

III. THE FREIGHT TRANSPORTATION SYSTEM



Freight in America travels over one of the world’s largest networks of highways, railroads, waterways, pipelines, and airways. Existing and anticipated increases in the number of freight vehicles, vessels, and other conveyances on both public and private infrastructure are stressing system capacity and maintenance requirements and threatening system performance.

TABLE 3-1. MILES OF INFRASTRUCTURE BY TRANSPORTATION MODE: 1980-2005

	1980	1990	2000	2005	Percent change, 1980-2005
Public roads, route miles	3,859,837	3,866,926	3,951,101	4,011,631	3.9
National Highway System (NHS)	N	N	161,189	162,373	N
Interstates	41,120	45,074	46,673	46,871	14.0
Other NHS	N	N	114,516	115,502	N
Other	N	N	3,789,912	3,849,257	N
Strategic Highway Corridor Network (STRAHNET)	N	N	62,066	62,450	N
Interstate	N	N	46,675	46,873	N
Non-Interstate	N	N	15,389	15,577	N
Railroad	¹ 183,077	175,909	170,512	140,810	-23.1
Class I	NA	133,189	120,597	95,664	N
Regional	NA	18,375	20,978	15,388	N
Local	NA	24,337	28,937	22,519	N
Inland waterways					
Navigable channels	11,000	11,000	11,000	11,000	0.0
Great Lakes-St. Lawrence Seaway	2,342	2,342	2,342	2,342	0.0
Pipelines					
Oil	218,393	208,752	176,996	159,512	N
Gas	1,051,774	1,189,200	1,369,300	1,437,500	36.7

Key: N = not applicable; NA = not available; R = revised.
¹Excludes Class III railroads.

Road infrastructure increased slowly over the past two decades despite a large increase in the volume of traffic. Between 1980 and 2005, route miles of public roads increased by 3.9 percent compared with a 96 percent increase in vehicle-miles traveled (vmt). Over the same period, miles of railroad dropped by more than 20 percent, while rail shipments (measured in ton-miles) increased by 81 percent.

TABLE 3-1. MILES OF INFRASTRUCTURE BY TRANSPORTATION MODE: 1980-2005

Sources: **Public roads:** U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics*, (Washington, DC: annual issues), table HM-16. **Rail:** Association of American Railroads, *Railroad Facts* (Washington, DC: various issues). **Navigable channels:** U.S. Army Corps of Engineers. **Oil pipelines:** 1980-2002: Eno Transportation Foundation, *Transportation in America, 2002* (Washington, DC: 2002). 2003: U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration, Office of Pipeline Safety, *Pipeline Statistics*, Internet site <http://ops.dot.gov/stats/lpo.htm> as of June 6, 2007. **Gas pipelines:** American Gas Association, *Gas Facts* (Arlington, VA: annual issues).

TABLE 3-2. NUMBER OF U.S. VEHICLES, VESSELS, AND OTHER CONVEYANCES: 1980-2005

	1980	1990	2000	2005
Highway	161,490,159	193,057,376	225,821,241	247,421,120
Truck, single-unit 2-axle 6-tire or more	4,373,784	4,486,981	5,926,030	6,395,240
Truck, combination	1,416,869	1,708,895	2,096,619	2,086,759
Truck, total	5,790,653	6,195,876	8,022,649	8,481,999
Trucks as percent of all highway vehicles	3.6	3.2	3.6	3.4
Rail				
Class I, locomotive	28,094	18,835	20,028	22,779
Class I, freight cars ¹	1,168,114	658,902	560,154	474,839
Nonclass I freight cars ¹	102,161	103,527	132,448	120,195
Car companies and shippers freight cars ¹	440,552	449,832	688,194	717,211
Water	38,788	39,445	41,354	41,028
Nonself-propelled vessels ²	31,662	31,209	33,152	32,052
Self-propelled vessels ³	7,126	8,236	8,202	8,976
Oceangoing steam and motor ships ⁴	864	636	454	406
US Flag fleet as percent of world fleet ⁴	3.5	2.7	1.6	1.4

¹Beginning with 2001 data, Canadian-owned U.S. railroads are excluded. This accounts for about 47,000 cars in 2000.

²Nonself-propelled vessels include dry-cargo barges, tank barges, and railroad-car floats.

³Self-propelled vessels include dry cargo, passenger, off-shore support, tankers, and towboats.

⁴1,000 gross tons and over.

A vast number of vehicles and vessels move goods over the transportation network. The number of commercial trucks climbed 46 percent between 1980 and 2005. In comparison, the number of

rail freight cars has declined since 1980 with improved utilization and the deployment of larger cars. The number of U.S.-flag water vessels increased slightly over the same period while the world fleet expanded substantially in number and size of vessels.

The growing demand for goods and services contributes to the increase in travel by trucks at a slightly faster rate than for all vehicles.

FIGURE 3-1. HIGHWAY VEHICLE MILES TRAVELED BY TRUCKS AND ALL VEHICLES: 1980-2005

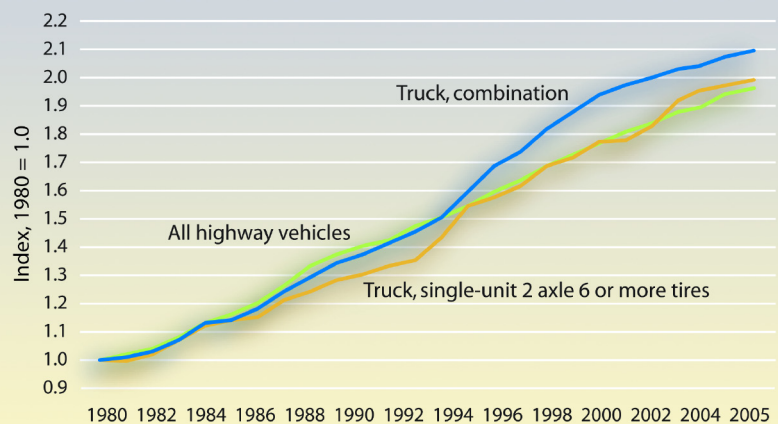


TABLE 3-2. NUMBER OF U.S. VEHICLES, VESSELS, AND OTHER CONVEYANCES: 1980-2005

Sources: Highway: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics* (Washington, DC: annual issues). **Rail:** Association of American Railroads, *Railroad Facts* (Washington, DC: annual issues).

Water: Nonself-propelled vessels and self-propelled vessels: U.S. Army, Corps of Engineers, *Waterborne Transportation Lines of the United States*, Volume 1, National Summaries (New Orleans, LA : annual issues). Oceangoing steam motor ships and US Flag fleet: U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics* (Washington, DC: annual issues).

FIGURE 3-1. HIGHWAY VEHICLE MILES TRAVELED BY TRUCKS AND ALL VEHICLES: 1980-2005

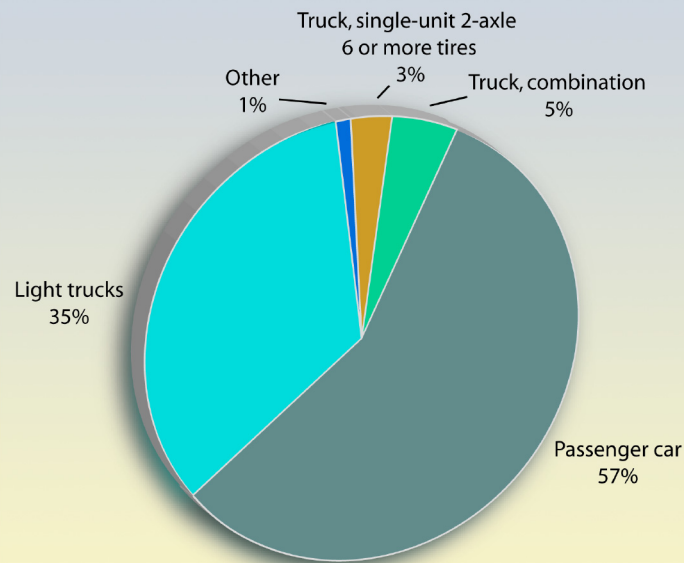
Source: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics* (Washington, DC: annual issues), table VM-1, available at www.fhwa.dot.gov/policy/ohpi/hss/index.htm as of June 1, 2007.



Despite doubling over the past two decades, truck traffic remains a relatively small share of highway traffic as a whole. In 2005, commercial trucks accounted for about 8 percent of highway vmt. Approximately two-thirds of commercial truck travel is by truck tractors hauling semitrailers and by other combinations, while the remaining third is by single unit trucks with 6 or more tires.

The nation's truck fleet has grown significantly in number and distance driven. Of trucks weighing

FIGURE 3-2. HIGHWAY VEHICLE MILES TRAVELED BY VEHICLE TYPE: 2005



Note: "Other" comprises bus and motorcycle. Light trucks include sport utility vehicles, minivans, and pickup trucks.

TABLE 3-3. TRUCKS AND TRUCK MILES BY AVERAGE WEIGHT: 1987-2002¹

Average weight (pounds)	1987		1992		1997		2002		Percent change, 1987-2002	
	Number (thousands)	VMT (millions)	Number (thousands)	VMT (millions)	Number (thousands)	VMT (millions)	Number (thousands)	VMT (millions)	Number	VMT
Total	3,624	89,972	4,008	104,987	4,701	147,876	5,415	145,624	49	62
Light-heavy	1,030	10,768	1,259	14,012	1,436	19,815	1,914	26,256	86	144
10,001 to 14,000	525	5,440	694	8,000	819	11,502	1,142	15,186	118	179
14,001 to 16,000	242	2,738	282	2,977	316	3,951	396	5,908	64	116
16,001 to 19,500	263	2,590	282	3,035	301	4,362	376	5,161	43	99
Medium-heavy	766	7,581	732	8,143	729	10,129	910	11,766	19	55
19,501 to 26,000	766	7,581	732	8,143	729	10,129	910	11,766	19	55
Heavy-heavy	1,829	71,623	2,017	82,832	2,536	117,931	2,591	107,602	42	50
26,001 to 33,000	377	5,411	387	5,694	428	7,093	437	5,845	16	8
33,001 to 40,000	209	4,113	233	5,285	257	6,594	229	3,770	10	-8
40,001 to 50,000	292	7,625	339	9,622	400	13,078	318	6,698	9	-12
50,001 to 60,000	188	7,157	227	8,699	311	12,653	327	8,950	74	25
60,001 to 80,000	723	45,439	781	51,044	1,070	74,724	1,179	77,489	63	71
80,001 to 100,000	28	1,254	33	1,529	46	2,427	69	2,950	144	135
100,001 to 130,000	8	440	12	734	18	1,051	26	1,571	238	257
130,001 or more	4	185	5	227	6	312	6	329	43	78

Key: VMT = vehicle miles traveled.

¹Excludes trucks with an average weight of 10,000 pounds or less.

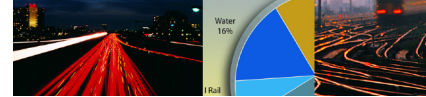
Note: Weight includes the empty weight of the vehicle plus the average weight of the load carried.

FIGURE 3-2. HIGHWAY VEHICLE MILES TRAVELED BY VEHICLE TYPE: 2005

Source: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics* (Washington, DC: annual issues), table VM-1, available at www.fhwa.dot.gov/policy/ohpi/hss/index.htm of June 3, 2007.

TABLE 3-3. TRUCKS AND TRUCK MILES BY AVERAGE WEIGHT: 1987-2002

Sources: U.S. Department of Commerce, Census Bureau, *2002 Vehicle Inventory and Use Survey: United States* (Washington, DC: 2004), available at <http://www.census.gov/svsd/www/02vehinv.html> as of July 1, 2005; U.S. Department of Commerce, Census Bureau, *1992 Truck Inventory and Use Survey: United States* (Washington, DC: 1995), available at <http://www.census.gov/svsd/www/97vehinv.html> as of July 1, 2005.



more than 10,000 pounds registered to businesses, individuals, and organizations other than government, most growth has occurred at either end of the weight spectrum. Distance traveled has more than doubled in 15 years for trucks weighing between 10,000 pounds and 26,000 pounds and for trucks weighing over 80,000 pounds. Trucks between 60,000 pounds and 80,000 pounds form the largest category in both number of trucks and vmt because in most cases 80,000 pounds is the maximum weight allowed on the highway system without special permits.



In addition to weight, Federal and state governments place limits on the length and other characteristics of commercial trucks using the road system. Twenty-nine states have semitrailer length limitations on the National Truck Network other than the 48-foot limit set by Federal law for a semitrailer operating in a truck tractor-semi-trailer combination.

TABLE 3-4. SEMITRAILER LENGTH LIMITATIONS ON THE NATIONAL TRUCK NETWORK BY STATE: 2007

State	Length limitation (feet and inches)
States not listed	48-0
Alabama	53-6
Arizona	57-6
Arkansas	53-6
California ¹	48-0
Colorado	57-4
Delaware	53-0
Illinois	53-0
Indiana ²	48-6
Iowa	53-0
Kansas	57-6
Kentucky	53-0
Louisiana	59-6
Mississippi	53-0
Missouri	53-0
Montana	53-0
Nebraska	53-0
Nevada	53-0
New Mexico	57-6
North Dakota	53-0
Ohio	53-0
Oklahoma	59-6
Oregon	53-0
Pennsylvania	53-0
Rhode Island	48-6
South Dakota	53-0
Tennessee	50-0
Texas	59-0
Wisconsin ³	48-0
Wyoming	57-4

¹Semitrailers up to 53 feet may also operate without a permit by conforming to a kingpin-to-rear-most axle distance of 38 feet.

²Semitrailers up to 53 feet in length may operate without a permit by conforming to a kingpin-to-rear-most axle distance of 40 feet and 6 inches. Semitrailers that are consistent with 23 CFR 23 658.13(h) may operate without a permit provided the distance from the kingpin to the center of the rear axle is 46 feet or less.

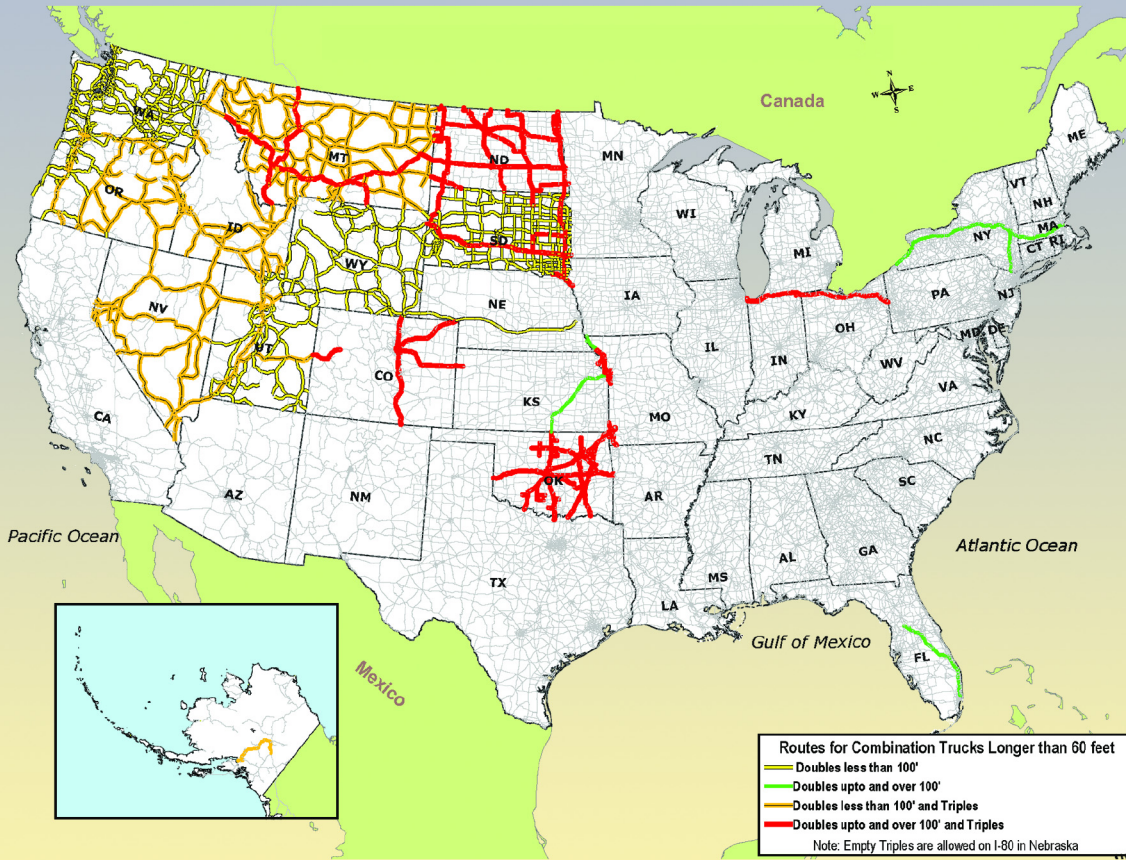
³Semitrailers up to 53 feet in length may operate without a permit by conforming to a kingpin-to-rear-most axle distance of 41 feet, measured to the center of the rear tandem assembly. Semitrailers that are consistent with 23 CFR 658.13(h) may operate without a permit provided the distance from the kingpin to the center of the rear axle is 46 feet or less.

Note: The National Truck Network is the composite of the individual network of highways from each state on which vehicles authorized by the Surface Transportation Assistance Act of 1982 are allowed to operate.

TABLE 3-4. SEMITRAILER LENGTH LIMITATIONS ON THE NATIONAL TRUCK NETWORK BY STATE: 2007

Source: U.S. Department of Transportation, Federal Highway Administration, Truck Size and Weight, Route Designations - Length, Width and Weight Limitations, Code of Federal Regulations, Title 23, Part 658.

FIGURE 3-3. PERMITTED LONGER COMBINATION VEHICLES ON THE NATIONAL HIGHWAY SYSTEM: 2007



All states allow doubles consisting of a 28-foot semitrailer and a 28-foot trailer behind the tractor. Fourteen states and six state turnpike authorities allow longer combinations on at least some parts of the road network. Allowable routes for longer combination vehicles have been frozen since 1991.



FIGURE 3-3. PERMITTED LONGER COMBINATION VEHICLES ON THE NATIONAL HIGHWAY SYSTEM: 2007

Source: U.S. Department of Transportation, Federal Highway Administration, Office of Freight Management and Operations, Freight Analysis Framework, 2007.

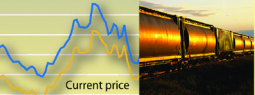


TABLE 3-5. TRUCK MILES BY PRODUCTS CARRIED: 2002¹

Products carried	Millions of miles
Total²	(R) 145,173
Animals and fish, live	735
Animal feed and products of animal origin	2,088
Grains, cereal	1,368
All other agricultural products	2,661
Basic chemicals	876
Fertilizers and fertilizer materials	1,666
Pharmaceutical products	305
All other chemical products and preparations	1,351
Alcoholic beverages	1,124
Bakery and milled grain products	3,553
Meat, seafood, and their preparations	3,056
Tobacco products	445
All other products foodstuff	7,428
Logs and other wood in the rough	1,149
Paper or paperboard articles	3,140
Printed products	765
Pulp, newsprint, paper, paperboard	1,936
Wood products	3,561
Articles of base metal	3,294
Base metal in primary or semifinished forms	2,881
Nonmetallic mineral products	3,049
Tools, nonpowered	7,759
Tools, powered	6,478
Electronic and other electrical equipment	3,024
Furniture, mattresses, lamps, etc.	2,043
Machinery	3,225
Miscellaneous manufactured products	4,008
Precision instruments and apparatus	734
Textile, leather, and related articles	1,538
Vehicles, including parts	3,844
All other transportation equipment	636
Coal	301
Crude petroleum	132
Gravel or crushed stone	2,790
Metallic ores and concentrates	45
Monumental or building stone	462
Natural sands	1,089
All other nonmetallic minerals	499
Fuel oils	1,232
Gasoline and aviation turbine fuel	849
Plastic and rubber	2,393
All other coal and refined petroleum products	1,172
Hazardous waste (EPA manifest)	190
All other waste and scrape (non-EPA manifest)	2,647
Recyclable products	922
Mail and courier parcels	4,760
Empty shipping containers	794
Passengers	274
Mixed freight	14,659
Products, equipment, or materials not elsewhere classified	265
Products not specified	6,358
Not applicable ³	150
No product carried	28,977

KEY: R = revised.

¹ Excludes pickups, panels, minivans, sport utilities, and station wagons.

² Detail lines may not add to total because multiple products/hazardous materials may be carried at the same time.

³ Vehicles not in use. When the respondent had partial-year ownership of the vehicle, annual miles were adjusted to reflect miles traveled when not owned by the respondent.

Trucking is primarily about moving freight. About 80 percent of the travel by trucks, excluding panels, pickups, vans, minivans, and government-owned vehicles, is for the movement of goods.

TABLE 3-5. TRUCK MILES BY PRODUCTS CARRIED: 2002

Source: U.S. Department of Commerce, Census Bureau, *Vehicle Inventory and Use Survey 2002, United States Summary* (Washington, DC: 2004), available at <http://www.census.gov/svsd/www/02vehinv.html> as of July 26, 2007.

TABLE 3-6. TRUCKS, TRUCK MILES, AND AVERAGE DISTANCE BY RANGE OF OPERATIONS AND JURISDICTIONS: 2002

	Number of trucks (thousands)	Truck miles (millions)	Miles per truck (thousands)
Total	5,520.5	145,172.5	26.3
Off the road	182.9	2,262.8	12.4
50 miles or less	2,942.4	42,531.1	14.5
51 to 100 miles	684.7	19,161.6	28.0
101 to 200 miles	243.5	11,779.9	48.4
201 to 500 miles	231.6	17,519.7	75.7
501 miles or more	293.0	26,706.4	91.2
Not reported	716.3	25,061.1	35.0
Not applicable	226.1	149.9	0.7
Operated in Canada	1.7	72.0	42.7
Operated in Mexico	1.6	29.3	18.5
Operated within the home base state	4,196.4	84,973.9	20.2
Operated in states other than the home base state	495.6	40,901.2	82.5
Not reported	599.1	19,046.1	31.8
Not applicable	226.1	149.9	0.7

Note: Includes trucks registered to companies and individuals in the United States except pickups, minivans, other light vans, and sport utilities.

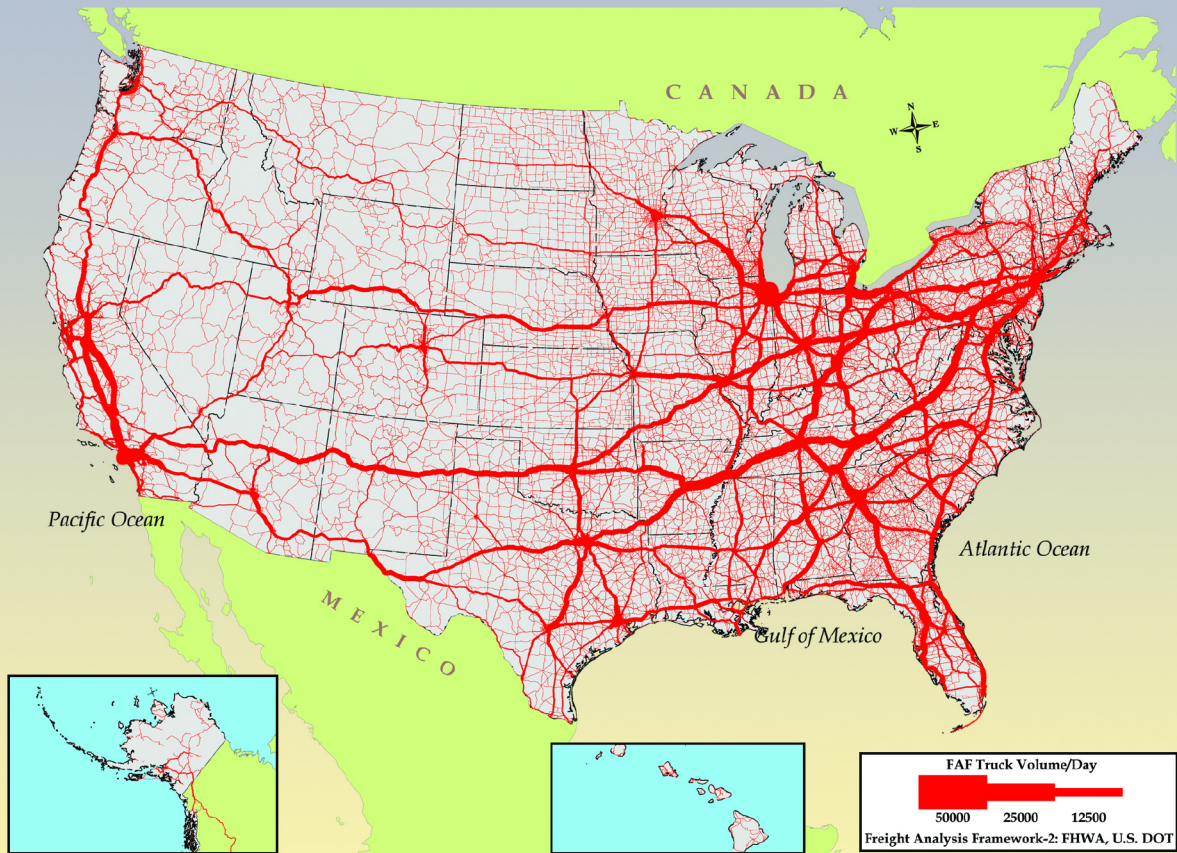
Most trucks larger than pickups, minivans, other light vans, and sport utility vehicles typically operate close to home. About one-half of all trucks typically travel to destinations within 50 miles of their base, and almost three-fourths stayed within their base state. Less than 10 percent of trucks larger than pickups, minivans, other light vans, and sport utility vehicles typically travel to places more than 200 miles away, but these trucks account for over 35 percent of the mileage.



TABLE 3-6. TRUCKS, TRUCK MILES, AND AVERAGE DISTANCE BY RANGE OF OPERATIONS AND JURISDICTIONS: 2002

Source: U.S. Census Bureau, 2002 Economic Census, *Vehicle Inventory and Use Survey 2002, United States Summary*, Table 3a (Washington, DC: 2004), available at <http://www.census.gov/svsd/www/02vehinv.html> as of October 16, 2007.

FIGURE 3-4. ESTIMATED AVERAGE DAILY LONG-HAUL TRUCK TRAFFIC ON THE NATIONAL HIGHWAY SYSTEM: 2002



Long-haul truck traffic is concentrated on major routes connecting population centers, ports, border crossings, and other major hubs of activity. Long-haul trucks as defined in the FAF carry freight between places at least 50 miles apart.



FIGURE 3-4. ESTIMATED AVERAGE DAILY LONG-HAUL TRUCK TRAFFIC ON THE NATIONAL HIGHWAY SYSTEM: 2002

Source: U.S. Department of Transportation, Federal Highway Administration, Office of Freight Management and Operations, Freight Analysis Framework, Version 2.2, 2007.

By 2035, long-haul truck traffic between places at least 50 miles apart is expected to increase dramatically on Interstate highways and other arterials throughout the nation. These trucks are expected to travel 600 million miles per day.

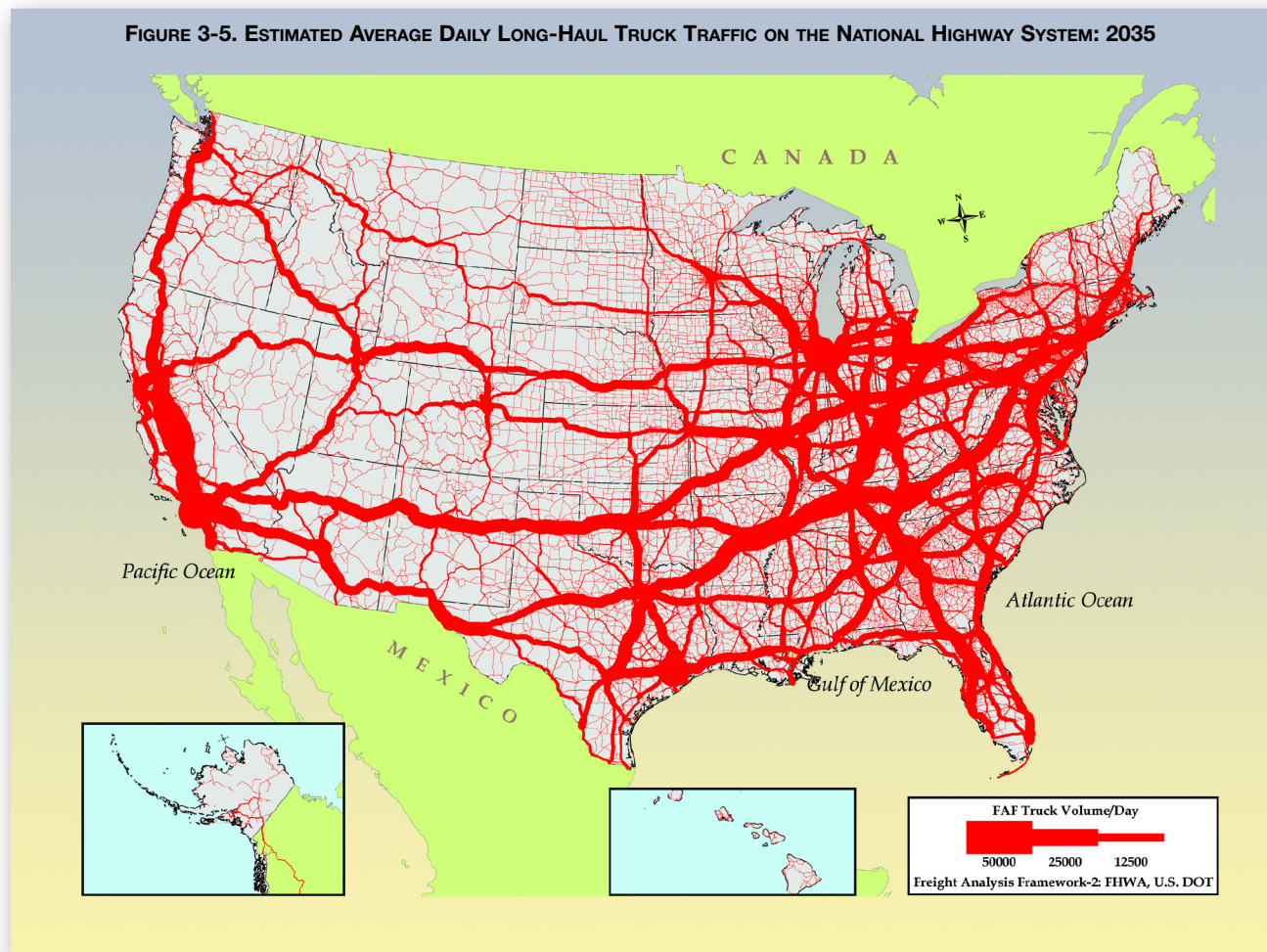


FIGURE 3-5. ESTIMATED AVERAGE DAILY LONG-HAUL TRUCK TRAFFIC ON THE NATIONAL HIGHWAY SYSTEM: 2035

Source: U.S. Department of Transportation, Federal Highway Administration, Office of Freight Management and Operations, Freight Analysis Framework, Version 2.2, 2007.

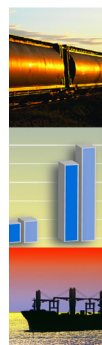
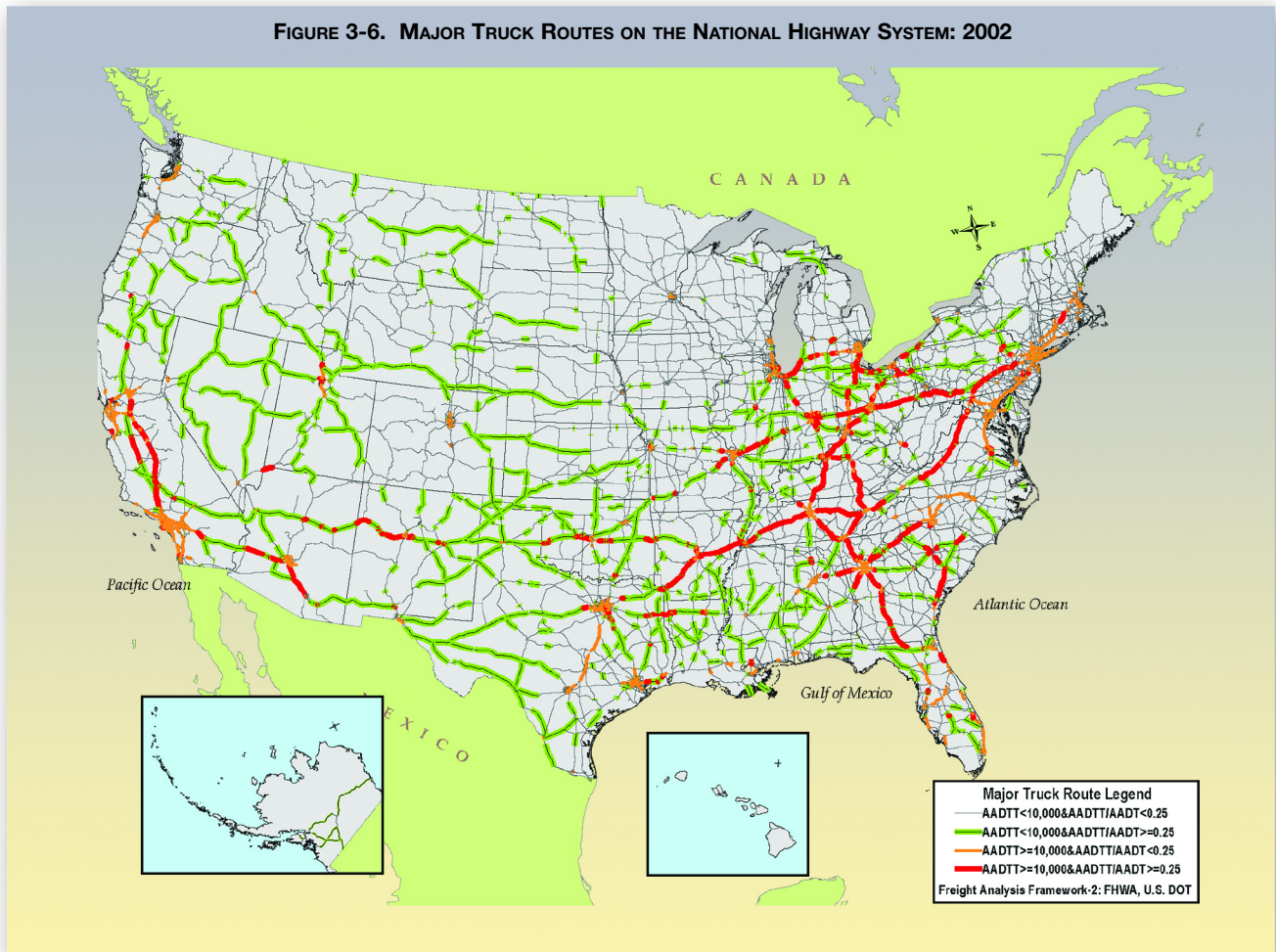


FIGURE 3-6. MAJOR TRUCK ROUTES ON THE NATIONAL HIGHWAY SYSTEM: 2002



Selected routes carry a significant concentration of trucks, either as an absolute number or as a percentage of the traffic stream. More than 4,000 miles of the National Highway System (NHS) carry more than 10,000 trucks per day on sections where at least every fourth vehicle is a truck.

FIGURE 3-6. MAJOR TRUCK ROUTES ON THE NATIONAL HIGHWAY SYSTEM: 2002

Source: U.S. Department of Transportation, Federal Highway Administration, Office of Freight Management and Operations, Freight Analysis Framework, Version 2.2, 2007.

FIGURE 3-7. MAJOR TRUCK ROUTES ON THE NATIONAL HIGHWAY SYSTEM: 2035

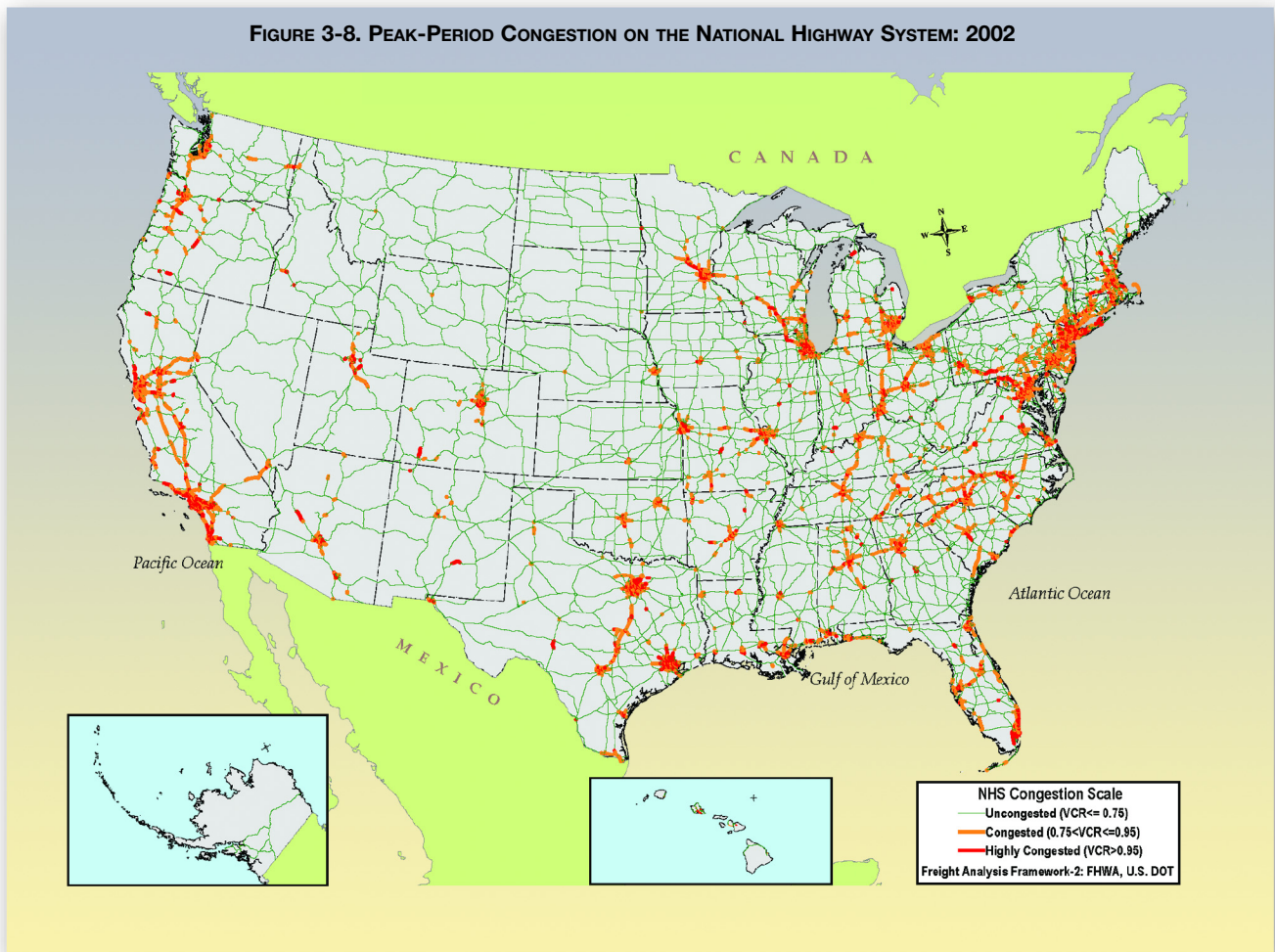


The number of NHS miles carrying large volumes and high percentages of trucks is forecast to increase dramatically by 2035. Segments with more than 10,000 trucks per day and where at least every fourth vehicle is a truck are forecast to exceed 14,000 miles, an increase of almost 230 percent from 2002.

FIGURE 3-7. MAJOR TRUCK ROUTES ON THE NATIONAL HIGHWAY SYSTEM: 2035

Source: U.S. Department of Transportation, Federal Highway Administration, Office of Freight Management and Operations, Freight Analysis Framework, Version 2.2, 2007.

FIGURE 3-8. PEAK-PERIOD CONGESTION ON THE NATIONAL HIGHWAY SYSTEM: 2002



Recurring congestion caused by volumes of passenger vehicles and trucks that exceed capacity on roadways during peak periods is concentrated primarily in major metropolitan areas. In 2002, peak-period congestion resulted in traffic slowing below posted speed limits on more than 10,600 miles of the NHS and created stop-and-go conditions on an additional 6,700 miles.

FIGURE 3-8. PEAK-PERIOD CONGESTION ON THE NATIONAL HIGHWAY SYSTEM: 2002

Source: U.S. Department of Transportation, Federal Highway Administration, Office of Freight Management and Operations, Freight Analysis Framework, Version 2.2, 2007.



Increases in truck and passenger vehicle traffic are forecast to expand recurring, peak-period congestion to 40 percent of the NHS in 2035 compared with 11 percent in 2002. This will slow traffic on nearly 20,000 miles of the NHS and create stop-and-go conditions on an additional 45,000 miles.

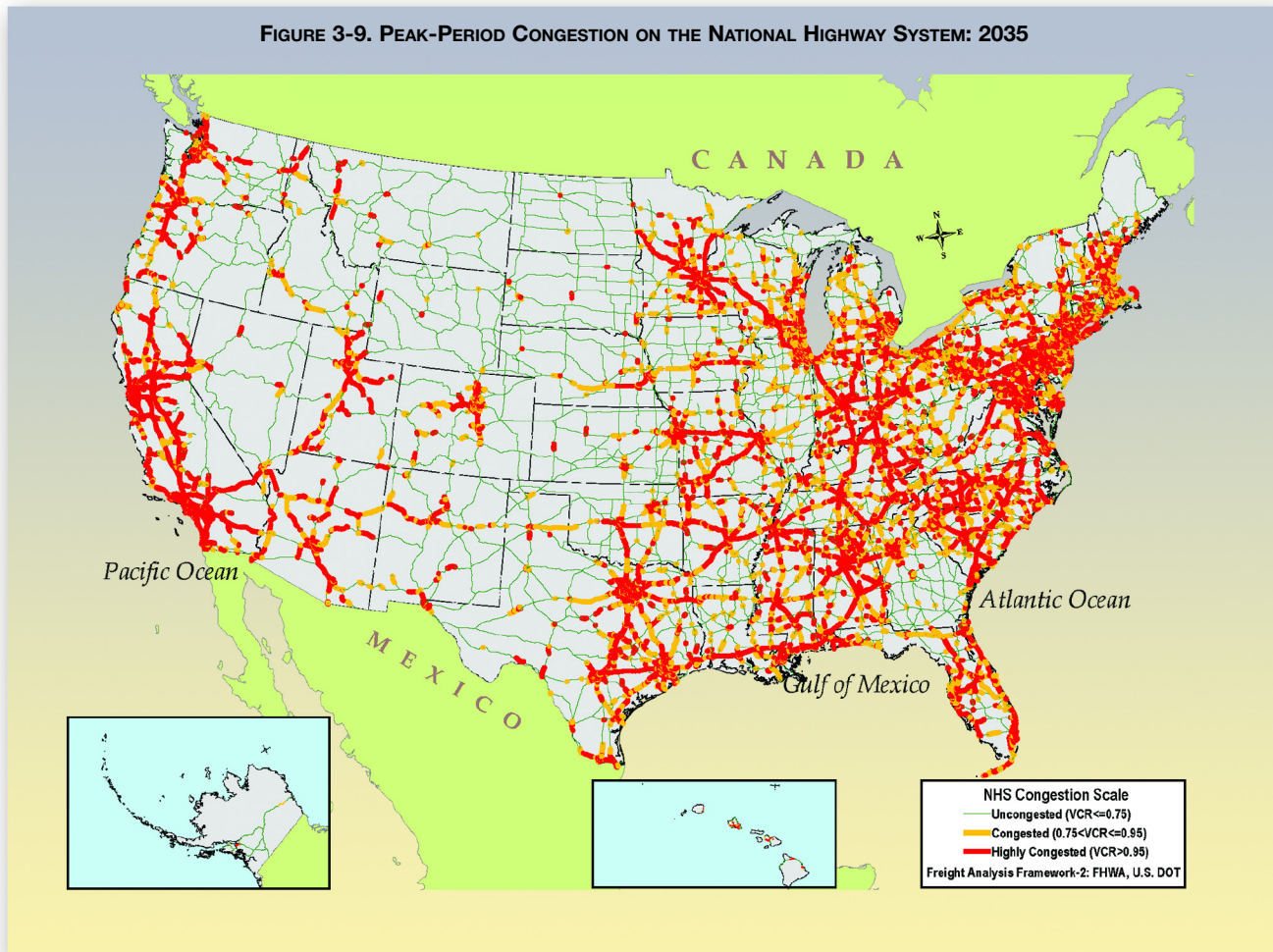
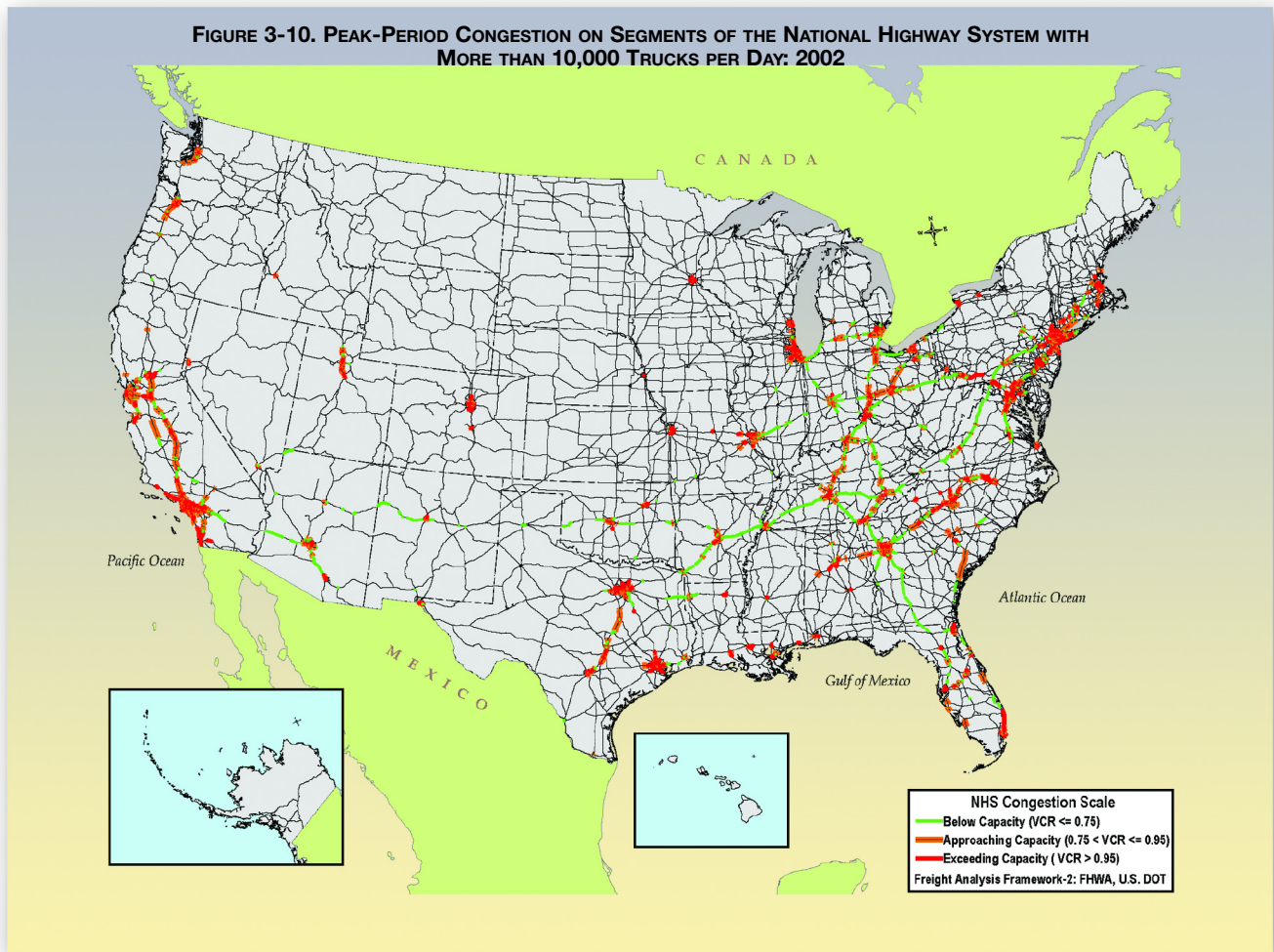


FIGURE 3-9. PEAK-PERIOD CONGESTION ON THE NATIONAL HIGHWAY SYSTEM: 2035

Source: U.S. Department of Transportation, Federal Highway Administration, Office of Freight Management and Operations, Freight Analysis Framework, Version 2.2, 2007.



Congested highways carrying a large number of trucks substantially impede interstate commerce, and trucks on those segments contribute significantly to congestion. Recurring congestion slows or stops traffic on over 6,300 miles of the NHS that carry more than 10,000 trucks per day.

FIGURE 3-10. PEAK-PERIOD CONGESTION ON SEGMENTS OF THE NATIONAL HIGHWAY SYSTEM WITH MORE THAN 10,000 TRUCKS PER DAY: 2002
Source: U.S. Department of Transportation, Federal Highway Administration, Office of Freight Management and Operations, Freight Analysis Framework, Version 2.2, 2007.

The number of NHS miles with recurring congestion and a large number of trucks is forecast to increase four fold between 2002 and 2035. On highways carrying more than 10,000 trucks per day, recurring congestion will slow traffic on more than 4,800 miles and create stop-and-go conditions on an additional 23,300 miles.

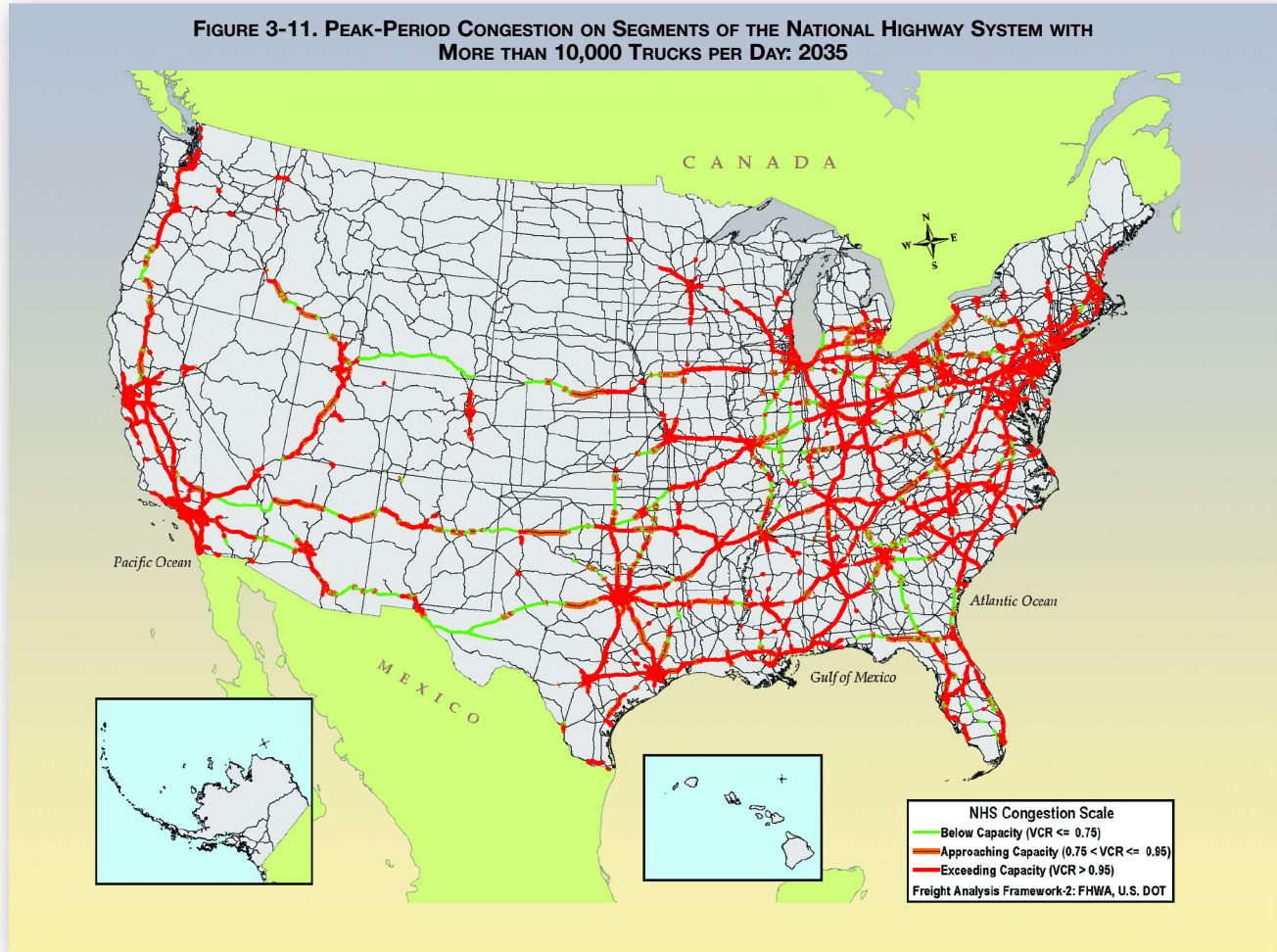


FIGURE 3-11. PEAK-PERIOD CONGESTION ON SEGMENTS OF THE NATIONAL HIGHWAY SYSTEM WITH MORE THAN 10,000 TRUCKS PER DAY: 2035
Source: U.S. Department of Transportation, Federal Highway Administration, Office of Freight Management and Operations, Freight Analysis Framework, Version 2.2, 2007.

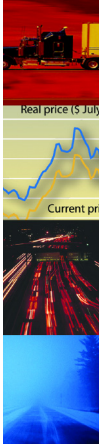


TABLE 3-7. MAXIMUM POSTED SPEED LIMITS ON RURAL INTERSTATES: 2007 (MILES PER HOUR)

State	Truck	Car
Alabama	70	70
Alaska	65	65
Arizona	75	75
Arkansas	65	70
California	55	70
Colorado	75	75
Connecticut	65	65
Delaware	65	65
District of Columbia ¹	55	55
Florida	70	70
Georgia	70	70
Hawaii	60	60
Idaho	65	75
Illinois	55	65
Indiana	65	70
Iowa	70	70
Kansas	70	70
Kentucky	65	65
Louisiana	70	70
Maine	65	65
Maryland	65	65
Massachusetts	65	65
Michigan	(R) 60	70
Minnesota	70	70
Mississippi	70	70
Missouri	70	70
Montana	65	75
Nebraska	75	75
Nevada	75	75
New Hampshire	65	65
New Jersey	65	65
New Mexico	75	75
New York	65	65
North Carolina	70	70
North Dakota	75	75
Ohio	² 55	65
Oklahoma	75	75
Oregon	55	65
Pennsylvania	65	65
Rhode Island	65	65
South Carolina	70	70
South Dakota	75	75
Tennessee	70	70
Texas	65	³ 75
Utah	75	75
Vermont	65	65
Virginia	⁴ 65	⁴ 65
Washington	60	70
West Virginia	70	70
Wisconsin	65	65
Wyoming	75	75

Key: R = revised.

¹Urban Interstate.

²The maximum speed for trucks on the Ohio Turnpike is 65 miles per hour (mph).

³In sections of I-10 and I-20 in rural West Texas, the speed limit for passenger cars and light trucks is 80 miles per hour. For large trucks, the speed limit is 70 miles per hour in the daytime and 65 miles per hour at night.

⁴Effective July 1, 2006, the posted speed limit on I-85 may be as high as 70 mph.

Delay, reliability, and similar performance measures are typically based on the difference between speed limits and actual speeds. Speed limits for trucks vary from state to state and often differ from limits set for passenger vehicles.



TABLE 3-7. MAXIMUM POSTED SPEED LIMITS ON RURAL INTERSTATES: 2007 (MILES PER HOUR)

Source: Insurance Institute for Highway Safety, Maximum Posted Speed Limits for Passenger Vehicles as of May 2007, available at http://www.iihs.org/laws/state_laws/speed_limit_laws.html as of May 24, 2007.

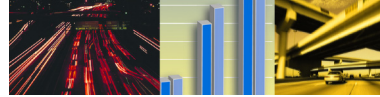
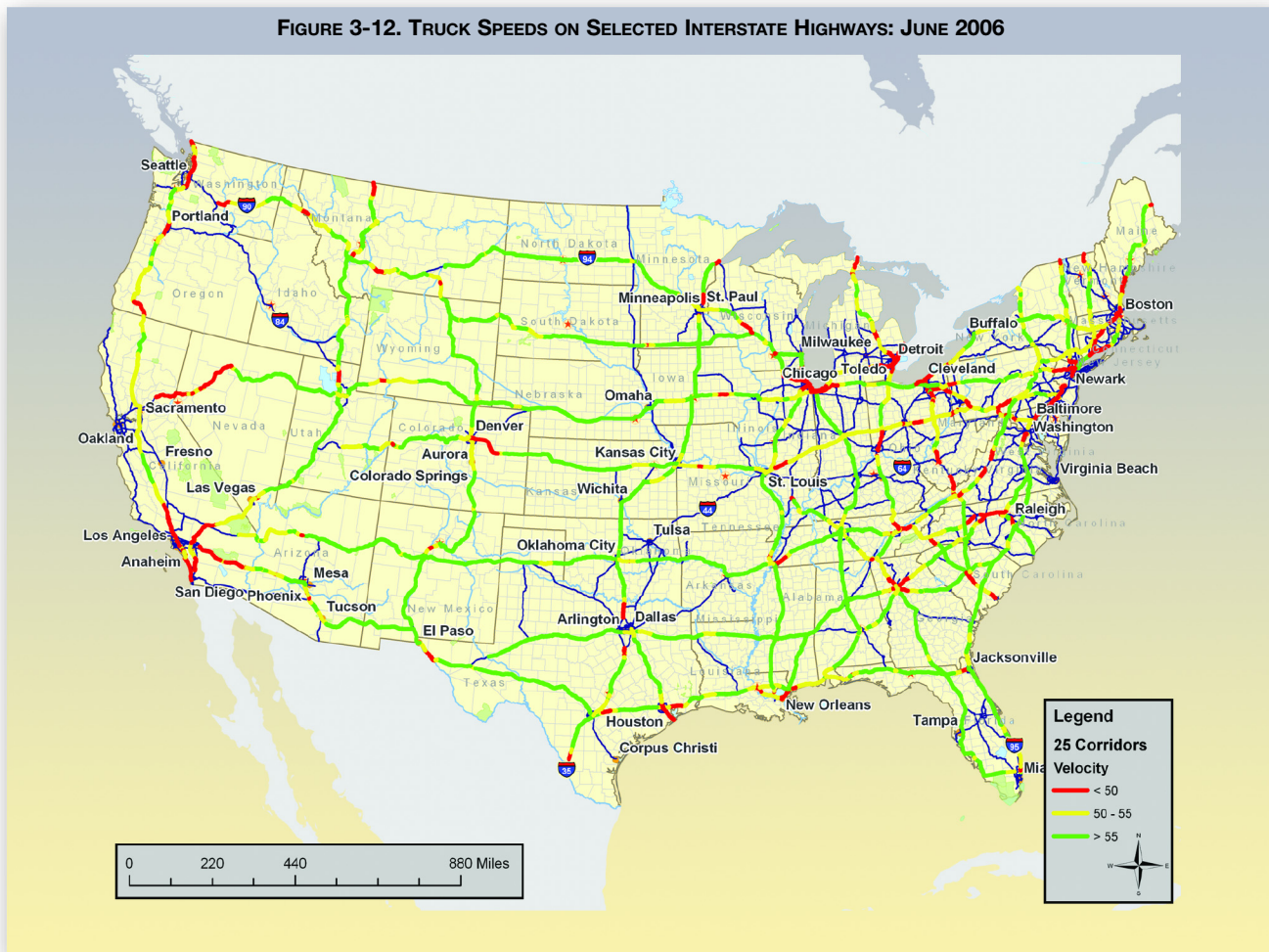


FIGURE 3-12. TRUCK SPEEDS ON SELECTED INTERSTATE HIGHWAYS: JUNE 2006



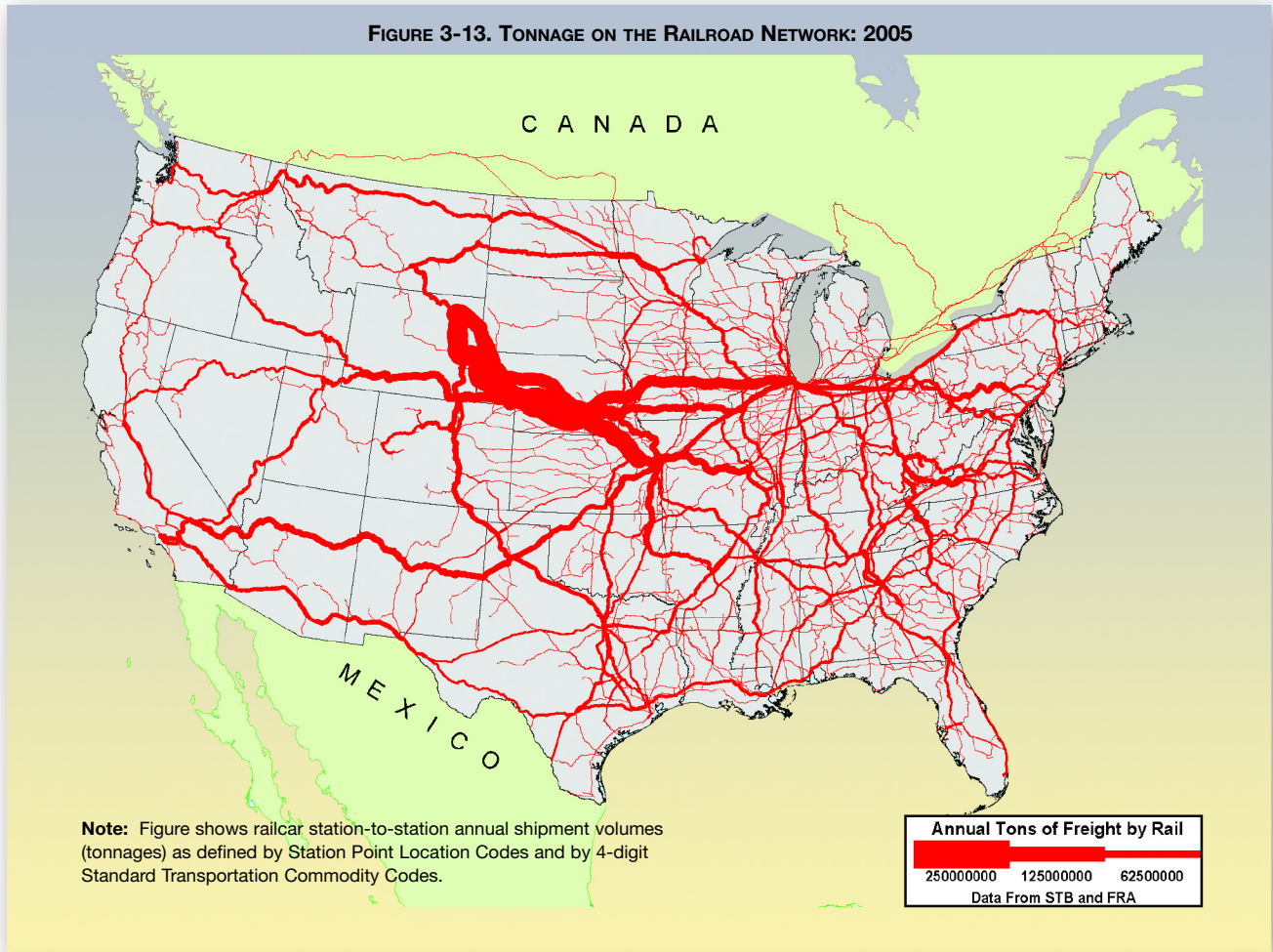
The Federal Highway Administration is working with the motor carrier and communications industries to measure the speed and reliability of major truck routes based on the movements of over 300,000 trucks. Speed and reliability data are collected continuously and can be displayed for various time periods and geographic resolutions. A description of the program is available at http://www.ops.fhwa.dot.gov/freight/freight_analysis/performance_meas/fpmtraveltime/index.htm

FIGURE 3-12. TRUCK SPEEDS ON SELECTED INTERSTATE HIGHWAYS: JUNE 2006

Source: U.S. Department of Transportation, Federal Highway Administration, Office of Freight Management and Operations, Freight Performance Measurement, 2007.



FIGURE 3-13. TONNAGE ON THE RAILROAD NETWORK: 2005



Although trucks carry most of the tonnage and value of freight, railroads carry vast quantities of goods over large distances. Bulk commodities such as coal and grain, moving in unit trains, dominate some rail routes, while intermodal trains carrying a wide variety of high-value products in containers dominate other routes.

FIGURE 3-13. TONNAGE ON THE RAILROAD NETWORK: 2005

Source: U.S. Department of Transportation, Federal Highway Administration, Office of Freight Management and Operations, 2007; based on Surface Transportation Board, Annual Carload Waybill Sample; and rail freight flow assignments done by Oak Ridge National Laboratory.

The United States makes use of an extensive coast line, several large rivers, and the Tenn-Tom Canal to move commodities at a very low cost per ton, albeit at relatively slow speeds.

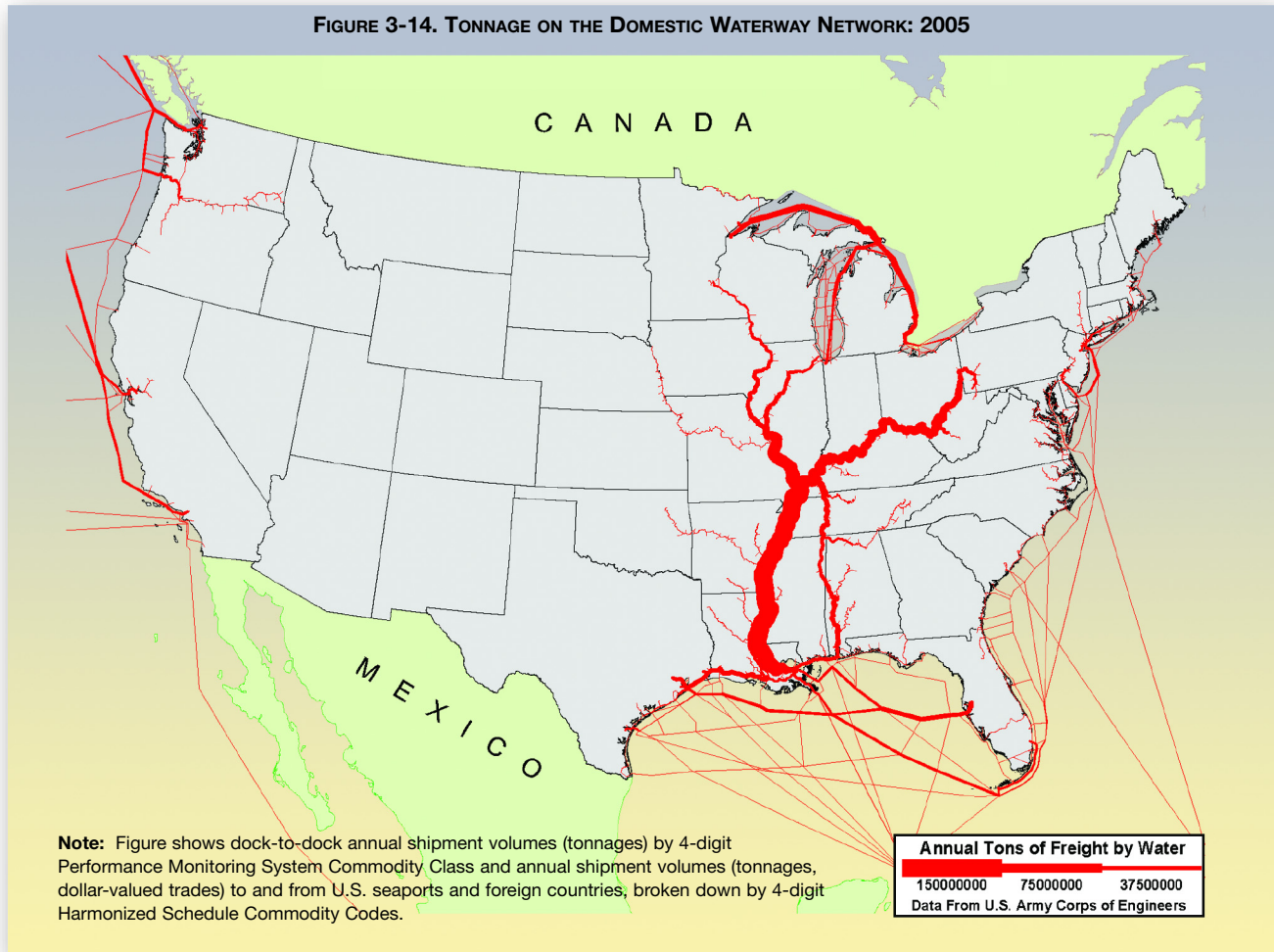
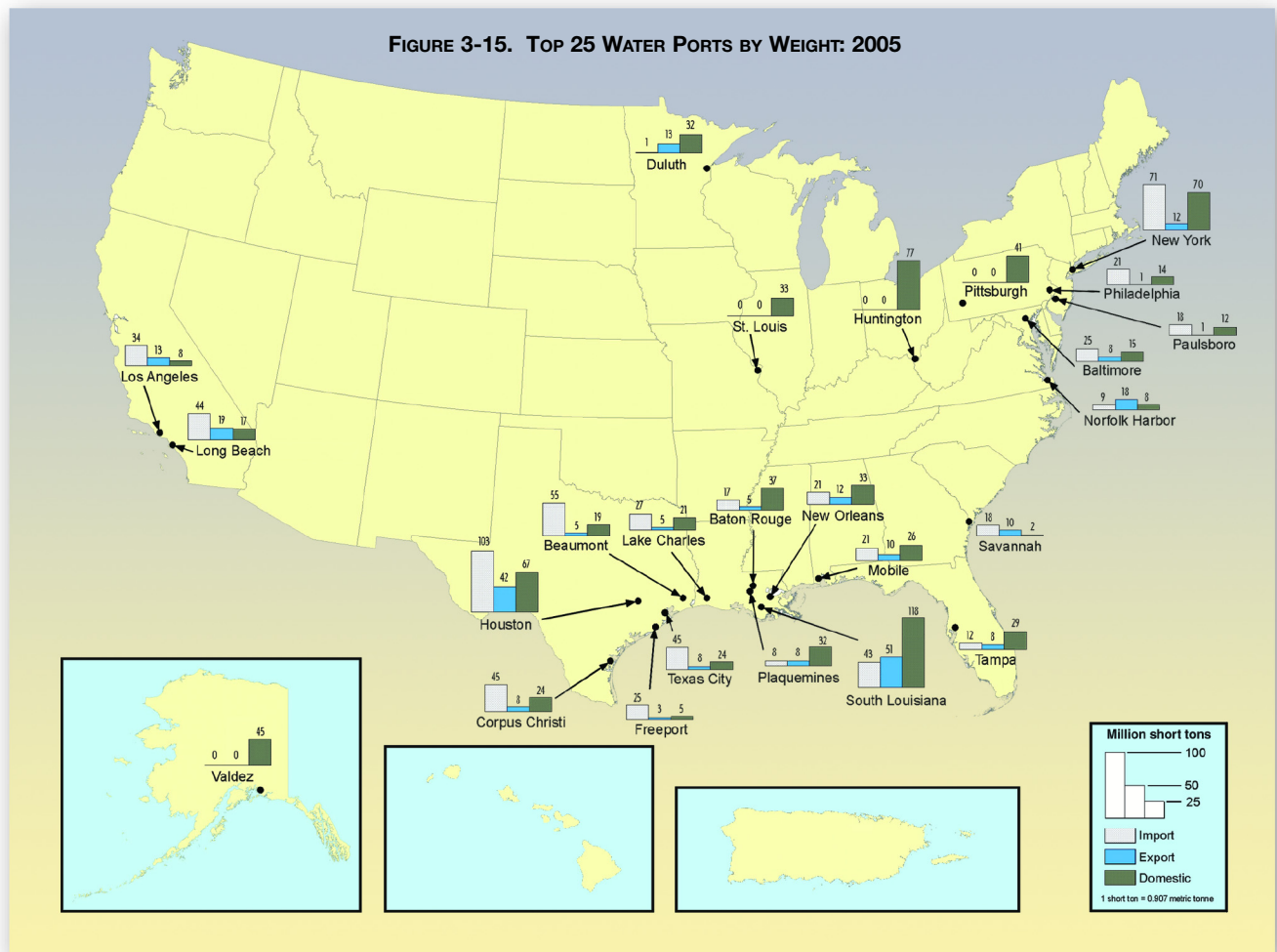


FIGURE 3-14. TONNAGE ON THE DOMESTIC WATERWAY NETWORK: 2005

Source: U.S. Department of Transportation, Federal Highway Administration, Office of Freight Management and Operations, 2007; based on U.S. Army Corps of Engineers (USACE), Annual Vessel Operating Activity and Lock Performance Monitoring System data, as processed for USACE by the Tennessee Valley Authority; and USACE, Institute for Water Resources, Waterborne Foreign Trade Data.





The top 25 water ports handle about two-thirds of the weight of all foreign and domestic goods moved by water. These goods are primarily bulk commodities such as coal, crude petroleum, and grain.



FIGURE 3-15. TOP 25 WATER PORTS BY WEIGHT: 2005
Source: U.S. Army Corps of Engineers, *2005 Waterborne Commerce of the United States*, Part 5, National Summaries (New Orleans, LA: 2006), table 5-2.

Containerized cargo has grown rapidly over the past few years and is concentrated at a few large water ports. The Ports of Los Angeles and Long Beach together handle about one-third of all container traffic at water ports in the United States. Container trade at these two ports doubled between 1997 and 2006, slightly higher than the growth rate reported for container cargo overall.

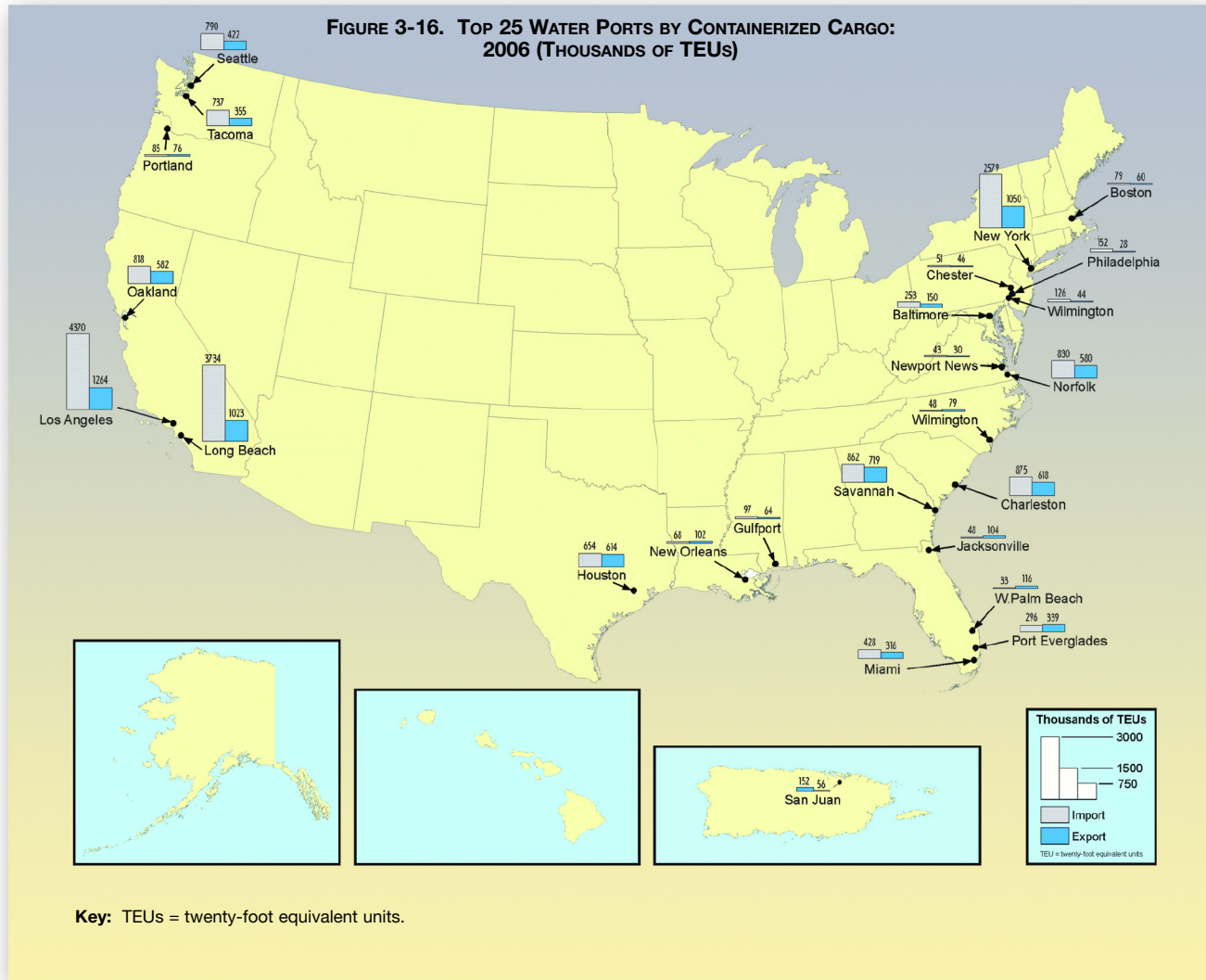


FIGURE 3-16. TOP 25 WATER PORTS BY CONTAINERIZED CARGO: 2006 (THOUSANDS OF TEUS)

Source: U.S. Department of Transportation, Maritime Administration, U.S. Waterborne Container Trade by U.S. Custom Ports, 1997-2005, based on data provided by Port Import/Export Reporting Service, 2006, available at

http://www.marad.dot.gov/MARAD_statistics/index.html as of June 12, 2007.

TABLE 3-8. TOP 25 AIRPORTS BY LANDED WEIGHT OF ALL-CARGO OPERATIONS: 2000-2005¹

Airport	2005 Rank	Landed weight (thousands of short tons)				
		2000	2002	2003	2004	2005
Anchorage, AK (Ted Stevens Anchorage International) ²	1	8,084	8,994	9,007	9,844	10,364
Memphis, TN (Memphis International)	2	6,318	8,826	8,760	8,885	9,343
Louisville, KY (Louisville International-Standiford Field)	3	3,987	4,202	4,172	4,388	4,591
Miami, FL (Miami International)	4	2,929	3,174	3,239	3,423	3,550
Los Angeles, CA (Los Angeles International)	5	2,892	3,038	3,120	3,062	2,927
New York, NY (John F. Kennedy International)	6	2,793	2,912	2,937	2,898	2,811
Indianapolis, IN (Indianapolis International)	7	2,884	2,338	2,277	2,314	2,545
Chicago, IL (O'Hare International)	8	2,062	2,217	2,351	2,359	2,412
Newark, NJ (Newark Liberty International)	9	1,961	1,758	1,835	1,765	1,870
Oakland, CA (Metropolitan Oakland International)	10	1,811	1,746	1,695	1,703	1,797
Fort Worth, TX (Dallas/Fort Worth International)	11	1,691	1,481	1,481	1,431	1,655
Philadelphia, PA (Philadelphia International)	12	1,454	1,466	1,365	1,371	1,401
Ontario, CA (Ontario International)	13	1,220	1,444	1,338	1,326	1,344
Atlanta, GA (William B. Hartsfield International)	14	1,090	1,166	1,194	1,162	1,014
Honolulu, HI (Honolulu International)	15	692	970	1,017	970	828
Covington/Cincinnati, OH (Cincinnati/Northern Kentucky International)	16	912	1,043	1,098	1,141	812
San Francisco, CA (San Francisco International)	17	1,267	1,035	1,200	740	797
Dayton, OH (James M. Cox Dayton International)	18	2,233	897	784	787	789
Phoenix, AZ (Sky Harbor International)	19	920	867	779	801	778
Denver, CO (Denver International)	20	900	783	747	763	763
Portland, OR (Portland International)	21	882	816	749	718	747
Houston, TX (George Bush Intercontinental)	22	480	482	666	697	710
Seattle, WA (Seattle-Tacoma International)	23	1,060	881	796	531	709
Minneapolis, MN (Minneapolis-St Paul International/Wold-Chamberlain)	24	622	621	687	678	702
Chicago/Rockford, IL (Chicago/Rockford International)	25	654	630	625	677	696
Top 25 airports³		51,796	53,786	53,920	54,436	55,955
United States, all airports⁴		74,743	73,433	73,072	74,297	76,091
Top 25 as % of U.S. total		69.3%	73.2%	73.8%	73.3%	73.5%

¹All-cargo operations are operations dedicated to the exclusive transportation of cargo. This does not include aircraft carrying passengers that may also be carrying cargo. Aircraft landed weight is the certificated maximum gross landed weight of the aircraft as specified by the aircraft manufacturers.

²Anchorage includes a large proportion of all-cargo operations in-transit.

³Represents top 25 airports in the reference year not necessarily the airports shown here.

⁴Limited to airports with an aggregate landed weight in excess of 100 million pounds (50,000 short tons) annually.

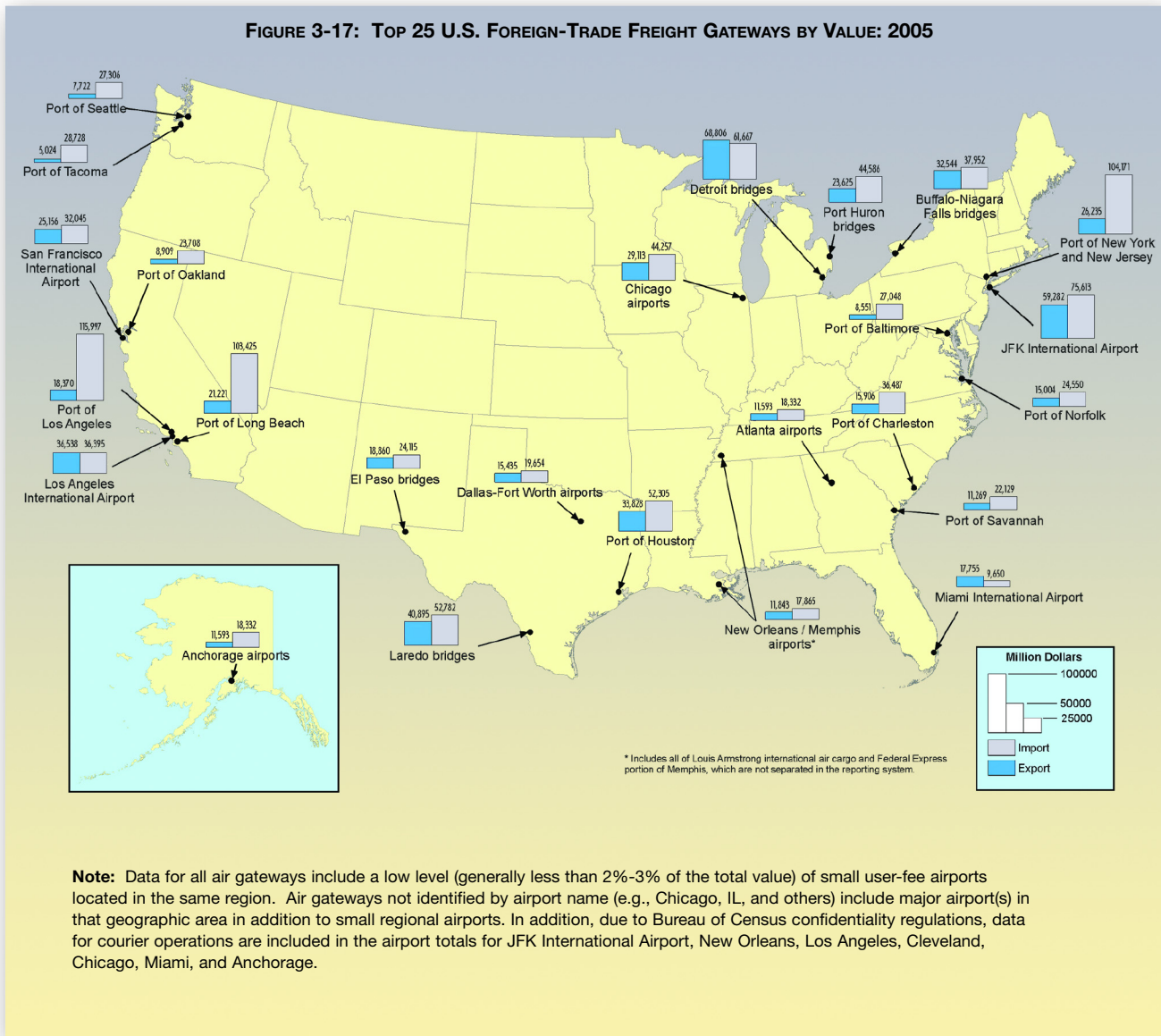
Note: 1 short ton = 2,000 pounds.

The Federal Aviation Administration (FAA) reports that Anchorage International and Memphis International are two of the most important U.S. airports that handle all-cargo aircraft. All-cargo aircraft are dedicated to the exclusive transportation of cargo and do not include aircraft carrying passengers as well as cargo.

TABLE 3-8. TOP 25 AIRPORTS BY LANDED WEIGHT OF ALL-CARGO OPERATIONS: 2000-2005

Source: U.S. Department of Transportation, Federal Aviation Administration, Air Carrier Activity Information System (ACAIS) database, All-Cargo Data, available at http://www.faa.gov/airports_airtraffic/airports/planning_capacity/passenger_allcargo_stats/passenger/index as of June 6, 2007.

FIGURE 3-17: TOP 25 U.S. FOREIGN-TRADE FREIGHT GATEWAYS BY VALUE: 2005



Note: Data for all air gateways include a low level (generally less than 2%-3% of the total value) of small user-fee airports located in the same region. Air gateways not identified by airport name (e.g., Chicago, IL, and others) include major airport(s) in that geographic area in addition to small regional airports. In addition, due to Bureau of Census 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.

Transportation facilities for bringing international trade into and out of the United States demonstrate the importance of all modes and intermodal combinations to global connectivity. The top 25 foreign-trade gateways measured by value of shipments are comprised of 9 airports, 11 water ports, and 5 land-border crossings

FIGURE 3-17: TOP 25 U.S. FOREIGN-TRADE FREIGHT GATEWAYS BY VALUE: 2005
Source: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, *National Transportation Statistics 2006* (Washington, DC: 2006), available at www.bts.gov as of October 16, 2006.



