  
Information Technology*

John V. Wells  
*Chief Economist*

Wendell Fletcher  
*Assistant Director for  
Transportation Analysis*

## Project Manager

Ron Duych

## Major Contributors

Martha Courtney  
Mike Barry  
Derald Dudley  
Torrance Gloss  
Matt Sheppard

## Other Contributors

Alpha Glass  
Steve Lewis  
Chip Moore  
Lorisa Smith

## Data Collection and Production—Battelle

William Mallett  
Bo Bergman  
Mary Field  
Leonard Hughes  
David Kall  
Melody Liu  
Michael Sanders  
Laurie Scovell

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# Virginia Fast Facts 2000

## Transportation System Extent

All public roads: 70,393 miles

Interstate: 1,118 miles

Road bridges: 12,709

Class I railroad trackage: 3,195 miles

Inland waterways: 674 miles

Public use airports: 66 (11 certificated for air carrier operations)<sup>1</sup>

## Vehicles and Conveyances

Automobiles registered: 3.9 million

Light trucks registered: 2.0 million

Heavy trucks registered: 34,000

Buses registered: 18,000

Motorcycles registered: 61,000

Rail transit systems: 1 commuter rail,  
1 heavy rail (subway)

Numbered boats: 237,000

## Geographic

Land area: 39,594 sq. miles (rank: 37)

Percent of land area owned by federal government: 9.0<sup>2</sup> (rank: 17)

Persons per square mile: 178.8 (rank: 14)

Highest point: Mount Rogers (5,729 ft.)

Lowest point: Atlantic Ocean (0 ft.)

---

<sup>1</sup>2002

<sup>2</sup>1999

<sup>3</sup>1997

<sup>4</sup>Apportionment based on 2000 census

<sup>5</sup>1990

## Political Subdivisions

Counties: 95

Municipal governments: 231<sup>3</sup>

Congressional districts: 11<sup>4</sup>

## Demographic

Population: 7,078,515 (rank: 12)

Percent urban population: 69<sup>5</sup> (rank: 23)

## Socioeconomic

Gross state product: \$242 billion<sup>2</sup> (rank: 13)

Civilian labor force: 3.6 million<sup>2</sup> (rank: 12)

Median household income: \$50,069  
(rank: 7)

## Commuting (percent of workers)

Car, truck, or van—drove alone: 78.1

Car, truck, or van—carpooled: 11.3

Public transportation (including taxi): 4.1

Walked: 2.0

Other means: 1.2

Worked at home: 3.3

## State Transportation Department

Virginia Department of Transportation  
(VDOT)

1221 East Broad Street

Richmond, VA 23219

(804) 786-2801

<http://www.vdot.state.va.us/>

**The Bureau of Transportation Statistics (BTS)** presents a profile of transportation in Virginia—part of a series covering the 50 states and the District of Columbia. This collection of transportation information from BTS, other federal government agencies, and other national sources provides a picture of the state’s infrastructure, freight movement and passenger travel, safety, vehicles, economy and finance, and energy and environment.

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

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## **Map: Virginia Major Transportation Facilities**

# A Infrastructure



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

	1995	1996	1997	1998	1999	2000
<b>Total rural and urban</b>	69,142	69,384	69,632	69,860	70,327	70,393
<b>Rural</b>	50,767	50,854	50,976	51,032	51,325	51,455
Interstate	708	712	714	717	725	731
Other principal arterial	1,528	1,534	1,560	1,555	1,548	1,557
Minor arterial	3,432	3,432	3,443	3,440	3,455	3,529
Major arterial	9,747	9,744	9,750	9,741	9,744	9,745
Minor collector	2,547	2,545	2,539	2,537	2,552	2,501
Local	32,805	32,887	32,970	33,042	33,301	33,392
<b>Urban</b>	18,375	18,530	18,656	18,828	19,002	18,938
Interstate	398	395	392	401	393	387
Other freeways and expressways	223	222	220	208	217	218
Other principal arterial	1,139	1,144	1,129	1,136	1,138	1,059
Minor arterial	1,974	1,972	2,018	2,043	2,053	2,011
Collector	1,932	1,934	1,928	1,926	1,885	1,872
Local	12,709	12,863	12,969	13,114	13,316	13,391

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

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

	National Highway System	Other federal-aid highway	Nonfederal- aid highway	Total
Total	3,461	17,660	49,270	70,391
State highway agency	3,371	15,448	39,034	57,853
County	28	275	1,282	1,585
Town, township, municipal	16	1,586	7,480	9,082
Other jurisdiction <sup>1</sup>	20	13	0	33
Federal agency <sup>2</sup>	26	338	1,474	1,838

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

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

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

**Table 1-3: Virginia Toll Roads: 2001**

Facility	Financing or operating authority	Location	Length in miles	Toll collection direction	Electronic collection system
<b>Noninterstate</b>					
Powhite Parkway Extension (Route 76)	VDOT	From Old Hundred Road to Interstate 195	12.9	Both ways	AVI
Downtown Expressway (Route 195)	RMA	From Powhite Parkway to Interstate 95	4.3	Both ways	AVI
Dulles Toll Road	VDOT	From Route 28 (Dulles Airport) to Interstate 66	16.2	Both ways	AVI
Dulles Greenway (Route 267)	TRCV	From Routes 7 and 15 B.P. at Leesburg to Route 28 (at Dulles Airport)	12.5	Both ways	AVI

**Table 1-4: Virginia Toll Bridges and Tunnels: 2001**

Facility	Financing or operating authority	Location	Length in miles	Toll collection direction	Electronic collection system
<b>Noninterstate</b>					
Harry W. Nice Memorial Bridge	MTA	From Charles County, MD to King George County, VA	2.3	South	Infrared laser/E-ZPass compatible
Boulevard	RMA	From Richmond (Byrd Park) to Richmond (Forest Hills Park)	0.4	Both ways	No
Jordan	City of Chesapeake	From Chesapeake to Portsmouth	0.4	Both ways	No
Chesapeake Bay	Chesapeake Bay Bridge and Tunnel District	From Kiptopeake to Virginia Beach	19.7	Both ways	No
G. P. Coleman	VDOT	From York County to Gloucester County	0.7	North	AVI

**KEY FOR DATA ON THIS PAGE:** VDOT = Virginia Department of Transportation; RMA = Richmond Metropolitan Authority; TRCV = Toll Road Corporation of Virginia; AVI = automatic vehicle identification; MTA = Maryland Transportation Authority.

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

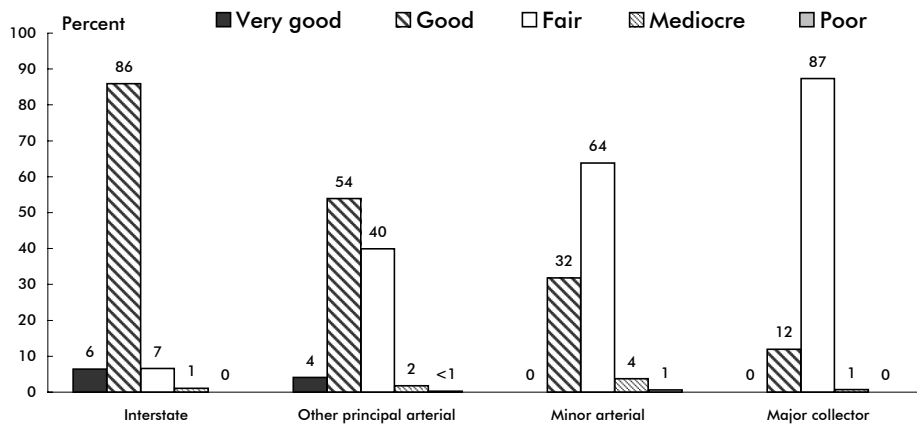
**Table 1-5: Virginia Road Condition by Functional System -- Rural (Miles)**

	1995	1996	1997	1998	1999	2000
<b>Interstate (total reported)</b>	708	712	714	716	725	730
Very good	1	6	6	7	18	47
Good	278	360	360	356	586	627
Fair	294	280	280	284	109	48
Mediocre	81	63	65	65	11	8
Poor	54	3	3	4	1	0
Not reported	0	0	0	0	0	0
<b>Other principal arterial (total reported)</b>	1,528	1,534	1,560	1,556	1,547	1,557
Very good	1	4	6	6	6	64
Good	371	451	605	606	686	840
Fair	1,090	1,023	879	884	820	621
Mediocre	43	36	45	39	27	28
Poor	23	20	25	21	8	4
Not reported	0	0	0	0	0	0
<b>Minor arterial (total reported)</b>	3,432	3,432	3,443	3,422	3,424	3,496
Very good	1	0	0	0	0	0
Good	411	491	634	610	604	1,112
Fair	2,909	2,849	2,717	2,712	2,761	2,231
Mediocre	62	74	86	74	50	131
Poor	49	18	6	26	9	22
Not reported	0	0	0	0	0	0
<b>Major collector (total reported)</b>	N	N	N	N	N	2,211
Very good	N	N	N	N	N	0
Good	N	N	N	N	N	265
Fair	N	N	N	N	N	1,931
Mediocre	N	N	N	N	N	15
Poor	N	N	N	N	N	0
Not reported	N	N	N	N	N	N

**KEY:** N = data do not exist.

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

**Figure 1-1: Rural Road Conditions in Virginia: 2000**



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

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

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

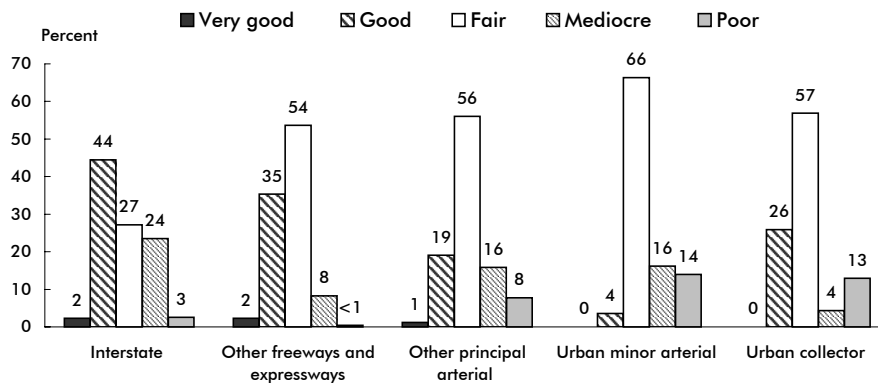
**Table 1-6: Virginia Road Condition by Functional System -- Urban (Miles)**

	1995	1996	1997	1998	1999	2000
<b>Interstate (total reported)</b>	398	395	392	401	393	387
Very good	2	2	2	2	0	9
Good	92	94	94	94	159	172
Fair	124	156	155	162	118	105
Mediocre	140	125	123	124	97	91
Poor	40	18	18	19	19	10
Not reported	0	0	0	0	0	0
<b>Other freeways and expressways (total reported)</b>	223	222	221	208	248	218
Very good	0	0	0	0	0	5
Good	30	33	53	55	67	77
Fair	177	167	151	139	171	117
Mediocre	14	20	15	12	8	18
Poor	2	2	2	2	2	1
Not reported	0	0	0	0	25	0
<b>Other principal arterial (total reported)</b>	1,131	1,144	1,129	1,136	1,097	1,058
Very good	1	1	0	0	1	13
Good	94	139	152	150	172	202
Fair	745	667	672	686	681	593
Mediocre	167	209	203	199	158	168
Poor	124	128	102	101	85	82
Not reported	8	0	0	0	42	1
<b>Urban minor arterial (total reported)</b>	N	N	N	N	N	846
Very good	N	N	N	N	N	0
Good	N	N	N	N	N	30
Fair	N	N	N	N	N	561
Mediocre	N	N	N	N	N	137
Poor	N	N	N	N	N	118
Not reported	N	N	N	N	N	N
<b>Urban collector (total reported)</b>	N	N	N	N	N	116
Very good	N	N	N	N	N	0
Good	N	N	N	N	N	30
Fair	N	N	N	N	N	66
Mediocre	N	N	N	N	N	5
Poor	N	N	N	N	N	15
Not reported	N	N	N	N	N	N

KEY: N = data do not exist.

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

**Figure 1-2: Urban Road Conditions in Virginia: 2000**



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

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

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



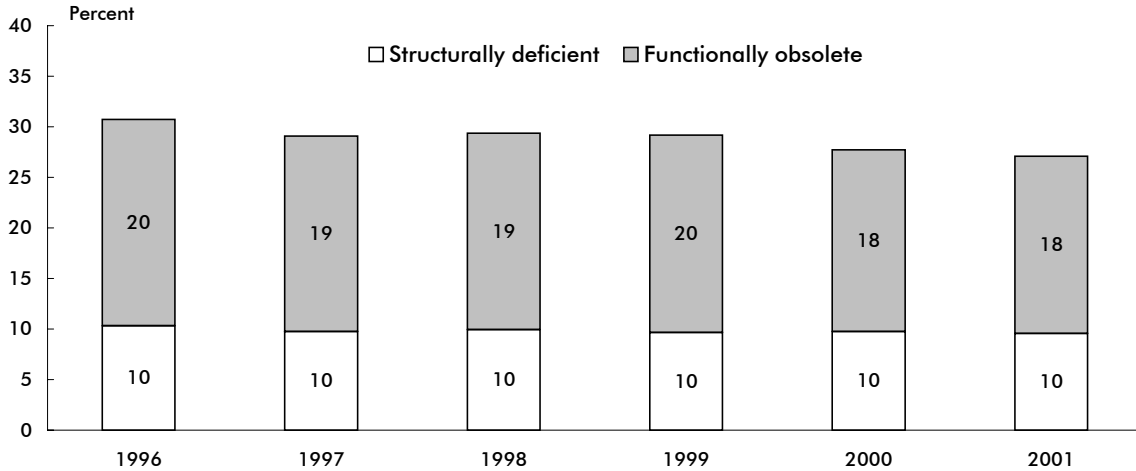
**Table 1-7: Highway Bridge Condition: 2001**

State	All bridges (number)	Structurally deficient (number)	Functionally obsolete (number)	Total of both	
				(number)	(percent)
Alabama	15,641	2,677	2,245	4,922	31.5
Alaska	1,433	169	243	412	28.8
Arizona	6,918	194	541	735	10.6
Arkansas	12,434	1,479	1,996	3,475	27.9
California	23,770	2,636	4,204	6,840	28.8
Colorado	8,082	596	847	1,443	17.9
Connecticut	4,171	362	943	1,305	31.3
Delaware	829	47	82	129	15.6
District of Columbia	243	25	136	161	66.3
Florida	11,303	300	1,814	2,114	18.7
Georgia	14,394	1,578	1,924	3,502	24.3
Hawaii	1,071	193	344	537	50.1
Idaho	4,069	320	436	756	18.6
Illinois	25,529	2,725	2,099	4,824	18.9
Indiana	18,067	2,257	2,161	4,418	24.5
Iowa	25,030	5,036	2,060	7,096	28.3
Kansas	25,638	3,465	2,959	6,424	25.1
Kentucky	13,442	1,189	2,864	4,053	30.2
Louisiana	13,426	2,425	2,166	4,591	34.2
Maine	2,367	354	512	866	36.6
Maryland	4,957	436	1,010	1,446	29.2
Massachusetts	4,986	696	1,792	2,488	49.9
Michigan	10,631	2,012	1,354	3,366	31.7
Minnesota	12,830	1,221	563	1,784	13.9
Mississippi	16,825	3,694	1,308	5,002	29.7
Missouri	23,604	6,083	2,747	8,830	37.4
Montana	5,009	570	560	1,130	22.6
Nebraska	15,493	2,676	1,661	4,337	28.0
Nevada	1,510	67	154	221	14.6
New Hampshire	2,354	387	415	802	34.1
New Jersey	6,366	930	1,420	2,350	36.9
New Mexico	3,790	348	355	703	18.5
New York	17,378	2,406	4,182	6,588	37.9
North Carolina	16,991	2,513	2,794	5,307	31.2
North Dakota	4,517	871	266	1,137	25.2
Ohio	27,952	3,304	3,862	7,166	25.6
Oklahoma	22,708	7,605	1,518	9,123	40.2
Oregon	7,309	362	1,291	1,653	22.6
Pennsylvania	22,092	5,418	4,022	9,440	42.7
Rhode Island	749	187	192	379	50.6
South Carolina	9,064	1,187	869	2,056	22.7
South Dakota	6,001	1,398	346	1,744	29.1
Tennessee	19,362	1,761	2,940	4,701	24.3
Texas	48,085	3,182	7,373	10,555	22.0
Utah	2,743	389	245	634	23.1
Vermont	2,714	452	503	955	35.2
<b>Virginia</b>	<b>12,789</b>	<b>1,222</b>	<b>2,243</b>	<b>3,465</b>	<b>27.1</b>
Washington	7,939	551	1,591	2,142	27.0
West Virginia	6,767	1,172	1,495	2,667	39.4
Wisconsin	13,516	1,862	795	2,657	19.7
Wyoming	3,076	389	253	642	20.9
United States	590,066	83,630	81,469	165,099	28.0

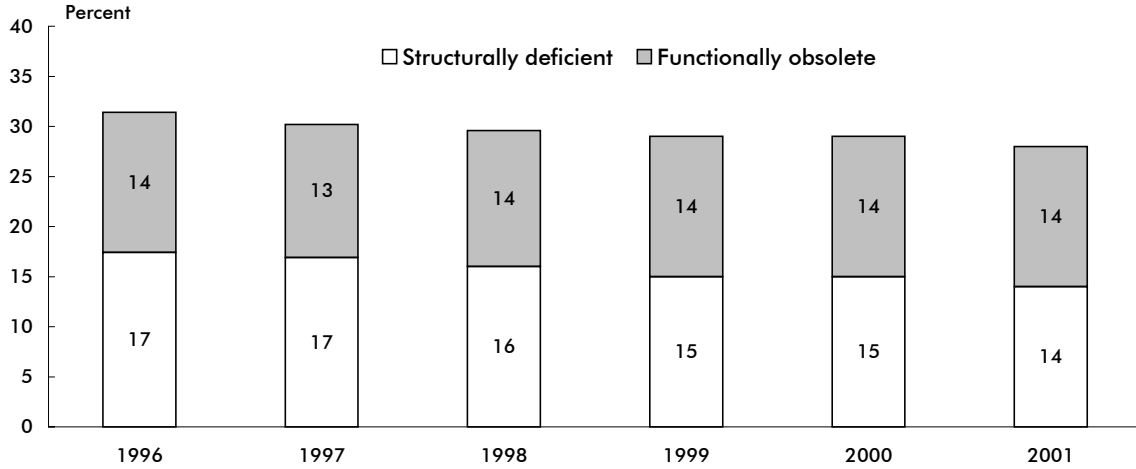
**SOURCE:** U.S. Department of Transportation, Federal Highway Administration, *National Bridge Inventory: Deficient Bridges by State and Highway System*, Washington, DC: 2001, available at <http://www.fhwa.dot.gov/bridge/britab.htm> as of Jan. 31, 2002.

**Figure 1-3: Highway Bridge Condition**

**Virginia**



**United States**



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

**Table 1-8: Characteristics of Directly Operated Motor Bus Transit in Virginia: 2000**

<b>Transit agency</b>	<b>Directional route-miles</b>		
	<b>Exclusive right-of-way</b>	<b>Controlled right-of-way</b>	<b>Mixed right-of-way</b>
Charlottesville Transit	0.0	0.0	89.8
City of Alexandria	0.0	7.4	80.9
City of Danville	0.0	0.0	96.0
City of Fairfax CUE Bus	0.0	0.0	26.0
Greater Lynchburg Transit	0.0	0.0	134.0
Greater Richmond Transit	0.0	0.0	404.2
Greater Roanoke Transit	0.0	0.0	191.5
Hampton Roads	0.0	39.9	1,100.9
James City County Transit	0.0	0.0	81.0
Petersburg Area Transit	0.0	0.0	67.6
Washington-Metro <sup>1</sup>	0.0	79.1	2,572.9
<b>Total</b>	<b>0.0</b>	<b>126.4</b>	<b>4,844.8</b>

<sup>1</sup> Parts of the system detailed here also serve Washington, DC and Maryland.

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

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

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

**Table 1-9: Characteristics of Rail Transit in Virginia: 2000**

<b>Transit agency</b>	<b>Directional route-miles</b>	<b>Miles of track</b>	<b>Number of crossings</b>	<b>Number of stations</b>	<b>Number of ADA accessible stations</b>
<b>Heavy rail</b>					
Washington Metropolitan Area Transit Authority <sup>1</sup>	193.5	206.8	0	78	78
<b>Commuter rail</b>					
Virginia Railway Express <sup>2</sup>	177.5	190.0	23	18	18

<sup>1</sup>Parts of the system detailed here also serve Washington, DC and Maryland.

<sup>2</sup>Parts of the system detailed here also serve Washington, DC.

**KEY:** ADA = Americans with Disabilities Act of 1990.

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

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

**Table 1-10: Civil and Joint-Use Airports, Heliports, STOLports, and Seaplane Bases in Virginia: 2002<sup>1</sup>**

Ownership and usage	Airports	Heliports	STOLports	Seaplane bases	Total
<b>Publicly owned</b>	<b>55</b>	<b>19</b>	<b>0</b>	<b>0</b>	<b>74</b>
Open to public	54	0	0	0	54
Closed to public	1	19	0	0	20
<b>Privately owned</b>	<b>220</b>	<b>96</b>	<b>3</b>	<b>5</b>	<b>324</b>
Open to public	12	0	0	1	13
Closed to public	208	96	3	4	311
<b>Total</b>	<b>275</b>	<b>115</b>	<b>3</b>	<b>5</b>	<b>398</b>

<sup>1</sup>Data are current as of Jan. 31, 2002.

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

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

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

**Table 1-11: Virginia Commercial Service Airport Enplanements: 2000**  
**(For airports with scheduled service and 2,500 or more passengers enplaned)**

<b>Airport</b>	<b>Large certificated air carriers</b>	<b>Commuter and small certificated air carriers</b>	<b>Air taxi commuter operators</b>	<b>Foreign air carriers</b>	<b>Total enplanements</b>
Washington Dulles International	6,661,213	1,847,058	263	1,134,741	9,643,275
Ronald Reagan Washington National	6,987,151	421,350	601	108,709	7,517,811
Norfolk International	1,292,369	225,787	225	171	1,518,552
Richmond International	1,213,795	99,762	1,150	15,780	1,330,487
Roanoke Regional/Woodrum Field	233,494	130,592	116	0	364,202
Newport News/Williamsburg International	121,806	105,678	62	89	227,635
Charlottesville-Albemarle	16,259	149,164	515	0	165,938
Lynchburg Regional/Preston Glenn Field	15,897	65,327	1,235	0	82,459
Shenandoah Valley Regional	0	21,111	2	0	21,113

**NOTE:** Rank order by total enplaned passengers on air carriers of all types, including foreign air carriers.

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

**Table 1-12: Freight Railroads in Virginia and the United States: 2000**

Type of railroad	Number of railroads		Miles operated <sup>2</sup>			
	United States	Virginia	United States	Virginia		Percent of U.S. total
				Excluding trackage rights	Including trackage rights	
Total	562	10	172,101	3,264	3,444	2.0
Class I	8	2	120,597	3,033	3,195	2.6
Regional	35	0	20,978	0	0	0.0
Local	304	5	21,512	172	182	0.8
Switching and terminal	213	2	7,425	59	63	0.8
Canadian <sup>1</sup>	2	1	1,589	0	4	0.3

<sup>1</sup> Refers to non-Class I, Canadian-owned lines.

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

**NOTES:**

1. As defined by the Surface Transportation Board in 2000, a Class I Railroad is a railroad with operating revenues of at least \$261.9 million.
2. A Regional Railroad is a non-Class I, line-haul railroad operating 350 or more miles of road or with revenues of at least \$40 million or both.
3. A Local Railroad is a railroad which is neither a Class I nor a Regional Railroad, and is engaged primarily in line-haul service.
4. A Switching and Terminal Railroad is a non-Class I Railroad engaged primarily in switching and/or terminal services for other railroads.

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

**Table 1-13: Freight Railroads Operating in Virginia by Class: 2000**

Railroad	Miles operated in Virginia <sup>1</sup>
<b>Class I railroads</b>	<b>3,195</b>
CSX Transportation	1,050
Norfolk Southern Corporation	2,145
<b>Regional railroads</b>	<b>0</b>
<b>Local railroads</b>	<b>182</b>
Buckingham Branch Railroad Company	39
Chesapeake & Albemarle Railroad Company	29
Commonwealth Railway, Inc.	17
Eastern Shore Railroad	70
Winchester and Western Railroad Company	27
<b>Switching and terminal railroads</b>	<b>63</b>
North Carolina & Virginia Railroad Company	4
Virginia Southern Railroad	59
<b>Canadian Railroads</b>	<b>4</b>
Canadian Pacific Railway	4

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

**NOTE:** For definition of railroad types see previous table.

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



**Table 1-14: Virginia Water Ports Ranked in Top 150 U.S. Ports by Tonnage: 2000**

Port	U.S. rank	Millions of short tons		
		Total	Foreign	Domestic
Norfolk Harbor	19	42.4	31.9	10.5
Newport News	48	13.8	6.6	7.2
Richmond	137	1.5	0.7	0.8

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

**Table 1-15: Inland Waterway Mileage: 2000**  
(Includes 39 states and the District of Columbia)

State	Miles	State	Miles
Alabama	1,270	Mississippi	873
Alaska	5,497	Missouri	1,033
Arkansas	1,860	Nebraska	318
California	286	New Hampshire	8
Connecticut	117	New Jersey	360
Delaware	99	New York	394
District of Columbia	7	North Carolina	1,152
Florida	1,540	Ohio	444
Georgia	721	Oklahoma	150
Idaho	111	Oregon	681
Illinois	1,095	Pennsylvania	259
Indiana	353	Rhode Island	39
Iowa	492	South Carolina	482
Kansas	120	South Dakota	75
Kentucky	1,591	Tennessee	946
Louisiana	2,823	Texas	834
Maine	73	<b>Virginia</b>	<b>674</b>
Maryland	532	Washington	1,057
Massachusetts	90	West Virginia	682
Minnesota	258	Wisconsin	231

**NOTES:** Waterway mileages were determined by including the length of channels 1) with a controlling draft of nine feet or greater, 2) with commercial cargo traffic reported for 1998 and 1999, but 3) were not offshore (i.e., channels in coastal areas included only the miles from the entrance channel inward). Channels within major bays are included (e.g., Chesapeake Bay, San Francisco Bay, Puget Sound, Long Island Sound, major sounds and straits in southeastern Alaska). Channels in the Great Lakes are not included, but waterways connecting lakes and the St. Lawrence Seaway inside the United States are included.

**SOURCE:** U.S. Army Corps of Engineers, Navigation Data Center National Waterway Network, Jan. 8, 2002.



## B Safety



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

State	Traffic fatalities	Licensed drivers (thousands)	Registered vehicles (thousands)	Vehicle-miles traveled (millions)	Fatality rate per		
					100,000 licensed drivers	100,000 registered vehicles	100 million vehicle-miles traveled
Alabama	995	3,521	4,015	56,534	28.3	24.8	1.8
Alaska	103	465	611	4,613	22.2	16.9	2.2
Arizona	1,036	3,434	3,960	49,768	30.2	26.2	2.1
Arkansas	652	1,948	1,865	29,167	33.5	35.0	2.2
California	3,753	21,244	28,146	306,649	17.7	13.3	1.2
Colorado	681	3,107	3,724	41,771	21.9	18.3	1.6
Connecticut	342	2,653	2,907	30,756	12.9	11.8	1.1
Delaware	123	557	641	8,240	22.1	19.2	1.5
District of Columbia	49	348	244	3,498	14.1	20.1	1.4
Florida	2,999	12,853	12,036	152,136	23.3	24.9	2.0
Georgia	1,541	5,550	7,243	105,010	27.8	21.3	1.5
Hawaii	131	769	758	8,543	17.0	17.3	1.5
Idaho	276	884	1,220	13,534	31.2	22.6	2.0
Illinois	1,418	7,961	9,168	102,866	17.8	15.5	1.4
Indiana	875	3,976	5,689	70,862	22.0	15.4	1.2
Iowa	445	1,953	3,233	29,433	22.8	13.8	1.5
Kansas	461	1,908	2,346	28,130	24.2	19.7	1.6
Kentucky	820	2,694	2,870	46,803	30.4	28.6	1.8
Louisiana	937	2,759	3,605	40,849	34.0	26.0	2.3
Maine	169	920	1,053	14,190	18.4	16.1	1.2
Maryland	588	3,382	3,897	50,174	17.4	15.1	1.2
Massachusetts	433	4,490	5,372	52,796	9.6	8.1	0.8
Michigan	1,382	6,925	8,619	97,792	20.0	16.0	1.4
Minnesota	625	2,941	4,773	52,601	21.3	13.1	1.2
Mississippi	949	2,008	2,321	35,536	47.3	40.9	2.7
Missouri	1,157	3,856	4,641	67,083	30.0	24.9	1.7
Montana	237	679	1,053	9,882	34.9	22.5	2.4
Nebraska	276	1,195	1,640	18,081	23.1	16.8	1.5
Nevada	323	1,371	1,245	17,639	23.6	25.9	1.8
New Hampshire	126	930	1,100	12,021	13.6	11.5	1.0
New Jersey	731	5,655	6,502	67,446	12.9	11.2	1.1
New Mexico	430	1,239	1,557	22,760	34.7	27.6	1.9
New York	1,458	10,871	10,342	129,057	13.4	14.1	1.1
North Carolina	1,472	5,690	6,305	89,504	25.9	23.3	1.6
North Dakota	86	459	711	7,217	18.7	12.1	1.2
Ohio	1,351	8,206	10,722	105,898	16.5	12.6	1.3
Oklahoma	652	2,295	3,072	43,355	28.4	21.2	1.5
Oregon	451	2,495	3,091	35,010	18.1	14.6	1.3
Pennsylvania	1,520	8,229	9,476	102,337	18.5	16.0	1.5
Rhode Island	80	654	779	8,359	12.2	10.3	1.0
South Carolina	1,065	2,843	3,146	45,538	37.5	33.9	2.3
South Dakota	173	544	822	8,432	31.8	21.0	2.1
Tennessee	1,306	4,251	4,891	65,732	30.7	26.7	2.0
Texas	3,769	13,462	14,257	220,064	28.0	26.4	1.7
Utah	373	1,463	1,656	22,597	25.5	22.5	1.7
Vermont	79	506	537	6,811	15.6	14.7	1.2
<b>Virginia</b>	<b>930</b>	<b>4,837</b>	<b>6,107</b>	<b>74,801</b>	<b>19.2</b>	<b>15.2</b>	<b>1.2</b>
Washington	632	4,155	5,235	53,330	15.2	12.1	1.2
West Virginia	410	1,347	1,468	19,242	30.4	27.9	2.1
Wisconsin	799	3,770	4,545	57,266	21.2	17.6	1.4
Wyoming	152	371	605	8,090	41.0	25.1	1.9
United States	41,821	190,625	217,028	2,749,803	21.9	19.3	1.5

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

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

State	Restraint used		No restraint used		Restraint use unknown		Total occupants killed	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Alabama	204	38.2	308	57.7	22	4.1	534	100.0
Alaska	11	39.3	17	60.7	0	0.0	28	100.0
Arizona	131	36.0	183	50.3	50	13.7	364	100.0
Arkansas	95	32.3	160	54.4	39	13.3	294	100.0
California	917	53.5	499	29.1	298	17.4	1,714	100.0
Colorado	129	47.1	142	51.8	3	1.1	274	100.0
Connecticut	69	38.1	90	49.7	22	12.2	181	100.0
Delaware	20	29.0	47	68.1	2	2.9	69	100.0
District of Columbia	4	22.2	7	38.9	7	38.9	18	100.0
Florida	523	37.7	836	60.3	27	1.9	1,386	100.0
Georgia	337	42.9	351	44.7	98	12.5	786	100.0
Hawaii	23	37.7	29	47.5	9	14.8	61	100.0
Idaho	42	35.9	69	59.0	6	5.1	117	100.0
Illinois	234	34.3	311	45.6	137	20.1	682	100.0
Indiana	203	43.0	222	47.0	47	10.0	472	100.0
Iowa	107	41.6	98	38.1	52	20.2	257	100.0
Kansas	77	33.2	127	54.7	28	12.1	232	100.0
Kentucky	156	36.3	269	62.6	5	1.2	430	100.0
Louisiana	127	30.1	232	55.0	63	14.9	422	100.0
Maine	37	36.6	58	57.4	6	5.9	101	100.0
Maryland	167	55.3	117	38.7	18	6.0	302	100.0
Massachusetts	63	25.9	128	52.7	52	21.4	243	100.0
Michigan	364	51.3	260	36.6	86	12.1	710	100.0
Minnesota	129	37.5	174	50.6	41	11.9	344	100.0
Mississippi	144	28.3	354	69.5	11	2.2	509	100.0
Missouri	198	33.4	326	55.0	69	11.6	593	100.0
Montana	38	37.3	56	54.9	8	7.8	102	100.0
Nebraska	35	27.1	76	58.9	18	14.0	129	100.0
Nevada	52	38.2	81	59.6	3	2.2	136	100.0
New Hampshire	13	21.0	43	69.4	6	9.7	62	100.0
New Jersey	161	42.4	197	51.8	22	5.8	380	100.0
New Mexico	72	41.9	90	52.3	10	5.8	172	100.0
New York	360	50.8	290	40.9	59	8.3	709	100.0
North Carolina	369	45.0	354	43.2	97	11.8	820	100.0
North Dakota	8	19.0	33	78.6	1	2.4	42	100.0
Ohio	319	41.5	396	51.6	53	6.9	768	100.0
Oklahoma	128	40.4	187	59.0	2	0.6	317	100.0
Oregon	147	67.1	60	27.4	12	5.5	219	100.0
Pennsylvania	265	31.7	443	53.1	127	15.2	835	100.0
Rhode Island	8	18.6	33	76.7	2	4.7	43	100.0
South Carolina	158	38.3	246	59.7	8	1.9	412	100.0
South Dakota	11	15.3	58	80.6	3	4.2	72	100.0
Tennessee	207	28.6	479	66.1	39	5.4	725	100.0
Texas	914	54.7	723	43.2	35	2.1	1,672	100.0
Utah	66	39.3	97	57.7	5	3.0	168	100.0
Vermont	23	57.5	15	37.5	2	5.0	40	100.0
<b>Virginia</b>	<b>199</b>	<b>40.4</b>	<b>264</b>	<b>53.7</b>	<b>29</b>	<b>5.9</b>	<b>492</b>	<b>100.0</b>
Washington	153	44.5	185	53.8	6	1.7	344	100.0
West Virginia	71	31.1	151	66.2	6	2.6	228	100.0
Wisconsin	161	37.3	231	53.5	40	9.3	432	100.0
Wyoming	23	46.0	27	54.0	0	0.0	50	100.0
<b>United States</b>	<b>8,472</b>	<b>41.3</b>	<b>10,229</b>	<b>49.9</b>	<b>1,791</b>	<b>8.7</b>	<b>20,492</b>	<b>100.0</b>

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

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

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

State	Effective <sup>1</sup>	Enforcement <sup>2</sup>	Fine	Seats	Vehicles exempted <sup>3</sup>
Alabama	7/18/1992	Primary	\$25	Front	Designed for more than 10 passengers
Alaska	9/12/1990	Secondary	\$15	All	School bus
Arizona	1/1/1991	Secondary	\$10	Front	Designed for more than 10 passengers; model year before 1972
Arkansas	7/15/1991	Secondary	\$25 <sup>4</sup>	Front	School bus, church bus, public bus
California	1/1/1986	Primary	\$20 <sup>5</sup>	All	None
Colorado	7/1/1987	Secondary	\$15	Front	Passenger bus, school bus
Connecticut	1/1/1986	Primary	\$15	Front	Truck or bus over 15,000 lbs.
Delaware	1/1/1992	Secondary	\$20	Front	None
District of Columbia	12/12/1985	Primary	\$50 <sup>6</sup>	All	Seating more than 8 people
Florida	7/1/1986	Secondary	\$30	Front	School bus, public bus, truck over 5,000 lbs.
Georgia	9/1/1988	Primary	\$15	Front	Designed for more than 10 passengers, pickup
Hawaii	2/16/1985	Primary	\$45	Front	Bus or school bus over 10,000 lbs.
Idaho	7/1/1986	Secondary	\$5	Front	Over 8,000 lbs.
Illinois	7/1/1985	Secondary	\$25	Front	None
Indiana	7/1/1987	Primary	\$25	Front	Truck, tractor, RV
Iowa	7/1/1986	Primary	\$10	Front	None
Kansas	7/1/1986	Secondary	\$10	Front	Designed for more than 10 people, truck over 12,000 lbs.
Kentucky	7/13/1994	Secondary	\$25	All	Designed for more than 10 people
Louisiana	7/1/1986	Primary	\$25 <sup>7</sup>	Front	Manufactured before 1/1/81
Maine	12/27/1995	Secondary	\$50	All	None
Maryland	7/1/1986	Primary	\$25	Front	Historic vehicle
Massachusetts	2/1/1994	Secondary	\$25	All	Truck over 18,000 lbs., bus, taxi
Michigan	7/1/1985	Primary	\$25	Front	Bus
Minnesota	8/1/1986	Secondary	\$25	Front	Farm pickup truck
Mississippi	3/20/1990	Secondary	\$25	Front	Farm vehicle, bus
Missouri	9/28/1985	Secondary	\$10	Front	Designed for more than 10 people, truck over 12,000 lbs.
Montana	10/1/1987	Secondary	\$20	All	None
Nebraska	1/1/1993	Secondary	\$25	Front	Manufactured before 1973
Nevada	7/1/1987	Secondary	\$25	All	Taxi, bus, school bus
New Hampshire	None	NA	NA	NA	NA
New Jersey	3/1/1985	Secondary	\$20	Front	None
New Mexico	1/1/1986	Primary	\$25	Front	Vehicle over 10,000 lbs.
New York	12/1/1984	Primary	\$50	Front	Bus, school bus, taxi
North Carolina	10/1/1985	Primary	\$25	Front	Designed for more than 10 people
North Dakota	7/14/1994	Secondary	\$20	Front	Designed for more than 10 people
Ohio	5/6/1986	Secondary	\$25	Front	None
Oklahoma	2/1/1987	Primary	\$20	Front	Farm vehicle, truck, truck tractor, RV
Oregon	12/7/1990	Primary	\$75	All	None
Pennsylvania	11/23/1987	Secondary	\$10	Front	Truck over 7,000 lbs.
Rhode Island	6/18/1991	Secondary	\$50	All	None
South Carolina	7/1/1989	Secondary	\$10	All	School bus, public bus
South Dakota	1/1/1995	Secondary	\$20	Front	Bus, school bus
Tennessee	4/21/1986	Secondary	\$50	Front	Vehicle over 8,500 lbs.
Texas	9/1/1985	Primary	\$50	Front	Designed for more than 10 people, truck over 15,000 lbs.
Utah	4/28/1986	Secondary	\$45	Front	Vehicle over 10,000 lbs., school/public bus, taxi
Vermont	1/1/1994	Secondary	\$10	All	Bus, taxi
<b>Virginia</b>	<b>1/1/1988</b>	<b>Secondary</b>	<b>\$25</b>	<b>Front</b>	<b>Designed for more than 10 people,</b>
Washington	6/11/1986	Secondary	\$35	All	Designed for more than 10 people
West Virginia	9/1/1993	Secondary	\$25	Front	Designed for more than 10 people
Wisconsin	12/1/1987	Secondary	\$10	All	Taxi, farm truck
Wyoming	6/8/1989	Secondary	\$25	Front	Designed for more than 10 people, bus

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

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

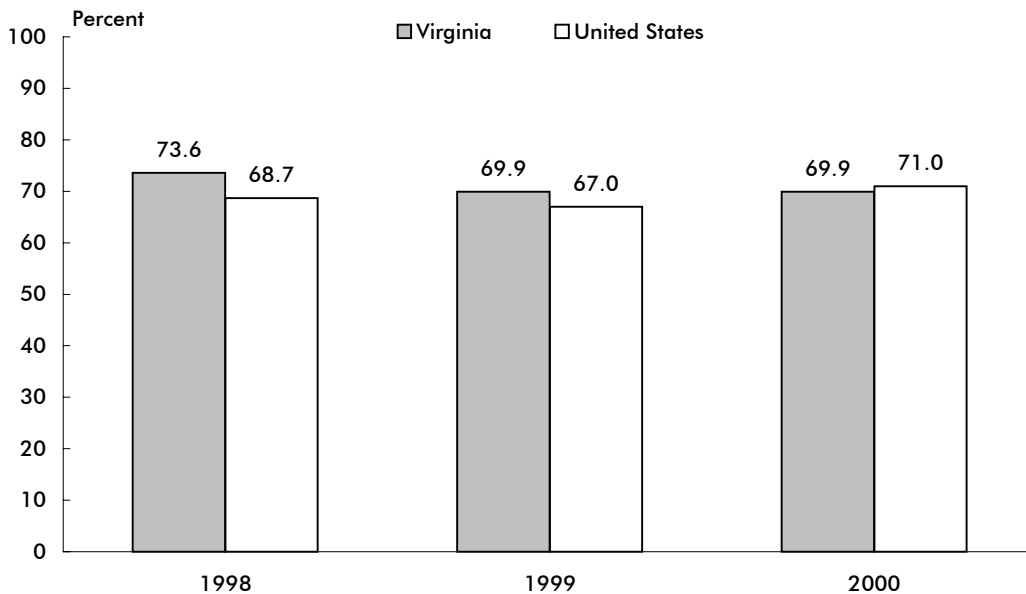
**SOURCE:** U.S. Department of Transportation, National Highway Traffic Safety Administration, *Traffic Safety Facts 2000*, Washington, DC: 2001, available at <http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/TSFAnn/TSF2000.pdf> as of Jan. 4, 2002.

**Table 2-4: Shoulder Belt Use: 2000**

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

**KEY:** N = data do not exist.

**Figure 2-1: Shoulder Belt Use**



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



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

State	Total traffic fatalities	Pedestrians killed	Pedestrian fatalities as percent of total	State population (thousands)	Pedestrian fatality rate per 100,000 population
Alabama	995	61	6.1	4,451	1.4
Alaska	103	8	7.8	653	1.2
Arizona	1,036	130	12.5	4,798	2.7
Arkansas	652	38	5.8	2,631	1.4
California	3,753	670	17.9	32,521	2.1
Colorado	681	80	11.7	4,168	1.9
Connecticut	342	49	14.3	3,284	1.5
Delaware	123	22	17.9	768	2.9
District of Columbia	49	18	36.7	523	3.4
Florida	2,999	492	16.4	15,233	3.2
Georgia	1,541	137	8.9	7,875	1.7
Hawaii	131	29	22.1	1,257	2.3
Idaho	276	6	2.2	1,347	0.4
Illinois	1,418	187	13.2	12,051	1.6
Indiana	875	51	5.8	6,045	0.8
Iowa	445	25	5.6	2,900	0.9
Kansas	461	19	4.1	2,668	0.7
Kentucky	820	53	6.5	3,995	1.3
Louisiana	937	100	10.7	4,425	2.3
Maine	169	15	8.9	1,259	1.2
Maryland	588	91	15.5	5,275	1.7
Massachusetts	433	82	18.9	6,199	1.3
Michigan	1,382	170	12.3	9,679	1.8
Minnesota	625	38	6.1	4,830	0.8
Mississippi	949	64	6.7	2,816	2.3
Missouri	1,157	88	7.6	5,540	1.6
Montana	237	11	4.6	950	1.2
Nebraska	276	20	7.2	1,705	1.2
Nevada	323	43	13.3	1,871	2.3
New Hampshire	126	7	5.6	1,224	0.6
New Jersey	731	145	19.8	8,178	1.8
New Mexico	430	47	10.9	1,860	2.5
New York	1,458	335	23.0	18,146	1.8
North Carolina	1,472	144	9.8	7,777	1.9
North Dakota	86	5	5.8	662	0.8
Ohio	1,351	96	7.1	11,319	0.8
Oklahoma	652	43	6.6	3,373	1.3
Oregon	451	50	11.1	3,397	1.5
Pennsylvania	1,520	170	11.2	12,202	1.4
Rhode Island	80	6	7.5	998	0.6
South Carolina	1,065	84	7.9	3,858	2.2
South Dakota	173	13	7.5	777	1.7
Tennessee	1,306	99	7.6	5,657	1.7
Texas	3,769	412	10.9	20,119	2.0
Utah	373	33	8.8	2,207	1.5
Vermont	79	7	8.9	617	1.1
<b>Virginia</b>	<b>930</b>	<b>92</b>	<b>9.9</b>	<b>6,997</b>	<b>1.3</b>
Washington	632	66	10.4	5,858	1.1
West Virginia	410	25	6.1	1,841	1.4
Wisconsin	799	51	6.4	5,326	1.0
Wyoming	152	12	7.9	525	2.3
United States	41,821	4,739	11.3	274,634	1.7

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

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

State	1995 Fatalities involving high blood alcohol			2000 Fatalities involving high blood alcohol		
	Total fatalities	alcohol	Percent	Total fatalities	blood alcohol	Percent
Alabama	1,113	381	34	995	326	33
Alaska	87	37	42	103	44	43
Arizona	1,031	347	34	1,036	354	34
Arkansas	631	148	23	652	139	21
California	4,192	1,308	31	3,753	1,061	28
Colorado	645	226	35	681	198	29
Connecticut	317	130	41	342	119	35
Delaware	121	38	31	123	49	40
District of Columbia	58	25	44	49	14	29
Florida	2,805	873	31	2,999	930	31
Georgia	1,488	400	27	1,541	438	28
Hawaii	130	41	32	131	37	28
Idaho	262	69	27	276	81	29
Illinois	1,586	551	35	1,418	489	34
Indiana	960	263	27	875	214	24
Iowa	527	159	30	445	100	22
Kansas	442	152	34	461	118	26
Kentucky	849	227	27	820	203	25
Louisiana	883	353	40	937	352	38
Maine	187	44	24	169	38	22
Maryland	671	176	26	588	161	27
Massachusetts	444	148	33	433	153	35
Michigan	1,530	483	32	1,382	397	29
Minnesota	597	215	36	625	207	33
Mississippi	868	306	35	949	289	30
Missouri	1,109	450	41	1,157	387	33
Montana	215	79	37	237	92	39
Nebraska	254	64	25	276	70	25
Nevada	313	127	41	323	112	35
New Hampshire	118	30	25	126	40	31
New Jersey	773	243	32	731	231	32
New Mexico	485	202	42	430	159	37
New York	1,674	405	24	1,458	293	20
North Carolina	1,448	399	28	1,472	419	28
North Dakota	74	32	44	86	36	42
Ohio	1,366	344	25	1,351	411	30
Oklahoma	669	205	31	652	169	26
Oregon	572	176	31	451	132	29
Pennsylvania	1,480	485	33	1,520	511	34
Rhode Island	69	22	32	80	31	38
South Carolina	881	229	26	1,065	329	31
South Dakota	158	63	40	173	66	38
Tennessee	1,259	420	33	1,306	399	31
Texas	3,181	1,407	44	3,769	1,450	38
Utah	326	69	21	373	68	18
Vermont	106	33	31	79	27	34
<b>Virginia</b>	<b>900</b>	<b>272</b>	<b>30</b>	<b>930</b>	<b>257</b>	<b>28</b>
Washington	653	248	38	632	217	34
West Virginia	376	132	35	410	149	36
Wisconsin	745	263	35	799	288	36
Wyoming	170	63	37	152	40	26
United States	41,798	13,564	32	41,821	12,892	31

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

**Table 2-7: Impaired Driving Laws: 2000**

State	Administrative per se (BAC level)	Illegal per se (BAC level)	Lower BAC for youthful DWI offenders (BAC level and age)	License sanction (Mandatory minimum for a DWI conviction)		
				First offense	Second offense	Third offense
Alabama	Y-0.08	0.08	Y-0.02 (<21)	S-90 days	R-1 yr	R-3 yrs
Alaska	Y-0.10	0.10	Y-0.00 (<21)	R-30 days	R-1 yr	R-10 yrs
Arizona	Y-0.10	0.10	Y-0.00 (<21)	S-90 days	R-1 yr	R-3 yrs
Arkansas	Y-0.10	0.10	Y-0.02 (<21)	Nms	Nms	Nms
California	Y-0.08	0.08	Y-0.01 (<21)	Nms	Nms	R-18 mos
Colorado	Y-0.10	0.10	Y-0.02 (<21)	Nms	R-1 yr	R-1 yr
Connecticut	Y-0.10	0.10	Y-0.02 (<21)	Nms	Nms	Nms
Delaware	Y-0.10	0.10	Y-0.02 (<21)	Nms	R-6 mos	R-6 mos
District of Columbia	Y-0.05	0.08	Y-0.00 (<21)	R-6 mos	R-1 yr	R-2 yrs
Florida	Y-0.08	0.08	Y-0.02 (<21)	Nms	R-12 mos	R-24 mos
Georgia	Y-0.10	0.10	Y-0.02 (<21)	Nms	S-120 days	R-5 yrs
Hawaii	Y-0.08	0.08	Y-0.02 (<21)	S-30 days	S-1 yr	R-1 yr
Idaho	Y-0.08	0.08	Y-0.02 (<21)	S-30 days	S-1 yr	S-1 yr
Illinois	Y-0.08	0.08	Y-0.02 (<21)	Nms	Nms	Nms
Indiana	Y-0.10	0.10	Y-0.02 (<21)	S-30 days	S-1 yr	S-1 yr
Iowa	Y-0.10	0.10	Y-0.02 (<21)	R-30 days	R-1 yr	R-1 yr
Kansas	Y-0.08	0.08	Y-0.02 (<21)	S-30 days	S-1 yr	S-1 yr
Kentucky	A	0.08	Y-0.02 (<21)	S-30 days	R-12 mos	R-24 mos
Louisiana	Y-0.10	0.10	Y-0.02 (<21)	Nms	Nms	Nms
Maine	Y-0.08	0.08	Y-0.00 (<21)	S-60 days	S-18 mos	S-4 yrs
Maryland	Y-0.10	0.10	Y-0.02 (<21)	Nms	Nms	Nms
Massachusetts	Y-0.08	N	Y-0.02 (<21)	S-45 days	R-6 mos	R-2 yrs
Michigan	N	0.10	Y-0.02 (<21)	Nms	R-1 yr	S-5 yrs
Minnesota	Y-0.10	0.10	Y-0.00 (<21)	R-15 days	R-90 days	R-90 days
Mississippi	Y-0.10	0.10	Y-0.02 (<21)	S-30 days	S-1 yr	S-3 yrs
Missouri	Y-0.10	0.10	Y-0.02 (<21)	S-30 days	R-2 yrs	R-3 yrs
Montana	N	0.10	Y-0.02 (<21)	Nms	R-3 mos	R-3 mos
Nebraska	Y-0.10	0.10	Y-0.02 (<21)	R-60 days	R-1 yr	R-1 yr
Nevada	Y-0.10	0.10	Y-0.02 (<21)	R-45 days	R-1 yr	R-1.5 yrs
New Hampshire	Y-0.08	0.08	Y-0.02 (<21)	R-90 days	R-3 yrs	R-3 yrs
New Jersey	N	0.10	Y-0.01 (<21)	R-6 mos	R-2 yrs	R-10 yrs
New Mexico	Y-0.08	0.08	Y-0.02 (<21)	Nms	R-30 days	R-30 days
New York	A	0.10	Y-0.02 (<21)	Nms	R-1 yr	R-1 yr
North Carolina	Y-0.08	0.08	Y-0.00 (<21)	Nms	R-2 yrs	R-3 yrs
North Dakota	Y-0.10	0.10	Y-0.02 (<21)	S-30 days	S-365 days	S-2 yrs
Ohio	Y-0.10	0.10	Y-0.02 (<21)	S-15 days	S-30 days	S-180 days
Oklahoma	Y-0.10	0.10	Y-0.00 (<21)	Nms	R-1 yr	R-1 yr
Oregon	Y-0.08	0.08	Y-0.00 (<21)	Nms	S-90 days	S-1 yr
Pennsylvania	N	0.10	Y-0.02 (<21)	S-1 mo	S-12 mos	S-12 mos
Rhode Island	N	0.08	Y-0.02 (<21)	S-3 mos	S-1 yr	S-2 yrs
South Carolina	Y-0.15	0.10	Y-0.02 (<21)	Nms	S-1 yr	S-4 yrs
South Dakota	N	0.10	Y-0.02 (<21)	Nms	R-1 yr	R-1 yr
Tennessee	N	0.10	Y-0.02 (<21)	Nms	R-2 yrs	R-3 yrs
Texas	Y-0.08	0.08	Y-0.00 (<21)	Nms	Nms	Nms
Utah	Y-0.08	0.08	Y-0.00 (<21)	S-90 days	R-1 yrs	R-1 yrs
Vermont	Y-0.08	0.08	Y-0.02 (<21)	S-90 days	S-18 mos	R-2 yrs
<b>Virginia</b>	<b>Y-0.08</b>	<b>0.08</b>	<b>Y-0.02 (&lt;21)</b>	<b>Nms</b>	<b>R-1 yr</b>	<b>R-3 yrs</b>
Washington	Y-0.08	0.08	Y-0.02 (<21)	S-30 days	R-1 yr	R-2 yrs
West Virginia	Y-0.10	0.10	Y-0.02 (<21)	R-30 days	R-1 yr	R-1 yr
Wisconsin	Y-0.10	0.10	Y-0.02 (<21)	Nms	R-60 days	R-90 days
Wyoming	Y-0.10	0.10	Y-0.02 (<21)	Nms	S-1 yr	R-3 yrs

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

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

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

## Safety

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

State	Interstate		Other limited-access roads <sup>2</sup>	Other roads
	Rural	Urban		
Alabama	70	70	65	65
Alaska	65	55	65	55
Arizona	75	55	55	55
Arkansas	70, Trucks: 65	55	60	55
California	70, Trucks: 55	65	70	55
Colorado	75	65	65	55
Connecticut	65	55	65	55
Delaware	65	55	65	55
District of Columbia	NA	55	NA	25
Florida	70	65	70	65
Georgia	70	65	65	65
Hawaii	55	50	45	45
Idaho	75, Trucks: 65	65	65	65
Illinois	65, Trucks: 55	55	65	55
Indiana	65, Trucks: 60	55	55	55
Iowa	65	55	65	55
Kansas	70	70	70	65
Kentucky	65	55	55	55
Louisiana	70	55	70	65
Maine	65	55	55	55
Maryland	65	65	65	55
Massachusetts	65	65	65	55
Michigan	70, Trucks: 55	65	70	55
Minnesota	70	65	65	55
Mississippi	70	70	70	65
Missouri	70	60	70	65
Montana	75, Trucks: 65	65	Day: 70, Night: 65	Day: 70, Night: 65
Nebraska	75	65	65	60
Nevada	75	65	70	70
New Hampshire	65	65	55	55
New Jersey	65	55	65	55
New Mexico	75	55	65	55
New York	65	65	65	55
North Carolina	70	65	65	55
North Dakota	70	55	65	Day: 65, Night: 55
Ohio	65, Trucks: 55	65	55	55
Oklahoma	75	70	70	70
Oregon	65, Trucks: 55	55	55	55
Pennsylvania	65	55	65	55
Rhode Island	65	55	55	55
South Carolina	70	70	60	55
South Dakota	75	65	65	65
Tennessee	70	70	70	55
Texas	70	70	70	70
Utah	75	65	55	55
Vermont	65	55	50	50
<b>Virginia</b>	<b>65</b>	<b>55</b>	<b>65</b>	<b>55</b>
Washington	70, Trucks: 60	60	55	55
West Virginia	70	55	65	55
Wisconsin	65	65	65	55
Wyoming	75	60	65	65

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

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

**KEY:** NA = not applicable.

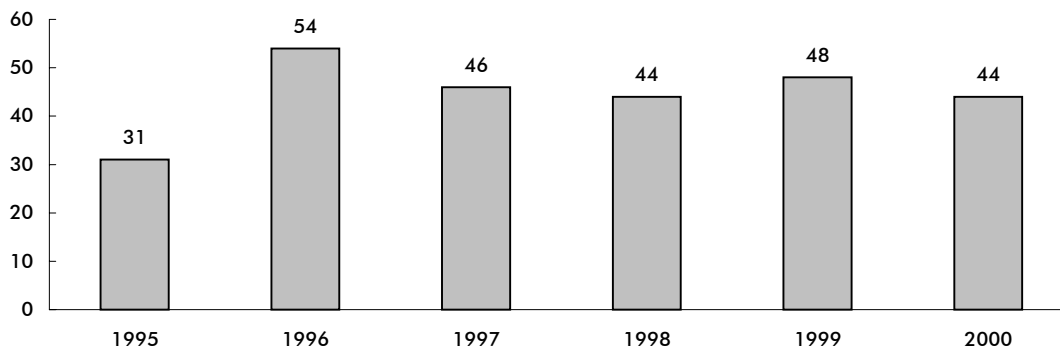
**NOTE:** Interstates are divided into urban and rural sections based primarily on population size and population density.

**SOURCE:** Insurance Institute for Highway Safety, Highway Loss Data Institute, available at [http://www.hwysafety.org/safety\\_facts/state\\_laws/speed\\_limit\\_laws.htm](http://www.hwysafety.org/safety_facts/state_laws/speed_limit_laws.htm) as of Oct. 1, 2001.

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

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

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



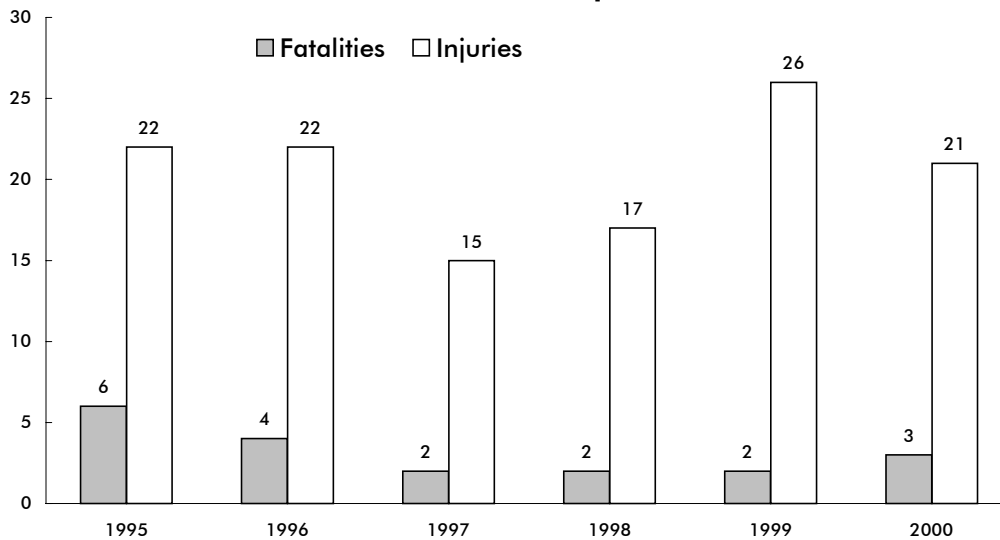
**NOTE FOR DATA ON THIS PAGE:** "Accidents/incidents" includes all events reportable to the U.S. Department of Transportation, Federal Railroad Administration under applicable regulations. These include: train accidents, reported on Form F 6180.54, comprised of collisions, derailments, and other events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

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

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

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

**Figure 2-3: Virginia Highway-Rail Grade Crossing Fatalities and Injuries**



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

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

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

	Virginia		United States	
	Number	Percent	Number	Percent
Total	4,829	100.0	256,241	100.0
Public, motor vehicle	2,053	42.5	155,370	60.6
Private, motor vehicle	2,734	56.6	98,918	38.6
Pedestrian	42	0.9	1,953	0.8

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

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

	Virginia		United States	
	Number	Percent	Number	Percent
Total	2,053	100.0	155,370	100.0
Cross bucks	524	25.5	71,468	46.0
Gates	913	44.5	34,296	22.1
Flashing lights	489	23.8	27,100	17.4
Stop signs	11	0.5	11,630	7.5
Unknown	50	2.4	5,253	3.4
Special warning	60	2.9	3,723	2.4
HWTS, WW, bells	6	0.3	1,417	0.9
Other	0	0.0	483	0.3

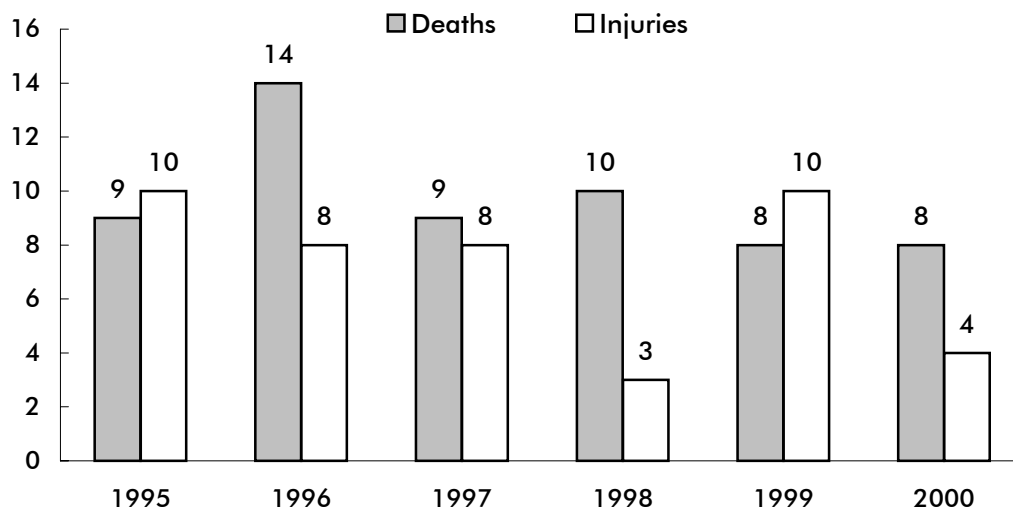
**KEY:** HWTS = highway traffic signals; WW = wigwags.

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

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

Type of person	Fatalities	Injuries
Worker on duty (railroad employee)	1	117
Employee not on duty	0	7
Passenger on train	0	12
Nontrespasser	2	11
Trespasser	10	14
Worker on duty (contractor)	0	6
Contractor (other)	0	2
Worker on duty (volunteer)	0	0
Volunteer (other)	0	0
Nontrespasser (off railroad property)	0	0

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



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

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



**Table 2-14: Virginia Transit Safety Data: 2000**

	Collision			Noncollision			Total property damage (\$ thousands)
	Number of incidents	Fatalities	Injuries	Number of incidents	Fatalities	Injuries	
Automated guideway	0	0	0	0	0	0	0
Cable car	0	0	0	0	0	0	0
Commuter rail	0	0	0	0	0	0	0
Demand responsive	64	0	25	81	0	82	74
Ferry boat	0	0	0	0	0	0	0
Heavy rail	0	0	0	0	0	0	0
Light rail	0	0	0	0	0	0	0
Motor bus	254	3	202	210	0	209	226
Trolley bus	0	0	0	0	0	0	0
Van pool	1	0	0	0	0	0	1

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

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

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

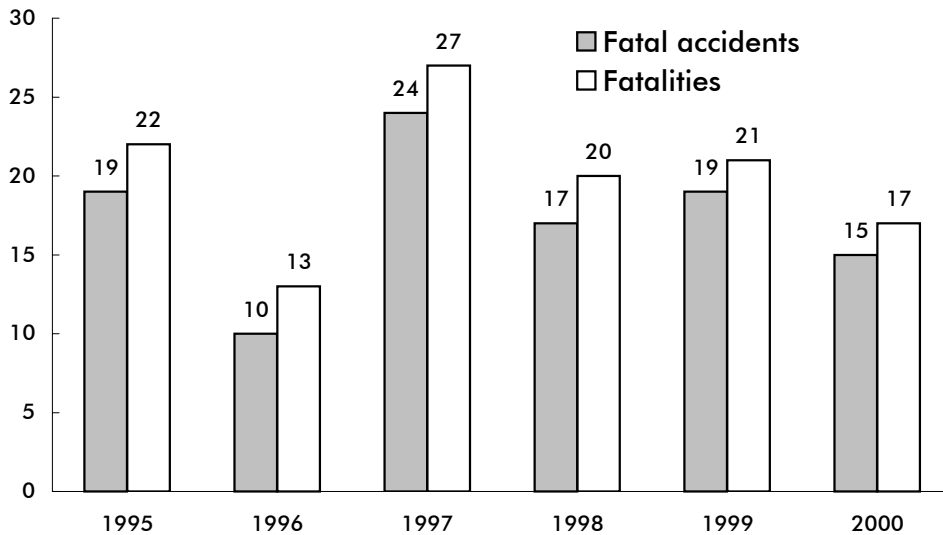
**SOURCE FOR DATA ON THIS PAGE:** U.S. Department of Transportation, Federal Transit Administration, 2000 National Transit Database, available at <http://www.ntdprogram.com> as of Dec. 5, 2001.

**Table 2-16: Recreational Boating Accidents: 2000**

	Virginia	United States
Number of accidents		
Total	175	7,740
Fatal	15	616
Nonfatal injury	86	3,292
Property damage	74	3,832
Number of persons		
Killed	17	701
Injured	127	4,355

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

**Figure 2-5: Virginia Recreational Boating Accidents**



**NOTES FOR DATA ON THIS PAGE:** An accident is listed under one category only, with fatal being the highest priority, followed by nonfatal injury, followed by property damage. For example, if two vessels are in an accident resulting in a fatality and a nonfatal injury, the accident is counted as a fatal accident involving two vessels. These data do not include: 1) accidents involving only slight injury not requiring medical treatment beyond first-aid; 2) accidents involving property damage of \$500 or less; 3) accidents not caused or contributed to by a vessel, its equipment, or its appendages; and 4) accidents in which the boat was used solely as a platform for other activities, such as swimming or skin diving. Such cases are not included because the victims freely left the safety of a boat. However, the data do include accidents involving people in the water who are struck by their boat or another boat.

**SOURCE FOR DATA ON THIS PAGE:** U.S. Department of Transportation, U.S. Coast Guard, *Boating Statistics, 2000*, Washington, DC: 2001, available at [http://www.uscgboating.org/Saf/pdf/Boating\\_Statistics\\_2000.pdf](http://www.uscgboating.org/Saf/pdf/Boating_Statistics_2000.pdf) as of Nov. 14, 2001.

**Table 2-17: Alcohol Involvement in Recreational Boating**

	1999		2000	
	Virginia	United States	Virginia	United States
Number of accidents				
Total	5	633	9	696
Number of persons				
Killed	3	191	0	215
Injured	1	476	13	542

**Figure 2-6: Virginia Recreational Boating Accidents Involving Alcohol**



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

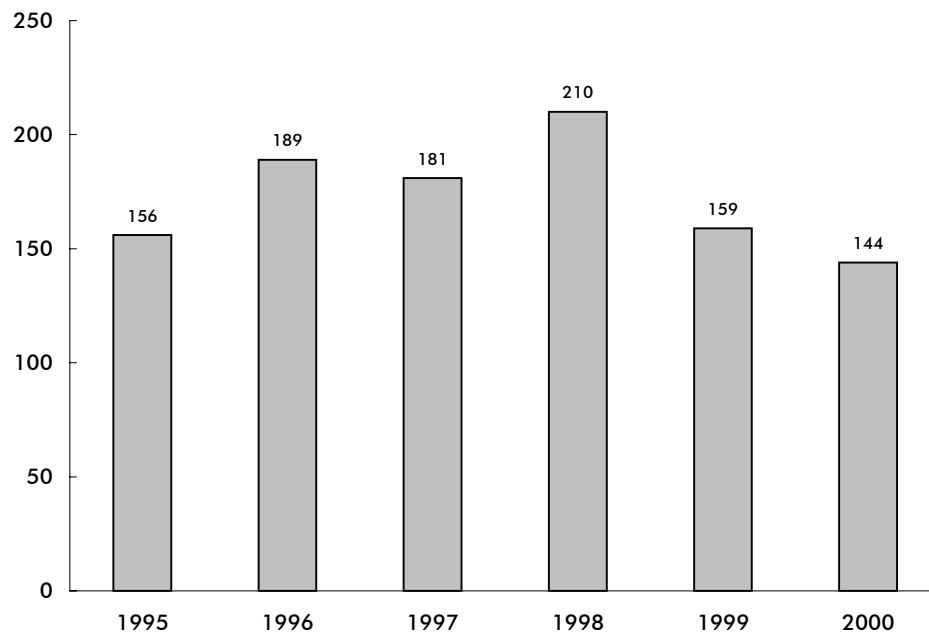
**SOURCES FOR DATA ON THIS PAGE:** U.S. Department of Transportation, U.S. Coast Guard, *Boating Statistics 2000*, Washington, DC: 2001; U.S. Department of Transportation, U.S. Coast Guard, *Boating Statistics 1999*, Washington, DC: 2000, available at [http://www.uscgboating.org/Saf/pdf/Boating\\_Statistics\\_2000.pdf](http://www.uscgboating.org/Saf/pdf/Boating_Statistics_2000.pdf) and [http://www.uscgboating.org/Saf/pdf/Boating\\_Statistics\\_1999.pdf](http://www.uscgboating.org/Saf/pdf/Boating_Statistics_1999.pdf) as of Nov. 14, 2001.

**Table 2-18: Hazardous Materials Incidents: 2000  
(Not including pipelines)**

	Incidents	Deaths	Injuries			Damages (\$ thousands)
			Total	Major	Minor	
Virginia	144	0	7	1	6	372
United States	17,514	13	246	18	228	72,728

**NOTES:** U.S. total includes U.S. territories or foreign locations.  
 Hazardous material incident locations are often listed as the terminals or sorting centers where they are discovered. Therefore, states with this type of a facility may show a disproportionate number of incidents.  
 Hazardous materials transportation incidents required to be reported are defined in the Code of Federal Regulations (CFR), 49 CFR Part 171.15, 171.16 (Form F 5800.1).  
 Hazardous materials deaths and injuries are caused by the hazardous material in commerce.

**Figure 2-7: Virginia Hazardous Materials Incidents  
(Not including pipelines)**



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

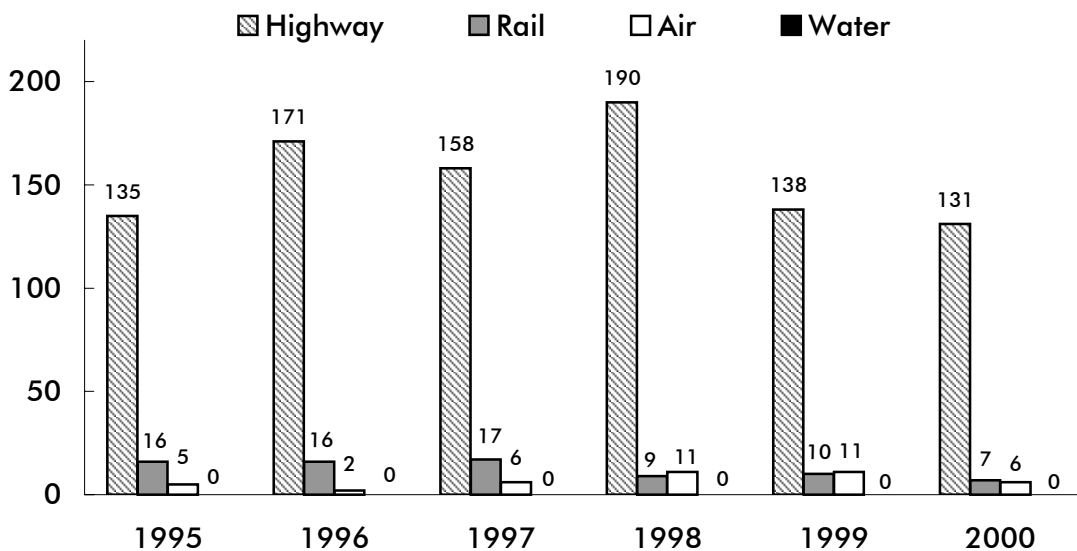
**SOURCE FOR DATA ON THIS PAGE:** U.S. Department of Transportation, Research and Special Programs Administration, Office of Hazardous Materials Safety, *Hazmat Summary by State for Calendar Year 2000*, and earlier years, Washington, DC: 2002, available at <http://hazmat.dot.gov> as of Apr. 24, 2002.

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

Mode	Total incidents	Deaths	Injuries		Damages (\$ thousands)
			Major	Minor	
Highway	131	0	0	2	372
Rail	7	0	1	1	0
Air	6	0	0	3	0
Water <sup>1</sup>	0	0	0	0	0
<b>Total</b>	<b>144</b>	<b>0</b>	<b>1</b>	<b>6</b>	<b>372</b>

<sup>1</sup>Includes only packaged shipments (i.e., nonbulk shipments).

**Figure 2-8: Virginia Hazardous Materials Incidents by Mode  
(Not including pipelines)**



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

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

**Table 2-20: Natural Gas Distribution Pipeline Incidents**

	1995	1996	1997	1998	1999	2000
Virginia						
Number of incidents	3	1	1	5	1	7
Number of fatalities	0	0	0	1	0	0
Number of injuries	3	0	0	2	0	3
Property damage (\$ thousands)	50	650	200	998	500	1,150
United States, total						
Number of incidents	97	110	102	137	119	154
Number of fatalities	16	47 <sup>1</sup>	9	17	19	22
Number of injuries	43	109 <sup>1</sup>	67	65	85	59
Property damage (\$ thousands)	10,951	16,253 <sup>1</sup>	12,493	19,055	25,914	23,399

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

**NOTE:** Incidents are reported on Form RSPA F 7100.1.

**Table 2-21: Natural Gas Transmission Pipeline Incidents**

	1995	1996	1997	1998	1999	2000
Virginia						
Number of incidents	0	0	1	0	1	0
Number of fatalities	0	0	0	0	0	0
Number of injuries	0	0	0	0	0	0
Property damage (\$ thousands)	0	0	300	0	125	0
United States, total						
Number of incidents	64	77	73	99	54	80
Number of fatalities	2	1	1	1	2	15
Number of injuries	10	5	5	11	8	18
Property damage (\$ thousands)	9,958	13,078	12,078	29,749	17,696	17,868

**NOTE:** Incidents are reported on Form RSPA F 7100.2.

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

- I. An event that involves a release of gas from a pipeline or of liquefied natural gas (LNG) facility and
  - a) a death or personal injury necessitating in-patient hospitalization or
  - b) estimated property damage, including cost of gas lost, of the operator or others, or both, of \$50,000 or more.
- II. An event that results in an emergency shutdown of an LNG facility.
- III. An event that is significant, in the judgment of the operator, even though it did not meet the criteria of I or II.

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

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

**Table 2-22: Hazardous Liquid Pipeline Incidents**

	1995	1996	1997	1998	1999	2000
<b>Virginia</b>						
Number of incidents	1	1	1	0	0	1
Number of fatalities	0	0	0	0	0	0
Number of injuries	0	0	0	0	0	0
Property damage (\$ thousands)	80	70	98	0	0	700
<b>United States, total</b>						
Number of incidents	188	193	171	153	168	147
Number of fatalities	3	5	0	2	4	1
Number of injuries	11	13	5	6	20	4
Property damage (\$ thousands)	32,519	81,083	42,811	62,865	43,109	115,704

**NOTES:** Historical totals may change as the Office of Pipeline Safety receives supplemental information on incidents. Incidents are reported on Form RSPA F 7100.1. An accident report is required for each failure in a pipeline system in which there is a release of the hazardous liquid or carbon dioxide transported resulting in any of the following:

1. Explosion or fire not intentionally set by the operator;
2. Loss of 50 or more barrels (8 or more cubic meters) of hazardous liquid or carbon dioxide;
3. Escape to the atmosphere of more than 5 barrels (0.8 cubic meters) a day of highly volatile liquids;
4. Death of any person;
5. Bodily harm to any person resulting in: a. loss of consciousness; or b. necessity to carry the person from the scene; or c. necessity for medical treatment; or d. disability which prevents the discharge of normal duties or the pursuit of normal activities beyond the day of the accident;
6. Estimated property damage, including cost of clean-up and recovery, value of lost product, and damage to the property of the operator or others, or both, exceeding \$50,000.

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





## C Freight Transportation



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

State of origin	Rank	Value (\$ millions)	Weight (thousand short tons)	State of origin	Rank	Value (\$ millions)	Weight (thousand short tons)
<b>Virginia</b>	<b>1</b>	<b>41,900</b>	<b>170,360</b>	Missouri	27	1,358	347
West Virginia	2	1,913	28,717	Kansas	28	479	284
North Carolina	3	12,966	10,300	Connecticut	29	1,854	256
Maryland	4	11,014	9,014	Wyoming	30	26	222
Pennsylvania	5	6,087	3,536	District of Columbia	31	355	211
Georgia	6	3,280	3,249	Maine	32	344	165
Ohio	7	4,406	3,228	Oklahoma	33	407	154
Tennessee	8	4,664	2,666	Oregon	34	351	110
South Carolina	9	3,304	2,148	New Hampshire	35	626	106
New Jersey	10	S	1,600	Washington	36	639	87
Illinois	11	4,123	1,529	South Dakota	37	115	85
New York	12	4,851	1,488	Idaho	38	193	70
Indiana	13	2,273	1,401	Vermont	39	172	57
Texas	14	4,313	1,388	Arizona	40	776	41
Michigan	15	3,616	1,252	Rhode Island	41	169	30
Colorado	16	909	1,153	Nevada	42	114	11
Florida	17	2,365	993	Alaska	43	S	S
Alabama	18	1,153	907	Hawaii	43	14	S
Louisiana	19	889	779	Kentucky	43	2,525	S
Massachusetts	20	2,556	759	Minnesota	43	1,304	S
Wisconsin	21	1,496	755	Montana	43	S	S
Iowa	22	982	656	Nebraska	43	637	S
Arkansas	23	748	550	New Mexico	43	38	S
Delaware	24	366	460	North Dakota	43	S	S
Mississippi	25	579	403	Utah	43	289	S
California	26	5,456	390	From all states		152,161	263,495

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

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

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

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

State of destination	Rank	Value (\$ millions)	Weight (thousand short tons)	State of destination	Rank	Value (\$ millions)	Weight (thousand short tons)
<b>Virginia</b>	<b>1</b>	<b>41,900</b>	<b>170,360</b>	Iowa	27	503	138
North Carolina	2	8,171	11,743	Minnesota	28	609	127
Pennsylvania	3	6,272	8,593	Rhode Island	29	294	115
Tennessee	4	2,704	7,667	Kansas	30	300	87
Maryland	5	6,143	7,106	Mississippi	31	240	84
Ohio	6	3,596	4,042	Nebraska	32	172	83
South Carolina	7	1,936	3,800	Washington	33	1,044	74
West Virginia	8	1,546	3,706	Colorado	34	849	57
Florida	9	3,124	3,128	Oregon	35	397	48
Indiana	10	1,112	2,941	Utah	35	319	48
Alabama	11	1,420	2,521	Arizona	37	425	44
New Jersey	12	3,990	2,049	Vermont	38	95	29
New York	13	6,436	1,996	North Dakota	39	138	21
Illinois	14	2,376	1,597	Nevada	40	142	19
Michigan	15	2,183	1,484	Idaho	41	83	12
District of Columbia	16	1,236	1,423	New Mexico	42	101	11
Kentucky	17	2,748	1,344	Montana	43	S	7
Delaware	18	548	875	Alaska	44	27	3
Texas	19	3,158	701	Georgia	45	4,234	S
Massachusetts	20	1,560	606	Hawaii	45	S	S
California	21	3,979	521	Louisiana	45	846	S
Wisconsin	22	1,320	453	Maine	45	479	S
Missouri	23	931	351	New Hampshire	45	555	S
Connecticut	24	768	252	South Dakota	45	48	S
Arkansas	25	416	214	Wyoming	45	37	S
Oklahoma	26	1,190	162	<b>To all states</b>		<b>122,980</b>	<b>254,798</b>

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

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

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

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

	Value		Short tons		Ton-miles	
	Number (\$ millions)	Percent	Number (thousands)	Percent	Number (millions)	Percent
All modes	122,980	100.0	254,798	100.0	48,097	100.0
Single modes	107,406	87.3	246,874	96.9	44,524	92.6
Truck	102,919	83.7	196,579	77.2	20,699	43.0
For-hire	58,636	47.7	90,042	35.3	13,301	27.7
Private truck	43,689	35.5	104,110	40.9	7,332	15.2
Rail	2,479	2.0	49,284	19.3	23,704	49.3
Water	160	0.1	674	0.3	S	S
Shallow draft	122	0.1	568	0.2	55	0.1
Great Lakes	Z	Z	Z	Z	Z	Z
Deep draft	S	S	S	S	S	S
Air (including truck and air)	1,778	1.4	31	Z	42	0.1
Pipeline	70	0.1	S	S	S	S
Multiple modes	12,605	10.2	4,069	1.6	2,019	4.2
Parcel, U.S. Postal Service, or courier service	11,956	9.7	317	0.1	224	0.5
Truck and rail intermodal combination	S	S	S	S	S	S
Truck and water	S	S	S	S	24	Z
Rail and water	116	0.1	3,490	1.4	1,499	3.1
Other multiple modes	S	S	S	S	S	S
Other and unknown modes	2,970	2.4	3,855	1.5	S	S

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

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

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

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

<b>State of destination</b>	<b>Value (\$ millions)</b>	<b>Weight (thousand short tons)</b>
<b>Virginia</b>	<b>36,730</b>	<b>147,680</b>
North Carolina	7,540	10,149
Maryland	5,029	6,741
West Virginia	1,387	3,602
Pennsylvania	5,422	3,216
Georgia	3,528	1,881
New York	5,388	1,799
Ohio	3,063	1,419
New Jersey	3,380	1,401
District of Columbia	915	1,263
All other states	30,537	17,428
<b>Total, all states</b>	<b>102,919</b>	<b>196,579</b>

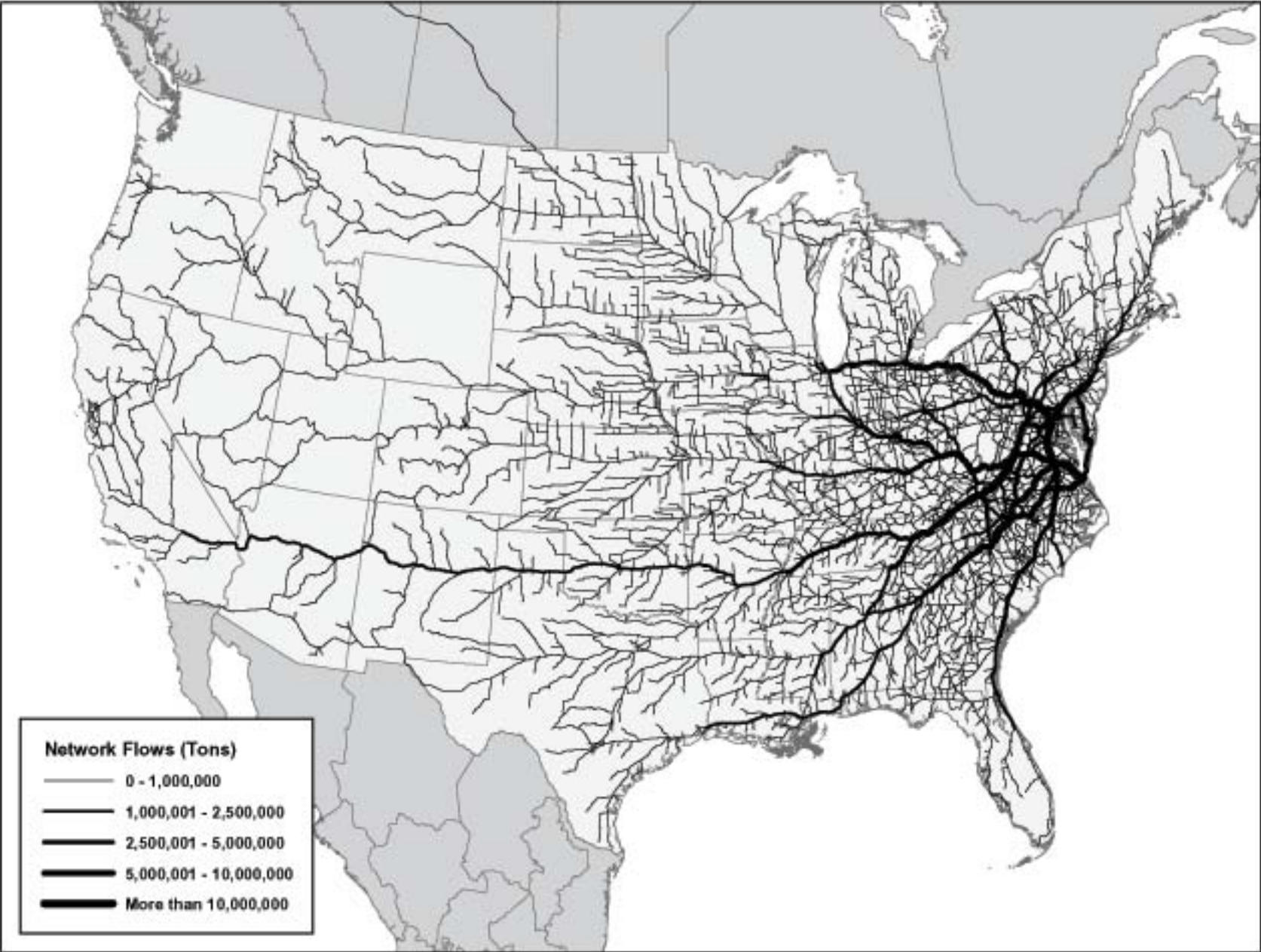
**Table 3-5: Domestic Shipments to Virginia by Truck: 1997 (Descending order by weight)**

<b>State of origin</b>	<b>Value (\$ millions)</b>	<b>Weight (thousand short tons)</b>
<b>Virginia</b>	<b>36,730</b>	<b>147,680</b>
North Carolina	11,579	9,341
Maryland	9,893	8,539
Pennsylvania	4,641	3,423
West Virginia	1,044	3,367
Tennessee	3,449	2,386
Georgia	2,363	2,293
Ohio	3,234	1,654
South Carolina	3,005	1,555
New Jersey	S	1,499
All other states	S	10,231
<b>Total, all states</b>	<b>115,608</b>	<b>191,968</b>

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

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

**Map 3-1: Virginia Network Truck Flows: 1998**



C-5

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





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

<b>Commodity (2-digit commodity code)</b>	<b>Value (\$ millions)</b>	<b>Weight (thousand short tons)</b>
Gravel and crushed stone (12)	389	60,576
Gasoline and aviation turbine fuel (17)	3,500	13,663
Nonmetallic mineral products (31)	1,741	13,106
Wood products (26)	3,781	12,625
Coal (15)	236	11,688
Fuel oils (18)	1,196	6,853
Other prepared foodstuffs and fats and oils (07)	4,607	5,464
Animal feed and products of animal origin, n.e.c. (04)	1,151	3,375
Coal and petroleum products, n.e.c. (19)	760	3,321
Alcoholic beverages (08)	2,647	3,205
Pulp, newsprint, paper, and paperboard (27)	2,189	3,124
Fertilizers (22)	441	2,939
Miscellaneous manufactured products (40)	3,745	2,514
Waste and scrap (41)	269	2,341
Base metal in primary or semifinished forms and in finished basic shapes (32)	2,390	2,327
Mixed freight (43)	4,411	2,289
Meat, fish, seafood, and their preparations (05)	4,428	2,260
Printed products (29)	3,512	1,927
Milled grain products and preparations, and bakery products (06)	1,892	1,914
Other agricultural products (03)	1,947	1,810
All other commodities	57,687	39,258
<b>Total, all commodities</b>	<b>102,919</b>	<b>196,579</b>

**KEY:** n.e.c. = not elsewhere classified.

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

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

Freight

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

<b>Commodity</b>	<b>1999</b>	<b>Percent of total</b>	<b>2000</b>	<b>Percent of total</b>
Coal	47,809,025	67.1	46,960,313	66.3
Nonmetallic minerals	6,245,254	8.8	6,474,151	9.1
Waste and scrap material	2,801,444	3.9	2,931,396	4.1
Chemicals	2,751,292	3.9	2,929,532	4.1
Mixed freight	U	U	1,996,840	2.8
Farm products	2,082,991	2.9	U	U
All other commodities	9,555,168	13.4	9,541,343	13.5
Virginia, total	71,245,174	100.0	70,833,575	100.0

**KEY:** U = data are unavailable.

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

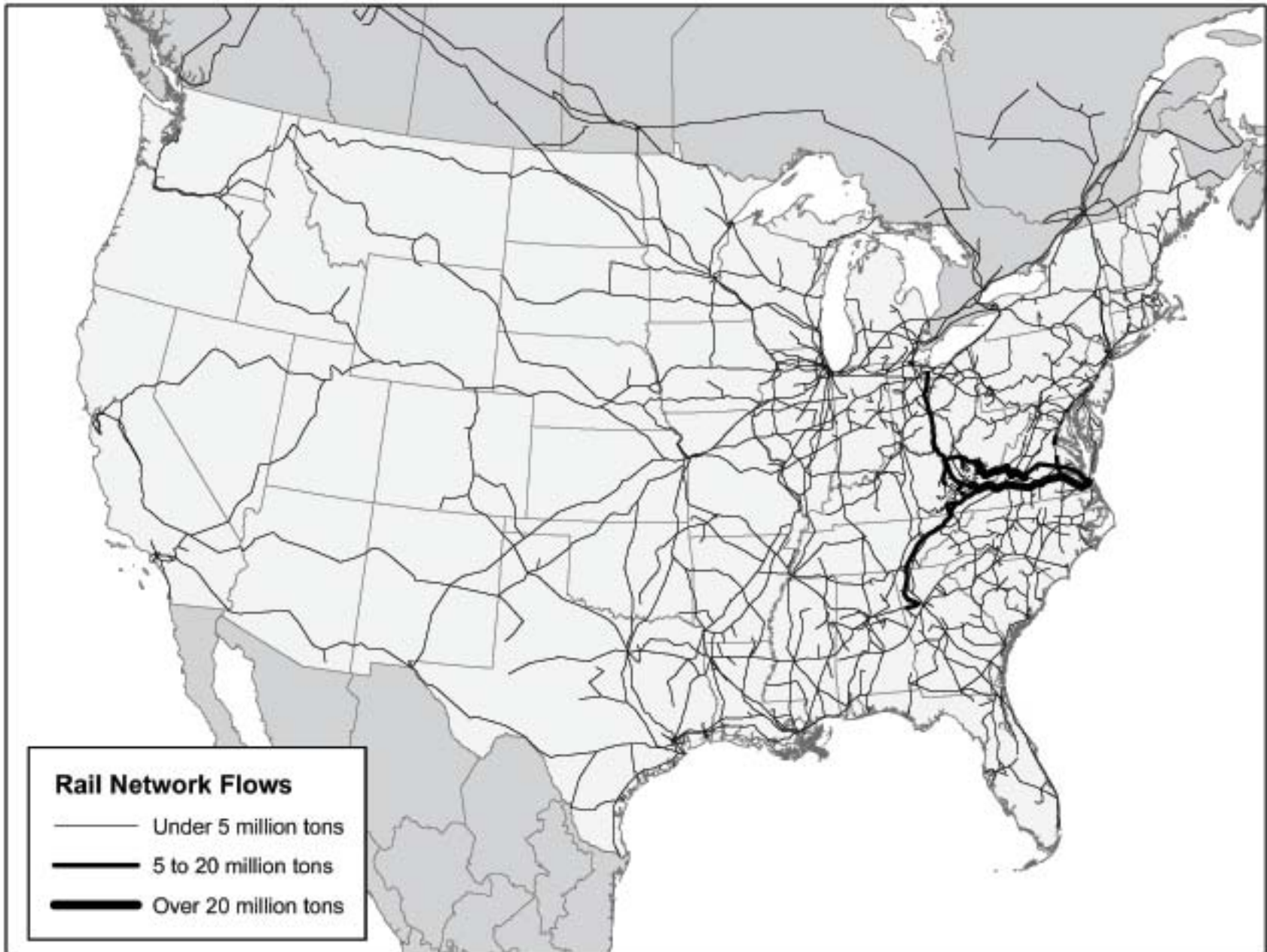
<b>Commodity</b>	<b>1999</b>	<b>Percent of total</b>	<b>2000</b>	<b>Percent of total</b>
Coal	35,067,464	68.5	37,067,975	68.0
Nonmetallic minerals	6,150,124	12.0	6,977,052	12.8
Glass and stone products	2,093,768	4.1	2,545,288	4.7
Mixed freight	1,449,800	2.8	1,521,360	2.8
Pulp and paper products	1,310,820	2.6	1,271,680	2.3
All other commodities	5,135,558	10.0	5,151,142	9.4
Virginia, total	51,207,534	100.0	54,534,497	100.0

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

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

**Map 3-2: Virginia Total Rail Flows: 1999**

C-9



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



**Table 3-9: Foreign and Domestic Waterborne Shipments Originating in Virginia by Destination: 2000**

<b>Destination</b>	<b>Short tons</b>	<b>Percent of total</b>
Total originating in Virginia	48,756,582	100.0
Foreign (excluding Canada)	28,957,076	59.4
<b>Virginia (intrastate)</b>	<b>7,226,016</b>	<b>14.8</b>
Maryland	5,646,782	11.6
Massachusetts	2,690,891	5.5
New Jersey	2,143,457	4.4
Connecticut	777,634	1.6
New York	387,335	0.8
Maine	261,002	0.5
Delaware	164,849	0.3
Canada	129,436	0.3
District of Columbia	105,174	0.2
North Carolina	84,776	0.2
Pennsylvania	42,689	<0.1
New Hampshire	39,929	<0.1
Rhode Island	36,595	<0.1
Florida	20,913	<0.1
South Carolina	16,911	<0.1
Georgia	14,833	<0.1
Puerto Rico	5,384	<0.1
Louisiana	4,900	<0.1

**Table 3-10: Foreign and Domestic Waterborne Shipments to Virginia by Origin: 2000**

<b>Origin</b>	<b>Short tons</b>	<b>Percent of total</b>
Total shipped to Virginia	23,982,503	100.0
Foreign (excluding Canada)	11,332,795	47.3
<b>Virginia (intrastate)</b>	<b>7,226,016</b>	<b>30.1</b>
Maryland	3,042,206	12.7
New Jersey	506,507	2.1
Canada	461,210	1.9
Pennsylvania	429,912	1.8
Texas	304,166	1.3
Virgin Islands	292,832	1.2
Delaware	207,689	0.9
Louisiana	145,234	0.6
New York	18,323	<0.1
North Carolina	13,400	<0.1
South Carolina	1,530	<0.1
Connecticut	350	<0.1
Rhode Island	333	<0.1

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

**Table 3-11: Foreign and Domestic Waterborne Shipments Originating in Virginia by Commodity: 2000<sup>1</sup>**

<b>Commodity</b>	<b>Short tons</b>	<b>Percent of total</b>
Total	48,756,582	100.0
Coal, lignite, and coal coke	22,018,017	45.2
Sand, gravel, shells, clay, salt, and slag	4,844,711	9.9
Petroleum products	3,539,304	7.3
Manufactured goods	1,766,153	3.6
Food and food products	1,727,632	3.5
Lumber, logs, wood chips, and pulp	1,483,942	3.0
Chemical fertilizers	1,292,647	2.7
Chemicals excluding fertilizers	800,588	1.6
Primary nonmetal products	517,405	1.1
Primary metal products	291,237	0.6
Crude petroleum	152,570	0.3
Iron ore, iron, and steel waste and scrap	63,924	0.1
Non-ferrous ores and scrap	44,687	0.1
Unknown and not elsewhere classified products <sup>2</sup>	10,213,765	20.9

**Table 3-12: Domestic Waterborne Shipments Originating in Virginia by Commodity: 2000<sup>1</sup>**

<b>Commodity</b>	<b>Short tons</b>	<b>Percent of total</b>
Total	19,670,070	100.0
Sand, gravel, shells, clay, salt, and slag	4,782,646	24.3
Petroleum products	3,450,818	17.5
Manufactured goods	666,368	3.4
Food and food products	327,999	1.7
Chemical fertilizers	249,743	1.3
Crude petroleum	152,556	0.8
Unknown and not elsewhere classified products <sup>2</sup>	10,039,940	51.0

<sup>1</sup> "Domestic" includes intrastate shipments.

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

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

**Table 3-13: Foreign and Domestic Waterborne Shipments to Virginia by Commodity: 2000<sup>1</sup>**

<b>Commodity</b>	<b>Short tons</b>	<b>Percent of total</b>
Total	23,982,503	100.0
Sand, gravel, shells, clay, salt, and slag	6,952,322	29.0
Petroleum products	4,303,177	17.9
Crude petroleum	2,825,234	11.8
Manufactured goods	2,070,714	8.6
Primary nonmetal products	1,553,066	6.5
Food and food products	1,409,890	5.9
Chemicals excluding fertilizers	854,510	3.6
Chemical fertilizers	671,039	2.8
Primary metal products	491,042	2.0
Lumber, logs, wood chips, and pulp	394,570	1.6
Non-ferrous ores and scrap	54,570	0.2
Iron ore, iron, and steel waste and scrap	376	<0.1
Coal, lignite, and coal coke	182	<0.1
Unknown and not elsewhere classified products <sup>2</sup>	2,401,811	10.0

**Table 3-14: Domestic Waterborne Shipments to Virginia by Commodity: 2000<sup>1</sup>**

<b>Commodity</b>	<b>Short tons</b>	<b>Percent of total</b>
Total	12,188,498	100.0
Sand, gravel, shells, clay, salt, and slag	6,041,326	49.6
Petroleum products	3,006,069	24.7
Food and food products	287,076	2.4
Chemical fertilizers	249,743	2.0
Chemicals excluding fertilizers	174,678	1.4
Crude petroleum	152,556	1.3
Unknown and not elsewhere classified products <sup>2</sup>	2,277,050	18.7

<sup>1</sup> "Domestic" includes intrastate shipments.

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

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

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

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

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

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

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



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

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

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

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

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

**Table 3-17: Top 15 U.S. Containership Ports by Port Calls and Vessel Size:**

Port	Total container- ship port calls	Port calls by capacity of vessel (TEUs)					Maximum channel depth (ft) <sup>1</sup>
		<2,000	2,001 - 3,000	3,001 - 4,000	4,001 - 5,000	>5,000	
<b>Virginia ports in top 15</b>							
Norfolk	1,105	155	411	394	139	6	50
U.S. ports total	14,686	5,127	4,190	3,126	1,685	558	NA
New York, NY	1,983	465	710	575	227	6	45
Charleston, SC	1,458	352	566	298	236	6	42
Long Beach, CA	1,256	307	246	357	168	178	60
Los Angeles, CA	1,207	429	208	220	294	56	81
Oakland, CA	1,110	123	291	405	183	108	42
Norfolk, VA	1,105	155	411	394	139	6	50
Miami, FL	745	347	244	154	0	0	42
Seattle, WA	638	157	180	175	57	69	40
Houston, TX	623	346	169	58	50	0	40
Savannah, GA	590	144	156	264	26	0	42
New Orleans, LA	434	297	119	18	0	0	45
Port Everglades, FL	412	297	63	0	52	0	42
Baltimore, MD	396	192	123	30	51	0	50
Tacoma, WA	376	33	105	83	30	125	50
San Juan, PR	337	307	30	0	0	0	36
All other ports	2,016	1,176	569	95	172	4	NA
Top 15 as % of U.S. total	86%	77%	86%	97%	90%	99%	NA
Top Virginia ports as % of U.S. total	8%	3%	10%	13%	8%	1%	NA

<sup>1</sup>Channel depth for federally maintained channels at mean low water (MLW).

**KEY:** ft = feet; TEUs = twenty-foot equivalent units; NA = not applicable.

**SOURCES:**

**Port calls by vessel size:** U.S. Department of Transportation, Maritime Administration, *U.S. Vessel Movements, 1999*, available at [http://www.marad.dot.gov/Marad\\_Statistics/PDF/Containership](http://www.marad.dot.gov/Marad_Statistics/PDF/Containership) as of Nov. 5, 2001.

**Maximum channel depth:** U.S. Army Corps of Engineers, *The National Dredging Needs Study of Ports and Harbors*, draft, May 2000, table 3-6.

**Table 3-18: Scheduled and Nonscheduled Air Freight and Mail Enplaned: 2000 (Short tons)**

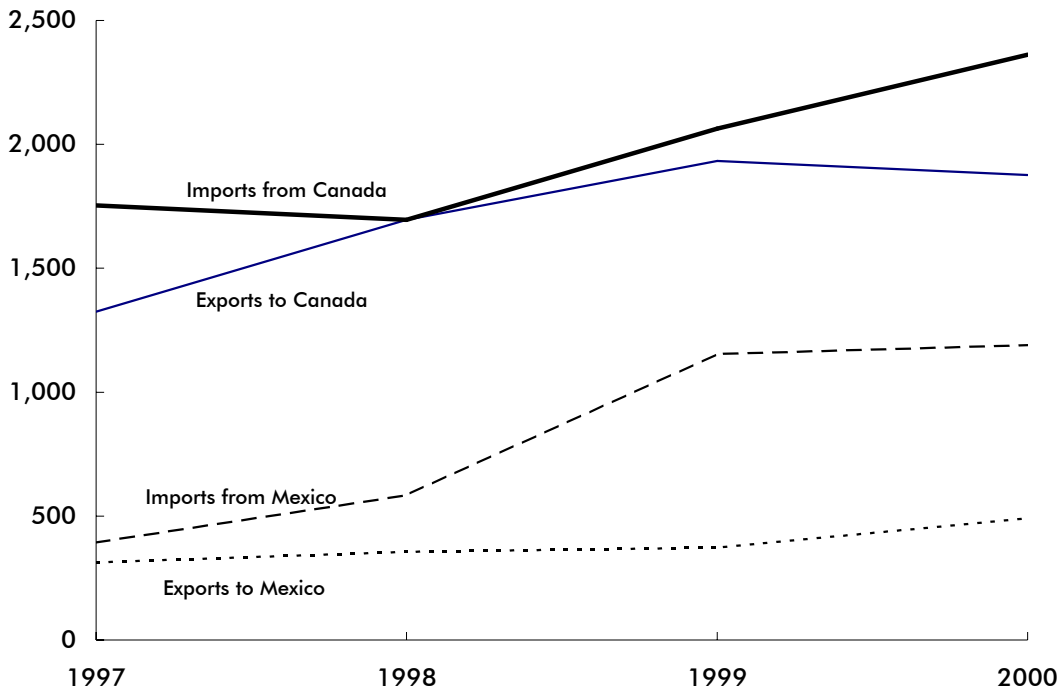
State	Freight		Mail	
	Scheduled	Nonscheduled	Scheduled	Nonscheduled
Alabama	17,233	139,250	6,796	25
Alaska	467,057	141,482	52,354	10,232
Arizona	70,430	66,143	36,115	27,465
Arkansas	1,886	12,578	6,534	2,955
California	1,176,476	504,757	237,537	87,278
Colorado	106,816	61,503	55,370	31,711
Connecticut	14,802	54,627	10,260	1,575
Delaware	0	3,251	0	0
District of Columbia	92,526	6,208	46,511	6,615
Florida	461,831	334,177	85,818	14,182
Georgia	204,986	66,293	116,174	3,961
Hawaii	208,048	52,473	33,768	476
Idaho	11,231	5,064	3,065	1,307
Illinois	318,957	202,867	112,959	9,111
Indiana	408,262	85,326	24,814	134,145
Iowa	15,346	53,766	7,429	3,984
Kansas	6,200	20,199	2,597	18
Kentucky	16,427	823,924	5,093	0
Louisiana	29,577	21,753	11,399	1,758
Maine	8,428	11,368	185	91
Maryland	25,723	24,781	19,850	3,573
Massachusetts	114,243	422,158	31,133	9,384
Michigan	87,127	68,108	41,678	4,848
Minnesota	85,691	51,285	59,550	9,192
Mississippi	398	11,338	2,198	0
Missouri	71,317	67,157	67,876	4,120
Montana	16,261	7,917	1,987	3,341
Nebraska	12,188	26,366	10,825	6,546
Nevada	45,636	12,641	30,407	1,373
New Hampshire	17,995	30,439	740	11
New Jersey	352,556	115,712	54,837	4,550
New Mexico	12,845	29,355	9,327	3,379
New York	317,258	167,388	113,892	5,622
North Carolina	85,996	85,765	35,985	3,498
North Dakota	5,424	383	222	2,820
Ohio	283,292	292,529	48,750	6,442
Oklahoma	25,773	16,804	9,022	9
Oregon	73,035	59,101	12,655	22,729
Pennsylvania	156,043	312,359	45,377	9,035
Puerto Rico	78,117	44,530	4,319	3,312
Rhode Island	3,883	2,753	2,543	0
South Carolina	17,237	76,688	3,234	6
South Dakota	8,114	12,298	1,040	4,583
Tennessee	1,324,829	60,779	31,342	6,417
Texas	440,864	482,724	138,548	47,644
Utah	66,549	133,609	30,908	25,073
Vermont	3,257	19	122	0
<b>Virginia</b>	<b>20,961</b>	<b>35,881</b>	<b>5,189</b>	<b>3,492</b>
Washington	152,299	84,367	34,449	55,975
West Virginia	4,306	128	4	0
Wisconsin	30,060	19,618	11,558	1,088
Wyoming	6,786	11	5	0
United States, total	7,582,577	5,422,002	1,714,348	584,950

**SOURCE:** U.S. Department of Transportation, Bureau of Transportation Statistics, *Airport Activity Statistics of Certificated Air Carriers: Summary Tables, Twelve Months Ending December 31, 2000*, Washington, DC: 2001, available at <http://www.bts.gov/publications/airactstats2000/> as of Oct. 29, 2001.

**Table 3-19: Surface Merchandise Trade with Canada and Mexico: 2000** (Millions of current dollars)

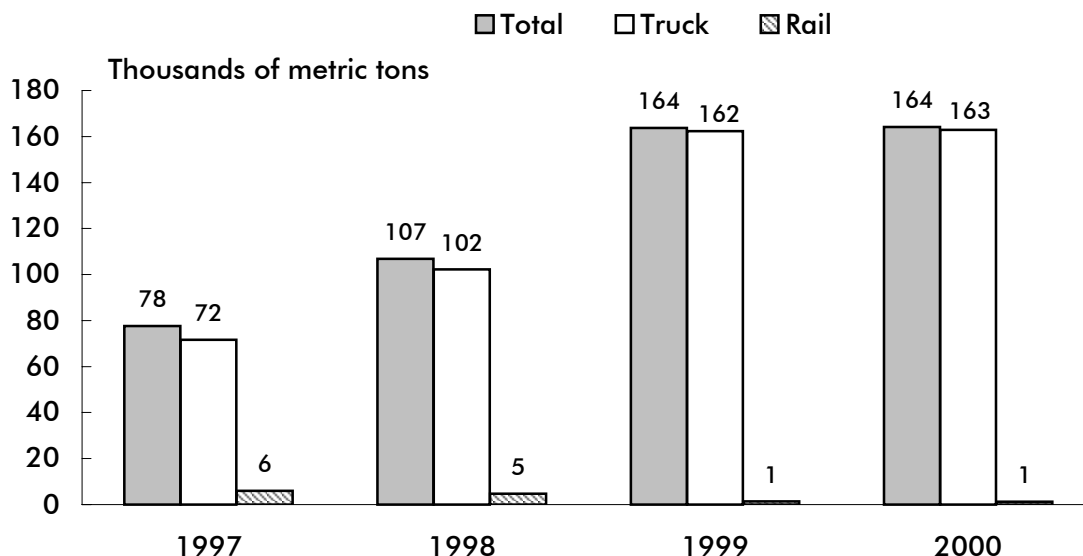
	Exports to		Imports from	
	Canada	Mexico	Canada	Mexico
Virginia	1,876	492	2,362	1,191
United States, total	154,847	97,159	210,270	113,437

**Figure 3-1: Virginia Surface Merchandise Trade with Canada and Mexico (Millions of current dollars)**

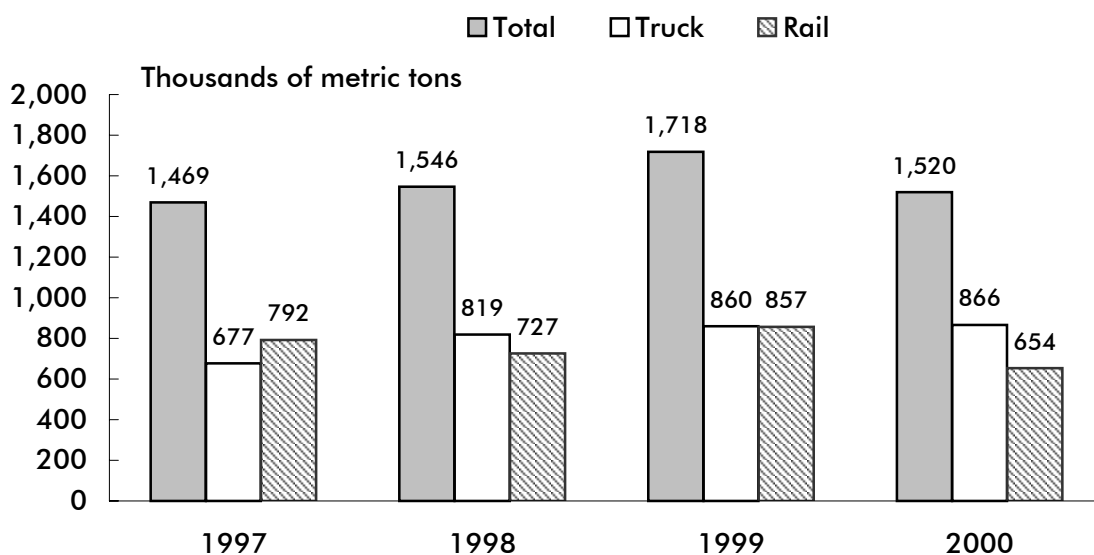


**SOURCE FOR DATA ON THIS PAGE:** U.S. Department of Transportation, Bureau of Transportation Statistics, *Transborder Surface Freight Data*, available at <http://www.bts.gov/ntda/tbscd/reports.html> as of August 2002.

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



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



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

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

**Table 3-20: Top 50 U.S. Foreign Trade Freight Gateways: 2000**  
(Ranked by value of shipments in \$ billions)

	Mode	U.S. rank	Exports	Imports	Total
<b>Virginia gateways<sup>1</sup> in top 50</b>					
Port of Norfolk Harbor	Water	17	11.1	14.1	25.2
<b>U.S. gateways<sup>1</sup> in top 50</b>					
JFK International Airport, NY	Air	1	56.0	75.5	131.6
Port of Los Angeles, CA	Water	2	16.7	85.1	101.8
Port of Long Beach, CA	Water	3	16.9	81.3	98.2
Port of Detroit, MI	Land	4	49.5	44.9	94.4
San Francisco Airport, CA	Air	5	41.8	46.9	88.7
Port of Laredo, TX	Land	6	39.2	44.4	83.7
Port of New York, NY and NJ	Water	7	19.7	61.2	80.9
Los Angeles International Airport, CA	Air	8	41.7	35.6	77.3
Port of Buffalo-Niagara Falls, NY	Land	9	36.2	33.9	70.1
Port of Huron, MI	Land	10	18.8	40.9	59.7
Chicago, IL	Air	11	20.4	25.4	45.7
Port of Houston, TX	Water	12	18.7	24.6	43.4
Port of El Paso, TX	Land	13	17.5	21.9	39.4
Port of Seattle, WA	Water	14	5.4	26.9	32.3
New Orleans, LA	Air	15	16.2	15.9	32.0
Port of Charleston, SC	Water	16	11.3	20.2	31.5
Port of Oakland, CA	Water	18	9.6	15.5	25.1
Cleveland, OH	Air	19	11.8	12.7	24.5
Miami International Airport, FL	Air	20	15.9	7.7	23.6
Anchorage, AK	Air	21	3.5	19.7	23.2
Port of Baltimore, MD	Water	22	5.3	15.3	20.6
Dallas-Fort Worth, TX	Air	23	10.1	10.2	20.4
Port of Tacoma, WA	Water	24	4.4	15.5	19.8
Port of Otay Mesa, CA	Land	25	8.1	10.7	18.8
Port of New Orleans, LA	Water	26	7.6	11.2	18.8
Port of Miami, FL	Water	27	8.4	9.1	17.5
Port of Champlain-Rouses Pt., NY	Land	28	6.0	11.3	17.3
Atlanta, GA	Air	29	8.4	8.7	17.2
Port of Savannah, GA	Water	30	5.9	10.5	16.3
Port of Nogales, AZ	Land	31	5.3	8.3	13.6
Port of Hidalgo, TX	Land	32	6.2	6.4	12.6
Port of Blaine, WA	Land	33	5.6	6.7	12.3
Port of Brownsville-Cameron, TX	Land	34	6.2	5.9	12.1
Port of Alexandria Bay, NY	Land	35	4.6	7.4	12.0
Port of South Louisiana, LA	Water	36	7.1	4.0	11.1
Port of Beaumont, TX	Water	37	1.0	9.6	10.6
Newark, NJ	Air	38	3.9	6.7	10.6
Port of Pembina, ND	Land	39	5.3	5.2	10.6
Port of Port Everglades, FL	Water	40	4.7	5.8	10.5
Port of Portland, OR	Water	41	3.0	7.5	10.5
Port of Corpus Christi, TX	Water	42	1.6	8.7	10.3
Port of Jacksonville, FL	Water	43	1.9	8.4	10.3
Boston Logan Airport, MA	Air	44	5.9	4.4	10.0
Port of Philadelphia, PA	Water	45	0.5	9.5	10.0
Port of Morgan City, LA	Water	46	0.1	9.3	9.4
Seattle-Tacoma International Airport, WA	Air	47	3.7	4.8	8.5
Port of Calexico-East, CA	Land	48	3.5	4.8	8.3
Port of Sweetgrass, MT	Land	49	3.4	4.4	7.8
Port of Highgate Springs-Alburg, VT	Land	50	3.0	4.6	7.6
<b>Total, top 50</b>	<b>NA</b>	<b>NA</b>	<b>619</b>	<b>989</b>	<b>1,608</b>

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

**KEY:** NA = not applicable.

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

**SOURCES:**

**Air:** U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, special tabulation, August 2001.

**Water:** U.S. Department of Transportation, Maritime Administration, Office of Statistical and Economic Analysis, Waterborne Databank 2000, September 2001.

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

## D Passenger Travel





**Table 4-1: Commuting to Work: 2000**

Mode	Virginia		United States	
	Number	Percent	Number	Percent
Total	3,412,422	100.0	127,448,586	100.0
Car, truck, or van -- drove alone	2,663,977	78.1	97,243,457	76.3
Car, truck, or van -- carpoled	385,045	11.3	14,299,090	11.2
Public transportation (including taxi)	141,600	4.1	6,592,685	5.2
Walked	67,674	2.0	3,417,546	2.7
Other means	41,108	1.2	1,820,578	1.4
Worked at home	113,018	3.3	4,075,230	3.2
Mean travel time to work (minutes)	25.5		24.3	

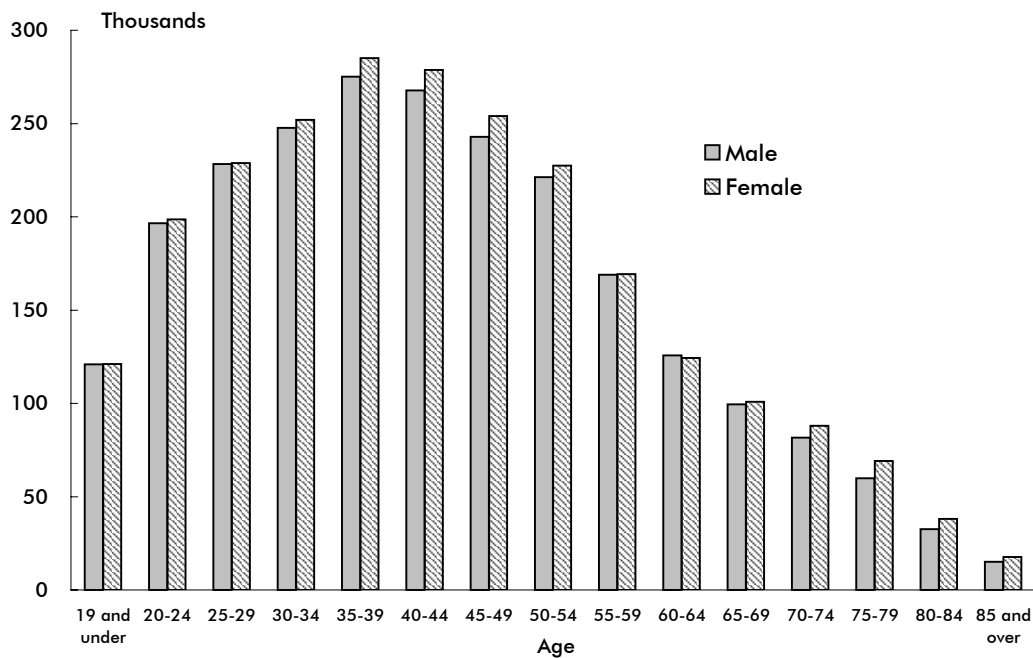
**NOTE:** Data are for workers 16 years and over.

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

**Table 4-2: Licensed Drivers: 2000**

Licensed drivers	Virginia		United States	
	Number	Percent	Number	Percent
Total	4,836,993	100.0	190,625,023	100.0
Male	2,383,960	49.3	95,796,069	50.3
Female	2,453,033	50.7	94,828,953	49.7

**Figure 4-1: Licensed Drivers in Virginia by Age and Sex: 2000**



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

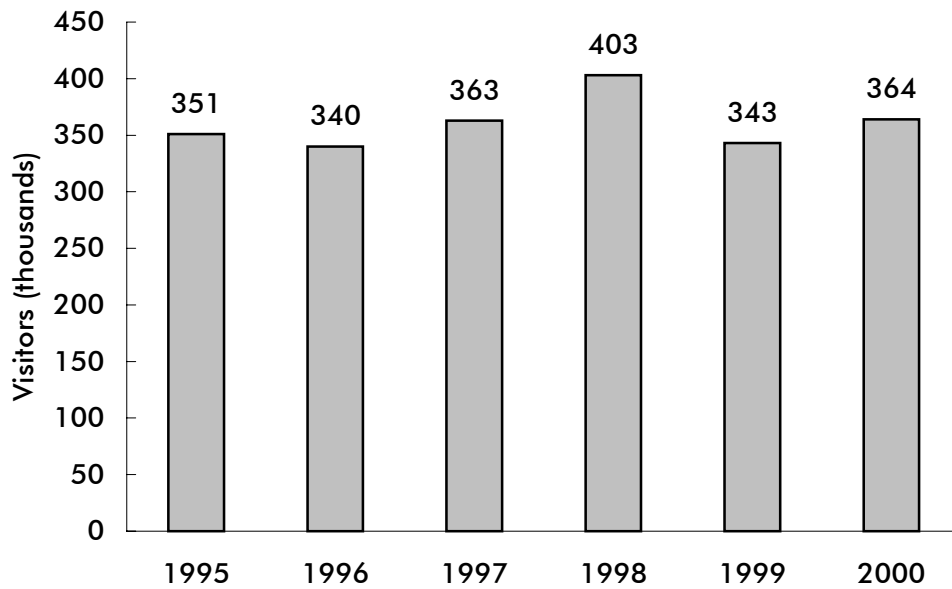
**Table 4-3: Urban Transit Agencies in Virginia: 2000**

Transit agencies	Modes provided	Urbanized area	Annual unlinked passenger trips (thousands)	Average weekday unlinked trips (thousands)	Operating funds expended (\$ millions)	Capital funds expended (\$ millions)	Vehicles available for maximum service
Washington Metropolitan Area Transit Authority <sup>1</sup>	Bus, heavy rail, demand responsive	Washington, DC-MD-VA	348,044	1,170	722	315	2,229
Hampton Roads Transportation (HRT)	Bus, demand responsive, ferry boat, vanpool	Norfolk-Virginia Beach- Newport News	19,193	61	42	18	566
Greater Richmond Transit Company (GRTC)	Bus, demand responsive, vanpool	Richmond	13,791	46	27	3	241
Fairfax Connector Bus System	Bus, demand responsive	Washington, DC-MD-VA	5,595	20	21	5	166
City of Alexandria	Bus	Washington, DC-MD-VA	2,522	9	5	2	42
Virginia Railway Express	Commuter rail	Washington, DC-MD-VA	2,014	8	22	23	67
Greater Roanoke Transit	Bus, demand responsive	Roanoke	1,891	6	4	<1	54
Greater Lynchburg Transit Company (GLTC)	Bus, demand responsive	Lynchburg	1,102	4	3	<1	28
Potomac and Rappahannock	Bus	Washington, DC-MD-VA	998	4	8	1	80
City of Fairfax CUE Bus	Bus	Washington, DC-MD-VA	981	3	2	<1	12
Charlottesville Transit	Bus, demand responsive	Charlottesville	895	3	3	<1	111
Petersburg Area Transit	Bus, demand responsive	Petersburg	526	2	1	<1	14
City of Danville	Bus, demand responsive	Danville	225	<1	<1	<1	14
Loudoun Commuter Bus Service	Bus	Washington, DC-MD-VA	173	<1	1	0	11
James City County Transit	Bus, demand responsive	Norfolk-Virginia Beach- Newport News	74	<1	<1	<1	7

<sup>1</sup> Parts of the system detailed here also serve Washington, DC and Maryland.

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

**Figure 4-2: Overseas Visitors to Virginia<sup>1</sup>**



<sup>1</sup> International travelers to the United States from Canada and Mexico are not included.

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



## E Registered Vehicles and Vehicle-Miles Traveled



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

<b>Motor vehicle type</b>	<b>and commercial</b>	<b>Publicly owned</b>	<b>Virginia total</b>	<b>United States total</b>
All motor vehicles	6,019,194	87,790	6,106,984	225,821,241
Automobiles	3,838,535	35,375	3,873,910	133,621,420
Buses	2,701	15,489	18,190	746,125
Trucks <sup>1</sup>	2,117,495	36,532	2,154,027	87,107,628
Light trucks	2,007,255	U	2,007,255	77,796,827
Farm trucks	25,256	U	25,256	1,885,170
Truck tractors	33,615	U	33,615	1,587,611
Motorcycles	60,463	394	60,857	4,346,068

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

**KEY:** U = data are unavailable.

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

**Table 5-2: Virginia and U.S. Trailer and Semi-Trailer Registrations: 2000<sup>1</sup>**

<b>Type</b>	<b>Virginia</b>	<b>United States</b>
<b>Total</b>	341,114	21,541,490
<b>Private and commercial</b>	338,297	21,283,681
Commercial trailers <sup>2</sup>	86,201	4,685,606
Light farm trailers, car trailers, etc. <sup>3</sup>	176,591	14,113,392
House trailers	75,505	2,484,683
<b>Publicly owned</b>	2,817	257,809
Federal government	61	4,277
State, county, municipal government	2,756	253,532

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

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

<sup>3</sup> Several states do not require the registration of light farm or automobile trailers.

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

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

## Vehicles

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

<b>Vehicular and operational characteristics</b>	<b>All trucks</b>	<b>Trucks, excluding pickups, panels, vans, sport utilities, and station</b>	<b>Vehicular and operational characteristics</b>	<b>All trucks</b>	<b>Trucks, excluding pickups, panels, vans, sport utilities, and station</b>
<b>Total, number (thousands)</b>	1,891.6	130.2			
<b>Major use</b>	100.0	100.0	<b>Year model</b>	100.0	100.0
Agriculture	3.1	10.5	1 to 2 years old	11.2	6.3
Forestry and lumbering	0.5	3.3	3 to 4 years old	19.3	10.2
Mining and quarrying	0.3	1.4	Over 4 years old	69.5	83.5
Construction	10.7	27.2	<b>Vehicle acquisition</b>	100.0	100.0
Manufacturing	0.8	4.8	Purchased new	41.8	43.4
Wholesale and retail trade	4.6	16.0	Purchased used	54.7	51.3
For-hire transportation	0.8	11.2	Leased from someone or not reported	3.5	5.3
Utilities and service	6.5	17.0	<b>Truck type</b>	100.0	100.0
Personal transportation	71.2	3.3	Single-unit trucks	98.3	77.0
Other and not reported	1.5	5.1	2 axles	97.5	65.4
<b>Body type</b>	100.0	100.0	3 axles or more	0.8	11.6
Pickup, panel, minivan, and sport utility	93.1	NA	Combination	1.7	23.0
Platform and cattlerack	2.1	31.1	3 axles	0.1	1.8
Van	1.2	17.4	4 axles	0.6	6.3
Public utility	0.2	3.2	5 axles or more	1.0	14.9
Multistop or stepvans	0.7	10.1	Trailer not specified	V	V
Dump	1.3	18.2	<b>Range of operation</b>	100.0	100.0
Tank for liquids or dry bulk	0.3	3.8	Local	74.4	59.5
Other or not reported	1.1	16.2	Short-range	17.8	25.1
<b>Vehicle size</b>	100.0	100.0	Long-range	4.4	8.6
Light	94.5	27.3	Off-the-road or not reported	3.5	6.8
Medium	2.1	23.0	<b>Fuel type</b>	100.0	100.0
Light-heavy	1.0	13.8	Gasoline	94.4	41.4
Heavy-heavy	2.5	35.9	Diesel, liquefied gas, and other	5.5	57.1
<b>Annual miles driven</b>	100.0	100.0	Not reported	0.1	1.5
Less than 5,000	17.4	25.7			
5,000 to 9,999	23.1	16.9			
10,000 to 19,999	40.2	23.6			
20,000 to 29,999	12.3	12.0			
30,000 or more	7.1	21.7			

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

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

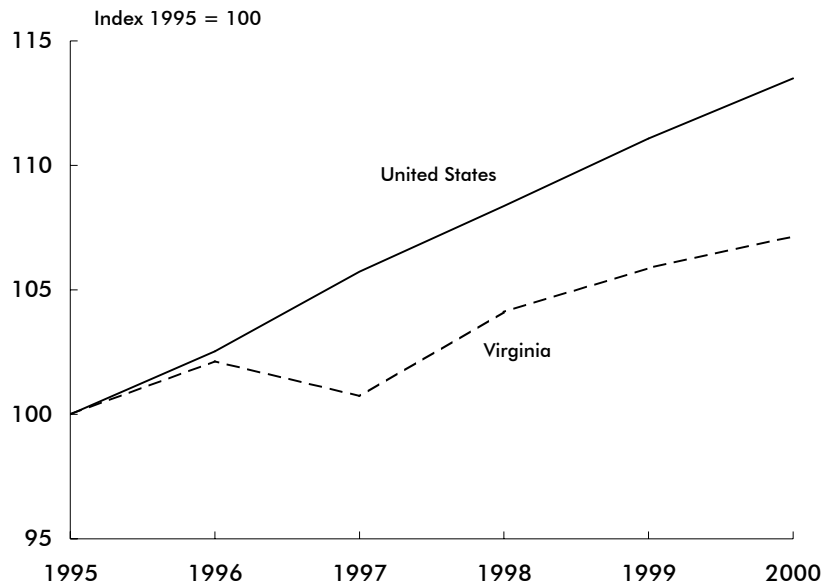
**SOURCE:** U.S. Department of Commerce, U.S. Census Bureau, *Vehicle Inventory and Use Survey*, state-specific reports, Washington, DC: 1999, available at <http://www.census.gov/econ/www/viusmain.html> as of Dec. 27, 2001.



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

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

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



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

**Table 5-5: Highway, Demographic, and Geographic Characteristics of Urbanized Areas in Virginia: 2000**

<b>Federal-aid urbanized area<sup>1</sup></b>	<b>Total roadway miles</b>	<b>Total DVMT (thousands)</b>	<b>Estimated population (thousands)</b>	<b>Net land area (square miles)</b>	<b>Persons per square mile</b>	<b>Miles of roadway per thousand persons</b>	<b>Total DVMT per capita</b>	<b>Total estimated freeway lane miles<sup>2</sup></b>	<b>Average daily traffic per freeway lane mile</b>
Washington, DC-VA-MD	10,329	82,959	3,617	999	36,213	2.9	22.9	1,958	17,639
Norfolk-Virginia Beach-Newport News	5,512	34,588	1,507	952	1,583	3.7	23.0	882	12,771
Richmond	2,964	16,879	694	406	1,709	4.3	24.3	636	10,909
Roanoke	1,036	4,808	194	103	1,883	5.3	24.8	123	11,864
Petersburg	1,312	7,002	123	67	1,836	10.7	56.9	276	8,514
Lynchburg	647	2,697	106	120	883	6.1	25.4	98	7,219
Kingsport, TN-VA	672	2,874	88	116	759	7.6	32.7	110	6,783
Charlottesville	274	1,392	83	27	3,074	3.3	16.8	41	8,174
Fredericksburg	275	1,746	67	36	1,861	4.1	26.1	47	17,454
Bristol, TN-VA	431	2,083	58	66	879	7.4	35.9	84	9,397
Danville	359	1,276	56	46	1,217	6.4	22.8	34	3,443

<sup>1</sup>A "federal-aid urbanized area" is an area with 50,000 or more persons that, at a minimum, encompasses the land area delineated as the urbanized area by the U.S. Census Bureau. Areas are ranked by population. <sup>2</sup>Lane miles estimated by the Federal Highway Administration (FHWA).

**KEY:** DVMT = daily vehicle-miles of travel.

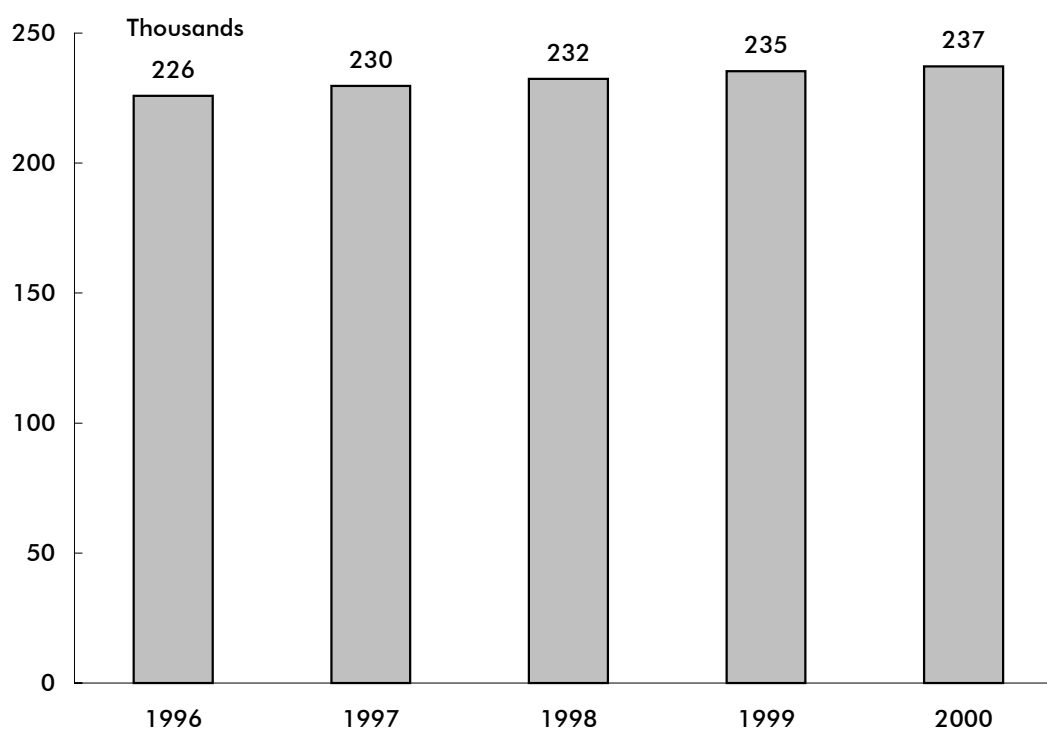
**SOURCE:** U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics, 2000*, Washington, DC: 2001, available at <http://www.fhwa.dot.gov/ohim/ohimstat.htm> as of Dec. 6, 2001.

**Table 5-6: Virginia and U.S. Recreational Boat Registrations by Propulsion Type**

	Virginia		United States	
	1999	2000	1999	2000
Total	235,330	237,228	12,738,271	12,782,143
Powered	228,997	231,039	11,811,562	11,648,769
Nonpowered	224	247	481,191	547,271
Other	6,109	5,942	445,518	590,103

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

**Figure 5-2: Virginia Recreational Boat Registrations**



**NOTES FOR DATA ON THIS PAGE:** U.S. totals include Guam, Puerto Rico, the Virgin Islands, American Samoa, and the Northern Mariana Islands. Virginia statistics include all motorboats. U.S. total does not include sailboards, which are numbered in some states.

**SOURCES FOR DATA ON THIS PAGE:** U.S. Department of Transportation, U.S. Coast Guard, *Boating Statistics, 2000* and *Boating Statistics, 1999*, Washington, DC: 2001, available at [http://www.uscgboating.org/Saf/pdf/Boating\\_Statistics\\_2000.pdf](http://www.uscgboating.org/Saf/pdf/Boating_Statistics_2000.pdf) and 1999.pdf as of Nov. 14, 2001.

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

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

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

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

**Table 5-8: Active Aviation Pilots and Flight Instructors: 2000<sup>1</sup>**

State	Total	Students	Airplane pilots <sup>2</sup>			Misc. <sup>3</sup>	Flight instructor <sup>4</sup>
			Private	Commercial	Airline transport		
Alabama	7,262	1,170	3,065	1,649	1,084	294	920
Alaska	8,638	833	3,686	2,130	1,906	83	1,118
Arizona	17,429	2,329	6,508	3,345	4,654	593	2,617
Arkansas	4,988	776	2,153	1,206	788	65	634
California	71,053	10,173	31,571	13,448	12,786	3,075	8,984
Colorado	17,539	2,320	6,256	3,144	5,138	681	2,549
Connecticut	6,523	944	2,714	989	1,648	228	837
Delaware	1,462	245	532	236	413	36	233
District of Columbia	476	86	191	99	69	31	45
Florida	47,191	6,672	16,324	10,059	13,267	869	6,890
Georgia	18,087	2,441	6,053	2,845	6,448	300	2,107
Hawaii	2,927	471	611	587	1,031	227	399
Idaho	4,480	581	2,148	950	711	90	535
Illinois	21,521	3,497	9,168	3,832	4,606	418	3,054
Indiana	11,715	1,874	5,728	2,091	1,867	155	1,488
Iowa	6,135	912	3,372	1,130	667	54	771
Kansas	8,412	1,169	4,136	1,729	1,268	110	1,184
Kentucky	6,720	988	2,397	1,155	2,104	76	919
Louisiana	5,894	911	2,224	1,474	1,035	250	701
Maine	3,105	444	1,494	608	522	37	384
Maryland	8,383	1,217	3,499	1,535	1,869	263	1,194
Massachusetts	9,692	1,583	4,535	1,711	1,480	383	1,242
Michigan	17,755	3,008	8,517	3,008	2,852	370	2,388
Minnesota	15,530	2,244	6,728	2,949	3,417	192	2,025
Mississippi	4,111	594	1,595	1,086	750	86	490
Missouri	11,070	1,549	5,008	2,045	2,312	156	1,548
Montana	3,613	481	1,718	878	469	67	431
Nebraska	4,141	654	2,054	884	524	25	432
Nevada	6,270	691	2,131	1,141	2,095	212	864
New Hampshire	4,242	499	1,544	676	1,417	106	613
New Jersey	11,403	1,826	4,909	1,833	2,417	418	1,517
New Mexico	4,406	787	1,788	916	772	143	549
New York	18,649	3,628	8,020	3,305	2,819	877	2,516
North Carolina	14,769	2,148	6,144	2,600	3,615	262	1,732
North Dakota	2,458	401	1,153	688	199	17	292
Ohio	19,301	3,065	8,602	3,338	3,857	439	2,839
Oklahoma	8,654	1,392	3,839	1,893	1,453	77	1,180
Oregon	9,942	1,625	4,972	1,910	1,175	260	1,123
Pennsylvania	18,022	2,683	7,604	3,075	4,124	536	2,575
Rhode Island	1,216	184	569	210	223	30	136
South Carolina	6,363	933	2,708	1,343	1,244	135	714
South Dakota	2,230	328	1,034	549	302	17	263
Tennessee	12,132	1,675	4,351	2,024	3,826	256	1,600
Texas	48,396	6,613	16,857	9,044	14,839	1,043	6,487
Utah	6,591	1,205	2,678	1,116	1,468	124	768
Vermont	1,487	220	681	261	264	61	162
<b>Virginia</b>	<b>14,640</b>	<b>1,987</b>	<b>5,114</b>	<b>2,835</b>	<b>4,299</b>	<b>405</b>	<b>2,055</b>
Washington	21,116	2,929	8,170	3,896	5,535	586	2,658
West Virginia	1,992	312	953	399	293	35	274
Wisconsin	11,275	1,768	5,682	1,884	1,830	111	1,455
Wyoming	1,812	254	901	354	273	30	195
<b>United States, total</b>	<b>593,218</b>	<b>87,319</b>	<b>244,389</b>	<b>112,092</b>	<b>134,024</b>	<b>15,394</b>	<b>78,686</b>

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

<sup>2</sup>Includes pilots with an airplane only certificate and those with an airplane and a helicopter and/or glider certificate.

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

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

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

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



# F Economy and Finance





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

<b>Business type</b>	<b>Establishments<sup>1</sup> (number)</b>	<b>Number of employees</b>	<b>Annual payroll (\$ thousands)</b>
<b>Total transportation and warehousing</b>	<b>4,752</b>	<b>78,166</b>	<b>2,630,825</b>
Air transportation	114	15,451	705,255
Water transportation	50	1,586	95,049
Truck transportation	3,045	30,881	951,689
Transit and ground passenger transportation	296	5,166	91,088
Pipeline transportation	50	500-999	D
Scenic and sightseeing transportation	37	100-249	D
Support activities for transportation	671	10,353	333,718
Couriers and messengers	314	11,324	314,903
Warehousing and storage	175	2,394	64,371

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

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

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

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

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

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

Mode	1995		1996		1997		1998		1999	
	State	Local	State	Local	State	Local	State	Local	State	Local
Total (current \$)	1,033	446	1,139	466	1,195	493	1,248	550	1,291	617
Highway	1,032	181	1,025	187	1,073	188	1,119	199	1,162	208
Transit	Z	42	Z	46	Z	43	Z	43	Z	47
Air	Z	221	Z	231	Z	261	Z	306	Z	361
Water	1	2	115	2	122	2	129	2	129	2
Total (chained 1996 \$)	1,057	456	1,139	466	1,165	481	1,197	528	1,206	577
Highway	1,056	185	1,025	187	1,046	183	1,073	191	1,086	195
Transit	Z	43	Z	46	Z	42	Z	41	Z	44
Air	Z	226	Z	231	Z	254	Z	294	Z	337
Water	1	2	115	2	119	2	124	2	120	2

**Table 6-4: Transportation Expenditures by State and Local Governments in Virginia<sup>1</sup> (\$ millions)**

Mode	1995		1996		1997		1998		1999	
	State	Local	State	Local	State	Local	State	Local	State	Local
Total (current \$)	1,853	969	1,996	894	2,154	1,356	2,227	1,303	2,402	1,174
Highway	1,807	404	1,821	456	1,948	559	2,034	574	2,194	548
Transit	4	173	4	160	3	150	6	177	8	191
Air	14	390	20	276	22	645	18	549	24	432
Water	28	2	152	1	181	2	169	2	178	2
Total (chained 1996 \$)	1,896	991	1,996	894	2,100	1,322	2,136	1,250	2,244	1,096
Highway	1,849	413	1,821	456	1,899	545	1,950	551	2,049	512
Transit	4	177	4	160	3	147	6	170	7	179
Air	14	399	20	276	22	629	18	526	22	404
Water	29	2	152	1	176	2	162	2	166	2

<sup>1</sup>Includes federal grants.

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

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

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

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

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

<sup>1</sup> Tax rates for gasoline blended with 10 percent ethanol.

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

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



# G Energy and Environment



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

State	Petroleum							Ethanol <sup>4</sup>	Electricity	Net energy	Electrical system energy losses <sup>5</sup>	Total
	Natural gas <sup>1</sup>	Distillate fuel		Motor gasoline <sup>2</sup>	Residual fuel	Other <sup>3</sup>	Total					
		(diesel)	Jet fuel									
Alabama	22.9	118.4	11.1	298.0	6.5	3.7	437.8	S	0.0	460.7	0.0	460.7
Alaska	4.5	21.5	134.1	32.9	1.7	3.3	193.5	0.4	0.0	198.0	0.0	198.0
Arizona	19.0	92.0	54.6	283.9	0.0	3.1	433.5	1.3	0.0	452.5	0.0	452.5
Arkansas	9.1	84.5	25.9	172.6	0.0	5.1	288.0	0.0	0.0	297.2	0.0	297.2
California	12.9	373.3	559.5	1,749.0	175.3	23.6	2,880.6	4.9	1.8	2,895.3	3.6	2,898.9
Colorado	8.4	67.8	44.2	241.5	0.0	3.9	357.4	4.5	S	365.8	S	365.9
Connecticut	0.8	34.4	13.9	183.9	0.1	1.9	234.2	0.3	0.0	234.9	0.0	234.9
Delaware	0.1	8.6	0.6	47.7	13.2	0.5	70.6	0.0	0.0	70.6	0.0	70.6
Dist. of Columbia	0.3	3.6	0.0	20.5	0.0	0.3	24.5	0.0	0.6	25.3	1.2	26.5
Florida	7.2	210.3	164.3	897.5	57.4	8.7	1,338.1	0.1	0.2	1,345.4	0.4	1,345.8
Georgia	9.1	196.7	86.8	566.9	5.7	5.2	861.3	0.0	0.3	870.8	0.7	871.4
Hawaii	0.0	9.1	53.7	45.8	12.9	0.8	122.3	0.0	0.0	122.3	0.0	122.3
Idaho	4.7	34.0	4.9	80.8	0.0	1.2	121.0	0.0	0.0	125.7	0.0	125.7
Illinois	55.3	202.6	103.4	612.7	0.2	11.8	930.8	20.3	1.5	987.5	2.9	990.5
Indiana	14.6	186.4	63.5	373.7	1.9	5.1	630.6	9.0	0.1	645.3	0.1	645.4
Iowa	7.9	74.9	5.0	185.9	0.0	3.8	269.6	6.7	S	277.5	S	277.5
Kansas	31.6	60.5	19.7	170.7	0.1	5.2	256.2	0.5	0.0	287.8	0.0	287.8
Kentucky	17.2	122.9	39.5	261.0	0.0	3.6	427.0	0.3	0.0	444.2	0.0	444.2
Louisiana	50.0	147.4	192.9	255.9	153.5	5.1	754.9	0.1	S	804.9	S	804.9
Maine	0.0	22.2	4.9	83.7	1.4	1.0	113.2	0.0	S	113.2	S	113.2
Maryland	3.4	73.3	22.3	295.0	7.4	2.2	400.3	0.2	0.5	404.1	1.0	405.1
Massachusetts	2.8	57.0	45.8	328.7	0.2	4.1	435.7	0.0	0.8	439.2	1.6	440.8
Michigan	23.3	132.7	51.7	624.5	0.3	12.2	821.4	3.4	S	844.7	S	844.8
Minnesota	22.5	93.4	71.4	306.5	S	5.8	477.1	19.5	0.0	499.6	0.0	499.6
Mississippi	66.1	81.2	54.8	196.2	6.9	3.6	342.7	0.0	0.0	408.9	0.0	408.9
Missouri	6.8	172.0	72.3	364.6	S	6.6	615.6	1.4	0.1	622.5	0.1	622.6
Montana	6.1	34.7	4.7	59.1	0.0	1.9	100.4	S	0.0	106.5	0.0	106.5
Nebraska	2.9	76.9	8.9	103.1	0.0	2.7	191.5	2.1	0.0	194.4	0.0	194.4
Nevada	0.9	36.9	47.4	111.7	0.0	0.9	196.9	2.3	0.0	197.8	0.0	197.8
New Hampshire	S	14.5	4.6	80.8	S	0.5	100.5	0.0	0.0	100.5	0.0	100.5
New Jersey	4.3	120.9	206.1	476.6	48.9	5.1	857.6	0.7	0.5	862.4	0.9	863.3
New Mexico	47.4	55.5	15.4	113.7	0.0	1.9	186.5	2.0	0.0	233.9	0.0	233.9
New York	8.6	147.5	51.7	690.6	47.1	7.3	944.2	1.2	9.1	961.9	17.7	979.6
North Carolina	10.9	132.6	38.6	502.6	1.0	5.3	680.0	3.0	0.0	690.9	0.0	690.9
North Dakota	9.9	26.0	2.3	43.0	0.0	1.2	72.5	0.4	0.0	82.4	0.0	82.4
Ohio	18.5	222.5	93.3	623.2	0.1	11.1	950.2	19.6	0.2	968.9	0.3	969.2
Oklahoma	24.5	111.7	37.3	223.3	0.0	5.7	378.0	0.0	0.0	402.5	0.0	402.5
Oregon	10.9	70.2	36.5	188.0	18.0	4.3	317.0	1.1	0.1	328.0	0.2	328.2
Pennsylvania	37.3	197.6	90.4	607.0	37.8	9.7	942.6	1.0	1.3	981.3	2.6	983.9
Rhode Island	0.3	9.3	6.0	49.8	S	0.5	65.6	0.0	0.0	65.9	0.0	65.9
South Carolina	3.7	85.8	8.7	273.0	2.8	2.3	372.7	0.0	0.0	376.4	0.0	376.4
South Dakota	6.1	21.1	4.4	51.5	0.0	1.3	78.2	1.8	0.0	84.3	0.0	84.3
Tennessee	25.9	131.7	67.0	360.3	0.0	5.1	564.2	0.0	S	590.1	S	590.1
Texas	73.0	479.2	594.8	1,252.3	131.9	17.6	2,475.8	4.8	0.1	2,548.8	0.1	2,549.0
Utah	2.8	45.1	42.2	119.2	0.0	1.7	208.2	0.9	S	211.1	S	211.1
Vermont	S	12.3	0.8	39.7	0.0	0.4	53.2	0.0	0.0	53.2	0.0	53.2
<b>Virginia</b>	<b>8.3</b>	<b>142.3</b>	<b>52.8</b>	<b>438.1</b>	<b>9.2</b>	<b>3.9</b>	<b>646.5</b>	<b>2.8</b>	<b>0.3</b>	<b>655.1</b>	<b>0.6</b>	<b>655.7</b>
Washington	8.2	95.9	125.6	325.2	57.4	4.6	608.9	2.5	0.1	617.1	0.1	617.3
West Virginia	31.5	46.9	1.0	100.5	0.0	1.7	150.1	S	0.0	181.6	0.0	181.6
Wisconsin	4.2	101.0	19.3	303.0	S	4.3	427.6	2.5	S	431.8	S	431.8
Wyoming	14.5	62.4	1.0	39.8	0.0	2.2	105.3	0.0	0.0	119.8	0.0	119.8
<b>United States</b>	<b>761.1</b>	<b>5,160.9</b>	<b>3,461.8</b>	<b>15,855.4</b>	<b>798.9</b>	<b>234.8</b>	<b>25,511.8</b>	<b>121.6</b>	<b>17.5</b>	<b>26,290.3</b>	<b>34.3</b>	<b>26,324.6</b>

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

<sup>2</sup> Includes ethanol blended into motor gasoline.

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

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

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

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

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

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

## Energy and Environment

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

State	Total energy consumed <sup>1</sup>	End-use sectors <sup>2</sup>							
		Transportation		Residential		Commercial		Industrial	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
Alabama	2,004.8	460.7	23.0	341.0	17.0	226.3	11.3	976.7	48.7
Alaska	694.7	198.0	28.5	47.7	6.9	63.1	9.1	385.9	55.5
Arizona	1,219.8	452.5	37.1	279.0	22.9	266.7	21.9	221.6	18.2
Arkansas	1,203.7	297.2	24.7	193.3	16.1	123.8	10.3	589.4	49.0
California	8,375.4	2,898.9	34.6	1,416.2	16.9	1,236.5	14.8	2,823.7	33.7
Colorado	1,155.5	365.9	31.7	261.4	22.6	255.1	22.1	273.1	23.6
Connecticut	839.3	234.9	28.0	245.2	29.2	196.8	23.4	162.4	19.3
Delaware	278.8	70.6	25.3	56.0	20.1	44.8	16.1	107.4	38.5
District of Columbia	169.8	26.5	15.6	33.5	19.7	106.2	62.5	3.7	2.2
Florida	3,852.9	1,345.8	34.9	1,017.8	26.4	809.5	21.0	679.8	17.6
Georgia	2,798.1	871.4	31.1	553.1	19.8	416.3	14.9	957.3	34.2
Hawaii	241.4	122.3	50.7	23.0	9.5	24.8	10.3	71.3	29.5
Idaho	518.3	125.7	24.3	95.9	18.5	86.9	16.8	209.8	40.5
Illinois	3,882.6	990.5	25.5	897.4	23.1	722.0	18.6	1,272.6	32.8
Indiana	2,735.8	645.4	23.6	483.6	17.7	300.7	11.0	1,306.2	47.7
Iowa	1,121.7	277.5	24.7	222.5	19.8	158.5	14.1	463.3	41.3
Kansas	1,050.0	287.8	27.4	200.9	19.1	169.2	16.1	392.2	37.4
Kentucky	1,830.2	444.2	24.3	315.9	17.3	219.0	12.0	851.1	46.5
Louisiana	3,615.4	804.9	22.3	325.0	9.0	236.5	6.5	2,249.0	62.2
Maine	528.6	113.2	21.4	97.6	18.5	57.6	10.9	260.2	49.2
Maryland	1,378.2	405.1	29.4	358.6	26.0	337.1	24.5	277.4	20.1
Massachusetts	1,569.1	440.8	28.1	411.7	26.2	325.2	20.7	391.4	24.9
Michigan	3,239.6	844.8	26.1	744.3	23.0	568.1	17.5	1,082.5	33.4
Minnesota	1,675.3	499.6	29.8	340.2	20.3	217.9	13.0	617.7	36.9
Mississippi	1,208.5	408.9	33.8	202.6	16.8	145.6	12.0	451.4	37.4
Missouri	1,768.0	622.6	35.2	431.7	24.4	334.1	18.9	379.6	21.5
Montana	412.4	106.5	25.8	61.8	15.0	48.0	11.6	196.1	47.6
Nebraska	602.0	194.4	32.3	130.0	21.6	111.3	18.5	166.2	27.6
Nevada	615.3	197.8	32.1	122.4	19.9	97.1	15.8	198.0	32.2
New Hampshire	335.4	100.5	30.0	81.9	24.4	56.2	16.8	96.9	28.9
New Jersey	2,588.7	863.3	33.3	539.9	20.9	540.8	20.9	644.7	24.9
New Mexico	635.0	233.9	36.8	93.2	14.7	105.6	16.6	202.4	31.9
New York	4,283.0	979.6	22.9	1,092.3	25.5	1,216.1	28.4	994.9	23.2
North Carolina	2,446.9	690.9	28.2	562.7	23.0	439.5	18.0	753.7	30.8
North Dakota	365.7	82.4	22.5	54.2	14.8	42.6	11.6	186.4	51.0
Ohio	4,323.4	969.2	22.4	866.7	20.0	632.1	14.6	1,855.3	42.9
Oklahoma	1,377.5	402.5	29.2	259.1	18.8	197.7	14.4	518.2	37.6
Oregon	1,109.2	328.2	29.6	238.4	21.5	190.5	17.2	352.1	31.7
Pennsylvania	3,715.5	983.9	26.5	858.6	23.1	582.6	15.7	1,290.4	34.7
Rhode Island	261.1	65.9	25.2	66.0	25.3	52.2	20.0	77.0	29.5
South Carolina	1,493.0	376.4	25.2	288.1	19.3	210.3	14.1	618.2	41.4
South Dakota	239.0	84.3	35.3	53.3	22.3	39.2	16.4	62.2	26.0
Tennessee	2,070.5	590.1	28.5	441.5	21.3	328.1	15.8	710.8	34.3
Texas	11,501.0	2,549.0	22.2	1,323.3	11.5	1,147.2	10.0	6,481.5	56.4
Utah	693.9	211.1	30.4	127.5	18.4	120.2	17.3	235.1	33.9
Vermont	165.0	53.2	32.2	42.6	25.8	29.4	17.8	39.9	24.2
<b>Virginia</b>	<b>2,227.3</b>	<b>655.7</b>	<b>29.4</b>	<b>494.4</b>	<b>22.2</b>	<b>462.8</b>	<b>20.8</b>	<b>614.4</b>	<b>27.6</b>
Washington	2,240.8	617.3	27.5	435.7	19.4	332.0	14.8	855.9	38.2
West Virginia	735.4	181.6	24.7	141.9	19.3	101.0	13.7	310.8	42.3
Wisconsin	1,810.5	431.8	23.8	375.8	20.8	285.4	15.8	717.4	39.6
Wyoming	421.8	119.8	28.4	35.9	8.5	42.1	10.0	224.0	53.1
<b>United States</b>	<b>95,682.4</b>	<b>26,324.6</b>	<b>27.5</b>	<b>18,382.3</b>	<b>19.2</b>	<b>15,058.5</b>	<b>15.7</b>	<b>35,917.1</b>	<b>37.5</b>

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

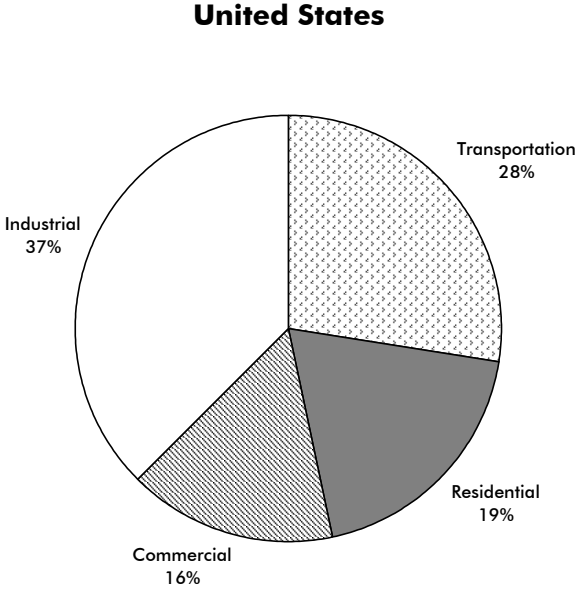
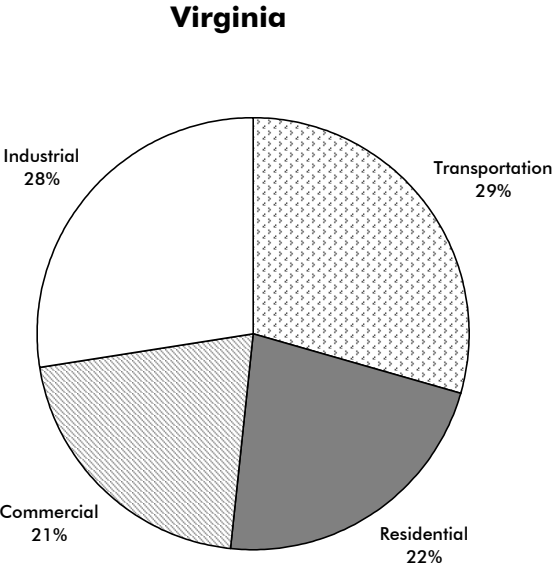
<sup>2</sup> End-use sector data include electricity sales and associated electrical system energy losses.

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

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

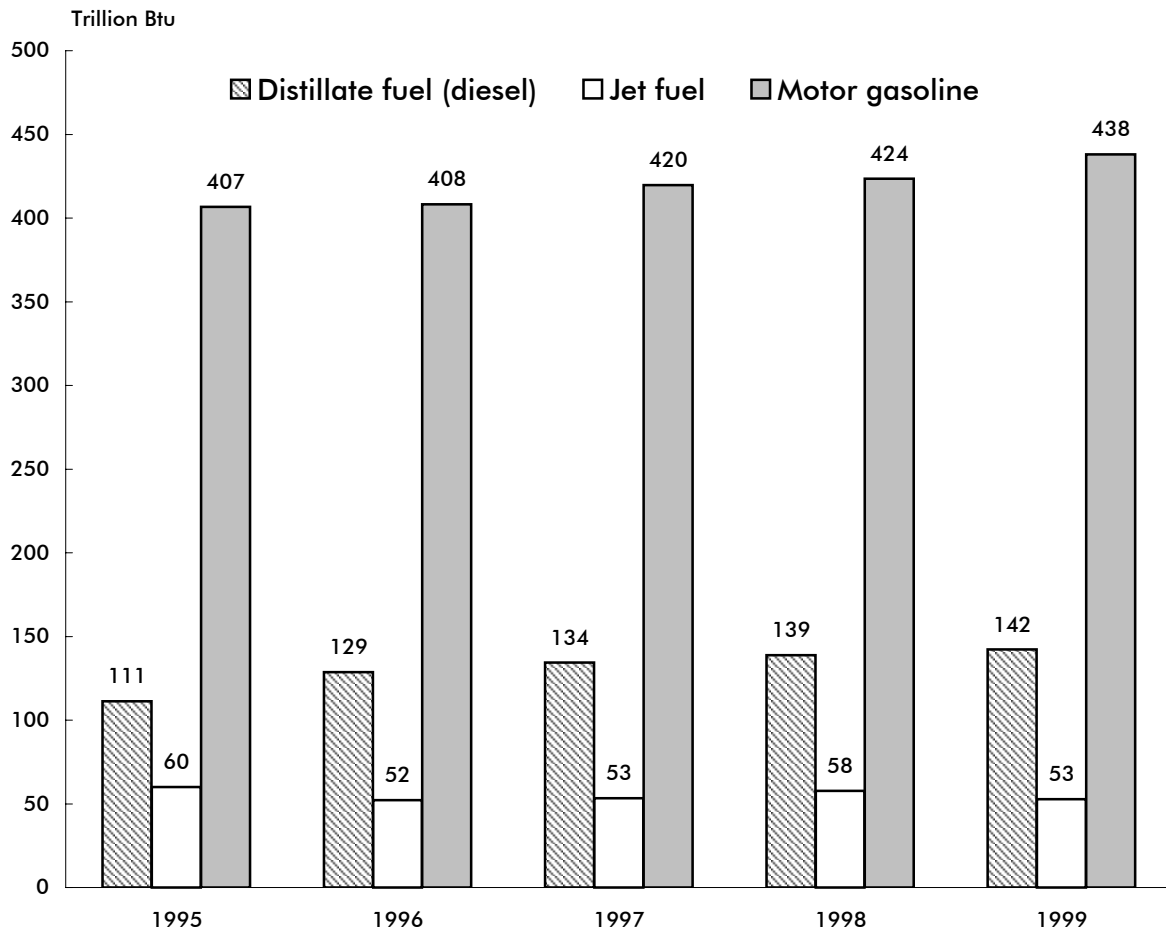


**Figure 7-1: Energy Consumption by End-Use Sector: 1999**



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

**Figure 7-2: Virginia Transportation Energy Consumption**



**KEY:** Btu = British thermal unit.

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

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

State	Population (thousands)	Petroleum		All energy sources	
		Total (trillion Btu)	Per capita <sup>1</sup> (million Btu)	Total (trillion Btu)	Per capita <sup>1</sup> (million Btu)
Alabama	4,370	437.8	100.2	460.7	105.4
Alaska	620	193.5	312.1	198.0	319.4
Arizona	4,778	433.5	90.7	452.5	94.7
Arkansas	2,551	288.0	112.9	297.2	116.5
California	33,145	2,880.6	86.9	2,898.9	87.5
Colorado	4,056	357.4	88.1	365.9	90.2
Connecticut	3,282	234.2	71.4	234.9	71.6
Delaware	754	70.6	93.6	70.6	93.6
District of Columbia	519	24.5	47.2	26.5	51.1
Florida	15,111	1,338.1	88.6	1,345.8	89.1
Georgia	7,788	861.3	110.6	871.4	111.9
Hawaii	1,185	122.3	103.2	122.3	103.2
Idaho	1,252	121.0	96.6	125.7	100.4
Illinois	12,128	930.8	76.7	990.5	81.7
Indiana	5,943	630.6	106.1	645.4	108.6
Iowa	2,869	269.6	94.0	277.5	96.7
Kansas	2,654	256.2	96.5	287.8	108.4
Kentucky	3,961	427.0	107.8	444.2	112.1
Louisiana	4,372	754.9	172.7	804.9	184.1
Maine	1,253	113.2	90.3	113.2	90.3
Maryland	5,172	400.3	77.4	405.1	78.3
Massachusetts	6,175	435.7	70.6	440.8	71.4
Michigan	9,864	821.4	83.3	844.8	85.6
Minnesota	4,776	477.1	99.9	499.6	104.6
Mississippi	2,768	342.7	123.8	408.9	147.7
Missouri	5,468	615.6	112.6	622.6	113.9
Montana	883	100.4	113.7	106.5	120.6
Nebraska	1,666	191.5	114.9	194.4	116.7
Nevada	1,809	196.9	108.8	197.8	109.3
New Hampshire	1,201	100.5	83.7	100.5	83.7
New Jersey	8,143	857.6	105.3	863.3	106.0
New Mexico	1,740	186.5	107.2	233.9	134.4
New York	18,197	944.2	51.9	979.6	53.8
North Carolina	7,651	680.0	88.9	690.9	90.3
North Dakota	634	72.5	114.4	82.4	130.0
Ohio	11,257	950.2	84.4	969.2	86.1
Oklahoma	3,358	378.0	112.6	402.5	119.9
Oregon	3,316	317.0	95.6	328.2	99.0
Pennsylvania	11,994	942.6	78.6	983.9	82.0
Rhode Island	991	65.6	66.2	65.9	66.5
South Carolina	3,886	372.7	95.9	376.4	96.9
South Dakota	733	78.2	106.7	84.3	115.0
Tennessee	5,484	564.2	102.9	590.1	107.6
Texas	20,044	2,475.8	123.5	2,549.0	127.2
Utah	2,130	208.2	97.7	211.1	99.1
Vermont	594	53.2	89.6	53.2	89.6
<b>Virginia</b>	<b>6,873</b>	<b>646.5</b>	<b>94.1</b>	<b>655.7</b>	<b>95.4</b>
Washington	5,756	608.9	105.8	617.3	107.2
West Virginia	1,807	150.1	83.1	181.6	100.5
Wisconsin	5,250	427.6	81.4	431.8	82.2
Wyoming	480	105.3	219.4	119.8	249.6
United States	272,691	25,511.8	93.6	26,324.6	96.5

<sup>1</sup> Calculated by the Bureau of Transportation Statistics.

**KEY:** Btu = British thermal unit.

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

**Table 7-4: Virginia and U.S. Motor-Fuel Use: 2000<sup>1</sup>**  
**(Millions of gallons)**

Vehicle ownership	Gasoline				Special fuel (mainly diesel)		Total use	
	Highway use		Nonhighway use		Virginia	States	Virginia	States
	Virginia	United States	Virginia	United States				
<b>Private and commercial</b>	3,528	126,735	56	2,876	996	33,377	4,579	162,988
<b>Public use</b>	52	2,149	2	96	N	N	54	2,245
<b>Total</b>	<b>3,580</b>	<b>128,884</b>	<b>58</b>	<b>2,972</b>	<b>996</b>	<b>33,377</b>	<b>4,634</b>	<b>165,232</b>

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

**KEY:** N = data do not exist.

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

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

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

<b>County</b>	<b>Area</b>	<b>Nonattainment in year</b>	<b>Redesignation to attainment</b>	<b>Classification</b>	<b>Part or whole county</b>	<b>Population (2000)</b>
Alexandria	Washington, DC-MD-VA	95	3/15/96	Moderate <= 12.7ppm	Whole	128,283
Arlington	Washington, DC-MD-VA	95	3/15/96	Moderate <= 12.7ppm	Whole	189,453

**KEY:** ppm = parts per million.

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

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

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**Table 7-6: Virginia Air Quality Nonattainment Areas for Ozone (O<sub>3</sub>)**

County	Area	Nonattainment in year	Redesignation to attainment	Classification	Part or whole county	Population (2000)
Alexandria	Washington, DC-MD-VA	95 96 97 98 99 00 01	NA	Serious	Whole	128,283
Arlington	Washington, DC-MD-VA	95 96 97 98 99 00 01	NA	Serious	Whole	189,453
Charles City	Richmond	95 96 97	12/17/97	Moderate	Part	59
Chesapeake	Norfolk-Virginia Beach-Newport News (Hampton Roads),VA	95 96 97	7/28/97	Marginal	Whole	199,184
Chesterfield	Richmond	95 96 97	12/17/97	Moderate	Whole	259,903
Colonial Heights	Richmond	95 96 97	12/17/97	Moderate	Whole	16,897
Fairfax	Washington, DC-MD-VA	95 96 97 98 99 00 01	NA	Serious	Whole	21,498
Fairfax	Washington, DC-MD-VA	95 96 97 98 99 00 01	NA	Serious	Whole	969,749
Falls Church	Washington, DC-MD-VA	95 96 97 98 99 00 01	NA	Serious	Whole	10,377
Hampton	Norfolk-Virginia Beach-Newport News (Hampton Roads),VA	95 96 97	7/28/97	Marginal	Whole	146,437
Hanover	Richmond	95 96 97	12/17/97	Moderate	Whole	86,320
Henrico	Richmond	95 96 97	12/17/97	Moderate	Whole	262,300
Hopewell	Richmond	95 96 97	12/17/97	Moderate	Whole	22,354
James City	Norfolk-Virginia Beach-Newport News (Hampton Roads),VA	95 96 97	7/28/97	Marginal	Whole	48,102
Loudoun	Washington, DC-MD-VA	95 96 97 98 99 00 01	NA	Serious	Whole	169,599
Manassas	Washington, DC-MD-VA	95 96 97 98 99 00 01	NA	Serious	Whole	35,135
Manassas Park	Washington, DC-MD-VA	95 96 97 98 99 00 01	NA	Serious	Whole	10,290
Newport News	Norfolk-Virginia Beach-Newport News (Hampton Roads),VA	95 96 97	7/28/97	Marginal	Whole	180,150
Norfolk	Norfolk-Virginia Beach-Newport News (Hampton Roads),VA	95 96 97	7/28/97	Marginal	Whole	234,403
Poquoson	Norfolk-Virginia Beach-Newport News (Hampton Roads),VA	95 96 97	7/28/97	Marginal	Whole	11,566
Portsmouth	Norfolk-Virginia Beach-Newport News (Hampton Roads),VA	95 96 97	7/28/97	Marginal	Whole	100,565
Prince William	Washington, DC-MD-VA	95 96 97 98 99 00 01	NA	Serious	Whole	280,813
Richmond	Richmond	95 96 97	12/17/97	Moderate	Whole	197,790
Smyth	Smyth Co, VA (White Top Mountain)	95 96 97 98 99 00 01	NA	Marginal RT	Part	0
Stafford	Washington, DC-MD-VA	95 96 97 98 99 00 01	NA	Serious	Whole	92,446
Suffolk	Norfolk-Virginia Beach-Newport News (Hampton Roads),VA	95 96 97	7/28/97	Marginal	Whole	63,677
Virginia Beach	Norfolk-Virginia Beach-Newport News (Hampton Roads),VA	95 96 97	7/28/97	Marginal	Whole	425,257
Williamsburg	Norfolk-Virginia Beach-Newport News (Hampton Roads),VA	95 96 97	7/28/97	Marginal	Whole	11,998
York	Norfolk-Virginia Beach-Newport News (Hampton Roads),VA	95 96 97	7/28/97	Marginal	Whole	56,297

**KEY:** NA = not applicable.

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

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

**Table 7-7: Highway Noise Barriers: 1999**

<b>State</b>	<b>Total length (meters)</b>	<b>Barrier cost (\$ 1998)</b>
Alabama	0	0
Alaska	9,338	2,742,486
Arizona	48,593	15,130,670
Arkansas	1,989	653,497
California	777,160	487,177,331
Colorado	104,377	45,351,408
Connecticut	46,049	28,335,802
Delaware	1,262	242,013
District of Columbia	0	0
Florida	70,991	62,276,735
Georgia	33,530	20,247,589
Hawaii	3,103	1,743,452
Idaho	200	583,002
Illinois	97,803	70,985,221
Indiana	18,568	20,297,106
Iowa	7,857	3,215,640
Kansas	2,103	2,082,034
Kentucky	8,249	5,306,199
Louisiana	12,077	5,974,212
Maine	561	292,861
Maryland	99,587	153,227,923
Massachusetts	10,250	5,259,055
Michigan	67,071	60,139,968
Minnesota	101,811	62,694,176
Mississippi	0	0
Missouri	6,113	4,179,360
Montana	0	0
Nebraska	5,060	4,026,138
Nevada	17,847	10,855,220
New Hampshire	6,392	5,785,519
New Jersey	142,055	210,429,029
New Mexico	21,196	9,306,885
New York	110,698	116,448,616
North Carolina	45,977	24,702,615
North Dakota	0	0
Ohio	138,197	68,064,386
Oklahoma	13,186	4,229,909
Oregon	72,552	30,075,899
Pennsylvania	83,526	88,259,488
Rhode Island	0	0
South Carolina	2,665	1,713,629
South Dakota	0	0
Tennessee	28,846	20,574,450
Texas	55,310	39,635,228
Utah	70,260	24,841,367
Vermont	1,004	356,344
<b>Virginia<sup>1</sup></b>	<b>153,313</b>	<b>143,003,313</b>
Washington	74,812	32,296,683
West Virginia	408	170,529
Wisconsin	29,730	28,768,150
Wyoming	293	100,271
<b>United States</b>	<b>2,611,953</b>	<b>1,931,107,534</b>

<sup>1</sup>Includes 4,061 meters of federal barriers on the Dulles Access Highway.

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





# H Information on Data Sources



### Airline freight and passenger data

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

#### Additional information:

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

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

Internet: <http://www.bts.gov>

### Commodity Flow Survey

The Commodity Flow Survey (CFS) provides data on the movement of freight by type of commodity shipped and by mode of transport. In 1997, 100,000 domestic establishments were randomly selected from a universe of approximately 800,000 engaged in mining, manufacturing, wholesale, warehouses of multi-establishment companies, and some selected activities in retail and service. The survey excluded establishments classified as farms, forestry, fisheries, governments, construction, transportation, foreign establishments, services, and most

establishments in retail. For the 1997 CFS, each selected establishment reported a sample of about 25 outbound shipments for a one-week period in each of four calendar quarters in 1997. This produced a total sample of over 5 million shipments. Due to industry-wide reporting problems, shipments by oil and gas extraction establishments were excluded from data tabulations.

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

#### Additional information:

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

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

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

### Commuting data

Commuting data are derived from the Census 2000 Supplementary Survey (C2SS). The C2SS used the questionnaire and methods developed for the American Community Survey to collect demographic, social,

## Data Sources

economic, and housing data from a national sample of 700,000 households. Group quarters were not included in the sample. The C2SS was conducted in 1,203 counties with monthly samples of about 58,000 housing units.

Economic, demographic, and housing characteristics from the Census 2000 Supplementary Survey are reported for the United States as a whole, the 50 states, and the District of Columbia.

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

### **Additional information:**

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

Internet: <http://www.census.gov>

### **Gas and hazardous liquid pipeline data**

U.S. fatality and injury data for natural gas pipelines and hazardous liquid pipelines are based on reports filed with the U.S.

Department of Transportation, Office of Pipeline Safety (OPS) under 49 CFR 191.

Accidents must be reported as soon as possible, but no later than 30 days after discovery. Undetected releases are a possible source of error; even if subsequently detected and reported, it may not be possible to accurately reconstruct the accident. Property damage figures are estimates.

Gas pipeline incidents involve: 1) releases of gas from a pipeline or liquefied natural gas (LNG) or gas from an LNG facility that results in a) death or personal injury necessitating in-patient hospitalization, or b) estimated property damage, including cost of gas lost, of the operator or others, or both, of \$50,000 or more; 2) an event that results in an emergency

shutdown of an LNG facility; or 3) an event that is significant, in the judgment of the operator, even though it did not meet the criteria of 1) or 2).

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

### **Additional information:**

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

Internet: <http://ops.dot.gov>

### **Government transportation revenue and expenditure data**

The U.S. Department of Commerce (USDOC), U.S. Census Bureau conducts an Annual Survey of Government Finances. Alternatively, every five years, in years ending in a '2' or '7', a Census of Governments, including a finance portion, is conducted. The survey coverage includes all state and local governments in the United States. For both the

Census and annual survey, the finance detail data is equivalent, encompassing the entire range of government finance activities—revenue, expenditure, debt, and assets.

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

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

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

The share of government sector financial totals contributed by a state government or by local governments differs materially from one state to another. Users can review the *Government Finance and Employment*

*Classification Manual* for additional information regarding the financial categories. The financial amounts in the tables and files are statistical in nature and do not represent accounting statements or conditions.

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

#### **Additional information:**

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

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

Internet: <http://www.census.gov>

#### **Hazardous materials incidents data**

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

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

## Data Sources

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

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

### **Additional information:**

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

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

Internet: <http://hazmat.dot.gov>

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

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

and tabular summary reporting of limited information.

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

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

States provide vehicle registration data to the FHWA. Vehicle registration data are shown on a calendar-year basis. Efforts are made to exclude transfers, re-registrations, and any other factors that could result in duplication in the vehicle counts. Registration practices for commercial vehicles differ greatly among the states. Some states register a tractor-semitrailer combination as a single unit; others register the tractor and the semitrailer

separately. Some states register buses with trucks or automobiles, while many states do not report house and light utility trailers separately from commercial trailers or semitrailers. Some states do not require registration of car or light utility trailers. In some instances, FHWA has supplemented the data supplied by the states with information obtained from other sources.

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

#### **Additional information:**

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

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

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

#### **Highway safety data**

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

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

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

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

*Injuries and crashes:* NHTSA's General Estimates System (GES) data are a nationally representative sample of police-reported crashes that contributed to an injury or fatality or resulted in property damage and involved at least one motor vehicle traveling on a trafficway. GES data collectors randomly

## Data Sources

sample PARs and forward copies to a central contractor for coding into a standard GES system format. Documents such as police diagrams or supporting text provided by the officers might be further reviewed to complete a data entry. A NHTSA study of injuries from motor vehicle crashes estimated the total count of nonfatal injuries at over 5 million compared with the GES's estimate of 3.2 million in 1998.

### **Additional information:**

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

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

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

### **International visitors data**

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

### **Additional information:**

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

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

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

### **Passenger border crossing data**

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

### **Additional information:**

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

Internet: <http://www.bts.gov>

### **Railroad industry and shipments data**

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



data include commerce, employment, and financial contributions.

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

The STB defines Class I railroads as having operating revenues at or above a threshold indexed to a base of \$250 million (1991) and adjusted annually in concert with changes in the Railroad Freight Rate Index published by the Bureau of Labor Statistics.

Declassification from Class I status occurs when a railroad falls below the applicable threshold for three consecutive years.

Although few in number, Class I railroads account for over 90 percent of the industry's revenue.

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

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

**Additional information:**

Contact: Association of American Railroads, Policy and Economics Department

Internet: <http://www.aar.org>

**Railroad safety data**

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

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

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

**Additional information:**

Contact: USDOT, Federal Railroad Administration, Office of Safety

## Data Sources

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

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

### **Recreational boating safety and vehicles data**

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

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

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

The statistics in *Boating Statistics* cover boating accidents reported on waters of joint federal and state jurisdiction, and exclusive state jurisdiction.

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

### **Additional information:**

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

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

Internet: <http://www.uscgboating.org>

### **Transborder surface freight data**

The Transborder Surface Freight Dataset is extracted from the Census Foreign Trade Statistics Program and made available by the Bureau of Transportation Statistics. Import and export data are extracted from administrative records required by the Departments of Commerce and Treasury. This dataset incorporates all shipments entering or exiting the United States by surface modes of

transport (that is, other than air or maritime vessel) to and from Canada or Mexico. Prior to January 1997, this dataset also included transshipments in its detailed tables, that is, shipments entering or exiting the United States by way of U.S. Customs ports on the northern or southern borders, even when the actual origin or final destination of the goods was other than Canada or Mexico. Shipments that neither originate nor terminate in the United States (i.e., intransit shipments) are beyond the scope of this dataset because they are not considered U.S. international trade shipments.

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

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

**Additional information:**

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

Internet: <http://www.bts.gov>

**Transit operating, financial, and safety data**

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

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

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

**Additional information:**

Contact: USDOT, Federal Transit Administration

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

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

## Data Sources

### **Transportation establishment, employees, and payroll data**

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

#### **Additional information:**

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

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

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

### **Vehicle Inventory and Use Survey**

The Vehicle Inventory and Use Survey (VIUS) collects data on the physical and operational characteristics of private and commercial trucks in the United States. The 1997 VIUS sampled about 131,000 trucks from an estimated universe of over 75 million trucks. The sample excludes vehicles owned

by federal, state, and local government including ambulances, buses, motor homes, farm tractors, unpowered trailer units, and trucks reported to have been sold, junked, or wrecked prior to July 1, 1996. Light trucks registered as cars, as is the practice in many states, were included. Unregistered trucks used off-road are not included. Census delivered a mail-out/mail-back survey to the owner identified in the vehicle registration records. Data collection is staggered as state records become available. Owners report data only for the vehicles selected. The response rate for the 1997 VIUS was about 85 percent.

#### **Additional information:**

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

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

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

### **Waterborne imports and vessel data**

The U.S. Department of Transportation's Maritime Administration (MARAD) classifies merchant-based vessels by size and type and reports this information in its annual publication, *Merchant Fleets of the World*. MARAD compiles these figures from a data service provided by Lloyd's Maritime Information Service. The parent company, Lloyd's Register (LR), collects data from several sources, including its offices around the world, data transfers and agreements with other classification societies, questionnaires to ship owners and shipbuilders, feedback from government agencies, and input from port agents.

MARAD's Office of Statistical and Economic Analysis maintains the waterborne databank used to compile the annual import and export statistics from monthly and quarterly data provided by the U.S. Army Corps of Engineers. MARAD publishes the data in reports of vessel movements, trade and cargo by type of service, U.S. and foreign port, country of origin/destination, commodity, value, weight, and containerized cargo.

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

**Additional information:**

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

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

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

**Waterborne shipments data**

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

The NDC's databases contain information on physical characteristics, infrastructure, and commodities for principal facilities on the U.S. coast, Great Lakes, and inland ports. The data consists of listings of port area's waterfront facilities, including information on berthing, cranes, transit sheds, grain elevators, marine repair plants, fleeting areas, and docking and storage facilities.

All vessel operators of record report their domestic waterborne traffic movements to the Corps via ENG Forms 3925 and 3925b. Cargo movements are reported according to points of loading and unloading. Excluded cargo movements are: 1) cargo carried on general ferries, 2) coal and petroleum products loaded from shore facilities directly into vessels for fuel use, 3) military cargo moved in U.S. Department of Defense vessels, and 4) cargo weighing less than 100 tons moved on government equipment. The Corps calculates ton-miles by multiplying the cargo's tonnage by the distance between points of loading and unloading.

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

**Additional information:**

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

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

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



# I Glossary





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

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

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

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

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

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

**Directional route-miles:** The mileage in each direction over which public transportation vehicles travel while in revenue service. Directional route-miles are a measure of the facility or roadway, not the service carried on the facility such as the number of routes or vehicle-miles.

Directional route-miles are computed with regard to direction of service, but without regard to the number of traffic lanes or rail tracks existing in the right-of-way.

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

**Enplanements:** The total number of revenue passengers boarding aircraft.

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

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

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

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

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

## Glossary

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

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

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

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

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

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

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

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

**Natural gas transmission pipeline:** Analogous to a major freeway, it is the main interstate transportation route for moving large amounts of natural gas from the source of production to points of distribution. Transmission pipelines are designed to move large amounts of natural gas from areas where the gas is extracted and stored

to the local distribution companies that provide natural gas to homes and businesses.

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

**Short ton:** 2,000 pounds.

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

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

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

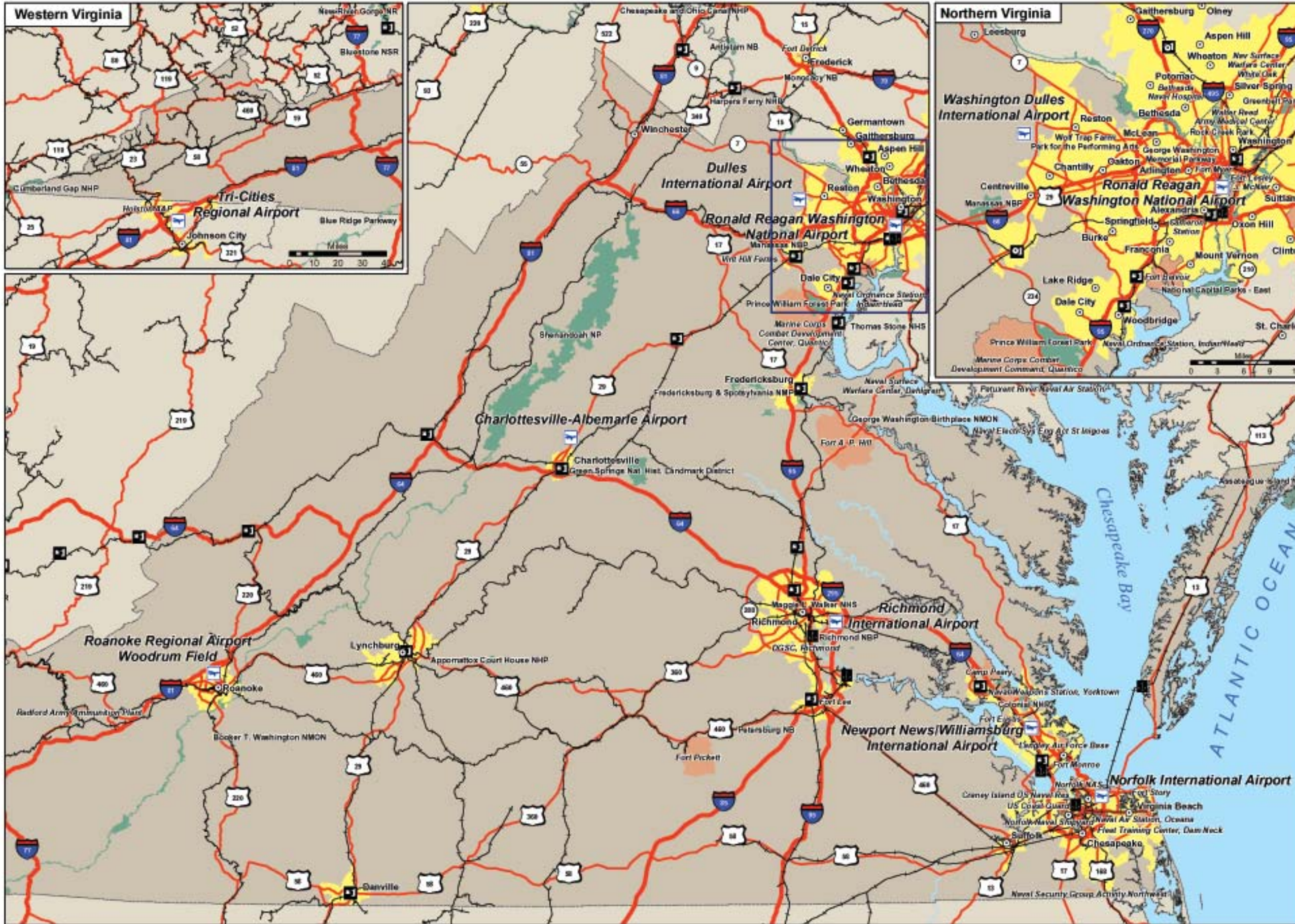
**Trolley bus:** Rubber-tired, electric transit vehicle, manually steered and propelled by a motor drawing current, normally through overhead wires, from a central power source.

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

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

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

# Virginia: Major Transportation Facilities



### Legend

- Cities
- Airports
- Ports
- Amtrak Stations
- Interstate Highways
- Other Highway Routes
- Amtrak Routes
- Other Rail Lines
- Navigable Waterways
- Urbanized Areas
- National Park Facilities
- Military Bases



Miles



Notes: Data in this map are derived from federal data sources, primarily the U.S. Department of Transportation, U.S. Geological Survey, and the Army Corps of Engineers. Displayed data may not include all state and local transportation or other facilities. Airports depicted are those reporting 100,000 or more enplanements in 2000. Pipelines and transit facilities are not shown.

