



# America's Freight Transportation Gateways

*November 2009*





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*November 2009*



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## Introduction and Overview

America's freight transportation gateways—seaports, airports, and land border crossings—are vital for U.S. economic growth and international competitiveness. They are the entry and exit points for merchandise trade between the United States and countries around the world. The gateways and the accompanying shipping, railroad, highway, and aviation systems link the U.S. population, economic sectors, and businesses to the global marketplace. Each year, U.S. businesses, farms, manufacturers, and households depend on these transportation facilities to move large quantities of goods. When freight gateways do not work well—because of delays, traffic congestion, or service problems—the timely flow of goods can be impeded, causing economic loss to shippers, carriers, and households. When gateways work well, however, U.S. businesses thrive and trade with partners around the world, and American households enjoy access to a wide variety of imported goods.

*America's Freight Transportation Gateways 2009* is an update of a report released in 2004 by the Bureau of Transportation Statistics of the Research and Innovative Technology Administration. This current report is a data profile of the nation's leading international freight transportation gateways in 2008 and presents summary trend data from 1990. It is a collection of information that highlights the top 25 freight gateways, providing the most recent annual information on the movement of goods through these seaports, airports, and land border crossings (box 1). Additional information on more than 200 gateways that are key points of entry and exit for U.S. international trade is available on the BTS website at [www.bts.gov](http://www.bts.gov).

In July 2009, about \$221 billion of international merchandise passed through more than 400 U.S. seaports, airports, and land border crossings that collectively comprise America's freight gateways. This was down 30 percent from \$317 billion in July of 2008. From January through July 2009, more than \$1.4 trillion worth of goods moved through these transportation facilities, down 29 percent compared to \$2 trillion for the same period in 2008 (USDOT CB 2009a). These declines started in mid-2008 and continued through early 2009.

### BOX 1. Selecting the Leading Gateways

This report ranks freight gateways by the value of merchandise trade they handle. Value data were compiled from multiple sources, allowing comparison of all the freight modes. See box 2 for a detailed description of the freight data sources.

The relative position of the top gateways would be different if ranked by weight because, for example, seaports handle heavier or bulkier goods than airports. This report ranks by value because export weight data are incomplete in data collected by U.S. authorities. Tonnage data are available for imports and exports by air and water modes. For land modes (truck, rail, and pipeline), tonnage data are only collected for imports. U.S. exporters are not required to report export weight.

Where export and import tonnage data are both available (e.g., for seaports and airports), this report presents the weight data without making a comparison with land gateways. The report also identifies import tonnage at land gateways.

It is possible to estimate export tonnage using value-to-weight ratios derived from imported commodities. The accuracy of such estimates is likely to be greater at the national level than at the gateway level. Therefore, weight data for land exports have not been estimated for individual gateways. However, BTS has estimated the weight of land exports at the national level, and this information is presented in figure 3.

**SOURCE:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, November 2009.

However, U.S. freight gateways handled more than \$3.4 trillion (in current dollars) of international merchandise trade in 2008, an increase of 9 percent from 2007 (table 1). Merchandise exports rose by 12 percent and imports by 7 percent. Since 1990, the leading U.S. freight gateways have handled increasing volumes of freight as the movement of traded goods to and from the United States expanded.

From 1990 to 2008, the value of U.S. international merchandise trade grew from \$889 billion to \$3.4 trillion, increasing at an average annual rate of 8 percent per year. In inflation-adjusted terms (using chained 2000 dollars), this trade grew about 7 percent per year, from \$837 billion to more than \$2.7 trillion (table 1). During the 1990 to 2008 period, the growth in merchandise trade spurred the development of marine, air cargo, and border crossings facilities to connect domestic U.S. origins and destinations to markets abroad.

While more than 400 U.S. seaports, airports, and land border crossings handle international merchandise trade, most of the trade passes through relatively few gateways. In 2008:

- the nation's top five freight transportation gateways handled 25 percent (\$865 billion) of the total value of U.S. international merchandise trade,
- the top 16 gateways handled 50 percent (\$1.7 trillion) of U.S. international merchandise trade, and
- the top 50 gateways handled 78 percent (\$2.7 trillion) of the value of that trade (table 2).<sup>1</sup>

During the past two decades, the demand for freight transportation services in the United States increased and changed as the freight gateways handled increasing volumes of merchandise trade. New and complex approaches for managing inventory and logistics supply chains as well as changes in trading partners drove demand for freight transportation to record levels. Exports continued to account for an increasing share of U.S. gross domestic product (GDP), and imports of manufactured and consumer goods gained an increasing share of U.S. markets (figure 1). During this period, the relative importance of international merchandise trade to the overall U.S. economy increased. In inflation-adjusted terms, the ratio of goods traded in comparison to GDP rose significantly—it stood at 23 percent in 2008, up from 12 percent in 1990.

The large volume of U.S. traded goods must, by necessity, pass through freight gateways as they are transported by ocean vessels, railcars, airplanes, and trucks from origins to destinations. During the past two decades, the gateways have faced increased demand for improved cargo-handling services as businesses streamlined production and distribution processes through such measures as carrying smaller inventories and

<sup>1</sup> This report uses the value of traded goods rather than the weight of traded goods to rank the leading freight gateways, because weight data for land exports are not collected by U.S. authorities (see box 1). Hence, this report does not cite weight data for land exports at individual gateways. However, BTS has estimated the weight of land exports at the national level based on value-to-weight ratios from the import data, and this information is presented in figure 3. Additional information on U.S. trade data is also presented in box 3.

TABLE 1. U.S. International Merchandise Trade, 1990–2008

Year	Current, billions of \$				Real, billions of chained 2000 \$			
	Total	Exports	Imports	Exports as % of total	Total	Exports	Imports	Exports as % of total
1990	888	393	495	44.2	837	367	470	43.9
1991	909	422	487	46.4	862	393	469	45.5
1992	981	448	533	45.7	935	422	513	45.1
1993	1,045	465	581	44.5	1,000	436	565	43.5
1994	1,176	513	663	43.6	1,118	478	640	42.8
1995	1,328	585	744	44.0	1,232	534	698	43.4
1996	1,420	625	795	44.0	1,344	581	763	43.2
1997	1,559	689	870	44.2	1,537	665	873	43.2
1998	1,594	682	912	42.8	1,654	679	974	41.1
1999	1,720	696	1,025	40.4	1,800	705	1,095	39.2
2000	2,000	782	1,218	39.1	2,028	784	1,244	38.7
2001	1,870	729	1,141	39.0	1,940	736	1,204	37.9
2002	1,854	693	1,161	37.4	1,955	707	1,248	36.2
2003	1,982	725	1,257	36.6	2,029	720	1,309	35.5
2004	2,285	815	1,470	35.7	2,241	784	1,457	35.0
2005	2,575	901	1,673	35.0	2,401	845	1,556	35.2
2006	2,880	1,026	1,854	35.6	2,578	929	1,649	36.0
2007	3,105	1,148	1,957	37.0	2,676	999	1,678	37.3
2008	3,391	1,287	2,104	38.0	2,665	1,057	1,608	39.7
<b>Percent change, 1990–2008</b>	<b>281.8</b>	<b>227.6</b>	<b>324.7</b>		<b>218.5</b>	<b>187.9</b>	<b>242.4</b>	
<b>Average annual growth rate, 1990–2008</b>	<b>7.7</b>	<b>6.8</b>	<b>8.4</b>		<b>6.6</b>	<b>6.0</b>	<b>7.1</b>	

NOTE: The relative proportion of exports to total merchandise trade varies in current and real terms because of variations in the price indexes used in adjusting exports and imports for inflation.

SOURCES: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from: **Current**—U.S. Department of Commerce, Bureau of Economic Analysis, U.S. International Transactions Accounts Data, available at [www.bea.gov/international/bp\\_web/list.cfm?anon=106637](http://www.bea.gov/international/bp_web/list.cfm?anon=106637) as of Sept. 24, 2009. **Real**—U.S. Department of Commerce, Bureau of Economic Analysis, National Income and Product Accounts, available at [www.bea.gov/national/nipaweb](http://www.bea.gov/national/nipaweb) as of May 20, 2009.

ordering raw materials and parts to arrive just-in-time. To keep pace and remain competitive, the gateways had to provide faster, more efficient, and more reliable services for freight transported between U.S. and world markets. The gateways have also faced increased environmental, capacity, and infrastructure concerns—unintended consequences of the growth in the freight they handle. Reducing environmental impact,

**TABLE 2. Top 50 U.S. Freight Gateways, Ranked by Value of Shipments: 2008**  
(Current \$, billions)

Rank	Port name	Mode	Total U.S. trade	Exports	Imports	Exports as % of total	Rank	Port name	Mode	Total U.S. trade	Exports	Imports	Exports as % of total
1	Port of Los Angeles, CA	Water	243.9	34.8	209.1	14.3	26	Port of Morgan City, LA	Water	39	0.2	38	0.6
2	Port of New York/New Jersey, NY/NJ	Water	185.4	50.6	134.8	27.3	27	Port of Tacoma, WA	Water	35	8	27	23.3
3	JFK Intl. Airport, NY	Air	168.0	85.5	82.5	50.9	28	Hartsfield-Jackson Atlanta Intl. Airport, GA	Air	32	12	20	38.1
4	Port of Houston, TX	Water	147.7	68.8	78.9	46.6	29	Otay Mesa Station, CA	Land	32	11	21	33.2
5	Detroit, MI	Land	120.2	66.5	53.7	55.3	30	Cleveland Hopkins Intl. Airport, OH	Air	31	18	13	57.0
6	Laredo, TX	Land	115.8	53.9	61.8	46.6	31	Port of Corpus Christi, TX	Water	30	5	25	16.7
7	Chicago, IL	Air	97.2	35.8	61.4	36.9	32	Port of Gramercy, LA	Water	24	9	15	36.2
8	Port of Long Beach, CA	Water	91.5	31.6	59.9	34.5	33	Champlain-Rouses Point, NY	Land	24	9	14	39.9
9	Port Huron, MI	Land	81.2	35.2	46.0	43.4	34	Port of Jacksonville, FL	Water	23	11	12	48.6
10	Buffalo-Niagara Falls, NY	Land	80.8	40.3	40.5	49.9	35	Port of Texas City, TX	Water	23	3	19	14.4
11	Los Angeles Intl. Airport, CA	Air	78.3	41.3	37.0	52.8	36	Port Everglades, FL	Water	23	12	11	53.2
12	Port of Charleston, SC	Water	62.3	22.3	40.1	35.7	37	Port of Miami, FL	Water	22	11	11	50.0
13	Port of Savannah, GA	Water	59.0	22.8	36.1	38.7	38	Hidalgo, TX	Land	22	10	12	44.5
14	Port of Norfolk, VA	Water	54.0	23.9	30.0	44.4	39	Port of Beaumont, TX	Water	21	3	18	13.3
15	San Francisco Intl. Airport, CA	Air	52.8	26.6	26.2	50.4	40	San Juan Intl. Airport, PR	Air	21	12	9	58.0
16	Port of New Orleans, LA	Water	49.8	25.3	24.4	50.9	41	Pembina, ND	Land	20	11	9	56.7
17	New Orleans Customs District, LA	Air	49.6	22.3	27.3	44.9	42	Nogales, AZ	Land	19	7	12	36.1
18	El Paso, TX	Land	48.2	20.2	28.0	41.8	43	Christiansted, VI	Water	19	3	17	13.5
19	Port of Baltimore, MD	Water	45.3	16.1	29.2	35.6	44	Blaine, WA	Land	18	11	7	59.9
20	Port of Philadelphia, PA	Water	43.2	5.0	38.1	11.7	45	Washington, DC	Air	17	6	12	32.1
21	Anchorage Intl. Airport, AK	Air	41.4	10.2	31.2	24.6	46	Port Arthur, TX	Water	17	2	15	14.1
22	Miami Intl. Airport, FL	Air	40.0	29.2	10.8	73.0	47	Port of Portland, OR	Water	17	5	12	30.6
23	Port of Seattle, WA	Water	40.0	9.9	30.0	24.9	48	Portal, ND	Land	17	10	7	58.4
24	Dallas-Fort Worth Intl. Airport, TX	Air	39.5	16.4	23.1	41.5	49	Sweetgrass, MT	Land	16	8	8	49.6
25	Port of Oakland, CA	Water	38.7	12.4	26.3	32.0	50	Freeport, TX	Water	16	2	14	12.6
<b>Top 50 gateways</b>										<b>2,651</b>	<b>1,006</b>	<b>1,645</b>	<b>37.9</b>
<b>Total U.S. merchandise trade by all modes</b>										<b>3,401</b>	<b>1,301</b>	<b>2,100</b>	<b>38.2</b>
<b>Top 50 gateways as share of U.S. total (percent)</b>										<b>78.0</b>	<b>77.4</b>	<b>78.3</b>	

**NOTES:** All data—Trade levels reflect the mode of transportation as a shipment enters or exits a U.S. Customs port. Flows through individual ports are based on reported data collected from U.S. trade documents. Low-value shipments (imports less than \$1,250 and exports less than \$2,500) and intransit shipments are not included in trade data.

**Air**—Data for all airports are based on U.S. port classifications and include a low level (generally less than 2 to 3 percent of the total value) of small user-fee airports located in the same region. Air gateways not identified by airport name include major airports in that geographic area in addition to small regional airports. Because of U.S. Census Bureau nondisclosure regulations, data for some of the air gateways include courier operations. For example, data for New Orleans International Airport include FedEx air cargo activity in Memphis, TN.

**SOURCES:** **Air and water**—U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, special tabulation, April 2009. **Land**—U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Transborder Freight Data as of April 2009.

resolving congestion and accessibility challenges, and managing the physical infrastructure remain daunting tasks for freight gateways. The spotlights beginning on page 17 provide examples of these issues at the Port of Los Angeles, John F. Kennedy (JFK) International Airport in New York, and the Detroit land border crossing.

### The Nation's Busiest Freight Transportation Gateways

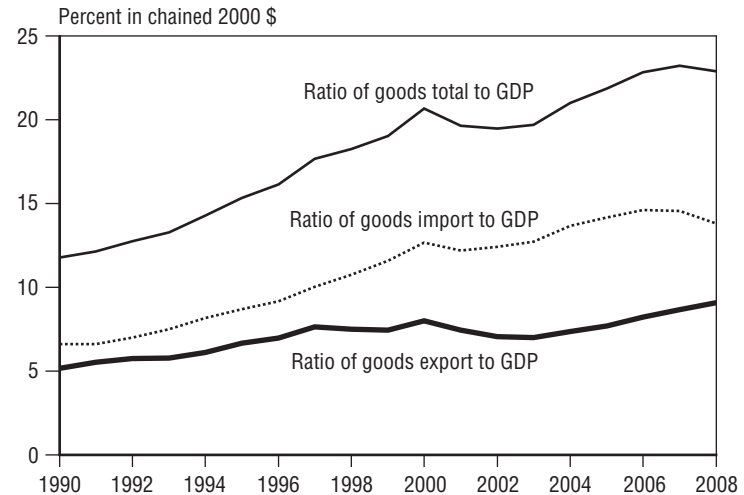
With merchandise trade growing during the last two decades, gateways have become more vital for U.S. economic activity, opening new opportunities for U.S. businesses to trade with global markets. Figure 2 shows a map of the nation's top 25 ports of exit and entry, by value, for U.S. international trade shipments in 2008. This map illustrates the geographic pattern of freight activity at the leading gateways and the multimodal nature of the nation's freight transportation system.

A list of the top five gateways includes all three transportation modes—water, air, and land:

1. The Port of Los Angeles was the leading gateway overall for international trade, with more than \$244 billion in oceanborne cargo.
2. The Port of New York and New Jersey ranked second in value, handling \$185 billion in oceanborne cargo.
3. New York's JFK International Airport ranked third in value, with \$168 billion of air cargo.
4. The Port of Houston ranked fourth in value, with \$148 billion in oceanborne trade.
5. The land border crossing of Detroit ranked fifth, with a total of \$120 billion in surface freight.

Many factors determine the size and direction of freight shipments handled by the gateways, including changes in commodities traded internationally between the United States and its trading partners, changes in major U.S. trading partners, changes in the global economy, and geographic shifts in centers of production worldwide.

**FIGURE 1. Real Exports and Imports of Goods as Percent of Real Gross Domestic Product: 1990–2008**



**NOTE:** Real gross domestic product is based on chained 2000 dollars.

**SOURCE:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from U.S. Department of Commerce, Bureau of Economic Analysis, National Income and Product Accounts, available at [www.bea.gov/national/nipaweb](http://www.bea.gov/national/nipaweb) as of May 20, 2009.

Table 2 shows that the top 50 freight gateways in 2008, ranked by value of total trade, are located in 20 states, the District of Columbia, Puerto Rico, and the Virgin Islands. While U.S. freight gateways typically handle both exports and imports, some serve primarily as gateways for imports *into* the United States, and others serve more as gateways for exports *from* the United States to markets around the world. For example, exports accounted for just about 14 percent of the value of cargo handled by the top freight gateway, the maritime Port of Los Angeles. Meanwhile, two of the top five gateways, the land border crossing of Detroit and JFK International Airport, handled more exports than imports in terms of value (table 2). The proportion of U.S. international freight that is imported changes in response to shifts in U.S. trade relationships. The rising importance of U.S. trade with Mexico and China underscores the

growth of freight imports passing through the land border gateways (e.g., Laredo, TX) and west coast ports (e.g., Ports of Los Angeles and Long Beach).<sup>2</sup>

During the 1990s, JFK International Airport was the leading gateway for overall merchandise trade by total value of shipments, but by 2003, the Port of Los Angeles had risen to the number one position. Since 2003, the Port of Los Angeles has maintained the leading position, and the value of maritime trade passing through the port's facilities doubled. From 2003 to 2008, imports at the Port of Los Angeles jumped 99 percent in value, while exports grew 107 percent—an overall growth of 100 percent, far above the 62 percent average growth for the top 25 gateways (table 3). This growth reflects a major increase in trade with Pacific Rim Asian countries, especially growth in merchandise trade from China. During this period, the maritime Port of New York and New Jersey moved from fourth to second place, reflecting strong growth in containerized trade with Europe. And the seaport of Houston jumped from 11th to 4th place, indicating a sharp rise in maritime cargo trade with South America, particularly bulk commodities and crude petroleum.

### ***Modal Shares by Value and Weight***

The relative roles of transportation modes in carrying the large volume of U.S. international merchandise trade vary by value and weight. Waterborne vessels account for more U.S. international trade, both in terms of tonnage and value, than any other mode: 78 percent of the weight and 45 percent of the value of U.S. merchandise trade in 2007 (figure 3).<sup>3</sup> Water transportation is less dominant in terms of value because higher-value-per-ton commodities often move by air and truck, particularly in U.S. trade with Canada and Mexico.

<sup>2</sup> In 2008, China and Mexico were the second and third largest U.S. trading partners respectively, after Canada. However, in 1970, Mexico was the fifth ranked U.S. trading partner. By 1990, Mexico had climbed to the third position, and by 2001, it had moved past Japan to become the second largest trading partner. In 1970, China was not listed separately in U.S. official trade statistics; it was listed as part of the “Communist World.” By 1990, China was the 10th leading trading partner and rose to the second position in 2006 (based on U.S. Department of Commerce, U.S. Census Bureau, *Statistica 1 Abstract of the United States*, various years).

<sup>3</sup> 2007 is the most recent year for which tonnage data are available for the land modes of transportation. These tonnage data are necessary to allow modal comparison by weight.

Freight moving through land gateways accounted for 22 percent of the weight of overall U.S. trade but 24 percent of the value. Of these, trucks accounted for 10 percent of the weight and 18 percent of the value (USDOT RITA BTS 2009a).

Air cargo accounted for 25 percent of the value of total U.S. merchandise trade in 2007, but its share of the weight remained less than 1 percent.

Modes vary in the proportion of imports and exports they carry. While water transportation accounted for 79 percent of U.S. import tonnage and 76 percent of U.S. export tonnage in 2007, its share of the value of all U.S. imports was 52 percent, and its share of all exports was 32 percent. By contrast, trucks moved 15 percent of the value of all imports and 23 percent of the value of all exports (USDOT RITA BTS 2009a).

Differences in the modal shares of U.S. international trade directly affect the movement and flow of freight traffic on transportation networks of the United States. They also affect the demand for vehicle inspections at U.S. ports and border crossings. In addition, they influence the need for improved security for the millions of truck trailers and containers that enter the United States.

### ***Land Freight Gateways***

In 2008, U.S. merchandise trade with North American Free Trade Agreement (NAFTA) partners Canada and Mexico totaled \$964 billion, more than one-fourth (28 percent) of the value of overall U.S. merchandise trade (table 4). As trade with Asia has expanded, this share has declined from the record high of 33 percent in 2001.

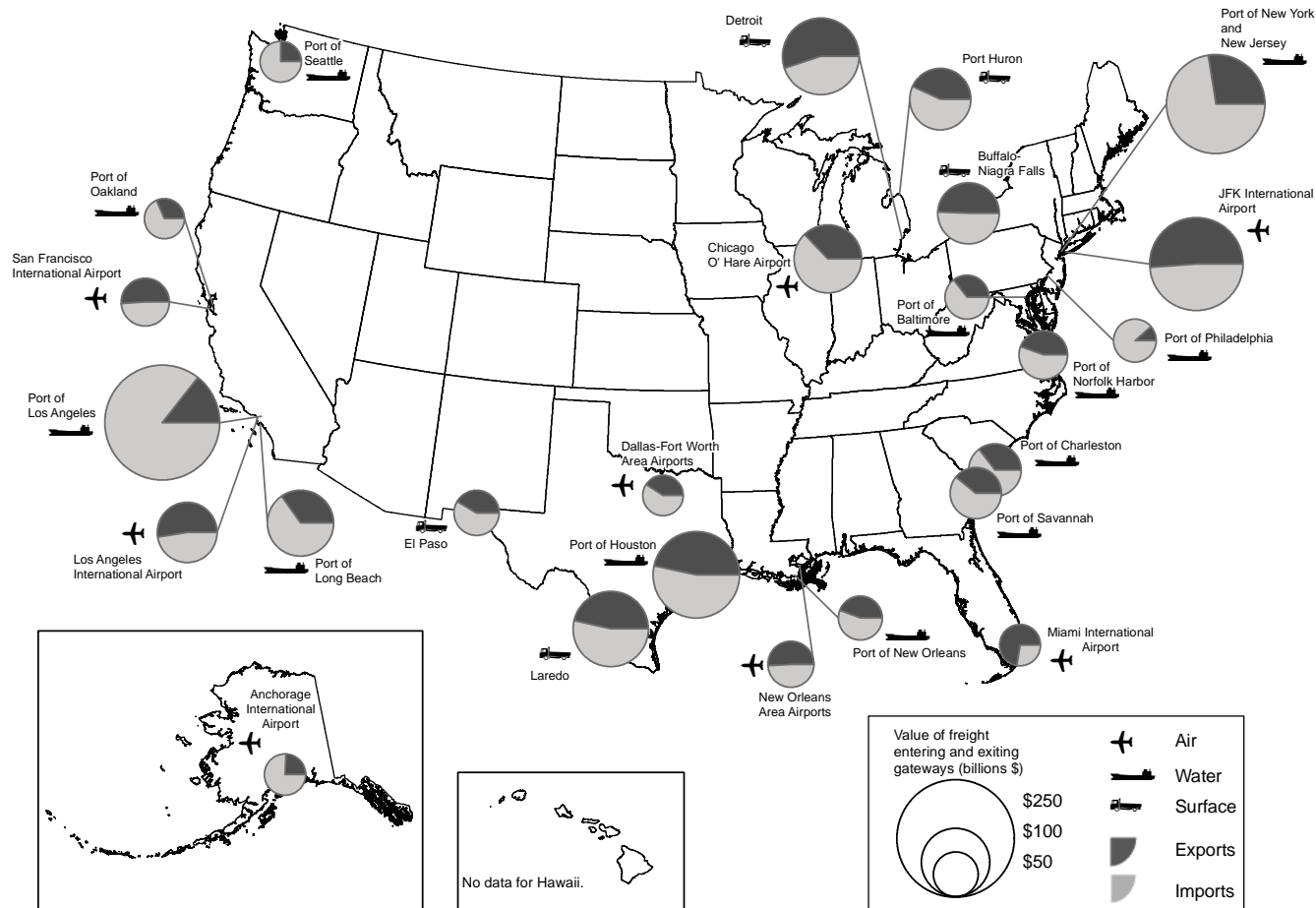
Canada, Mexico, and the United States are all participants in NAFTA, which was put in place by the three countries in 1994 to reduce trade barriers and liberalize trade policies. For convenience, this report refers to U.S. trade with Canada and Mexico as U.S.-NAFTA trade.

Land trade—carried by truck, rail, and pipeline—accounted for 86 percent of the value of U.S.-NAFTA trade, or \$830 billion, in 2008.<sup>4</sup>

<sup>4</sup> Maritime vessels accounted for about 8 percent and air cargo for 6 percent.



FIGURE 2. Top 25 U.S. Freight Gateways, Ranked by Value of Shipments: 2008



**NOTES: All data**—Trade levels reflect the mode of transportation as a shipment enters or exits a U.S. Customs port. Flows through individual ports are based on reported data collected from U.S. trade documents. Low-value shipments (imports less than \$1,250 and exports less than \$2,500) and intransit shipments are not included in trade data.

**Air**—Data for all airports are based on U.S. port classifications and include a low level (generally less than 2 percent to 3 percent of the total value) of small user-fee airports located in the same region. Air gateways not identified by airport name include major airports in that geographic area in addition to small regional airports. Because of U.S. Census Bureau nondisclosure regulations, data for some of the air gateways include courier operations. For example, data for New Orleans International Airport include FedEx air cargo activity in Memphis, TN.

**SOURCES: Air and water**—U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, special tabulation, April 2009. **Land**—U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Transborder Freight Data as of April 2009.

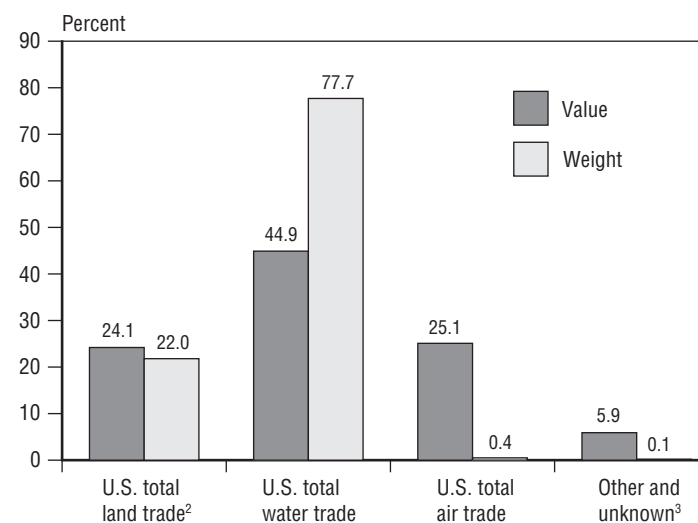
**TABLE 3. Percent Change in the Value of Merchandise Trade Handled by the Top 25 U.S. Freight Gateways: 2003 and 2008**

Rank in 2003	Rank in 2008	Port name	Mode	Percent change, 2003–2008		
				Total trade	Exports	Imports
1	1	Port of Los Angeles, CA	Water	99.8	106.5	98.8
4	2	Port of New York/New Jersey, NY/NJ	Water	83.2	108.1	75.4
2	3	JFK Intl. Airport, NY	Air	50.1	83.4	26.3
11	4	Port of Houston, TX	Water	196.0	221.0	177.2
3	5	Detroit, MI	Land	17.9	21.8	13.5
6	6	Laredo, TX	Land	47.0	66.5	33.3
10	7	Chicago, IL	Air	78.9	73.9	81.9
5	8	Port of Long Beach, CA	Water	-4.5	84.1	-23.8
8	9	Port Huron, MI	Land	30.4	55.1	16.2
9	10	Buffalo–Niagara Falls, NY	Land	36.2	47.4	26.6
7	11	Los Angeles Intl. Airport, CA	Air	22.6	26.8	18.3
13	12	Port of Charleston, SC	Water	58.3	66.6	54.0
24	13	Port of Savannah, GA	Water	176.3	207.8	159.5
15	14	Port of Norfolk, VA	Water	82.9	117.0	62.6
12	15	San Francisco Intl. Airport, CA	Air	13.2	29.3	0.4
26	16	Port of New Orleans, LA	Water	131.9	77.3	206.9
16	17	New Orleans Customs District, LA	Air	81.8	85.1	78.5
14	18	El Paso, TX	Land	22.9	20.6	24.6
18	19	Port of Baltimore, MD	Water	74.6	183.6	44.0
39	20	Port of Philadelphia, PA	Water	318.6	695.0	293.9
23	21	Ted Stevens Anchorage Intl. Airport, AK	Air	87.3	80.8	89.5
22	22	Miami Intl. Airport, FL	Air	76.2	109.1	23.7
21	23	Port of Seattle, WA	Water	73.3	74.8	72.8
20	24	Dallas–Fort Worth Intl. Airport, TX	Air	67.6	44.0	89.7
19	25	Port of Oakland, CA	Water	53.9	59.7	51.3
<b>Top 25 ports</b>				<b>62.0</b>	<b>74.4</b>	<b>55.0</b>
<b>All ports U.S. merchandise trade</b>				<b>60.8</b>	<b>65.5</b>	<b>58.1</b>

**NOTES: All data**—Trade levels reflect the mode of transportation as a shipment enters or exits a U.S. Customs port. Flows through individual ports are based on reported data collected from U.S. trade documents. Low-value shipments (imports less than \$1,250 and exports less than \$2,500) and intransit shipments are not included in trade data.

**Air**—Data for all airports are based on U.S. port classifications and include a low level (generally less than 2 to 3 percent of the total value) of small user-fee airports located in the same region. Air gateways not identified by airport name include major airports in that geographic area in addition to small regional airports. Because of U.S. Census Bureau nondisclosure regulations, data for some of the air gateways include courier operations. For example, data for New Orleans International Airport include FedEx air cargo activity in Memphis, TN.

**SOURCES: Air and water**—U.S. Department of Commerce, Census Bureau, Foreign Trade Division, special tabulation, April 2009. **Land**—U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Transborder Freight Data as of April 2009.

**FIGURE 3. Modal Shares of U.S. Merchandise Trade Handled by Land, Water, and Air Gateways by Value and Weight: 2007<sup>1</sup>**

<sup>1</sup> BTS estimated the export weight for truck, rail, pipeline, and other and unknown based on value-to-weight ratios from the import data. This estimation procedure was used because U.S. exporters are not currently required to report the export weight for land modes. Weight for water and air exports and imports are from U.S. Department of Commerce, U.S. Census Bureau.

<sup>2</sup> Includes truck, rail, and pipeline modes.

<sup>3</sup> Includes purchased vehicles such as aircraft or boats moving from manufacturer to customer where the vehicle itself is the shipment, pedestrians carrying freight, and miscellaneous.

**SOURCES:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from various sources. **Value data**—Water and air: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, FT920 U.S. Merchandise Trade: Selected Highlights, December 2007, available at [www.census.gov/foreign-trade/Press-Release/ft920\\_index.html](http://www.census.gov/foreign-trade/Press-Release/ft920_index.html) as of October 2008. Truck, rail, pipeline, and other and unknown: USDOT, RITA, BTS, Transborder Freight Data, October 2008. **Weight data**—Water and air: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, FT920 U.S. Merchandise Trade: Selected Highlights, December 2007, available at [www.census.gov/foreign-trade/Press-Release/ft920\\_index.html](http://www.census.gov/foreign-trade/Press-Release/ft920_index.html) as of October 2008. Truck, rail, pipeline, and other and unknown: USDOT, RITA, BTS, Transborder Freight Data; and special calculation, October 2008.

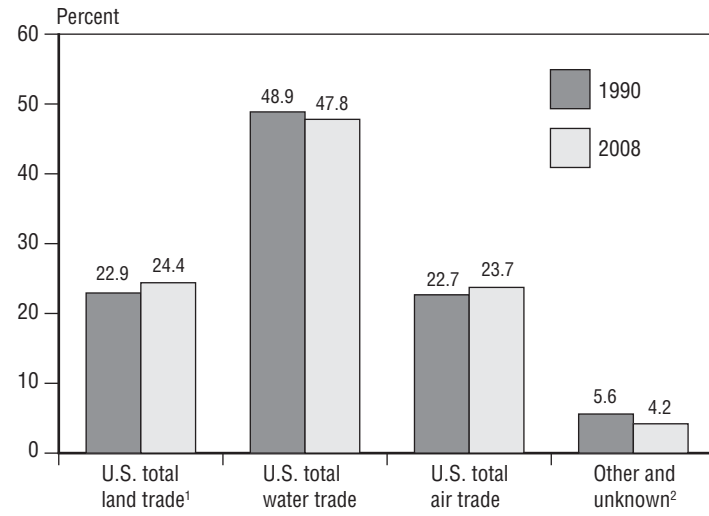
**TABLE 4. Value of U.S. Merchandise Trade with NAFTA Partners Compared with U.S. Trade with Overseas Countries: 1990–2008**  
(Current \$, billions)

	Overall	NAFTA vs. overseas		Relative percentage shares	
	Total U.S. international merchandise trade	U.S. trade with NAFTA partners	U.S. trade with overseas partners	Ratio of U.S.-NAFTA trade to total U.S. trade	Ratio of U.S. overseas trade to total U.S. trade
1990	889	233	656	26.2	73.8
1991	910	241	670	26.4	73.6
1992	981	264	716	27.0	73.0
1993	1,046	293	753	28.0	72.0
1994	1,176	343	833	29.2	70.8
1995	1,328	380	948	28.6	71.4
1996	1,420	421	999	29.7	70.3
1997	1,559	475	1,084	30.5	69.5
1998	1,594	503	1,091	31.5	68.5
1999	1,720	559	1,161	32.5	67.5
2000	2,000	653	1,347	32.7	67.3
2001	1,870	614	1,256	32.8	67.2
2002	1,854	604	1,251	32.6	67.4
2003	1,982	629	1,353	31.7	68.3
2004	2,288	713	1,576	31.1	68.9
2005	2,579	789	1,790	30.6	69.4
2006	2,891	866	2,024	30.0	70.0
2007	3,119	909	2,210	29.1	70.9
2008	3,401	964	2,436	28.4	71.6
<b>Percent change, 1990–2008</b>	<b>282.6</b>	<b>314.1</b>	<b>271.4</b>		
<b>Average annual growth rate, 1990–2008</b>	<b>7.7</b>	<b>8.2</b>	<b>7.6</b>		

**KEY:** NAFTA = North American Free Trade Agreement

**SOURCES:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics. Total trade—Based on data from U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, available at [www.census.gov/foreign-trade/www](http://www.census.gov/foreign-trade/www) as of May 12, 2009. NAFTA land trade—Based on U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Transborder Freight Data as of May 2009.

**FIGURE 4. Value of U.S. Merchandise Trade by Land, Water, and Air Gateways: 1990 and 2008**



<sup>1</sup> Includes truck, rail, and pipeline.

<sup>2</sup> Includes purchased vehicles such as aircraft or boats moving from manufacturer to customer where the vehicle itself is the shipment, pedestrians carrying freight, and miscellaneous.

**SOURCES:** 1990—U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, available at [www.census.gov/foreign-trade/www](http://www.census.gov/foreign-trade/www) as of May 12, 2009. 2008—Water and air: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, special tabulation, April 2009. Land: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Transborder Freight Data as of April 2009.

The magnitude of U.S.-NAFTA land trade highlights the importance of north-south freight transportation corridors and the role of key land gateways. It underscores the dominant freight corridors (e.g., between Detroit, Michigan, and Laredo, Texas), which will continue to affect the pattern of domestic freight movements within the United States (USDOT RITA BTS 2003).

Since 1990, the value of U.S. land trade with Canada and Mexico has grown at an average annual rate of 8.1 percent per year, a slightly faster pace than the 7.7 percent for overall U.S. trade with all countries (table



5). As a result of this growth, land trade's share of the value of total U.S. merchandise trade grew slightly from 23 percent in 1990 to 24 percent in 2008 (figure 4).<sup>5</sup>

While there are 75 land border crossings along the U.S.-Canadian border and 25 along the U.S.-Mexican border, the land freight transported across the northern and southern borders is heavily concentrated at a few major gateways. This concentration affects traffic and congestion at the borders as well as the growth of major freight transportation corridors. In 2008, the top three ports for U.S.-NAFTA land trade by value were Detroit, Michigan; Laredo, Texas; and Port Huron, Michigan. In total, these three ports accounted for more than 38 percent of the value of all U.S.-NAFTA land trade in 2008.

Besides serving local markets, most of the top U.S. land border ports are national and multistate regional trade gateways. The proportions vary considerably among gateways. Only about 36 percent of freight shipments (by value) passing through Detroit originate or terminate in Michigan. For Laredo, the biggest U.S.-Mexican border port, only 28 percent of shipments start or end within Texas. By comparison, 88 percent of shipments passing through Otay Mesa, the largest California port on the U.S.-Mexican border, originate or terminate in that state.

In value terms, trucks carried more than two-thirds (67 percent) of all U.S. land trade, worth about \$554 billion, in 2008. This share was down about 3 percentage points from 2007. Rail transborder freight's share remained steady at about 17 percent, valued at \$140 billion, in 2008. Pipelines carried \$88 billion of products, a 48 percent jump from 2007, primarily resulting from a rise in the value of U.S. imports of petroleum products from Canada. The share for pipelines was 11 percent in 2008, up 4 percentage points from 2007 (USDOT RITA BTS 2009b).

Although trucks haul the majority of U.S. trade by value at the major land border crossings, many crossings are important rail gateways, facilitating the transport of long-haul freight to and from origins and destinations in several states. Rail plays an important role in particular freight

<sup>5</sup> Official figures are unavailable by tonnage because weight data for surface exports are not collected by U.S. authorities.

**TABLE 5. Value of U.S. Merchandise Trade by Land, Water, and Air Gateways: 1990–2008**  
(Current \$, billions)

Year	Total U.S. international merchandise trade	U.S. total land trade	U.S. total water trade	U.S. total air trade	Other and unknown
1990	889	204	434	201	50
1991	910	210	435	209	56
1992	981	232	463	226	60
1993	1,046	258	477	255	56
1994	1,176	312	517	293	54
1995	1,328	338	573	355	62
1996	1,420	377	591	382	70
1997	1,559	426	626	433	76
1998	1,594	452	614	442	86
1999	1,720	501	632	496	92
2000	2,000	576	740	593	91
2001	1,870	547	718	519	86
2002	1,854	541	729	498	89
2003	1,982	563	811	523	86
2004	2,288	634	959	599	97
2005	2,579	698	1,122	652	107
2006	2,891	760	1,279	731	121
2007	3,119	797	1,399	781	142
2008	3,401	830	1,624	806	141
<b>Percent change, 1990–2008</b>	<b>282.6</b>	<b>307.3</b>	<b>274.0</b>	<b>300.0</b>	<b>185.3</b>
<b>Average annual growth rate, 1990–2008</b>	<b>7.7</b>	<b>8.1</b>	<b>7.6</b>	<b>8.0</b>	<b>6.0</b>

**NOTE:** "Other and unknown" includes purchased vehicles such as aircraft or boats moving from manufacturer to customer where the vehicle itself is the shipment, pedestrians carrying freight, and miscellaneous.

**SOURCES:** **Water and air**—U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, special tabulation, April 2009. **Land**—U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Transborder Surface Freight Data as of April 2009.

corridors and for certain commodities in U.S.-NAFTA trade. About half of the value of U.S.-NAFTA rail trade passes through just three land gateways: Port Huron, Michigan; Laredo, Texas; and Detroit, Michigan. In 2008, the leading rail gateway, Port Huron, handled \$27 billion of freight, down 9 percent from 2007. Laredo and Detroit experienced 6 and 16 percent drops in the value of rail freight, respectively (USDOT RITA BTS 2009b).

By weight, land modes hauled more than 269 million short tons of *imported* goods entering the United States from Canada and Mexico in 2008, down 4 percent from 2007 (table 6). The tonnage of land imports from Canada fell 4 percent, while tonnage from Mexico fell about 5 percent.<sup>6</sup> Regarding modal shares, in 2008 trucks moved 33 percent of the tonnage of total land trade imports, rail moved 32 percent, and pipelines accounted for 35 percent (figure 5). Trucks transported a larger percentage of the tonnage of U.S. land imports from Mexico (74 percent) than from Canada (25 percent). By comparison, in 2008, rail transported 24 percent of the tonnage of land imports from Mexico and 33 percent from Canada (table 6).

### Vehicle Crossings at Land Gateways

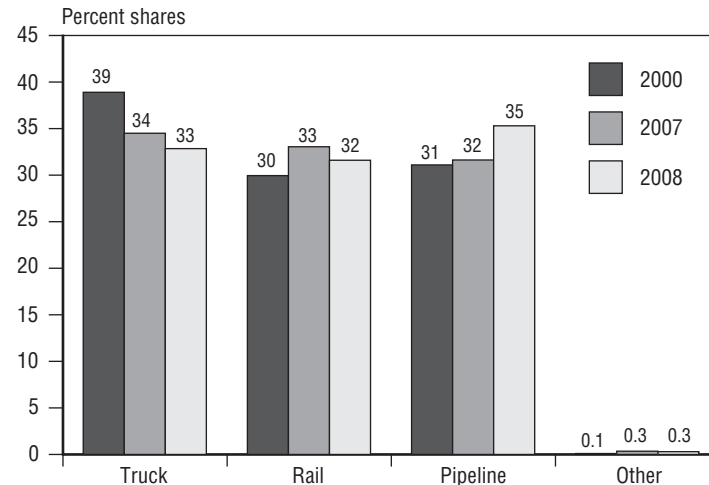
Each day, large numbers of motor vehicles and rail equipment carrying imported goods enter the United States. In 2008, there were 10.8 million commercial truck crossings into the United States from Canada and Mexico, down 6 percent from the 11.4 million crossings in 2007 (table 7).<sup>7</sup> Commercial trucks entering the United States at the busiest land gateways—Detroit, Michigan, and Laredo, Texas—generate heavy north-south truck traffic along the corridor that links these border crossings. These commercial trucks entering the United States carried 7.7 million full containers and 2.9 million empty containers in 2008.

The land gateways also handled about 40,000 trains carrying about 2.7 million containers headed for the United States from Canada and Mexico in 2008 (approximately 110 trains and 7,400 containers per day). Nearly 30,000 of these trains entered from Canada. From 2000 to 2008, the number of rail containers entering the United States grew faster (24 percent) than the number of incoming truck containers (2 percent). Most of the growth was in incoming rail containers from Canada, because U.S. rail freight with Canada is larger than U.S. rail freight with Mexico (table 7).

<sup>6</sup> As mentioned in box 1, weight data for land modes are only available for imports. BTS has estimated the weight of land exports at the national level by using value-to-weight ratios from import data.

<sup>7</sup> These figures represent the number of incoming crossings, not the number of unique individual vehicles. They include both loaded and unloaded commercial trucks. For example, if a truck crosses the border multiple times in one day, each incoming crossing is counted. Official data for outgoing trucks, trains, and containers at all land border crossings are not collected by U.S. government agencies.

**FIGURE 5. Percent Shares of U.S. Merchandise Imports Entering by Surface Modes: 2000, 2007, and 2008**



**SOURCE:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Transborder Freight Data as of May 12, 2009.

From 2000 to 2008, the number of truck crossings into the United States from Mexico grew by 8 percent, but truck crossings from Canada declined by 16 percent. The growth in inbound truck crossings from Mexico occurred despite the fact that the United States has delayed the full implementation of the NAFTA trucking provision that allows Mexican trucks to travel into the interior of the United States.<sup>8</sup>

### Water Freight Gateways

In 2008, nearly three-quarters (72 percent) of the value of U.S. international merchandise trade passing through U.S. freight gateways was to and from countries other than Canada and Mexico and was worth about \$2.4 trillion (table 4). Maritime trade accounted for about 63 percent

<sup>8</sup> Canadian carriers are permitted to operate anywhere in the United States provided they comply with U.S. regulations and carry only international cargo. U.S. carriers have reciprocal access in Canada. Currently, Mexican carriers can only service the commercial zones along the U.S. southern border and need special operating authority to service places outside this border zone.

TABLE 6. Weight of U.S. Merchandise Imports Entering by Surface Modes: 2000–2008

Mode	2000	2001	2002	2003	2004	2005	2006	2007	2008	Percent change, 2000–2008	Percent change 2007–2008
<b>U.S.-NAFTA imports (from Canada and Mexico)</b>											
<b>Short tons, thousands</b>											
Truck	95,250	91,639	96,344	94,954	101,107	101,932	100,042	97,069	88,474	-7.1	-8.9
Rail	73,409	75,033	78,036	80,867	90,445	93,453	95,144	93,050	85,049	15.9	-8.6
Pipeline	76,129	75,399	74,826	78,009	82,614	80,824	89,428	90,569	94,991	24.8	4.9
Other	247	443	562	592	699	426	617	885	724	193.3	-18.2
<b>Total</b>	<b>245,035</b>	<b>242,514</b>	<b>249,768</b>	<b>254,421</b>	<b>274,864</b>	<b>276,635</b>	<b>285,232</b>	<b>281,573</b>	<b>269,238</b>	<b>9.9</b>	<b>-4.4</b>
<b>Relative percent share of weight</b>											
Truck	38.9	37.8	38.6	37.3	36.8	36.8	35.1	34.5	32.9		
Rail	30.0	30.9	31.2	31.8	32.9	33.8	33.4	33.0	31.6		
Pipeline	31.1	31.1	30.0	30.7	30.1	29.2	31.4	32.2	35.3		
Other	0.1	0.2	0.2	0.2	0.3	0.2	0.2	0.3	0.3		
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>		
<b>U.S. imports from Canada</b>											
<b>Short tons, thousands</b>											
Truck	72,445	69,120	72,960	71,043	72,903	71,798	68,755	65,559	58,030	-19.9	-11.5
Rail	66,094	66,632	69,421	72,650	81,122	82,561	83,327	81,947	75,089	13.6	-8.4
Pipeline	76,001	75,381	74,820	78,009	82,605	80,824	89,300	90,235	94,628	24.5	4.9
Other	95	263	103	225	404	342	260	798	573	505.2	-28.1
<b>Total</b>	<b>214,635</b>	<b>211,395</b>	<b>217,305</b>	<b>221,927</b>	<b>237,035</b>	<b>235,524</b>	<b>241,641</b>	<b>238,540</b>	<b>228,319</b>	<b>6.4</b>	<b>-4.3</b>
<b>Relative percent share of weight</b>											
Truck	33.8	32.7	33.6	32.0	30.8	30.5	28.5	27.5	25.4		
Rail	30.8	31.5	31.9	32.7	34.2	35.1	34.5	34.4	32.9		
Pipeline	35.4	35.7	34.4	35.2	34.8	34.3	37.0	37.8	41.4		
Other	0.0	0.1	0.0	0.1	0.2	0.1	0.1	0.3	0.3		
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>		
<b>U.S. imports from Mexico</b>											
<b>Short tons, thousands</b>											
Truck	22,805	22,520	23,384	23,912	28,203	30,134	31,288	31,510	30,444	33.5	-3.4
Rail	7,315	8,401	8,615	8,216	9,323	10,892	11,817	11,103	9,961	36.2	-10.3
Pipeline	129	18	5	0.1	9	NA	128	334	363	182.4	8.9
Other	152	180	458	367	295	85	357	87	151	-1.0	73.5
<b>Total</b>	<b>30,400</b>	<b>31,119</b>	<b>32,463</b>	<b>32,495</b>	<b>37,829</b>	<b>41,111</b>	<b>43,591</b>	<b>43,033</b>	<b>40,919</b>	<b>34.6</b>	<b>-4.9</b>
<b>Relative percent share of weight</b>											
Truck	75.0	72.4	72.0	73.6	74.6	73.3	71.8	73.2	74.4		
Rail	24.1	27.0	26.5	25.3	24.6	26.5	27.1	25.8	24.3		
Pipeline	0.4	0.1	0.0	0.0	0.0	NA	0.3	0.8	0.9		
Other	0.5	0.6	1.4	1.1	0.8	0.2	0.8	0.2	0.4		
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>		

KEY: NAFTA = North American Free Trade Agreement; NA = Not available

NOTES: "Other" includes flyaway aircraft (i.e., aircraft moving from manufacturer to customer and not carrying any freight), vessels moving under their own power, pedestrians carrying freight, and miscellaneous. Weight data for U.S. exports are unavailable because U.S. exporters using land modes are not required to file this information. Total percent shares may not add to 100 due to rounding.

SOURCE: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Transborder Freight Data as of May 12, 2009.

**TABLE 7. Truck, Train, and Container Crossings into the United States from Canada and Mexico: 2000–2008**  
(Crossings, thousands)

Mode	2000	2001	2002	2003	2004	2005	2006	2007	2008	Percent change, 2000–2008	Percent change, 2007–2008
<b>Crossings from Canada and Mexico</b>											
Trucks	11,574	11,082	11,343	10,966	11,408	11,460	11,409	11,442	10,761	-7.0	-6.0
Truck containers	10,433	10,880	11,254	10,952	11,288	11,453	11,410	11,219	10,626	1.9	-5.3
Full	7,685	7,943	8,341	8,325	8,666	8,850	8,721	8,428	7,680	-0.1	-8.9
Empty	2,748	2,937	2,914	2,626	2,622	2,603	2,689	2,791	2,947	7.2	5.6
Trains	40.6	41.0	40.3	41.6	41.1	42.3	42.7	41.0	40.0	-1.3	-2.4
Rail containers	2,167	2,362	2,433	2,476	2,626	2,669	2,727	2,753	2,675	23.5	-2.8
Full	1,482	1,598	1,656	1,669	1,790	1,794	1,792	1,748	1,645	11.1	-5.9
Empty	685	764	777	807	836	875	935	1,005	1,029	50.3	2.4
<b>Crossings from Canada</b>											
Trucks	7,048	6,777	6,916	6,728	6,904	6,784	6,649	6,559	5,895	-16.4	-10.1
Truck containers	6,232	6,591	6,820	6,606	6,775	6,775	6,670	6,366	5,782	-7.2	-9.2
Full	5,335	5,571	5,818	5,673	5,818	5,819	5,675	5,362	4,698	-11.9	-12.4
Empty	897	1,021	1,002	933	958	956	995	1,004	1,084	20.9	8.0
Trains	33.4	33.6	32.5	33.9	33.3	32.8	32.5	30.4	29.8	-11.0	-1.9
Rail containers	1,595	1,779	1,830	1,868	1,951	1,941	1,924	1,940	1,899	19.0	-2.1
Full	1,215	1,331	1,386	1,402	1,485	1,458	1,408	1,383	1,313	8.0	-5.1
Empty	379	448	444	466	466	483	515	557	586	54.4	5.1
<b>Crossings from Mexico</b>											
Trucks	4,526	4,305	4,427	4,238	4,504	4,676	4,760	4,883	4,866	7.5	-0.3
Truck containers	4,201	4,288	4,434	4,345	4,513	4,678	4,740	4,853	4,844	15.3	-0.2
Full	2,350	2,372	2,523	2,652	2,848	3,031	3,047	3,066	2,982	26.9	-2.7
Empty	1,851	1,916	1,911	1,693	1,665	1,646	1,694	1,787	1,862	0.6	4.2
Trains	7.1	7.5	7.8	7.8	7.8	9.5	10.2	10.6	10.3	44.4	-3.6
Rail containers	572	583	602	607	675	729	803	814	776	35.8	-4.6
Full	266	267	270	266	306	336	383	365	333	24.9	-9.0
Empty	306	316	333	341	370	393	420	448	444	45.2	-1.0

**NOTES:** Data do not represent individual unique vehicles. Border-crossing data for outgoing vehicle and equipment crossings are not collected for all land ports. Numbers may not add to totals due to rounding.

**SOURCE:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Border Crossing Data 2000–2008, based on data from U.S. Department of Homeland Security, Customs and Border Protection, Operations Management Database as of May 10, 2009.

(\$1.5 trillion) of this trade; air freight accounted for the rest (USDOC CB 2009b).<sup>9</sup> Since 1990, the value of total U.S. overseas trade has nearly quadrupled, rising at an average annual rate of 8 percent per year (table 4).

<sup>9</sup> For comparison purposes, U.S.-NAFTA maritime and air trade are excluded from these statistics. In 2008, U.S. maritime trade with Canada and Mexico was \$93 billion; U.S. air trade was \$41 billion.

Maritime trade passing through U.S. seaports rose from \$434 billion in 1990 to \$1.6 trillion in 2008, about an 8 percent annual rate (table 5). This growth was spurred by the rising importance of China as a trading partner even though the maritime cargo growth rate was slightly outpaced by growth in U.S.-NAFTA surface trade and U.S. air trade.<sup>10</sup> The

<sup>10</sup> Canada remains the top overall partner for total imports and exports, followed by China and Mexico.

**TABLE 8. U.S. Maritime Freight Gateways, Ranked by Value and Weight: 2008**

Value (current \$, millions)					Weight (short tons, thousands)				
Rank by value	Port name	U.S. maritime trade	Exports	Imports	Rank by weight	Port name	U.S. maritime trade	Exports	Imports
1	Los Angeles, CA	243,910	34,823	209,086	1	Houston, TX	150,278	57,106	93,172
2	New York/New Jersey, NY/NJ	185,385	50,568	134,817	2	New Orleans, LA	97,575	62,167	35,408
3	Houston, TX	147,695	68,821	78,873	3	New York/New Jersey, NY/NJ	90,445	22,838	67,606
4	Long Beach, CA	91,537	31,599	59,938	4	Los Angeles, CA	75,286	21,771	53,515
5	Charleston, SC	62,332	22,281	40,051	5	Gramercy, LA	60,723	29,868	30,855
6	Savannah, GA	58,987	22,838	36,150	6	Morgan City, LA <sup>1</sup>	59,922	71	59,851
7	Norfolk, VA	53,950	23,927	30,023	7	Philadelphia, PA	54,652	3,288	51,364
8	New Orleans, LA	49,765	25,348	24,417	8	Corpus Christi, TX	54,108	11,225	42,883
9	Baltimore, MD	45,312	16,126	29,187	9	Long Beach, CA	47,762	25,819	21,943
10	Philadelphia, PA	43,176	5,039	38,137	10	Norfolk, VA	39,180	29,198	9,981
11	Seattle, WA	39,989	9,940	30,049	11	Mobile, AL	37,381	14,184	23,197
12	Oakland, CA	38,698	12,400	26,299	12	Savannah, GA	35,977	16,889	19,087
13	Morgan City, LA <sup>1</sup>	38,503	217	38,287	13	Texas City, TX	35,930	4,670	31,260
14	Tacoma, WA	35,322	8,230	27,092	14	Beaumont, TX	35,142	5,272	29,870
15	Corpus Christi, TX	29,685	4,965	24,721	15	Baltimore, MD	32,938	14,973	17,965
16	Gramercy, LA	24,261	8,778	15,482	16	Arthur, TX	31,550	6,395	25,155
17	Jacksonville, FL	22,970	11,164	11,805	17	Lake Charles, LA	30,887	5,640	25,246
18	Texas City, TX	22,726	3,264	19,462	18	Christiansted, VI	26,895	4,250	22,645
19	Port Everglades, FL	22,572	12,001	10,570	19	Freeport, TX	25,507	2,493	23,014
20	Miami, FL	22,183	11,084	11,100	20	Baton Rouge, LA	24,181	5,921	18,260
<b>Total, top 20 seaports</b>		<b>1,278,960</b>	<b>383,413</b>	<b>895,546</b>	<b>Total, top 20 seaports</b>		<b>1,046,319</b>	<b>344,039</b>	<b>702,280</b>
<b>Total, U.S. waterborne trade (all seaports)</b>		<b>1,623,863</b>	<b>471,536</b>	<b>1,152,327</b>	<b>Total U.S. waterborne trade (all seaports)</b>		<b>1,518,672</b>	<b>535,527</b>	<b>983,145</b>
<b>Top 20 seaports as share of U.S. maritime total (percent)</b>		<b>78.8</b>	<b>81.3</b>	<b>77.7</b>	<b>Top 20 seaports as share of U.S. maritime total (percent)</b>		<b>68.9</b>	<b>64.2</b>	<b>71.4</b>

**NOTE:** Data do not include intransits (i.e., shipments transiting U.S. ports from one foreign country to another but not counted as part of U.S. official merchandise trade).

<sup>1</sup> The Port of Morgan City, LA specializes in handling imports.

**SOURCE:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, special tabulation, April 2009.

growth also underscores the continued expansion of trade with several Pacific Rim Asian nations and the dominance of the Port of Los Angeles as the nation's top freight gateway by value in 2008. While oceanborne cargo passing through U.S. seaports in 2008 accounted for the largest modal share (48 percent) of the value of overall U.S. merchandise trade, this share has fallen slightly from 49 percent in 1990 as the shares for land trade and air trade have increased slightly (figure 4).

The prominence of the Port of Los Angeles as a top gateway by value of goods reflects the specialization among U.S. seaports. The Pacific and

Atlantic coast ports are heavily involved in the container trade, while the U.S. gulf coast ports are primarily involved in the dry bulk and tanker trade. Gulf ports such as Houston, Texas, lead other U.S. ports in terms of tonnage of international cargo shipments. These shipments are primarily petroleum, agricultural goods, coal, and other bulk commodities. In general, bulk commodities are lower value per ton, and containerized commodities are higher value per ton.

More than 1.5 billion short tons of international maritime cargo were transported through U.S. seaports in 2008. Exports accounted for 35

**TABLE 9. Top 20 U.S. Air Gateways for International Freight, Ranked by Weight: 1990, 2000, and 2008**  
(Short tons)

Rank in 1990	Rank in 2000	Rank in 2008	U.S. airport	1990	2000	2008	Average annual growth rate, 1990–2008
1	1	1	Anchorage, AK	908,188	1,968,751	2,487,270	5.8
3	2	2	Miami, FL	742,709	1,250,482	1,652,356	4.5
2	3	3	JFK, NY	899,328	1,021,028	908,183	0.1
4	4	4	Los Angeles, CA	348,739	643,243	771,710	4.5
5	5	5	Chicago, IL	272,037	556,049	625,339	4.7
107	9	6	Memphis, TN <sup>1</sup>	14	198,624	383,692	76.3
9	8	7	Atlanta, GA	85,719	249,733	292,590	7.1
11	7	8	Newark, NJ	74,633	353,072	275,313	7.5
6	6	9	San Francisco, CA	185,355	367,690	259,126	1.9
10	15	10	Houston, TX	82,152	121,155	192,674	4.8
16	12	11	Washington, VA	36,536	140,977	189,843	9.6
19	14	12	Philadelphia, PA	18,042	124,311	150,968	12.5
12	13	13	Dallas–Fort Worth, TX	69,029	133,513	140,878	4.0
7	11	14	Honolulu, HI	158,691	154,322	139,237	-0.7
13	16	15	Seattle-Tacoma, WA	61,053	116,760	116,979	3.7
46	26	16	Louisville, KY <sup>2</sup>	842	26,439	116,966	31.5
14	22	17	San Juan, PR	47,388	53,134	86,568	3.4
8	17	18	Boston, MA	97,973	112,446	74,824	-1.5
29	20	19	Huntsville, AL	6,168	64,252	73,414	14.8
79	25	20	Indianapolis, IN <sup>3</sup>	66	27,923	71,186	47.4

<sup>1</sup> FedEx relocated its primary hub to Memphis in 1991.

<sup>2</sup> United Parcel Service started all-cargo services at Louisville hub in 1981 and expanded the services in 1998.

<sup>3</sup> FedEx opens major hub in Indianapolis in 1988.

**NOTE:** These weight data are based on nonstop bidirectional air trade by U.S. and foreign carriers between the United States and other countries. The data differ from U.S. Census Bureau weight data for international air freight.

**SOURCE:** U.S. Department of Transportation, Bureau of Transportation Statistics, Office of Airline Information data, June 2009.

percent of that tonnage, and imports accounted for 65 percent (USDOC CB 2009b). About 15 percent, or 232 million short tons, of this maritime cargo involved U.S.-NAFTA trade, and the remaining 85 percent resulted from overseas trade. U.S.-NAFTA maritime trade accounted for 13 percent of the weight of total maritime exports and 17 percent of the weight of imports.

Table 8 shows that the order of the largest seaports changes when the seaports are ranked by tonnage rather than by cargo value. In 2008, the top three seaports by weight were the Port of Houston (more than 150 million short tons of freight), the Port of New Orleans (98 million tons), and the Port of New York and New Jersey (90 million tons). The top 20 seaports accounted for 64 percent of the maritime export tonnage and 71 percent of the import tonnage.

The difference between the rankings of the top maritime ports by value and by tonnage reflects variation in the types of goods being imported and exported, which affects the kinds of vessels and seaports used. The weight and value of commodities are among the factors that determine the use of tanker, bulk, or container vessels. Among the leading seaports in 2008, for example, Houston, the top port by weight, handled more than 150 million short tons worth \$148 billion—about \$980 per ton. By comparison, Los Angeles, the top port by value, handled more than 75 million short tons worth \$244 billion—about \$3,200 per ton. Low-value-per-ton commodities (e.g., petroleum, agricultural, and lumber products) move by bulk and tanker vessels, while higher value merchandise (e.g., electronics, vehicle parts, and other manufactured products) move by container vessels.

### ***Air Freight Gateways***

In 2008, air freight accounted for 24 percent (\$806 billion) of the total U.S. merchandise trade of \$3.4 trillion (figure 4). From 1990 to 2008, the value of inbound and outbound air cargo handled at the U.S. gateway airports grew at an average annual rate of about 8 percent (table 5).

U.S. air trade with Canada and Mexico in 2008 accounted for about 5 percent (\$41 billion) of the value of the total U.S. merchandise trade transported by air, because the majority of U.S.-NAFTA trade moves by land modes. Overall, U.S. air cargo exports represented 48 percent (\$388 billion) of the total air trade. In comparison, maritime exports represented 29 percent (\$472 billion) of the total oceanborne trade (USDOC CB 2009b).



**BOX 2. Air Cargo Origin-Destination Segments and Markets**

To describe the level of inbound and outbound air cargo activity between major U.S. air gateways and foreign airports, this report uses information collected by the Office of Airline Information at the U.S. Department of Transportation, Research and Innovative Technology Administration (RITA), Bureau of Transportation Statistics (BTS).

RITA/BTS collects data on air cargo transported on nonstop bidirectional flights between U.S. and foreign airports. These data are included in the T-100 International Segment Data. The following are examples of nonstop segments for both inbound and outbound flights:

- London–New York
- Tokyo–Chicago
- São Paulo–Miami

RITA/BTS also collects data on air cargo transported between airport market pairs for flights with multiple stops. The data for multistop flights are included in the T-100 International Market Data. The following are examples of market pairs for both inbound and outbound flights:

- Zurich–London–New York (Zurich-New York market)
- Tokyo–Anchorage–Chicago (Tokyo-Chicago market)
- Taipei–Anchorage–Detroit (Taipei-Detroit market)

The T-100 Segment and Market Data cover both U.S. commercial air carriers and foreign carriers operating in the United States. The data cover all scheduled and unscheduled international nonstop and multistop commercial traffic involving aircraft of 60 seats or more that arrive at and depart from U.S. airports. Approximately 140 foreign carriers operating in the United States file information similar to that supplied by U.S. carriers, including the weight of the cargo and the origins and destinations.

This report uses the segment data in the individual air gateways profiles to show the direct airport-to-airport nonstop activity. It uses the market data to illustrate the true origins and destinations for the air freight handled by the airport gateways.

**SOURCE:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, November 2009.

**TABLE 10. Top 10 Airport Pairs for U.S. International Outbound and Inbound Air Freight by Weight: 2008**

Rank in 2008	U.S. airport	Foreign city	Short tons (in thousands)
<b>Exports</b>			
1	Anchorage	Seoul, South Korea	198
2	Anchorage	Tokyo, Japan	157
3	Anchorage	Hong Kong, China	145
4	Anchorage	Taipei, Taiwan	144
5	Miami	São Paulo, Brazil	103
6	Miami	Bogota, Colombia	93
7	Honolulu	Sydney, Australia	71
8	John F. Kennedy, New York	London, United Kingdom	63
9	O'Hare, Chicago	Frankfurt, Germany	49
10	John F. Kennedy, New York	Brussels, Belgium	49
<b>Imports</b>			
1	Anchorage	Seoul, South Korea	455
2	Anchorage	Taipei, Taiwan	328
3	Anchorage	Hong Kong, China	316
4	Anchorage	Shanghai, China	247
5	Miami	Bogota, Colombia	198
6	Anchorage	Tokyo, Japan	154
7	Miami	Guayaquil, Ecuador	89
8	Los Angeles	Tokyo, Japan	88
9	Miami	Lima, Peru	87
10	Miami	Santiago, Chile	76

**NOTES:** This table is based on U.S. and foreign carrier data for nonstop air trade by weight between the United States and other countries. These data differ from U.S. Census Bureau shipper-based merchandise trade statistics. In addition, data for airports in this table reflect individual U.S. airports, while the value data in tables 2 and 3 and figure 2 reflect U.S. Customs ports at which air freight activity was reported. Sometimes a U.S. Customs port corresponds to an individual airport (e.g., JFK International Airport), but in other cases, a U.S. Customs port refers to a broader administrative area (e.g., Chicago, which includes O'Hare International Airport and Midway Airport).

**SOURCE:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Office of Airline Information data, July 20, 2009.

**BOX 3. International Trade Data: Sources and Issues**

In the United States, numerous agencies are involved in the collection, processing, and dissemination of international trade and transportation data. No one dataset provides all the information needed by the transportation community, and multiple sources were used for this report. The integration of these different data sources provides a more complete picture of U.S. international trade and freight flows and trends. Challenges arise when using multiple data sources, including variations in accuracy, reliability, time series, and data definitions.

This report uses trade data from the U.S. Census Bureau's U.S. merchandise trade data; the Bureau of Economic Analysis's (BEA) balance of payments trade data; and the Bureau of Transportation Statistics' (BTS) Transborder Freight Data, Air Cargo Data, and Border Crossing Entry Data.

Data on U.S. total international merchandise trade and trade by air and water modes are from the U.S. Census Bureau's Foreign Trade Division. U.S. total merchandise trade data in inflation-adjusted terms are from BEA. Inflation-adjusted data, however, are unavailable for imports and exports and by mode of transportation. Consequently, this report uses current-dollar data for most of the trade discussions. Data on merchandise trade transported by all land modes, including data on origins and destinations of the trade flows, are from the BTS Transborder Freight Data, which are currently obtained from the U.S. Census Bureau.

This report also uses CBP data on vehicle crossings into the United States from Canada and Mexico. These data represent the number of incoming truck and train crossings, both loaded and unloaded. The data do not count individual unique vehicles. For example, one truck may cross the border many times in one day, and each incoming crossing is counted. These data do not provide information on the goods carried by the trucks and trains or their U.S. destinations.

Traded goods usually move by more than one mode of transportation from origin to final destination. In U.S. trade statistics, the export mode of transportation is the mode used when the U.S. international border is crossed. For imports, the mode of transportation is the last mode used when the freight was transported to the U.S. port of clearance or entry. The available trade data do not distinguish goods moved by intermodal combinations.

For additional information: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, U.S. International Trade and Freight Transportation Trends, Appendix B, Washington, DC: 2003, available at [www.bts.gov/publications/us\\_international\\_trade\\_and\\_freight\\_transportation\\_trends/2003/index.html](http://www.bts.gov/publications/us_international_trade_and_freight_transportation_trends/2003/index.html).

**SOURCE:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, November 2009.

John F. Kennedy International Airport in New York was the leading U.S. airport for international freight by value in 2008, handling about one-fifth (21 percent) of U.S. air imports and exports, valued at \$168 billion. Before 2003, JFK International Airport was the leading gateway of any type by value. Because of a large increase in U.S.-Asia trade, it was overtaken in 2003 by the maritime Port of Los Angeles.

In 2008, U.S. air gateways handled nearly 8 million short tons of international air freight—47 percent outbound as exports and 53 percent inbound as imports (USDOC CB 2009b). Valued at more than \$806 billion, this higher-value-per-ton freight averaged more than \$102,000 per ton. JFK International Airport handled merchandise valued at about \$130,000 per ton. Because the goods transported by air carriers tend to be higher in value per ton (e.g., electronics, clothing, and high-value perishables such as cut flowers) than those carried by other modes, air freight's share of U.S. trade by weight remained less than 1 percent. Because air cargo is mostly higher value merchandise, the value of shipments is a more representative indicator of the importance of air gateways to the nation's international commerce.

By weight, Ted Stevens Anchorage International Airport was the nation's leading air gateway, handling about 2.5 million short tons, more than one-quarter of the total international air freight tonnage in 2008 (table 9).<sup>11</sup> Miami International Airport and New York's JFK followed, handling more than 1.7 million short tons and 908,000 short tons, respectively.

U.S. international air cargo originating from and destined for U.S. freight gateways are transported along major air routes, or air segment pairs between major markets (see box 2). Measured by weight, 5 of the top 10 gateway pairs for imports and 4 of the top 10 gateway pairs for exports in 2008 included Ted Stevens Anchorage International Airport. The

<sup>11</sup> The airport gateway tonnage figures are from the Bureau of Transportation Statistics' Office of Airline Information and reflect carrier data reported by both U.S. and foreign carriers. The data also include transshipment cargo carried by carriers that stop at connecting airports to refuel. For Anchorage, which is a large connecting hub, this means some of its foreign cargo simply passes through the airport to non-U.S. destinations and are not counted as part of official U.S. trade statistics. Therefore, these data are not directly comparable to shipper-based merchandise trade data for international air activity from the U.S. Census Bureau. This explains why JFK was top in value and Anchorage top in weight.



pairing of Anchorage-Seoul ranked first in bidirectional international air cargo, handling more than 650,000 short tons of freight (table 10).

The airport pairs show regional specialization among major U.S. air gateways. All nine foreign airports paired with Anchorage were in Asian Pacific countries: South Korea, Japan, Hong Kong, China, and Taiwan.<sup>12</sup> Los Angeles International Airport was also part of a top gateway pair with an Asian Pacific airport. New York’s John F. Kennedy International Airport and Chicago’s O’Hare International Airport were the major gateways to airports in the United Kingdom, Belgium, and Germany. Miami International Airport’s top gateway pairs were with airports in Brazil, Colombia, Ecuador, Peru, and Chile (USDOT RITA BTS OAI 2009).

### ***Gateways and Data Needs***

The lack of complete data on U.S. international freight hampers research and analysis of trends in international freight movement and its impact on transportation activity within the United States. No single data source provides all the data needed for international transportation research (see box 3). Fully understanding trends in the movement of goods and having reliable forecasts for transportation decision making require consistent and comparable data on both the weight and the value of internationally traded goods. The lack of weight data for land exports remains a problem for transportation freight analysis. The U.S. Census Bureau, the U.S. agency in charge of reporting U.S. merchandise trade data, does not collect shipment weight data for exports transported by truck, rail, and pipeline.

Another data gap for international freight transportation analysis is the lack of comprehensive outbound border-crossing information from official U.S. government sources. Data are only collected for incoming trucks and trains as well as the containers they carry. This data gap continues to limit analysis of transportation activity at the land border gateways, including such issues as capacity needs, congestion management, traffic delays, and safety.

<sup>12</sup> For official merchandise trade statistics, the U.S. Census Bureau reports Hong Kong and Taiwan separately. In this report, China refers to mainland China.

## **Spotlights on Select Challenges**

### ***Water Gateways Tackle Environmental Concerns: Los Angeles and Long Beach***

As society has gained heightened awareness about the environment, maritime gateways have focused considerable effort on how they can best manage their environmental impact. For example, the Port of Los Angeles—now the top maritime gateway by value—and the Port of Long Beach, in partnership with the U.S. Environmental Protection Agency (EPA) and other agencies, adopted the San Pedro Bay Ports Clean Air Action Plan in 2006. It seeks to curb port-related air pollution from trucks, ships, locomotives, and other equipment by at least 45 percent in 5 years. The ports are also engaged in a coordinated plan that targets sources of water and sediment pollution in San Pedro Bay.

The Clean Truck Program at the Port of Los Angeles provides financial incentives to trucking companies to purchase vehicles powered by natural gas or lithium battery electric power. The Los Angeles Harbor Commission approved up to \$44.2 million for the program in 2009, following a 2008 program that put into service more than 2,200 trucks that met or exceeded 2007 EPA emission standards. The port hopes to put 1,000 alternative fuel trucks into service by the end of 2009. In the first 6 months of the Clean Truck Program, truck pollution at the Los Angeles-Long Beach port complex was reduced by more than 23 percent (Port of Los Angeles 2009).

Among other initiatives, the Port of Los Angeles approved funding in 2007 for developing a new hybrid tugboat that blends battery power with diesel generators. The first hybrid tug debuted in 2009. The hybrid design is projected to cut emissions by 44 percent and fuel consumption by up to 30 percent (EPA 2008). Traditional tugboats can also be retrofitted with the hybrid technology to make them more energy efficient. In 2009, the Port of Los Angeles, along with the Port of Long Beach, funded an “eco-tug” demonstration project that will retrofit existing engines on a harbor tugboat with new technology to reduce emissions. Port funds are also going toward a prototype all-electric truck for use in the marine

terminal and in port drayage service. In addition, as part of a capital improvement program, the Port of Los Angeles is using sustainable practices in the redevelopment of container terminals and transportation infrastructure.

The Port of Long Beach's Clean Trucks Program, which started October 1, 2008, aims to cut by 2012 air pollution from the thousands of trucks that haul cargo containers to and from the port's terminals. The key component of the port's program is a ban to phase out the oldest, highest-polluting trucks in favor of trucks that meet 2007 federal emission standards. Long Beach's program started with a ban on 1988 and older trucks. On January 1, 2010, 1993 and older trucks will be banned, as well as 1994 to 2003 trucks that are not retrofitted to reduce air pollution. Motor carriers must equip their port trucks model year 1994 to 2003 with a California Air Resources Board verified emission control device to gain access into the port's container terminals. As of mid-September, 2009 the Port of Long Beach reports that nearly 5,000 clean large trucks are moving more than half of the truck-hauled cargo at the port (Port of Long Beach 2009).

### ***Air Gateways Handle Growth and Capacity Issues: JFK International Airport***

John F. Kennedy International Airport is America's top international air cargo gateway. In 2008, more than 21 percent of U.S. international air cargo by value passed through it. Effectively managing such a large amount of air freight while continuing to maintain and upgrade the infrastructure is a key challenge. JFK's infrastructure includes 9 miles of runways, 25 miles of taxiways, more than 30 miles of roadways, and an air cargo area covering 1,700 acres (Port Authority of New York and New Jersey 2009b, 2009c).

Between 2003 and 2008, international air cargo handled at JFK grew 50 percent, from \$112 billion to \$168 billion. Exports grew 84 percent, and imports grew 26 percent. In 2008, the airport moved an average of nearly \$460 million in merchandise cargo each day, carried by airlines from more than 50 countries. The top commodities transported through

JFK are high-value products, such as pearls and precious stones, electronic equipment and machinery, and precision instruments. Additionally, scheduled passenger flights at JFK grew 71 percent, from 119,700 in 2003 to 204,650 in 2008, creating even more pressure to maintain the infrastructure.

JFK's ability to handle growing cargo as well as passenger demand is based primarily on its airfield capacity—the number and placement of runways and taxiways, types of navigational aids, and types of air traffic control and facilities. Other factors, such as airline scheduling, aircraft performance, mix of aircraft types, weather, and runway closures, affect how much of the airport's capacity can be used at a given time. Such variability in capacity can result in airport congestion and eventually air traffic delays. On a typical day, when demand approaches or exceeds capacity for extended periods of time, any disruption can create persistent delays.

While there are no plans for constructing additional runways to increase the physical airfield capacity, JFK plans to improve operational efficiency for both good and adverse weather capacity by changing arrival and departure procedures, deploying advanced technology, and restructuring airspace to provide more efficient air routes. Moreover, in June 2009, the Port Authority of New York and New Jersey accepted a grant under the American Recovery and Reinvestment Act of 2009 to help fund a runway rehabilitation and widening project at JFK (Port Authority of New York and New Jersey 2009a).

JFK has 4 million square feet of warehouse and office space for cargo operations. In recent years, more than \$375 million has been invested in new cargo facilities. Plans to redevelop two older cargo facilities would add about 600,000 square feet of new cargo space (Port Authority of New York and New Jersey 2009b).

### ***Land Gateways Manage Complex Issues: Detroit***

The busiest land transportation gateway in the United States—and fifth-largest gateway overall—is Detroit, Michigan. In 2008, merchandise

trade passing through Detroit was valued at \$120 billion, or 15 percent of the value of U.S. total land trade. While some goods move through Detroit by rail, most freight travels through this gateway via truck. Three major transportation pathways connect Detroit and Windsor, Ontario: the Ambassador Bridge, the Detroit-Windsor Tunnel, and rail tunnels. There is also a truck ferry. The Ambassador Bridge currently carries most of Detroit's truck traffic.

The confluence of transportation issues presented at the Detroit gateway underscores the complexity that characterizes the flow of land trade today. By virtue of its geographic location and the sheer volume of freight it handles, Detroit is important in the context of U.S.-NAFTA trade and border security. The heavy—and growing—flow of goods highlights three other critical concerns: congestion, infrastructure management, and environmental impact.

These complex issues are at play in recent efforts to improve cross-border transportation at the Detroit gateway. A binational planning and feasibility study completed in 2004 projected a need for additional roadway capacity on both sides of the border and an additional river crossing over the next two decades (Canada-U.S.-Ontario-Michigan Border Transportation Partnership 2004). To accommodate more truck traffic, the private owner of the Ambassador Bridge has plans to build a parallel span but has yet to secure needed permissions. Meanwhile, national, state, and provincial agencies from the United States and Canada plan a separate new bridge that would also link Detroit and Windsor.

The potential new bridge projects have led to discussions about their environmental impact, their effect on communities that would be encroached on by new roadways, and the traffic congestion that new routes might create. These and related concerns point to the intricate network of issues to be addressed to ensure efficient and safe movement of freight at the land gateways.



## Highlights of Top 25 Freight Gateways by Shipment Value

This section presents gateway-specific tables and brief highlights of key transportation data for U.S. international merchandise freight passing into and out of the United States.

For **land gateways** the report presents data on:

- the value of imports and exports,
- the weight of imports,
- the mode of transportation,
- top origin and destination states,
- annual incoming truck and rail containers,
- annual land trade value,
- trend in annual incoming trucks, and
- trend in monthly incoming trucks.

For **air gateways** the report presents data on:

- the value and weight of imports and exports,
- origin and destination country and city,
- air cargo tonnage,
- top carriers to and from the airports,
- trend in annual air tonnage, and
- trend in monthly air tonnage.

For **water gateways** the report presents data on:

- the value and weight of imports and exports,
- containerized cargo imports and exports,
- origin and destination country and seaport,
- port calls by vessel type and capacity,
- trend in annual maritime tonnage, and
- trend in monthly maritime tonnage.

The report presents the freight gateways according to their ranking by value of shipments in 2008, as listed in table 2. Additional information on more than 200 gateways that are key points of entry and exit for U.S. international trade is available on the BTS website at [www.bts.gov](http://www.bts.gov).

**No. 1 by value****Port of Los Angeles, California—Water Gateway**

The maritime Port of Los Angeles was the nation's busiest waterborne freight gateway for international merchandise trade by value of shipments in 2008. It was also the top gateway by value among all land, water, and air gateways. In 2008, merchandise trade moving in and out of the Port of Los Angeles (\$244 billion) accounted for 15 percent of the value of the total U.S. international waterborne trade. These freight shipments represented more than 7 percent of U.S. waterborne exports and 18 percent of waterborne imports (table 1).

By value, Los Angeles was a major gateway for imports, with inbound shipments accounting for 86 percent of the value of the freight it handled in 2008. By comparison, imports nationwide accounted for 71 percent of the value of total U.S. international waterborne trade (table 1).

By weight, the facility ranked fourth among all U.S. water gateways in 2008, handling 75 million tons of freight, or 5 percent of total U.S. international waterborne freight tonnage (table 1). Although Los Angeles is a significant gateway for both imports and exports, inbound freight shipments accounted for more than 70 percent of the tonnage handled in 2008.

Los Angeles is primarily a port for ships transporting containers—large, portable, reusable metal boxes that typically carry high-value cargo—which explains why this port ranked first by value and fourth by weight. In 2008, the port handled 5.6 million TEUs (20-foot equivalent units) carrying international imports and exports (table 1). This cargo accounted for 20 percent of the containerized TEUs handled at the nation's seaports. About 72 percent of the port's containerized cargo was inbound. The top containerized imports were furniture, apparel, electronic products, toys, and computer equipment. The top containerized exports were

paper products, synthetic resins, fabric, animal feed, and scrap metal.<sup>13</sup> By weight of shipments, China was the port's leading origin country for imports in 2007, followed by Taiwan and South Korea.<sup>14</sup> China was also the leading destination for exports from Los Angeles, followed by Taiwan and Japan (table 2).<sup>15</sup> The leading seaports for cargo arriving at and leaving Los Angeles were Shanghai, China, and Kao Hsiung, Taiwan, respectively (table 3).

There were 2,190 vessels calls at the Port of Los Angeles in 2007. Container vessels made the most calls at the port, accounting for 72 percent. About 14 percent of the calls were by tankers (table 4).

<sup>13</sup> Port of Los Angeles website, [www.portoflosangeles.org/newsroom/press\\_kit/growth.asp](http://www.portoflosangeles.org/newsroom/press_kit/growth.asp) as of Aug. 10, 2009.

<sup>14</sup> For official merchandise trade statistics, the U.S. Census Bureau reports Hong Kong and Taiwan separately. In this report, "China" refers to mainland China.

<sup>15</sup> Data for 2008 are not available for weight and vessels calls. Data in tables 2, 3, and 4 are from 2007.

**TABLE 1. Value and Weight of U.S. International Merchandise Freight: 2008**

Overall and Water Modes	Total	Exports	Imports
Total U.S. trade by all modes (land, water, air) (\$ millions)	3,189,710	1,198,063	1,991,617
Total U.S. trade by water (\$ millions)	1,623,863	471,536	1,152,327
<b>Value of International Waterborne Freight via Los Angeles</b>			
Total waterborne freight through port (\$ millions)	243,910	34,823	209,086
Percent of total U.S. waterborne freight	15.0	7.4	18.1
<b>Weight of Waterborne Freight</b>			
Total U.S. trade by water (short tons, millions)	1,519	536	983
Total waterborne freight through port (short tons, millions)	75	22	54
Percent of total U.S. waterborne freight	5.0	4.1	5.4
<b>Containerized Freight</b>			
Total U.S. containerized freight (TEUs, thousands)	28,309	11,277	17,032
Total containerized freight through port (TEUs, thousands)	5,611	1,598	4,014
Percent of total U.S. containerized freight	19.8	14.2	23.6

KEY: TEU = Twenty-foot equivalent unit

**TABLE 2. Top 3 Destination and Origin Countries for International Waterborne Freight via Port of Los Angeles, CA: 2007 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	China Mainland	4,166	1	China Mainland	15,425
2	Taiwan	3,420	2	Taiwan	4,365
3	Japan	2,120	3	South Korea	4,224

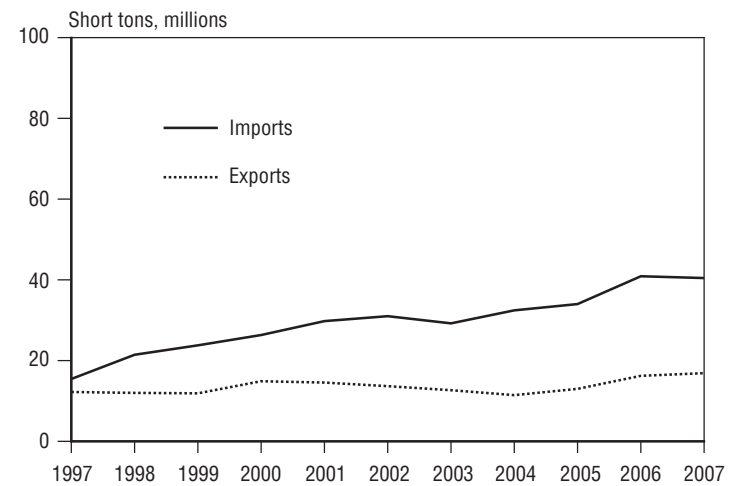
**TABLE 3. Top 3 Destination and Origin Ports for International Waterborne Freight via Port of Los Angeles, CA: 2007 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Kao Hsiung, Taiwan	3,133	1	Shanghai, China Mainland	6,441
2	Shanghai, China Mainland	1,808	2	Kao Hsiung, Taiwan	3,602
3	Singapore, Singapore	1,573	3	Yantian, China Mainland	3,002

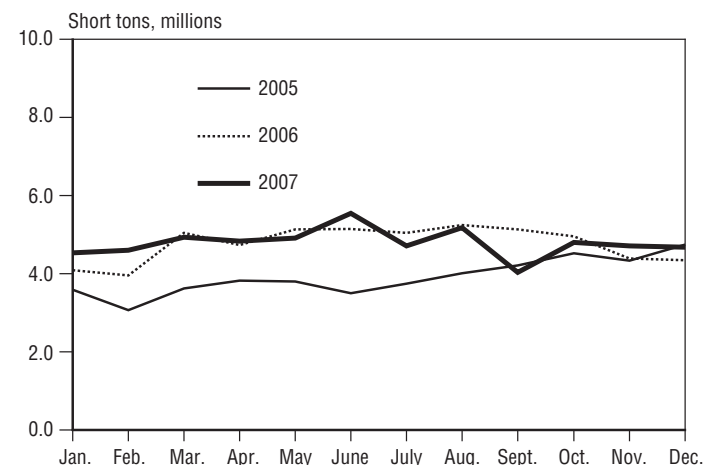
**TABLE 4. Port Calls By Vessel Type, Port of Los Angeles, CA: 2008**

	Container	Tanker	Dry bulk	General	Other	Total
Calls	1,574	302	122	119	74	2,191
Capacity (deadweight tons, thousands)	87,359	14,863	5,390	4,206	1,298	113,116

**FIGURE 1. Maritime Imports and Exports via Port of Los Angeles, CA: 1997–2007**



**FIGURE 2. Monthly Maritime Cargo via Port of Los Angeles, CA: 2005–2007**



**SOURCES:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from multiple sources, October 2009. **Table 1**—Overall and water modes, value and weight of maritime cargo: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, U.S. Exports and Imports of Merchandise, available at [www.census.gov/foreign-trade/www](http://www.census.gov/foreign-trade/www) as of May 12, 2009. Containerized freight: U.S. Department of Transportation, Maritime Administration, [www.marad.dot.gov/library\\_landing\\_page/data\\_and\\_statistics/Data\\_and\\_Statistics.htm](http://www.marad.dot.gov/library_landing_page/data_and_statistics/Data_and_Statistics.htm) as of Aug. 5, 2009. **Tables 2 and 3**—U.S. Army Corps of Engineers, Foreign Cargo Data, July 20, 2009, available at [www.ndc.iwr.usace.army.mil/data/dataimex.htm](http://www.ndc.iwr.usace.army.mil/data/dataimex.htm) as of July 20, 2009. **Table 4**—Maritime Administration, special tabulation, July 20, 2009. **Figure 1**—U.S. Army Corps of Engineers, Foreign Cargo Data, 1997–2007, available at [www.iwr.usace.army.mil/ndc/db/foreign/db/](http://www.iwr.usace.army.mil/ndc/db/foreign/db/) as of July 20, 2009. **Figure 2**—U.S. Army Corps of Engineers, special tabulation, July 20, 2009.



## No. 2 by value

# Port of New York and New Jersey, New York/New Jersey—Water Gateway

The maritime Port of New York and New Jersey was the nation's second busiest waterborne freight gateway for international trade by value of shipments in 2008. It also ranked second among all land, water, and air gateways, handling more than \$185 billion dollars of international freight. This amount of trade represented about 11 percent of the value of U.S. international waterborne freight shipments, accounting for 11 percent of U.S. waterborne exports and 12 percent of imports (table 1).

By weight, the Port of New York and New Jersey ranked third among all U.S. water gateways in 2008. The port processed 6 percent of all U.S. international waterborne tonnage (90 million tons). Imports accounted for a substantial share of both the tonnage and value of the freight handled by the port, with 75 percent (68 million short tons) of the total tonnage and 73 percent (\$135 billion) of the total value (table 1).

The port handled nearly 4 million TEUs (20-foot equivalent units) in 2008 (table 1). It ranked third in the number of TEUs handled, following the California ports of Los Angeles and Long Beach.

By weight of shipments, Canada was the top origin country for imports to the Port of New York and New Jersey in 2007, the latest year for which data are available, and China was the top destination country for exports (table 2).<sup>16</sup> The top foreign ports of origin and destination were Point Tupper, Canada, and Hong Kong, China, respectively (table 3). Of more than 4,900 vessel calls at the port in 2007, 51 percent were container ships and 29 percent were tankers (table 4).

The Port of New York and New Jersey's top import cargo commodities on a tonnage basis were beverages, vehicles, stone, plaster, and cement. The top general cargo export commodities were wood pulp, vehicles, plastics, and machinery. This gateway continues to be an important water ports for handling automobiles in the nation. Automobiles were

a key driver of its growth in exports in 2008 for both general cargo and containerized cargo.<sup>17</sup>

<sup>16</sup> Data for 2008 are not available for weight and vessels calls. Data in tables 2, 3, and 4 are from 2007.

<sup>17</sup> Port Authority of New York and New Jersey website, [www.panynj.gov](http://www.panynj.gov) as of Aug. 10, 2009.



**TABLE 1. Value and Weight of U.S. International Merchandise Freight: 2008**

Overall and Water Modes	Total	Exports	Imports
Total U.S. trade by all modes (land, water, air) (\$ millions)	3,189,710	1,198,063	1,991,617
Total U.S. trade by water (\$ millions)	1,623,863	471,536	1,152,327
<b>Value of International Waterborne Freight via New York/New Jersey</b>			
Total waterborne freight through port (\$ millions)	185,385	50,568	134,817
Percent of total U.S. waterborne freight	11.4	10.7	11.7
<b>Weight of Waterborne Freight</b>			
Total U.S. trade by water (short tons, millions)	1,519	536	983
Total waterborne freight through port (short tons, millions)	90	23	68
Percent of total U.S. waterborne freight	6.0	4.3	6.9
<b>Containerized Freight</b>			
Total U.S. containerized freight (TEUs, thousands)	28,309	11,277	17,032
Total containerized freight through port (TEUs, thousands)	3,956	1,413	2,542
Percent of total U.S. containerized freight	14.0	12.5	14.9

KEY: TEU = Twenty-foot equivalent unit

**TABLE 2. Top 3 Destination and Origin Countries for International Waterborne Freight via Port of New York/New Jersey: 2007 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	China Mainland	2,177	1	Canada	15,577
2	Turkey	1,340	2	China Mainland	4,172
3	India	912	3	United Kingdom	3,631

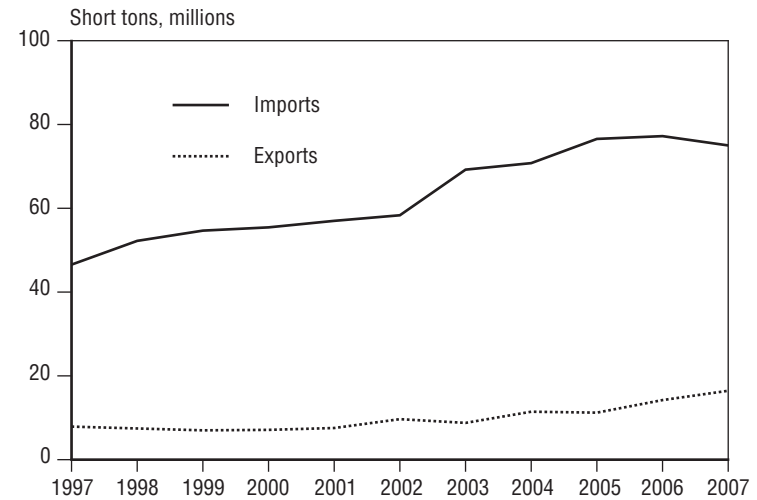
**TABLE 3. Top 3 Destination and Origin Ports for International Waterborne Freight via Port of New York/New Jersey: 2007 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Hong Kong, China Hong Kong	758	1	Point Tupper, Canada	8,317
2	Shanghai, China Mainland	708	2	Whiffen Head, Canada	2,426
3	Singapore, Singapore	543	3	Rotterdam, Netherlands	2,076

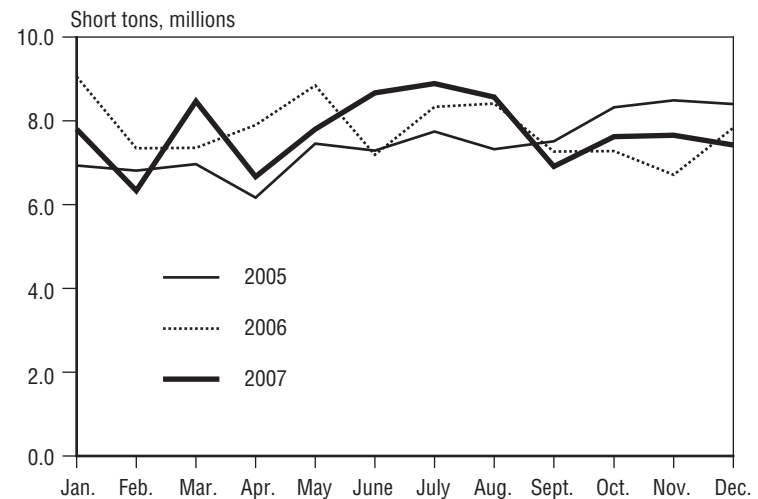
**TABLE 4. Port Calls By Vessel Type, Port of New York/New Jersey: 2007**

	Container	Tanker	Dry bulk	General	Other	Total
Calls	2,549	1,443	274	105	597	4,968
Capacity (deadweight tons, thousands)	127,359	77,897	10,788	1,577	14,805	232,426

**FIGURE 1. Maritime Imports and Exports via Port of New York/New Jersey: 1997–2007**



**FIGURE 2. Monthly Maritime Cargo via Port of New York/New Jersey: 2005–2007**



**SOURCES:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from multiple sources, October 2009. **Table 1**—Overall and water modes, value and weight of maritime cargo: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, U.S. Exports and Imports of Merchandise, available at [www.census.gov/foreign-trade/www](http://www.census.gov/foreign-trade/www) as of May 12, 2009. Containerized freight: U.S. Department of Transportation, Maritime Administration, [www.marad.dot.gov/library\\_landing\\_page/data\\_and\\_statistics/Data\\_and\\_Statistics.htm](http://www.marad.dot.gov/library_landing_page/data_and_statistics/Data_and_Statistics.htm) as of Aug. 5, 2009. **Tables 2 and 3**—U.S. Army Corps of Engineers, Foreign Cargo Data, July 20, 2009, available at [www.ndc.iwr.usace.army.mil/data/dataimex.htm](http://www.ndc.iwr.usace.army.mil/data/dataimex.htm) as of July 20, 2009. **Table 4**—Maritime Administration, special tabulation, July 20, 2009. **Figure 1**—U.S. Army Corps of Engineers, Foreign Cargo Data, 1997–2007, available at [www.iwr.usace.army.mil/ndc/db/foreign/dbf/](http://www.iwr.usace.army.mil/ndc/db/foreign/dbf/) as of July 20, 2009. **Figure 2**—U.S. Army Corps of Engineers, special tabulation, July 20, 2009.

**No. 3 by value****John F. Kennedy International Airport, New York—Air Freight Gateway**

John F. Kennedy (JFK) International Airport in New York was the nation's busiest international air freight gateway by value of shipments in 2008. It was the third busiest overall by value when compared with all U.S. air, land, and sea freight gateways.

In 2008, 21 percent of the value of all U.S. international air freight moved through JFK (table 1). About \$168 billion worth of merchandise trade passed through JFK in 2008, an increase of 4 percent from \$161 billion in 2007. By value, exports in the same period grew 11 percent, and imports fell 2 percent (USDOC CB 2009b).<sup>18</sup> By weight, JFK ranked third among all air gateways, handling 10 percent of U.S. international air freight tonnage (table 1).<sup>19</sup> It handled more than 900,000 tons of international air cargo in 2008, down 7 percent from 2007 (table 2).

Machinery and electrical machinery were the top two commodities imported through JFK in 2007, the most recent year for which detailed commodity information is available. They were followed by woven and knit apparel. Major commodities exported through JFK included machinery, electrical machinery, and optical/medical instruments.

JFK serves as a major hub for movement of bidirectional air freight between the United States and Europe. In 2008, the top three JFK origin-destination trade-route pairs on nonstop segments were in Europe: London, Brussels, and Luxembourg (table 4). However, information on the actual markets from which goods are imported and to which goods are exported shows that most of the markets were actually in Asia and that Europe's hub airports were only links in the global supply-chain. In 2008, the top origin markets for merchandise imports through JFK were Seoul, Taipei, London, and Hong Kong. Similarly, the top destination markets for merchandise exports from JFK were London, Seoul, and Tokyo.<sup>20</sup> Eighty-five air carriers operate out of JFK. In 2008, the top carri-

ers for air freight by weight were American Airlines, Cargolux Airlines, World Airways, and British Airways (table 5).

For several years, JFK ranked as the number one gateway in the country by value of international merchandise trade. In 2003, however, it fell behind the maritime Port of Los Angeles, and in 2008, it fell behind the maritime Port of New York and New Jersey.

<sup>18</sup> The 2007 data used in this comparison are not presented in table 1. The data are available online in the gateways database at [www.bts.gov](http://www.bts.gov).

<sup>19</sup> Ranking of air gateways by weight is available in table 9 of this report's overview section.

<sup>20</sup> This information is based on Form 41 International Market Data from the Bureau of Transportation Sta-

tistics, Office of Airline Information. Origin-destination airport-pair data by value are not available from the merchandise trade data. See box 2, page 15, for further discussion of segment and market data.

**TABLE 1. Value and Weight of U.S. International Merchandise Freight: 2008**

Overall and Air Mode	Total	Exports	Imports
Total U.S. trade by all modes (land, sea, air) (\$ millions)	3,189,710	1,198,063	1,991,617
Total U.S. trade by air (\$ millions)	805,574	388,347	417,227
<b>Value of International Air Freight via JFK, NY</b>			
Total air trade through JFK, NY (\$ millions)	167,966	85,516	82,450
Percent of total U.S. air freight value	20.9	22.0	19.8
<b>Weight of International Air Freight</b>			
Total international air freight through U.S. gateways (short tons)	9,427,627	4,256,630	5,170,997
Total U.S. air freight via JFK, NY (short tons)	908,183	435,999	472,184
Percent of total U.S. air freight weight	9.6	10.2	9.1

**TABLE 2. Total Air Freight Exports and Imports via JFK, NY: 2000–2008 (Short tons, thousands)**

	2000	2005	2006	2007	2008
Imports	598	533	540	529	472
Exports	423	393	402	445	436
<b>Total</b>	<b>1,021</b>	<b>926</b>	<b>941</b>	<b>974</b>	<b>908</b>

**TABLE 3. Top 3 Destination and Origin Countries for International Air Freight via JFK, NY: 2008 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	United Kingdom	74	1	United Kingdom	80
2	Belgium	70	2	Belgium	49
3	Germany	52	3	Germany	41

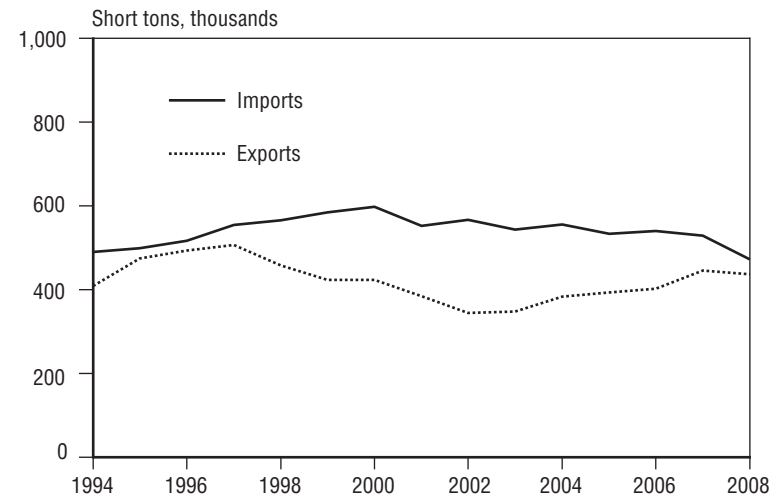
**TABLE 4. Top 3 Destination and Origin Cities for International Air Freight via JFK, NY: 2008 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	London, United Kingdom	63	1	London, United Kingdom	63
2	Brussels, Belgium	49	2	Luxembourg, Luxembourg	35
3	Paris, France	28	3	Paris, France	28

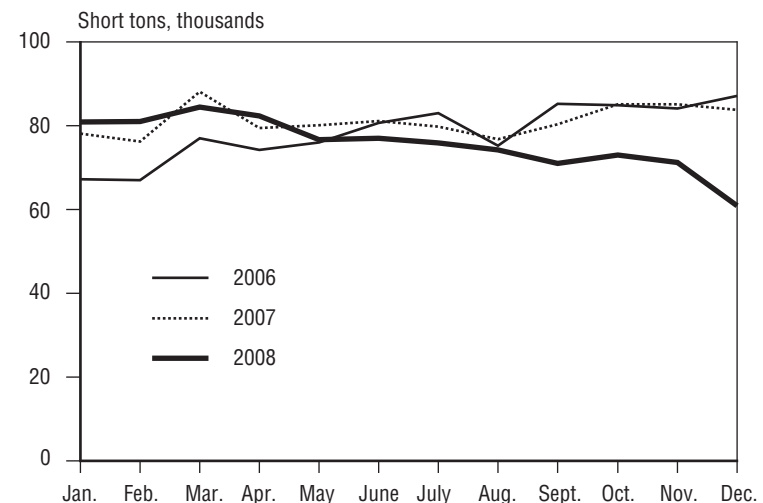
**TABLE 5. Top 3 Air Carriers for Exports and Imports via JFK, NY: 2008 (Short tons, thousands)**

Rank	Export carrier	Tons	Rank	Import carrier	Tons
1	American Airlines Inc.	38	1	American Airlines Inc.	52
2	World Airways Inc.	37	2	Cargolux Airlines Intl. S.A.	40
3	British Airways Plc	30	3	World Airways Inc.	32

**FIGURE 1. Air Freight Exports and Imports via JFK, NY: 1994–2008**



**FIGURE 2. Monthly International Air Cargo via JFK, NY: 2006–2008**



**SOURCES:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from multiple sources: **Table 1**—Value data: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, U.S. Exports and Imports of Merchandise, available at [www.census.gov/foreign-trade/www](http://www.census.gov/foreign-trade/www) as of May 12, 2009. Weight data: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Form 41 Traffic—T-100 Segment Data, various years, as of July 20, 2009. **Tables 2, 3, 4, and 5 and Figures 1 and 2**—U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Form 41 Traffic—T-100 Segment Data, various years, as of July 20, 2009.

**No. 4 by value****Port of Houston, Texas—Water Gateway**

The maritime Port of Houston was the nation's third busiest freight gateway for waterborne international trade by value of shipments in 2008. It ranked fourth among all land, water, and air gateways, handling \$148 billion of international freight. This amount of trade represented about 9 percent of the value of U.S. international waterborne freight shipments, accounting for 15 percent of U.S. waterborne exports and 7 percent of imports (table 1).

By weight, the facility ranked first among all U.S. water gateways in 2008. The port handled 150 million tons of freight, or 10 percent of all U.S. international waterborne tonnage (table 1). Houston primarily handles noncontainerized bulk products. Unlike specialized products transported via containers, this freight typically consists of heavy, high-volume products, such as oil, ore, and grain.

Inbound shipments accounted for 62 percent (93 million tons) of the 150 million tons shipped through the Port of Houston. These waterborne imports were valued at \$79 billion, or about \$847 per ton. Exports accounted for 38 percent of tonnage and were valued at \$69 billion, or about \$1,200 per ton. These figures highlight the higher value per ton of exported merchandise in relation to imported merchandise at this port. Houston handled 1.4 million TEUs (20-foot equivalent units) in 2008 (table 1).

In 2007, Mexico was Houston's top trading partner for inbound and outbound shipments, accounting for 29 million short tons, followed by Venezuela and Algeria (table 2).<sup>21</sup> The Port of Cayo Arcas, Mexico was the top origin point for imports, and the Port of Rotterdam, Netherlands was the major destination for exports, followed by Tuxpan, Mexico (table 3). More than 6,190 vessel calls were made to the Port of Houston in 2007. Of these, 61 percent were tankers and 13 percent were container-ships (table 4).

In 2007, the major commodities imported and exported by tonnage through the Port of Houston included petroleum and petroleum products, organic chemicals, iron and steel, natural stone, and cereal and cereal products. The major commodities imported and exported by value through this gateway included petroleum and petroleum products, machinery, organic chemicals, iron and steel, and plastics.<sup>22</sup>

<sup>21</sup> Data for 2008 are not available for weight and vessels calls. Data in tables 2, 3, and 4 are from 2007.

<sup>22</sup> Port of Houston Authority website, [www.portofhouston.com/busdev/tradedevelopment/tradestatistics.html](http://www.portofhouston.com/busdev/tradedevelopment/tradestatistics.html) as of Aug. 3, 2009.

**TABLE 1. Value and Weight of U.S. International Merchandise Freight: 2008**

Overall and Water Modes	Total	Exports	Imports
Total U.S. trade by all modes (land, water, air) (\$ millions)	3,189,710	1,198,063	1,991,617
Total U.S. trade by water (\$ millions)	1,623,863	471,536	1,152,327
<b>Value of International Waterborne Freight via Houston</b>			
Total waterborne freight through port (\$ millions)	147,695	68,821	78,873
Percent of total U.S. waterborne freight	9.1	14.6	6.8
<b>Weight of Waterborne Freight</b>			
Total U.S. trade by water (short tons, millions)	1,519	536	983
Total waterborne freight through port (short tons, millions)	150	57	93
Percent of total U.S. waterborne freight	9.9	10.7	9.5
<b>Containerized Freight</b>			
Total U.S. containerized freight (TEUs, thousands)	28,309	11,277	17,032
Total containerized freight through port (TEUs, thousands)	1,363	789	574
Percent of total U.S. containerized freight	4.8	7.0	3.4

KEY: TEU = Twenty-foot equivalent unit

**TABLE 2. Top 3 Destination and Origin Countries for International Waterborne Freight via Port of Houston, TX: 2007 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Mexico	7,242	1	Mexico	21,911
2	Netherlands	2,746	2	Venezuela	8,897
3	Italy	2,667	3	Algeria	5,369

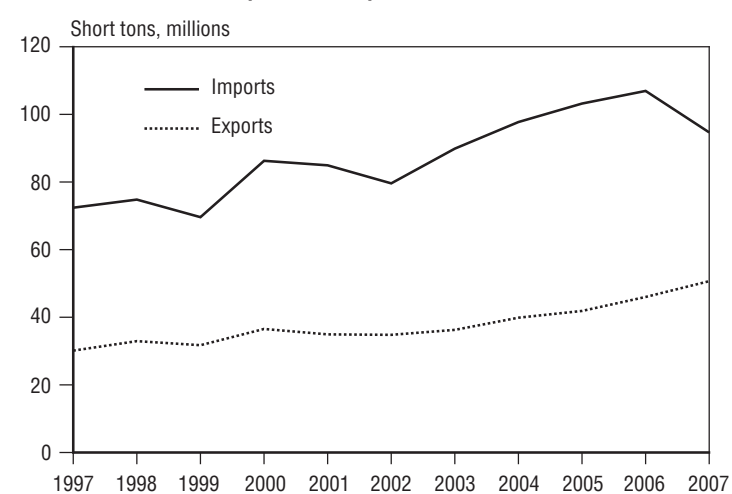
**TABLE 3. Top 3 Destination and Origin Ports for International Waterborne Freight via Port of Houston, TX: 2007 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Rotterdam, Netherlands	2,426	1	Cayo Arcas, Mexico	15,217
2	Tuxpan, Mexico	2,314	2	La Salina, Mexico	4,767
3	Antwerp, Belgium	2,118	3	Ras Tanura, Saudi Arabia	4,315

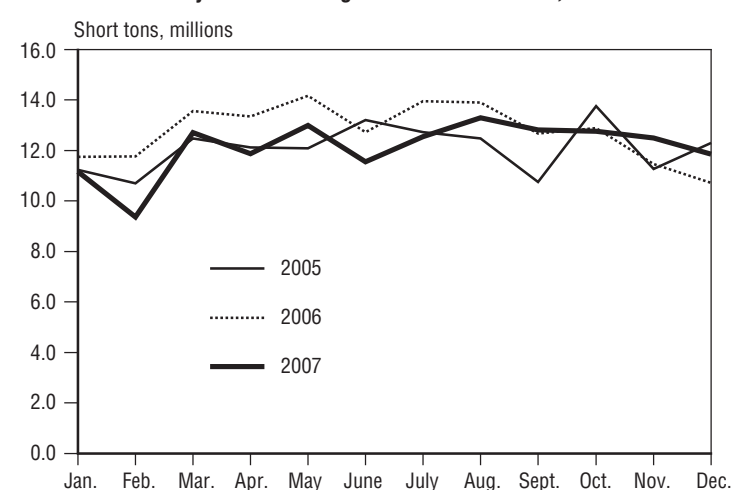
**TABLE 4. Port Calls by Vessel Type, Port of Houston, TX: 2007**

	Container	Tanker	Dry bulk	General	Other	Total
Calls	818	3,757	800	399	421	6,195
Capacity (deadweight tons, thousands)	34,090	175,784	32,144	9,653	15,374	267,045

**FIGURE 1. Maritime Imports and Exports via Port of Houston, TX: 1997–2007**



**FIGURE 2. Monthly Maritime Cargo via Port of Houston, TX: 2005–2007**



**SOURCES:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from multiple sources, October 2009. **Table 1**—Overall and water modes, value and weight of maritime cargo: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, U.S. Exports and Imports of Merchandise, available at [www.census.gov/foreign-trade/www](http://www.census.gov/foreign-trade/www) as of May 12, 2009. Containerized freight: U.S. Department of Transportation, Maritime Administration, [www.marad.dot.gov/library\\_landing\\_page/data\\_and\\_statistics/Data\\_and\\_Statistics.htm](http://www.marad.dot.gov/library_landing_page/data_and_statistics/Data_and_Statistics.htm) as of Aug. 5, 2009. **Tables 2 and 3**—U.S. Army Corps of Engineers, Foreign Cargo Data, July 20, 2009, available at [www.ndc.ivr.usace.army.mil/data/dataimex.htm](http://www.ndc.ivr.usace.army.mil/data/dataimex.htm) as of July 20, 2009. **Table 4**—Maritime Administration, special tabulation, July 20, 2009. **Figure 1**—U.S. Army Corps of Engineers, Foreign Cargo Data, 1997–2007, available at [www.iwr.usace.army.mil/ndc/db/foreign/db/](http://www.iwr.usace.army.mil/ndc/db/foreign/db/) as of July 20, 2009. **Figure 2**—U.S. Army Corps of Engineers, special tabulation, July 20, 2009.

**No. 5 by value**

**Detroit, Michigan—Land Gateway**

Detroit was the nation's busiest land border gateway by value for imports and exports transported across the border by highways, railroads, and pipelines in 2008. Its land ports were the fifth leading gateway when compared with all U.S. land, air, and sea freight gateways.

In 2008, merchandise trade passing through Detroit (\$120 billion) accounted for 15 percent of the value of U.S. total land trade. These freight shipments accounted for 18 percent of all U.S. land exports and 12 percent of land imports. Detroit was a major gateway for both exports and imports, with outbound shipments accounting for 55 percent of the value of freight handled by its land ports and inbound shipments accounting for 45 percent in 2008 (table 1).

Trucking was by far the most heavily used mode of transportation for freight passing through Detroit, accounting for 84 percent of the value (\$101 billion) of total land trade in 2008, down from 91 percent in 2000. Rail accounted for 15 percent in 2008, up from 9 percent in 2000 (table 2). By weight, trucking also accounted for the largest share of land imports tonnage (see insert table).

Detroit is an international gateway that serves almost every state. In 2008, about 74 percent of the value of truck freight passing through Detroit originated or terminated outside Michigan. Nearly two-thirds (65 percent) of imports that passed through Detroit by truck, and 81 percent of truck exports, were to and from other states. The top three states served by Detroit's land transportation facilities were Michigan, Ohio, and California, accounting for 48 percent of the merchandise trade transported through Detroit (table 3).

Thousands of commercial trucks cross daily into the United States from Canada via the Detroit-Windsor Tunnel and the Ambassador Bridge. The tunnel and bridge handled more than 1.5 million incoming truck crossings in 2008, down 15 percent from about 1.8 million crossings in 2007 (figure 1). These trucks carried about 1.5 million containers into the United States from Canada in 2008. By comparison, about 210,000

rail containers from Canada crossed into the United States at Detroit in 2008, continuing a decline that began in 2000.

**Weight of Land Imports via Detroit, MI, by Mode: 2008**

Mode	Tonnage	Percent
<b>Total</b>	<b>16,422,385</b>	<b>100.0</b>
Truck	12,706,190	77.4
Rail	3,494,711	21.3
Pipeline	221,227	1.3
Other <sup>1</sup>	257	0.002

<sup>1</sup>Other includes mail, pedestrians carrying freight, Foreign Trade Zone, and miscellaneous.  
**SOURCE:** USDOT, RITA, BTS, Transborder Freight Data. Weight data for land exports are unavailable.

The recent national economic downturn, the decline in production by the Big Three automakers (General Motors, Ford, and Chrysler), and the overall slowdown in heavy manufacturing activities are likely to continue to influence freight traffic at Detroit's land facilities

and in the freight transportation corridors they serve. (See discussion, page 18.)

**TABLE 1. Value of U.S. International Merchandise Freight: 2008 (\$ millions)**

Overall and Land Modes	Total	Exports	Imports
Total U.S. trade by all modes (land, sea, air)	3,400,661	1,300,532	2,100,129
Total U.S. trade by land	829,875	365,269	464,606
<b>Value of International Land Freight via Detroit, MI</b>			
Total land trade through port	120,168	66,454	53,714
Percent of total U.S. land freight value	14.5	18.2	11.6
<b>Value of International Land Freight by Mode via Detroit, MI</b>			
Truck	101,188	57,451	43,737
Rail	17,957	8,129	9,827
Pipeline	413	265	148
Other and unknown	610	609	0.8
<b>Value of Land Freight O&amp;D, All Modes, via Detroit, MI</b>			
To and from Michigan	31,821	13,583	18,238
To and from other U.S. states	88,347	52,871	35,476
Other states' shipments as percent of freight value via port	73.5	79.6	66.0
<b>Value of Truck Freight O&amp;D via Detroit, MI</b>			
To and from Michigan	26,343	10,942	15,401
To and from other U.S. states	74,845	46,508	28,337
Other states' shipments as percent of freight value via port	74.0	81.0	64.8

KEY: O&D = Origin and destination

**TABLE 2. Value of International Land Trade via Detroit, MI, by Mode: 2000–2008 (\$ millions)**

	2000	2005	2006	2007	2008
Truck	85,468	108,788	115,108	114,411	101,188
Rail	8,598	20,975	21,486	21,427	17,957
Pipeline	78	166	319	369	413
Other and unknown	297	544	312	392	610
<b>Total</b>	<b>94,441</b>	<b>130,473</b>	<b>137,226</b>	<b>136,600</b>	<b>120,168</b>

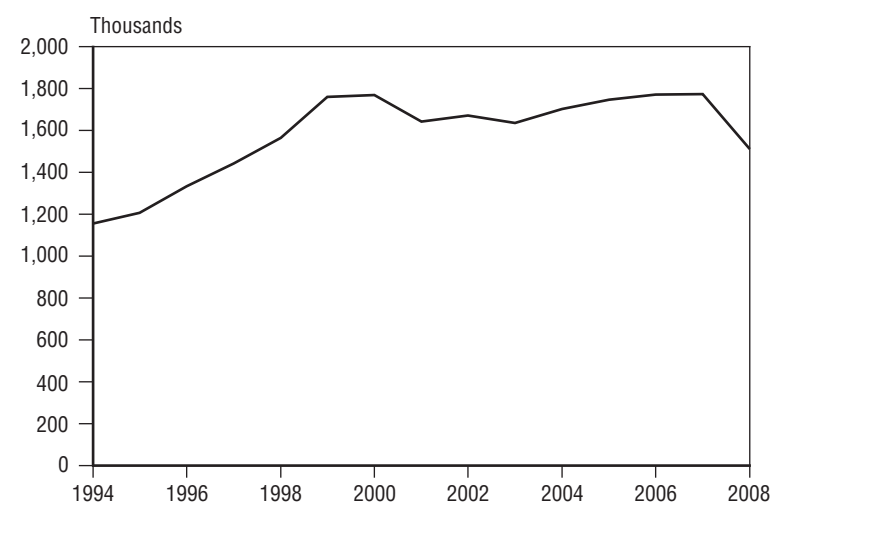
**TABLE 3. Top 3 States for Trade via Detroit, MI: 2008 (\$ millions)**

Rank	State	Total	Exports	Imports
1	Michigan	31,821	13,583	18,238
2	Ohio	13,627	9,371	4,256
3	California	10,724	3,391	7,334

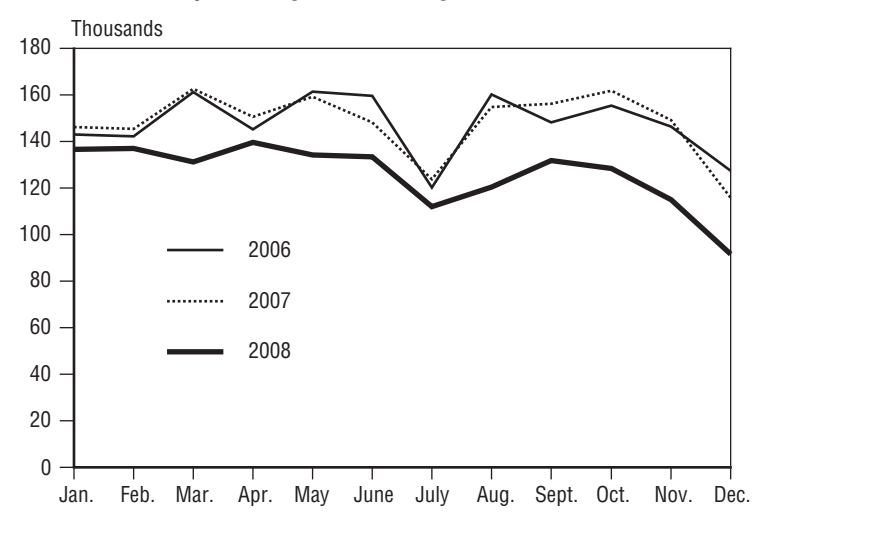
**TABLE 4. Incoming Full and Empty Container Crossings via Detroit, MI: 2000–2008 (Thousands)**

	2000	2005	2006	2007	2008
Via truck	1,655	1,678	1,716	1,725	1,482
Via rail	238	231	219	214	210

**FIGURE 1. Incoming Truck Crossings via Detroit, MI: 1994–2008**



**FIGURE 2. Monthly Incoming Truck Crossings via Detroit, MI: 2006–2008**



**SOURCES:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from multiple sources: **Tables 1, 2, and 3**—Overall: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, U.S. Exports and Imports of Merchandise, available at [www.census.gov/foreign-trade/www](http://www.census.gov/foreign-trade/www) as of May 12, 2009. Land Freight: U.S. Department of Transportation, Bureau of Transportation Statistics, Transborder Surface Freight Data, 2000–2008. **Table 4, Figures 1 and 2**—U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Border Crossing/Entry Data, 1994–2008, based on data from U.S. Department of Homeland Security, Customs and Border Protection, Operations Management Database.



**No. 6 by value**

**Laredo, Texas—Land Gateway**

Laredo, Texas, was the nation's second busiest land border gateway by value of imports and exports transported across the border by highways, railroads, and pipelines in 2008. Its land ports were the sixth leading gateway when compared with all U.S. land, air, and sea freight gateways.

In 2008, merchandise trade passing through Laredo (\$116 billion) accounted for about 14 percent of the value of U.S. total land trade. Laredo was a major gateway for both export and imports, with inbound shipments accounting for 53 percent of the value of freight handled by its land ports in 2008 and outbound shipments accounting for 47 percent (table 1).

Trucks carried the bulk of freight passing through Laredo in terms of value of shipments, followed by rail. In 2008, trucks moved 77 percent of the value of land trade passing through Laredo, up from 72 percent in 2000. Rail had a 22 percent market share of the value in 2008, down from 28 percent in 2000. From 2000 to 2008, the value of rail freight via Laredo increased 10 percent, while the value of truck freight grew 49 percent (table 2). By weight, trucking also accounted for the largest share of the land imports tonnage through this gateway (see insert table).

Laredo is an international gateway that serves almost every state. About 71 percent of the value of truck freight passing through Laredo originated or terminated outside Texas. By value, more than 73 percent of truck imports and 67 percent of truck exports passing through Laredo were to and from other states. The top three states served by Laredo's land transportation facilities accounted for nearly half of the merchandise trade passing through Laredo—Texas (28 percent), Michigan (14 percent), and

California (6 percent). These three states accounted for 49 percent of Laredo's land imports and 46 percent of its land exports in 2008 (table 3).

Thousands of commercial trucks cross into the United States from Mexico at Laredo via the World Trade Bridge, the most important truck crossing on the U.S.-Mexico border, and the Columbia Bridge. Laredo's international bridge crossings handled more than 1.5 million incoming truck crossings in 2008, similar to the number of crossings in 2007 (figure 1). About 1.6 million truck containers entered the United States at Laredo from Mexico in 2008. By comparison, about 329,000 rail containers crossed into the United States at Laredo from Mexico in 2008 (table 4).

**Weight of Land Imports via Laredo, TX, by Mode: 2008**

Mode	Tonnage	Percent
<b>Total</b>	<b>15,422,954</b>	<b>100.0</b>
Truck	11,708,363	75.9
Rail	3,714,548	24.1
Pipeline	0	0.0
Other <sup>1</sup>	42	0.000

<sup>1</sup>Other includes mail, pedestrians carrying freight, Foreign Trade Zone, and miscellaneous.

**SOURCE:** USDOT, RITA, BTS, Transborder Freight Data. Weight data for land exports are unavailable.

Given the long-term growth rate of U.S.-NAFTA trade, the volume of freight passing through Laredo and the associated truck traffic on local roads can be expected to rise.



**TABLE 1. Value of U.S. International Merchandise Freight: 2008 (\$ millions)**

Overall and Land Modes	Total	Exports	Imports
Total U.S. trade by all modes (land, sea, air)	3,400,661	1,300,532	2,100,129
Total U.S. trade by land	829,875	365,269	464,606
<b>Value of International Land Freight via Laredo, TX</b>			
Total land trade through port	115,759	53,929	61,830
Percent of total U.S. land freight value	13.9	14.8	13.3
<b>Value of International Land Freight by Mode via Laredo, TX</b>			
Truck	89,547	40,636	48,911
Rail	25,695	12,778	12,917
Pipeline	232	232	0
Other and unknown	285	283	2
<b>Value of Land Freight O&amp;D, All Modes, via Laredo, TX</b>			
To and from Texas	32,696	18,052	14,644
To and from other U.S. states	82,806	35,626	47,181
Other states' shipments as percent of freight value via port	71.5	66.1	76.3
<b>Value of Truck Freight O&amp;D via Laredo, TX</b>			
To and from Texas	26,020	13,016	13,003
To and from other U.S. states	63,278	27,376	35,903
Other states' shipments as percent of freight value via port	70.7	67.4	73.4

KEY: O&D = Origin and destination

**TABLE 2. Value of International Land Trade via Laredo, TX, by Mode: 2000–2008 (\$ millions)**

	2000	2005	2006	2007	2008
Truck	60,047	66,826	78,502	82,638	89,547
Rail	23,465	26,627	25,225	27,317	25,695
Pipeline	0.3	114	141	181	232
Other and unknown	162	111	121	220	285
<b>Total</b>	<b>83,674</b>	<b>93,678</b>	<b>103,990</b>	<b>110,355</b>	<b>115,759</b>

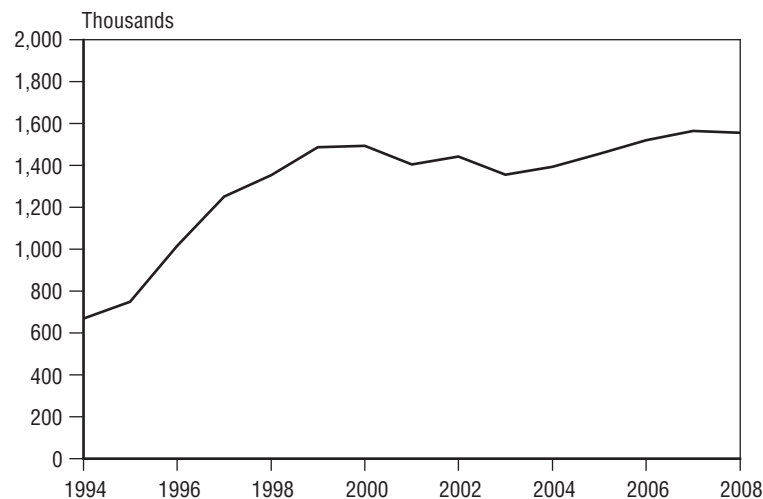
**TABLE 3. Top 3 States for Trade via Laredo, TX: 2008 (\$ millions)**

Rank	State	Total	Exports	Imports
1	Texas	32,696	18,052	14,644
2	Michigan	15,757	4,016	11,741
3	Illinois	6,939	3,004	3,934

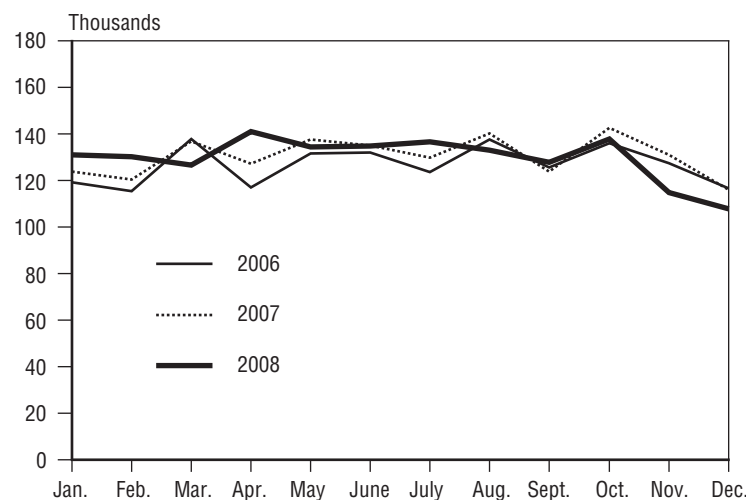
**TABLE 4. Incoming Full and Empty Container Crossings via Laredo, TX: 2000–2008 (Thousands)**

	2000	2005	2006	2007	2008
Via truck	1,352	1,456	1,519	1,564	1,555
Via rail	243	316	333	342	329

**FIGURE 1. Incoming Truck Crossings via Laredo, TX: 1994–2008**



**FIGURE 2. Monthly Incoming Truck Crossings via Laredo, TX: 2006–2008**



**SOURCES:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from multiple sources: **Tables 1, 2, and 3**—Overall: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, U.S. Exports and Imports of Merchandise, available at [www.census.gov/foreign-trade/www](http://www.census.gov/foreign-trade/www) as of May 12, 2009. Land Freight: U.S. Department of Transportation, Bureau of Transportation Statistics, Transborder Surface Freight Data, 2000–2008. **Table 4, Figures 1 and 2**—U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Border Crossing/Entry Data, 1994–2008, based on data from U.S. Department of Homeland Security, Customs and Border Protection, Operations Management Database.

**No. 7 by value****Chicago, Illinois—Air Freight Gateway**

The Chicago Air Gateway comprises O'Hare International Airport and Midway Airport.<sup>23</sup> The two airports combined were the nation's second busiest international air cargo gateway by value of shipments in 2008. The Chicago Air Gateway ranked seventh by value when compared with all U.S. air, land, and sea freight gateways.

In 2008, 12 percent of the value of all U.S. international air cargo moved through the Chicago airports (table 1). The total international merchandise trade through the Chicago airports was valued at \$97 billion, a 12 percent increase from \$87 billion in 2007. Imports jumped 16 percent, and exports rose 7 percent (USDOC CB 2009b).<sup>24</sup> By weight, Chicago ranked fifth among all air gateways, handling 7 percent of U.S. international air freight tonnage (table 1).<sup>25</sup> It handled more than 625,000 tons of international air cargo in 2008, down 8 percent from 2007 (table 2).

Most of the Chicago Air Gateway's international merchandise trade tonnage moves through O'Hare International Airport. In 2008, it handled 99 percent of the weight of Chicago international air trade, while Midway Airport accounted for less than 1 percent of the weight (USDOT RITA BTS OAI 2009).

Chicago is a hub for air trade with European and Pacific Rim countries. By tonnage, the major origin and destination countries for air cargo on nonstop international flights to and from Chicago in 2008 were Germany, the United Kingdom, and Japan (table 3). Data on the actual origin markets for imports through Chicago shows that Japan was the top market from which goods were imported, followed by South Korea and Germany. For exports, the top destination markets from Chicago were Japan, the United Kingdom, and Germany.<sup>26</sup> Goods imported from or

exported to Pacific Rim countries via Chicago are either routed through European countries; through U.S. West Coast airports, such as Los Angeles International Airport and San Francisco International Airport; or through Anchorage International Airport in Alaska.

In 2008, the key air carriers transporting international merchandise trade through Chicago airports were American Airlines, United Airlines, and Lufthansa (table 5).

O'Hare International Airport is undertaking a major modernization program to keep pace with the increasing cargo and passenger traffic it processes. This multibillion dollar program aims to reduce air traffic congestion and improve the airport's capacity for handling international merchandise trade. The modernization program has received approval and federal funding, and construction is under way.<sup>27</sup>

<sup>23</sup> Data from the U.S. Census Bureau on the value of air merchandise trade combine freight activity for Chicago's two airports: O'Hare International Airport and Midway Airport. BTS combines the tonnage of freight activity at the two airports to make the weight data comparable to the value data.

<sup>24</sup> The 2007 data used in this comparison are not presented in table 1. The data are available online in the gateways database at [www.bts.gov](http://www.bts.gov).

<sup>25</sup> Ranking of air gateways by weight is available in table 9 of this report's overview section.

<sup>26</sup> This information is based on Form 41 International Market Data from the Bureau of Transportation Sta-

tistics, Office of Airline Information. Origin-destination airport-pair data by value are not available from the merchandise trade data. See box 2, page 15, for further discussion of the segment and market data.

<sup>27</sup> Information is available at [www.oharemodernization.org](http://www.oharemodernization.org).

**TABLE 1. Value and Weight of U.S. International Merchandise Freight: 2008**

Overall and Air Mode	Total	Exports	Imports
Total U.S. trade by all modes (land, sea, air) (\$ millions)	3,189,710	1,198,063	1,991,617
Total U.S. trade by air (\$ millions)	805,574	388,347	417,227
<b>Value of International Air Freight via Chicago, IL</b>			
Total air trade through Chicago, IL (\$ millions)	97,180	35,822	61,358
Percent of total U.S. air freight value	12.1	9.2	14.7
<b>Weight of International Air Freight</b>			
Total international air freight through U.S. gateways (short tons)	9,427,627	4,256,630	5,170,997
Total U.S. air freight via Chicago, IL (short tons)	625,357	304,492	320,865
Percent of total U.S. air freight weight	6.6	7.2	6.2

**TABLE 2. Total Air Freight Exports and Imports via Chicago, IL: 2000–2008 (Short tons, thousands)**

	2000	2005	2006	2007	2008
Imports	304	336	345	356	321
Exports	252	293	302	322	304
<b>Total</b>	<b>556</b>	<b>629</b>	<b>646</b>	<b>678</b>	<b>625</b>

**TABLE 3. Top 3 Destination and Origin Countries for International Air Freight via Chicago, IL: 2008 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	United Kingdom	67	1	Germany	76
2	Germany	57	2	Japan	54
3	Japan	30	3	United Kingdom	47

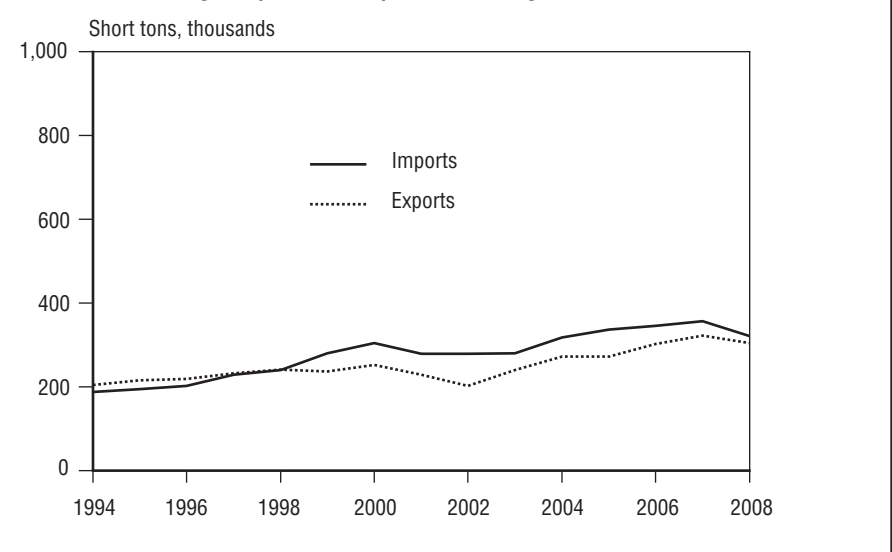
**TABLE 4. Top 3 Destination and Origin Cities for International Air Freight via Chicago, IL: 2008 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Frankfurt, Germany	49	1	Frankfurt, Germany	67
2	London, United Kingdom	45	2	Tokyo, Japan	52
3	Tokyo, Japan	24	3	London, United Kingdom	40

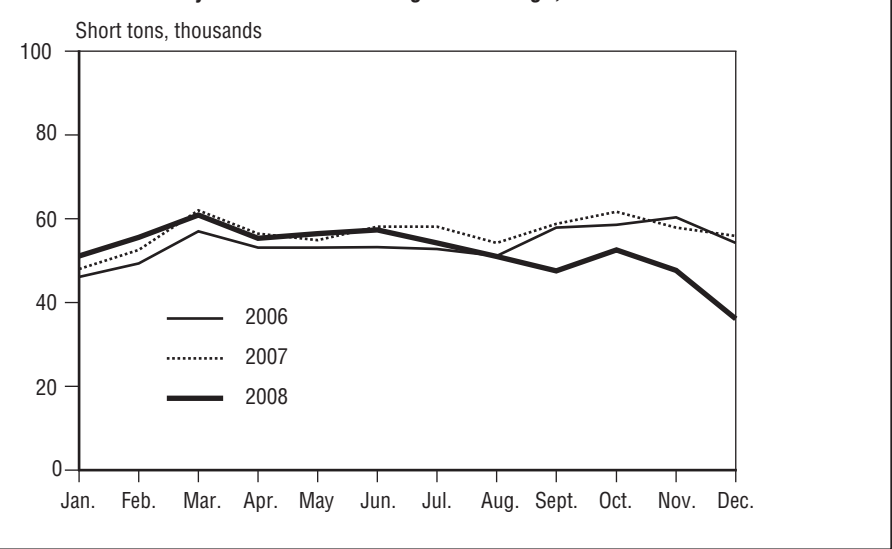
**TABLE 5. Top 3 Air Carriers for Exports and Imports via Chicago, IL: 2008 (Short tons, thousands)**

Rank	Export carrier	Tons	Rank	Import carrier	Tons
1	American Airlines Inc.	39	1	United Airlines Inc.	45
2	Lufthansa German Airlines	31	2	American Airlines Inc.	40
3	United Airlines Inc.	30	3	Lufthansa German Airlines	32

**FIGURE 1. Air Freight Exports and Imports via Chicago, IL: 1994–2008**



**FIGURE 2. Monthly International Air Cargo via Chicago, IL: 2006–2008**



**SOURCES:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from multiple sources: **Table 1**—Value data: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, U.S. Exports and Imports of Merchandise, available at [www.census.gov/foreign-trade/www](http://www.census.gov/foreign-trade/www) as of May 12, 2009. Weight data: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Form 41 Traffic—T-100 Segment Data, various years, as of July 20, 2009. **Tables 2, 3, 4, and 5 and Figures 1 and 2**—U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Form 41 Traffic—T-100 Segment Data, various years, as of July 20, 2009.

**No. 8 by value****Port of Long Beach, California—Water Gateway**

The maritime Port of Long Beach was the nation's fourth busiest waterborne freight gateway for international merchandise trade by value of shipments in 2008. It ranked eighth by value among all land, water, and air gateways. In 2008, merchandise trade passing through the Port of Long Beach (\$92 billion) accounted for 6 percent of the value of the total U.S. international waterborne trade. These freight shipments represented nearly 7 percent of the value of U.S. waterborne exports and 5 percent of imports. The port is a major gateway for imports, with inbound shipments accounting for 65 percent of the value of the freight it handled in 2008 (table 1).

By weight, the facility ranked ninth among all U.S. water gateways in 2008, handling 48 million tons of freight, or 3 percent of total U.S. international waterborne freight tonnage. Long Beach has long been a significant gateway for both imports and exports. Outbound freight shipments (26 million tons) accounted for 54 percent of the weight of the cargo it handled in 2008 (table 1). This export figure is a striking reversal from 2003, when inbound shipments accounted for 72 percent of the tonnage handled by the port.<sup>28</sup>

Although Long Beach handles noncontainerized bulk cargo, it is primarily a container port. In 2008, the port handled about 4.6 million TEUs (20-foot equivalent units) carrying international imports and exports (table 1). This cargo accounted for 16 percent of the containerized TEUs handled at the nation's seaports. About 68 percent of the port's containerized cargo was inbound.

In 2007, China was the port's leading origin country for imports by weight of shipments, followed by Iraq and Ecuador (table 2).<sup>29</sup> China was the leading destination for exports from Long Beach, followed by Japan and South Korea. The leading seaports for cargo arriving at and leaving

Long Beach were Yantian, China, and Kao Hsiung, Taiwan, respectively (table 3).

More than 3,300 vessels called at the Port of Long Beach in 2007. Container vessels made the most calls at the port, accounting for 45 percent of the vessel calls. About 31 percent of the calls were by tankers.

In 2007, the top imports were petroleum, electronics, plastics, furniture, and clothing. The top exports were petroleum and petroleum coke, waste paper, chemicals, scrap metal, and plastics.<sup>30</sup>

<sup>28</sup> U.S. Department of Transportation, Bureau of Transportation Statistics, America's Freight Transportation Gateways: Connecting Our Nation to Places and Markets Abroad (Washington, D.C.: U.S. Department of Transportation, Bureau of Transportation Statistics, 2004).

<sup>29</sup> Data for 2008 are not available for weight and vessels calls. Data in tables 2, 3, and 4 are from 2007.

<sup>30</sup> Port of Long Beach website, [www.polb.com/about/facts.asp](http://www.polb.com/about/facts.asp) as of Aug. 10, 2009.

**TABLE 1. Value and Weight of U.S. International Merchandise Freight: 2008**

Overall and Water Modes	Total	Exports	Imports
Total U.S. trade by all modes (land, water, air) (\$ millions)	3,189,710	1,198,063	1,991,617
Total U.S. trade by water (\$ millions)	1,623,863	471,536	1,152,327
<b>Value of International Waterborne Freight via Long Beach</b>			
Total waterborne freight through port (\$ millions)	91,537	31,599	59,938
Percent of total U.S. waterborne freight	5.6	6.7	5.2
<b>Weight of Waterborne Freight</b>			
Total U.S. trade by water (short tons, millions)	1,519	536	983
Total waterborne freight through port (short tons, millions)	48	26	22
Percent of total U.S. waterborne freight	3.1	4.8	2.2
<b>Containerized Freight</b>			
Total U.S. containerized freight (TEUs, thousands)	28,309	11,277	17,032
Total containerized freight through port (TEUs, thousands)	4,553	1,439	3,114
Percent of total U.S. containerized freight	16.1	12.8	18.3

KEY: TEU = Twenty-foot equivalent unit

**TABLE 2. Top 3 Destination and Origin Countries for International Waterborne Freight via Port of Long Beach, CA: 2007 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	China Mainland	5,628	1	China Mainland	15,027
2	Japan	4,180	2	Iraq	3,994
3	South Korea	2,559	3	Ecuador	3,493

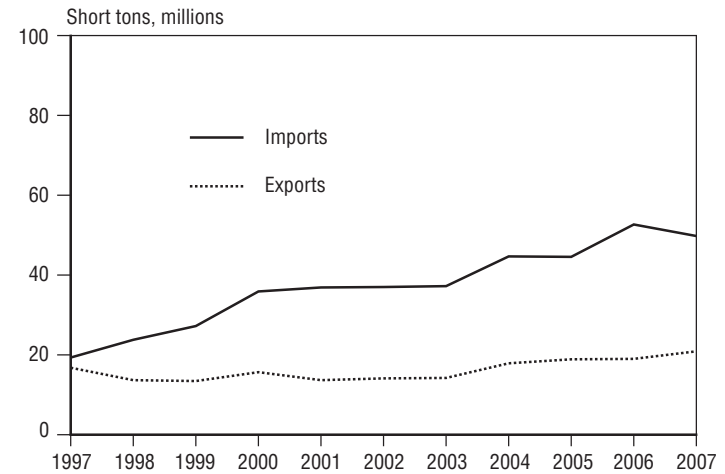
**TABLE 3. Top 3 Destination and Origin Ports for International Waterborne Freight via Port of Long Beach, CA: 2007 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Kao Hsiung, Taiwan	2,047	1	Yantian, China Mainland	5,181
2	Hong Kong, China Hong Kong	1,821	2	Al Basrah, Iraq	3,718
3	Pusan, South Korea	1,777	3	Esmeraldas, Ecuador	3,355

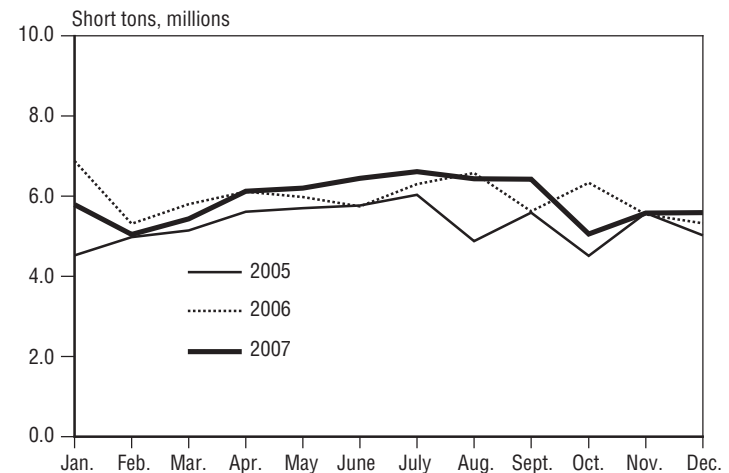
**TABLE 4. Port Calls by Vessel Type, Port of Long Beach, CA: 2007**

	Container	Tanker	Dry bulk	General	Other	Total
Calls	1,484	1,035	362	120	300	3,301
Capacity (deadweight tons, thousands)	82,203	113,289	17,898	3,308	6,084	222,782

**FIGURE 1. Maritime Imports and Exports via Port of Long Beach, CA: 1997–2007**



**FIGURE 2. Monthly Maritime Cargo via Port of Long Beach, CA: 2005–2007**



**SOURCES:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from multiple sources, October 2009. **Table 1**—Overall and water modes, value and weight of maritime cargo: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, U.S. Exports and Imports of Merchandise, available at [www.census.gov/foreign-trade/www](http://www.census.gov/foreign-trade/www) as of May 12, 2009. Containerized freight: U.S. Department of Transportation, Maritime Administration, [www.marad.dot.gov/library\\_landing\\_page/data\\_and\\_statistics/Data\\_and\\_Statistics.htm](http://www.marad.dot.gov/library_landing_page/data_and_statistics/Data_and_Statistics.htm) as of Aug. 5, 2009. **Tables 2 and 3**—U.S. Army Corps of Engineers, Foreign Cargo Data, July 20, 2009, available at [www.ndc.ivr.usace.army.mil/data/dataimex.htm](http://www.ndc.ivr.usace.army.mil/data/dataimex.htm) as of July 20, 2009. **Table 4**—Maritime Administration, special tabulation, July 20, 2009. **Figure 1**—U.S. Army Corps of Engineers, Foreign Cargo Data, 1997–2007, available at [www.iwr.usace.army.mil/ndc/db/foreign/dbf/](http://www.iwr.usace.army.mil/ndc/db/foreign/dbf/) as of July 20, 2009. **Figure 2**—U.S. Army Corps of Engineers, special tabulation, July 20, 2009.

**No. 9 by value**

**Port Huron, Michigan—Land Gateway**

Port Huron was the nation's third busiest land border gateway by value for imports and exports transported across the border by highways, railroads, and pipelines in 2008. Its land ports were the ninth leading gateway when compared with all U.S. land, air, and sea freight gateways.

In 2008, merchandise trade passing through Port Huron (\$81 billion) accounted for 10 percent of the value of U.S. total land trade. These freight shipments accounted for about 10 percent of U.S. land exports and 10 percent of land imports. Port Huron was a major gateway for both exports and imports, with outbound shipments accounting for 43 percent of the value of freight handled by its land ports in 2008 and inbound shipments accounting for 57 percent (table 1).

Trucking was the most heavily used mode of transportation for freight passing through Port Huron, accounting for 55 percent of the value (\$44 billion) of land trade in 2008. However, since 2000, trucking's share of land trade crossing through Port Huron has stayed relatively flat, averaging between 52 and 57 percent, in part because of increases in pipeline shipments. From 2000 to 2008, pipeline freight more than quadrupled by value. Pipelines accounted for 13 percent of the gateway's transborder land trade in 2008, up from 4 percent in 2000 (table 2). By weight, rail accounted for the largest share of the land imports tonnage for Port Huron in 2008 (see insert table).

Port Huron is an international gateway that serves almost every state. About 78 percent of the value of truck freight passing through Port Huron originated or terminated outside Michigan. About two-thirds (66 percent) of truck imports and 86 percent of truck exports passing through Port Huron were to and from other states. The top three states served by Port Huron's land transportation facilities were Michigan, Illinois, and Texas, accounting for 49 percent of the merchandise trade transported through Port Huron (table 3).

The Blue Water Bridge crossings at Port Huron consist of two spans connecting the United States and Canada. One, opened in 1997, carries

traffic outbound to Canada. The other span, with traffic heading into the United States, originally opened in 1938 and was reopened after renovations in 2000.

Mode	Tonnage	Percent
<b>Total</b>	<b>27,180,652</b>	<b>100.0</b>
Truck	6,684,351	24.6
Rail	13,203,941	48.6
Pipeline	7,292,008	26.8
Other <sup>1</sup>	352	0.001

<sup>1</sup>Other includes mail, pedestrians carrying freight, Foreign Trade Zone, and miscellaneous.

**SOURCE:** USDOT, RITA, BTS, Transborder Freight Data. Weight data for land exports are unavailable.

The inbound bridge handled more than 732,000 incoming truck crossings in 2008, down about 5 percent from about 770,000 crossings in 2007 (figure 1). The flow of truck containers entering the United States through Port Huron rose to a high of 1.7 million in 2006 before declining dramatically.

In 2008, truck container crossings were far below the number in 2000. From 2007 to 2008, rail container crossings fell about 9 percent (table 4).

**TABLE 1. Value of U.S. International Merchandise Freight: 2008 (\$ millions)**

Overall and Land Modes	Total	Exports	Imports
Total U.S. trade by all modes (land, sea, air)	3,400,661	1,300,532	2,100,129
Total U.S. trade by land	829,875	365,269	464,606
<b>Value of International Land Freight via Port Huron, MI</b>			
Total land trade through port	81,223	35,215	46,008
Percent of total U.S. land freight value	9.8	9.6	9.9
<b>Value of International Land Freight by Mode via Port Huron, MI</b>			
Truck	44,390	26,256	18,134
Rail	26,581	7,359	19,222
Pipeline	10,173	1,581	8,591
Other and unknown	79	18	61
<b>Value of Land Freight O&amp;D, All Modes, via Port Huron, MI</b>			
To and from Michigan	24,266	3,992	20,274
To and from other U.S. states	56,957	31,223	25,734
Other states' shipments as percent of freight value via port	70.1	88.7	55.9
<b>Value of Truck Freight O&amp;D via Port Huron, MI</b>			
To and from Michigan	9,989	3,796	6,193
To and from other U.S. states	34,401	22,461	11,941
Other states' shipments as percent of freight value via port	77.5	85.5	65.8

KEY: O&D = Origin and destination

**TABLE 2. Value of International Land Trade via Port Huron, MI, by Mode: 2000–2008 (\$ millions)**

	2000	2005	2006	2007	2008
Truck	32,770	38,056	37,526	40,370	44,390
Rail	24,645	24,137	26,247	29,151	26,581
Pipeline	2,280	5,974	6,489	7,484	10,173
Other and unknown	8	43	69	72	79
<b>Total</b>	<b>59,704</b>	<b>68,212</b>	<b>70,330</b>	<b>77,078</b>	<b>81,223</b>

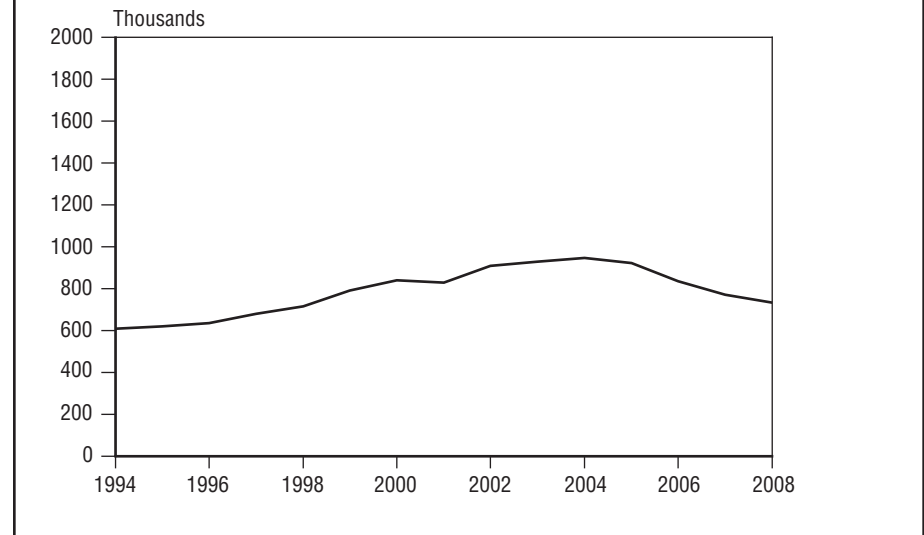
**TABLE 3. Top 3 States for Trade via Port Huron, MI: 2008 (\$ millions)**

Rank	State	Total	Exports	Imports
1	Michigan	24,266	3,992	20,274
2	Illinois	8,259	4,669	3,590
3	Texas	7,001	4,635	2,366

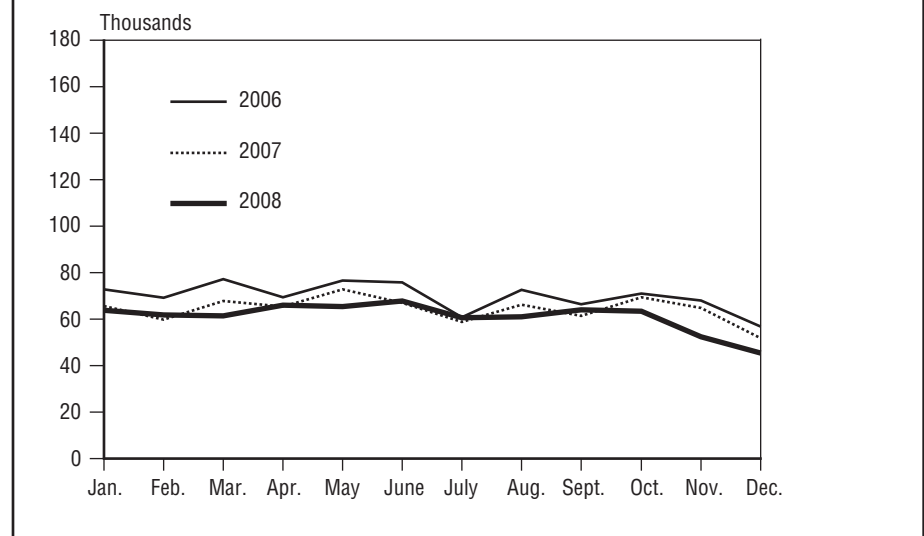
**TABLE 4. Incoming Full and Empty Container Crossings via Port Huron, MI: 2000–2008 (thousands)**

	2000	2005	2006	2007	2008
Via truck	768	925	1651	770	732
Via rail	425	457	445	467	427

**FIGURE 1. Incoming Truck Crossings via Port Huron, MI: 1994–2008**



**FIGURE 2. Monthly Incoming Truck Crossings via Port Huron, MI: 2006–2008**



**SOURCES:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from multiple sources: **Tables 1, 2, and 3**—Overall: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, U.S. Exports and Imports of Merchandise, available at [www.census.gov/foreign-trade/www](http://www.census.gov/foreign-trade/www) as of May 12, 2009. Land Freight: U.S. Department of Transportation, Bureau of Transportation Statistics, Transborder Surface Freight Data, 2000–2008. **Table 4, Figures 1 and 2**—U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Border Crossing/Entry Data, 1994–2008, based on data from U.S. Department of Homeland Security, Customs and Border Protection, Operations Management Database.



No. 10 by value

**Buffalo–Niagara Falls, New York—Land Gateway**

Buffalo–Niagara Falls was the nation’s fourth busiest land border gateway by value for imports and exports transported across the border by highways, railroads, and pipelines in 2008. Its land ports were the 10<sup>th</sup> leading gateway when compared with all U.S. land, air, and sea freight gateways.

In 2008, merchandise trade passing through Buffalo–Niagara Falls (\$81 billion) accounted for nearly 10 percent of the value of U.S. total land trade. These freight shipments accounted for more than 11 percent of all U.S. land exports and 9 percent of land imports. Buffalo–Niagara Falls was a major gateway for both exports and imports, with outbound shipments and inbound shipments each accounting for 50 percent of the value of freight handled by its land ports in 2008 (table 1).

Trucking was the most heavily used mode of transportation for freight passing through Buffalo–Niagara Falls, accounting for 73 percent (\$59 billion) of the value of land trade in 2008. Trucking’s share of the value of goods passing through Buffalo–Niagara Falls has remained relatively steady since 2000, hovering between 75 and 79 percent. In 2008, rail carried about \$11 billion of land freight, accounting for 14 percent of the value of the gateway’s land trade, down from 21 percent in 2000 (table 2). By weight, trucking accounted for the largest share of the land imports tonnage (see insert table).

Buffalo–Niagara Falls is an international gateway that serves almost every state. About 82 percent of the value of truck freight passing through Buffalo–Niagara Falls originated or terminated outside New York. Nearly 75 percent of truck imports and 87 percent of truck exports passing through Buffalo–Niagara Falls were to and from other states (table 1). The top three states served by land transportation facilities in Buffalo–Niagara Falls were New York, Pennsylvania, and Ohio, which accounted for 40 percent of the merchandise trade transported through the gateway (table 3).

**Weight of Land Imports via Buffalo–Niagara Falls, NY, by Mode: 2008**

Mode	Tonnage	Percent
<b>Total</b>	<b>17,592,284</b>	<b>100.0</b>
Truck	9,366,581	53.2
Rail	5,168,506	29.4
Pipeline	3,054,814	17.4
Other <sup>1</sup>	2,384	0.01

<sup>1</sup>Other includes mail, pedestrians carrying freight, Foreign Trade Zone, and miscellaneous.

**SOURCE:** USDOT, RITA, BTS, Transborder Freight Data. Weight data for land exports are unavailable.

Nearly one million trucks a year use the Peace Bridge and the Lewiston–Queenston Bridge in Buffalo–Niagara Falls to haul freight into the United States from Canada. In 2008, more than 981,000 trucks entered the United States via these

bridges, down 10 percent from 2007 (figure 1). Since 2000, truck containers entering the United States through Buffalo–Niagara Falls have declined 17 percent, and rail containers have fallen 33 percent (table 4).

**TABLE 1. Value of U.S. International Merchandise Freight: 2008 (\$ millions)**

Overall and Land Modes	Total	Exports	Imports
Total U.S. trade by all modes (land, sea, air)	3,400,661	1,300,532	2,100,129
Total U.S. trade by land	829,875	365,269	464,606
<b>Value of International Land Freight via Buffalo–Niagara Falls, NY</b>			
Total land trade through port	80,838	40,330	40,508
Percent of total U.S. land freight value	9.7	11.0	8.7
<b>Value of International Land Freight by Mode via Buffalo–Niagara Falls, NY</b>			
Truck	58,958	33,644	25,314
Rail	11,086	3,632	7,455
Pipeline	8,778	2,375	6,404
Other and unknown	2,016	680	1,336
<b>Value of Land Freight O&amp;D, All Modes, via Buffalo–Niagara Falls, NY</b>			
To and from New York	12,805	4,527	8,278
To and from other U.S. states	68,033	35,803	32,230
Other states' shipments as percent of freight value via port	84.2	88.8	79.6
<b>Value of Truck Freight O&amp;D via Buffalo–Niagara Falls, NY</b>			
To and from New York	10,865	4,493	6,372
To and from other U.S. states	48,093	29,151	18,942
Other states' shipments as percent of freight value via port	81.6	86.6	74.8

KEY: O&D = Origin and destination

**TABLE 2. Value of International Land Trade via Buffalo–Niagara Falls, NY, by Mode: 2000–2008 (\$ millions)**

	2000	2005	2006	2007	2008
Truck	54,659	53,686	58,855	62,313	58,958
Rail	14,473	8,902	8,988	9,796	11,086
Pipeline	566	6,762	6,725	5,955	8,778
Other and unknown	433	1,147	954	561	2,016
<b>Total</b>	<b>70,132</b>	<b>70,496</b>	<b>75,522</b>	<b>78,624</b>	<b>80,838</b>

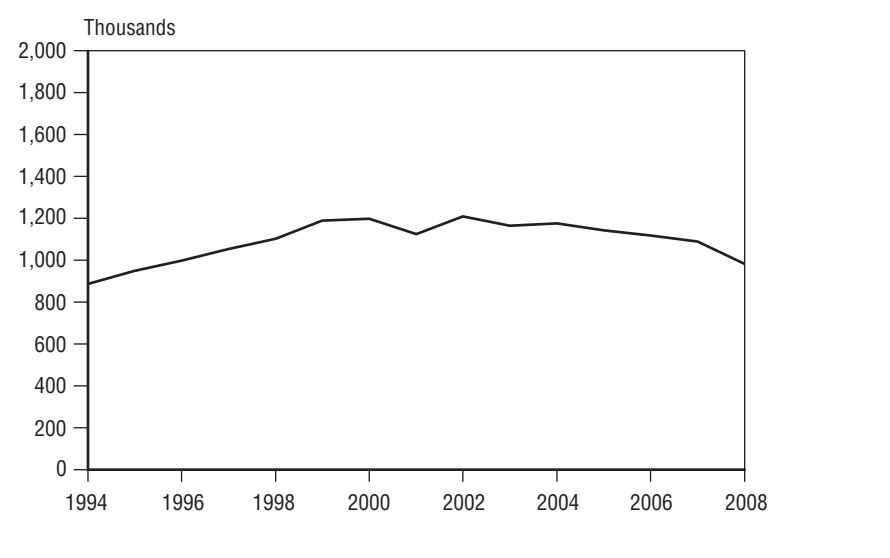
**TABLE 3. Top 3 States for Trade via Buffalo–Niagara Falls, NY: 2008 (\$ millions)**

Rank	State	Total	Exports	Imports
1	New York	12,805	4,527	8,278
2	Pennsylvania	12,298	5,252	7,047
3	Ohio	7,636	5,086	2,549

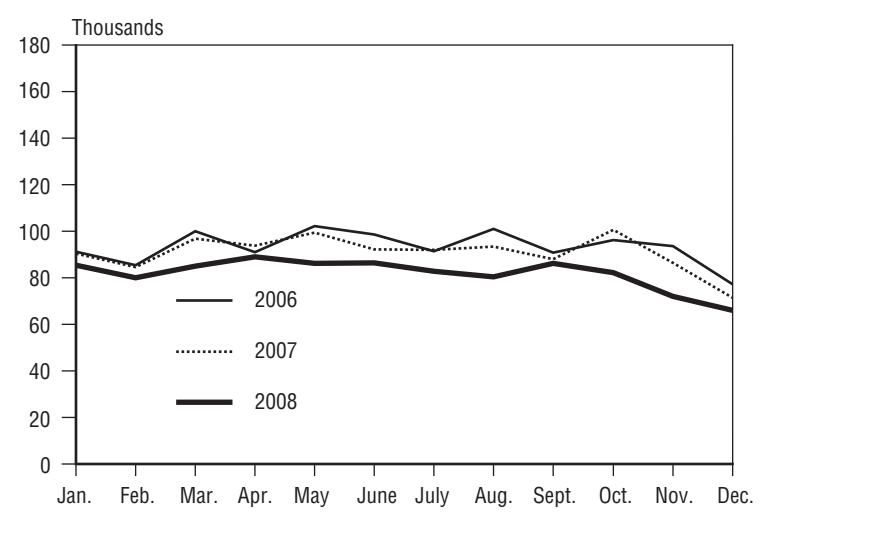
**TABLE 4. Incoming Full and Empty Container Crossings via Buffalo–Niagara Falls, NY: 2000–2008 (Thousands)**

	2000	2005	2006	2007	2008
Via truck	1,187	1,142	1,118	1,088	981
Via rail	181	154	141	134	121

**FIGURE 1. Incoming Truck Crossings via Buffalo–Niagara Falls, NY: 1994–2008**



**FIGURE 2. Monthly Incoming Truck Crossings via Buffalo–Niagara Falls, NY: 2006–2008**



**SOURCES:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from multiple sources: **Tables 1, 2, and 3**—Overall: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, U.S. Exports and Imports of Merchandise, available at [www.census.gov/foreign-trade/www](http://www.census.gov/foreign-trade/www) as of May 12, 2009. Land Freight: U.S. Department of Transportation, Bureau of Transportation Statistics, Transborder Surface Freight Data, 2000–2008. **Table 4, Figures 1 and 2**—U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Border Crossing/Entry Data, 1994–2008, based on data from U.S. Department of Homeland Security, Customs and Border Protection, Operations Management Database.

**No. 11 by value****Los Angeles International Airport, California—Air Freight Gateway**

Los Angeles International Airport (LAX) was the nation's third busiest international air freight gateway by value of shipments in 2008. It was the 11th leading gateway when compared with all U.S. air, land, and sea freight gateways.

In 2008, about 10 percent of the value of all U.S. international air freight moved through LAX (table 1). More than \$78 billion worth of merchandise trade passed through LAX in 2008, a decrease of 2 percent from \$80 billion in 2007. Exports fell about 1 percent, and imports fell 3 percent (USDOC CB 2009b).<sup>31</sup> By weight, LAX ranked fourth among all air gateways, handling 8 percent of U.S. international air freight (table 1).<sup>32</sup> It handled more than 770,000 tons of international air cargo in 2008, up 8 percent from 2007 (table 2).

The top commodities exported through LAX are vegetables, fruits, and nuts. The leading imported commodity is apparel, followed by computer equipment. The majority of air cargo that arrives at LAX comes in the cargo holds of passenger aircraft.<sup>33</sup>

LAX is a major U.S. hub for trade with Pacific Rim countries. The major origin-destination countries for nonstop segments were Japan, Mexico, and Taiwan (table 3). The top cities for nonstop flight segments for air cargo were Tokyo, Taipei, and Seoul (table 4). However, the major origin and destination markets for goods moving through LAX were South Korea, Japan, and Taiwan.<sup>34</sup>

The value of international air freight moving through LAX (\$78 billion) was less than a quarter of the value of international maritime freight

moving through the regional seaports of Los Angeles and Long Beach combined (\$336 billion). In total, the airport and two seaports accounted for \$414 billion in international merchandise trade in 2008. By comparison, the New York area gateway ports—John F. Kennedy International Airport and the Port of New York and New Jersey—accounted for \$353 billion in international trade in 2008. These large amounts of freight emphasize the importance of the two Pacific Coast and Atlantic Coast cities as leading U.S. gateways for their respective regional economies, as well as for the nation's economy.

A large number of domestic and international passenger and cargo carriers operate out of LAX. In 2008, the top air carriers for imports were China Airlines and Japan Airlines, and the top carrier for exports was Singapore Airlines (table 5).

<sup>31</sup> The 2007 data used in this comparison are not presented in table 1. The data are available online in the gateways database at [www.bts.gov](http://www.bts.gov).

<sup>32</sup> Ranking of air gateways by weight is available in table 9 of this report's overview section.

<sup>33</sup> This commodity information is from LAX website at [www.lawa.org/welcome\\_lax.aspx?id=776](http://www.lawa.org/welcome_lax.aspx?id=776) as of July 20, 2009.

<sup>34</sup> This information is based on Form 41 International Market Data from the Bureau of Transportation Statistics, Office of Airline Information. Origin-destination airport-pair data by value are not available from the merchandise trade data. See box 2, page 15, for further discussion of the segment and market data.

**TABLE 1. Value and Weight of U.S. International Merchandise Freight: 2008**

Overall and Air Mode	Total	Exports	Imports
Total U.S. trade by all modes (land, sea, air) (\$ millions)	3,189,710	1,198,063	1,991,617
Total U.S. trade by air (\$ millions)	805,574	388,347	417,227
<b>Value of International Air Freight via LAX, CA</b>			
Total air trade through LAX, CA (\$ millions)	78,292	41,323	36,970
Percent of total U.S. air freight value	9.7	10.6	8.9
<b>Weight of International Air Freight</b>			
Total international air freight through U.S. gateways (short tons)	9,427,627	4,256,630	5,170,997
Total U.S. air freight via LAX, CA (short tons)	771,710	356,187	415,523
Percent of total U.S. air freight weight	8.2	8.4	8.0

**TABLE 2. Total Air Freight Exports and Imports via LAX, CA: 2000–2008 (Short tons, thousands)**

	2000	2005	2006	2007	2008
Imports	369	343	363	376	416
Exports	274	280	317	341	356
<b>Total</b>	<b>643</b>	<b>623</b>	<b>680</b>	<b>717</b>	<b>772</b>

**TABLE 3. Top 3 Destination and Origin Countries for International Air Freight via LAX, CA: 2008 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Mexico	64	1	Japan	92
2	Japan	48	2	Taiwan	64
3	United Kingdom	43	3	South Korea	46

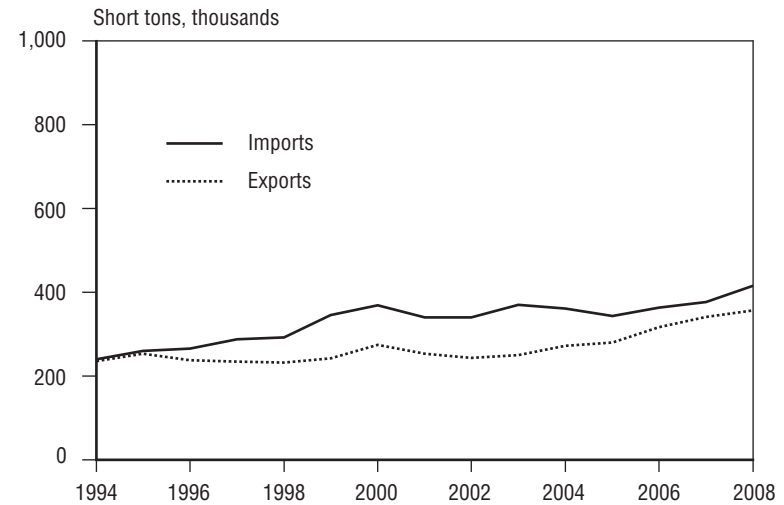
**TABLE 4. Top 3 Destination and Origin Cities for International Air Freight via LAX, CA: 2007 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Tokyo, Japan	43	1	Tokyo, Japan	88
2	London, United Kingdom	43	2	Taipei, Taiwan	64
3	Taipei, Taiwan	33	3	Seoul, South Korea	46

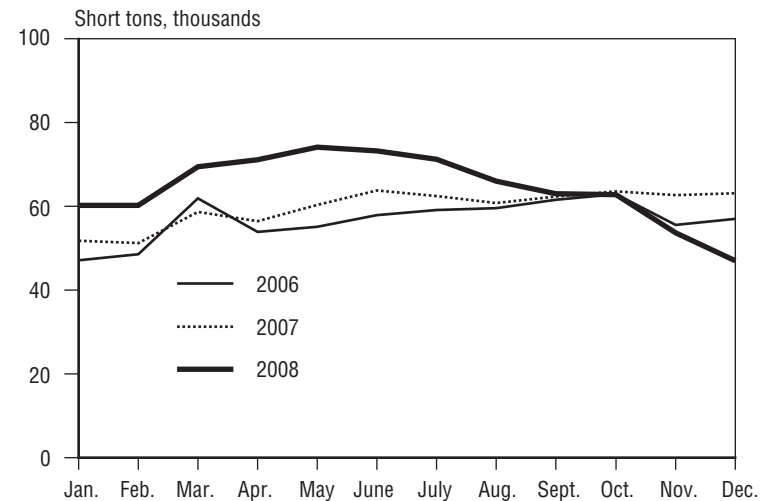
**TABLE 5. Top 3 Air Carriers for Exports and Imports via LAX, CA: 2008 (Short tons, thousands)**

Rank	Export carrier	Tons	Rank	Import carrier	Tons
1	Singapore Airlines Ltd.	28	1	China Airlines Ltd.	32
2	Aerotransportes Mas De Crga	27	2	Japan Airlines Co. Ltd.	32
3	Aerounion Aerotransporte de Carga Union SA de CV	20	3	Nippon Cargo Airlines	29

**FIGURE 1. Air Freight Imports and Exports via LAX, CA: 1994–2008**



**FIGURE 2. Monthly International Air Cargo via LAX, CA: 2006–2008**



**SOURCES:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from multiple sources: **Table 1**—Value data: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, U.S. Exports and Imports of Merchandise, available at [www.census.gov/foreign-trade/www](http://www.census.gov/foreign-trade/www) as of May 12, 2009. Weight data: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Form 41 Traffic—T-100 Segment Data, various years, as of July 20, 2009. **Tables 2, 3, 4, and 5 and Figures 1 and 2**—U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Form 41 Traffic—T-100 Segment Data, various years, as of July 20, 2009.

**No. 12 by value****Port of Charleston, South Carolina—Water Gateway**

The maritime Port of Charleston was the nation's fifth busiest waterborne freight gateway for international trade by value of shipments in 2008. It ranked 12th among all land, water, and air gateways, handling \$62 billion of international freight. This amount of trade represented about 4 percent of the value of U.S. international waterborne freight shipments, accounting for 5 percent of U.S. waterborne exports and 4 percent of imports (table 1).

By weight, the facility ranked 24th among all U.S. water gateways. In 2008, the port handled more than 19 million tons of freight, accounting for more than 1 percent of the total U.S. international waterborne freight tonnage (table 1). Imports through the Port of Charleston accounted for 61 percent of the tonnage and 64 percent of the value of goods in 2008. Merchandise exports accounted for 39 percent of the tonnage and 36 percent of the value. In 2008, the Port of Charleston handled more than 1.3 million TEUs (20-foot equivalent units), accounting for about 5 percent of total U.S. containerized freight (table 1).

The Port of Charleston is a major gateway for imports from South American countries and exports to European countries. In 2007, Brazil was the largest origin country for imports, and Germany was the major destination for exports (table 2).<sup>35</sup> The Port of Santa Maria, Mexico, was the largest origin point for imports. The Port of Antwerp, Belgium, was the major destination for exports in 2007 (table 3).

<sup>35</sup> Data for 2008 are not available for weight and vessels calls. Data in tables 2, 3, and 4 are from 2007.

More than 2,100 vessels from various ports around the world called at the Port of Charleston in 2007. Of these, 74 percent were container ships, 8 percent were tankers, 4 percent were dry-bulk carriers, and 4 percent were general cargo vessels (table 4).<sup>36</sup> The major commodities handled at the port included agricultural products, consumer goods, machinery, metals, vehicles, chemicals, and clay products.<sup>37</sup>

<sup>36</sup> Dry-bulk ships carry homogeneous dry cargoes, such as grain, coal, steel, and iron ore.

<sup>37</sup> South Carolina State Ports Authority website, [www.scspace.com/spa/news\\_statistics/statistics/Statistics.asp](http://www.scspace.com/spa/news_statistics/statistics/Statistics.asp) as of Aug. 10, 2009.

**TABLE 1. Value and Weight of U.S. International Merchandise Freight: 2008**

Overall and Water Modes	Total	Exports	Imports
Total U.S. trade by all modes (land, water, air) (\$ millions)	3,189,710	1,198,063	1,991,617
Total U.S. trade by water (\$ millions)	1,623,863	471,536	1,152,327
<b>Value of International Waterborne Freight via Charleston</b>			
Total waterborne freight through port (\$ millions)	62,332	22,281	40,051
Percent of total U.S. waterborne freight	3.8	4.7	3.5
<b>Weight of Waterborne Freight</b>			
Total U.S. trade by water (short tons, millions)	1,519	536	983
Total waterborne freight through port (short tons, millions)	19	8	12
Percent of total U.S. waterborne freight	1.3	1.4	1.2
<b>Containerized Freight</b>			
Total U.S. containerized freight (TEUs, thousands)	28,309	11,277	17,032
Total containerized freight through port (TEUs, thousands)	1,326	635	690
Percent of total U.S. containerized freight	4.7	5.6	4.1

KEY: TEU = Twenty-foot equivalent unit

**TABLE 2. Top 3 Destination and Origin Countries for International Waterborne Freight via Port of Charleston, SC: 2007 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Germany	705	1	Brazil	1,335
2	Belgium	645	2	Colombia	1,316
3	Netherlands	603	3	Germany	1,260

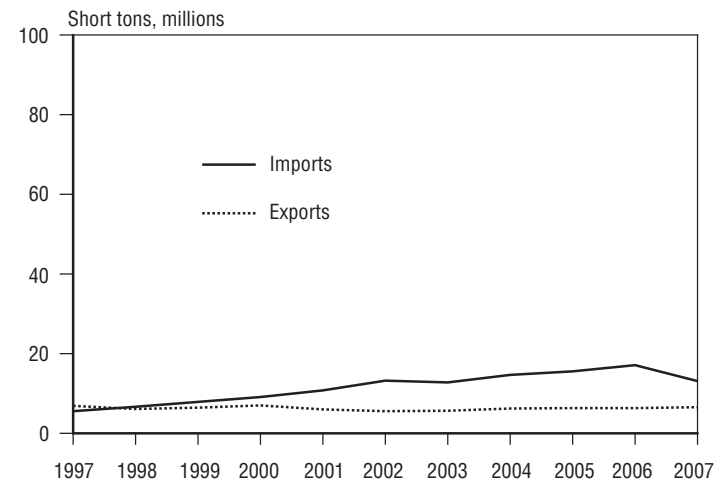
**TABLE 3. Top 3 Destination and Origin Ports for International Waterborne Freight via Port of Charleston, SC: 2007 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Antwerp, Belgium	644	1	Santa Marta, Mexico	1,279
2	Bremerhaven, Germany	613	2	Bremerhaven, Germany	1,097
3	Rotterdam, Netherlands	597	3	Rotterdam, Netherlands	594

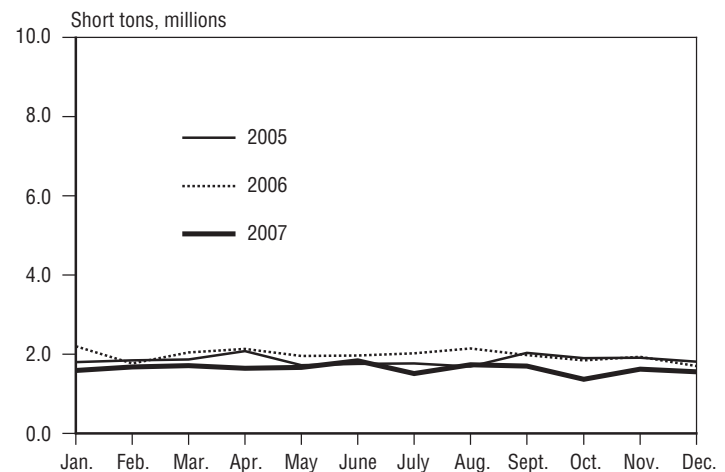
**TABLE 4. Port Calls by Vessel Type, Port of Charleston, SC: 2007**

	Container	Tanker	Dry bulk	General	Other	Total
Calls	1,589	169	92	80	230	2,160
Capacity (deadweight tons, thousands)	76,622	7,707	4,826	3,135	4,281	96,571

**FIGURE 1. Maritime Imports and Exports via Port of Charleston, SC: 1997–2007**



**FIGURE 2. Monthly Maritime Cargo via Port of Charleston, SC: 2005–2007**



**SOURCES:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from multiple sources, October 2009. **Table 1**—Overall and water modes, value and weight of maritime cargo: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, U.S. Exports and Imports of Merchandise, available at [www.census.gov/foreign-trade/www](http://www.census.gov/foreign-trade/www) as of May 12, 2009. Containerized freight: U.S. Department of Transportation, Maritime Administration, [www.marad.dot.gov/library\\_landing\\_page/data\\_and\\_statistics/Data\\_and\\_Statistics.htm](http://www.marad.dot.gov/library_landing_page/data_and_statistics/Data_and_Statistics.htm) as of Aug. 5, 2009. **Tables 2 and 3**—U.S. Army Corps of Engineers, Foreign Cargo Data, July 20, 2009, available at [www.ndc.ivr.usace.army.mil/data/dataimex.htm](http://www.ndc.ivr.usace.army.mil/data/dataimex.htm) as of July 20, 2009. **Table 4**—Maritime Administration, special tabulation, July 20, 2009. **Figure 1**—U.S. Army Corps of Engineers, Foreign Cargo Data, 1997–2007, available at [www.ivr.usace.army.mil/ndc/db/foreign/dbf/](http://www.ivr.usace.army.mil/ndc/db/foreign/dbf/) as of July 20, 2009. **Figure 2**—U.S. Army Corps of Engineers, special tabulation, July 20, 2009.

**No. 13 by value**

**Port of Savannah, Georgia—Water Gateway**

The maritime Port of Savannah was the nation's sixth busiest waterborne freight gateway for international trade by value of shipments in 2008. It ranked 13th among all land, water, and air gateways, handling almost \$59 billion of international freight. Savannah's overall ranking jumped from 24th in 2003.<sup>38</sup> The amount of trade handled at Savannah in 2008 represented 4 percent of the value of U.S. international waterborne freight shipments, accounting for about 5 percent of U.S. waterborne exports and 3 percent of imports (table 1).

By weight, the Port of Savannah ranked 12th among all U.S. international water ports. In 2008, the port processed 36 million tons of goods, accounting for about 2 percent of total U.S. waterborne tonnage. The port handled 2.1 million TEUs (20-foot equivalent units) in 2008 (table 1).

The Port of Savannah is a major gateway for imports from South and Central America and the Caribbean and for exports to Asian countries. By tonnage, Trinidad and Tobago was the top origin country for imports in 2008, and China was the top destination country for exports, followed by Italy and South Korea (table 2).<sup>39</sup> Point Fortin, Trinidad, was the top origin port for imports. Pusan, South Korea, was the major destination port for exports (table 3).<sup>40</sup>

More than 2,600 vessel calls were made at the Port of Savannah in 2007. Of these, about 69 percent were container ships, 11 percent were tanker ships, and 9 percent were dry-bulk ships (table 4).

In 2008, the major commodity imports by loaded TEUs were furniture; retail consumer goods; machinery, appliances, and electronics;

and hardware and housewares. Measured by TEUs, the leading exports were wood pulp, food, and paper and paper board (including waste). The fastest-growing exports were automotive goods and food products, and the fastest-growing imports were rugs, sheets, towels, and blankets, and apparel.<sup>41</sup>

<sup>38</sup> U.S. Department of Transportation, Bureau of Transportation Statistics, *America's Freight Transportation Gateways: Connecting Our Nation to Places and Markets Abroad* (Washington, D.C.: U.S. Department of Transportation, Bureau of Transportation Statistics, 2004).

<sup>39</sup> Data for 2008 are not available for weight and vessels calls. Data in tables 2, 3, and 4 are from 2007.

<sup>40</sup> Note that the top port is not in the top country listed here because this port handles a larger share of its country's trade with this U.S. gateway. By comparison, trade with the top country is distributed among more ports, and thus each rank lower on the port list.

<sup>41</sup> Georgia Ports Authority website, [www.gaports.com/SalesandMarketing/MarketingBusinessDevelopment/GPABytheNumbers/tabid/435/Default.aspx](http://www.gaports.com/SalesandMarketing/MarketingBusinessDevelopment/GPABytheNumbers/tabid/435/Default.aspx) as of Aug. 10, 2009.



**TABLE 1. Value and Weight of U.S. International Merchandise Freight: 2008**

Overall and Water Modes	Total	Exports	Imports
Total U.S. trade by all modes (land, water, air) (\$ millions)	3,189,710	1,198,063	1,991,617
Total U.S. trade by water (\$ millions)	1,623,863	471,536	1,152,327
<b>Value of International Waterborne Freight via Savannah</b>			
Total waterborne freight through port (\$ millions)	58,987	22,838	36,150
Percent of total U.S. waterborne freight	3.6	4.8	3.1
<b>Weight of Waterborne Freight</b>			
Total U.S. trade by water (short tons, millions)	1,519	536	983
Total waterborne freight through port (short tons, millions)	36	17	19
Percent of total U.S. waterborne freight	2.4	3.2	1.9
<b>Containerized Freight</b>			
Total U.S. containerized freight (TEUs, thousands)	28,309	11,277	17,032
Total containerized freight through port (TEUs, thousands)	2,106	1,020	1,086
Percent of total U.S. containerized freight	7.4	9.0	6.4

KEY: TEU = Twenty-foot equivalent unit

**TABLE 2. Top 3 Destination and Origin Countries for International Waterborne Freight via Port of Savannah, GA: 2007 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	China Mainland	1,678	1	Trinidad and Tobago	3,449
2	Italy	963	2	China Mainland	2,755
3	South Korea	941	3	Venezuela	1,802

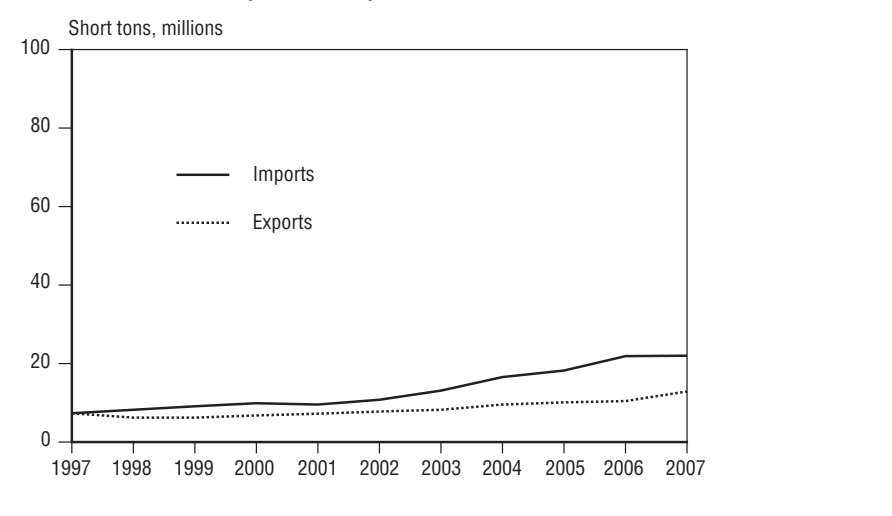
**TABLE 3. Top 3 Destination and Origin Ports for International Waterborne Freight via Port of Savannah, GA: 2007 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Pusan, South Korea	921	1	Point Fortin, Trinidad	2,808
2	Shanghai, China Mainland	846	2	Bajo Grande, Venezuela	1,402
3	Rotterdam, Netherlands	768	3	Shanghai, China Mainland	983

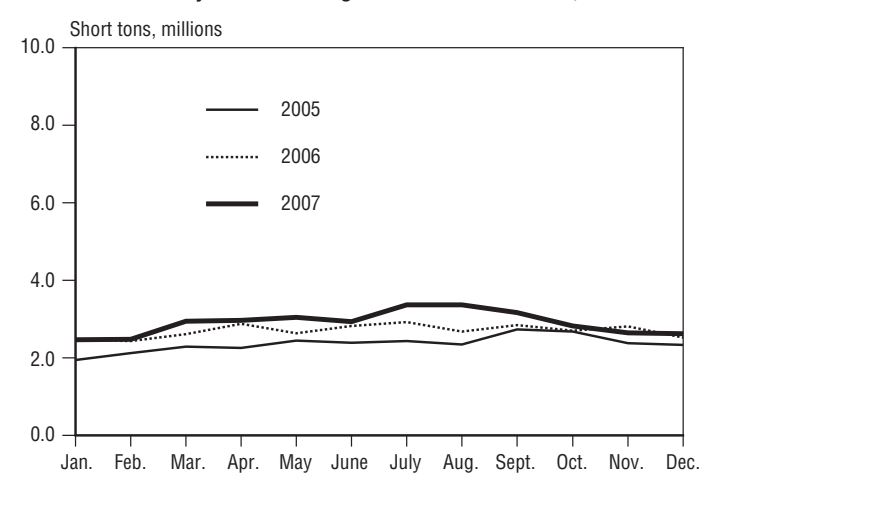
**TABLE 4. Port Calls By Vessel Type, Port of Savannah, GA: 2007**

	Container	Tanker	Dry bulk	General	Other	Total
Calls	1,807	297	231	122	158	2,615
Capacity (deadweight tons, thousands)	93,739	11,170	7,553	3,819	5,530	121,811

**FIGURE 1. Maritime Imports and Exports via Port of Savannah, GA: 1997–2007**



**FIGURE 2. Monthly Maritime Cargo via Port of Savannah, GA: 2005–2007**



**SOURCES:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from multiple sources, October 2009. **Table 1**—Overall and water modes, value and weight of maritime cargo: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, U.S. Exports and Imports of Merchandise, available at [www.census.gov/foreign-trade/www](http://www.census.gov/foreign-trade/www) as of May 12, 2009. Containerized freight: U.S. Department of Transportation, Maritime Administration, [www.marad.dot.gov/library\\_landing\\_page/data\\_and\\_statistics/Data\\_and\\_Statistics.htm](http://www.marad.dot.gov/library_landing_page/data_and_statistics/Data_and_Statistics.htm) as of Aug. 5, 2009. **Tables 2 and 3**—U.S. Army Corps of Engineers, Foreign Cargo Data, July 20, 2009, available at [www.ndc.iwr.usace.army.mil/data/dataimex.htm](http://www.ndc.iwr.usace.army.mil/data/dataimex.htm) as of July 20, 2009. **Table 4**—Maritime Administration, special tabulation, July 20, 2009. **Figure 1**—U.S. Army Corps of Engineers, Foreign Cargo Data, 1997–2007, available at [www.iwr.usace.army.mil/ndc/db/foreign/db/](http://www.iwr.usace.army.mil/ndc/db/foreign/db/) as of July 20, 2009. **Figure 2**—U.S. Army Corps of Engineers, special tabulation, July 20, 2009.

**No. 14 by value****Port of Norfolk, Virginia—Water Gateway**

The maritime Port of Norfolk was the nation's seventh busiest waterborne freight gateway for international trade by value of shipments in 2008. It ranked 14th among all land, water, and air gateways, handling \$54 billion of international freight. In 2008, the amount of trade handled at Norfolk represented more than 3 percent of the value of U.S. international waterborne freight shipments, accounting for 5 percent of U.S. waterborne exports and 3 percent of imports (table 1). The port handled about 1.6 million TEUs (20-foot equivalent units) in 2008, accounting for 6 percent of total U.S. containerized freight (table 1).

Norfolk ranked 10th by weight among all U.S. international water ports in 2008. More than 39 million tons of international merchandise trade—about 29 million tons of exports and 10 million tons of imports—moved through its facilities (table 1). The Port of Norfolk was one of the few leading U.S. maritime ports where exports exceeded imports by weight. But by value, imports still accounted for a bigger share of the freight—56 percent in 2008. As a result, the value per ton of merchandise exports through the port was less than the value per ton of imports.

By weight of the shipments, China was the top origin country for imports in 2007, followed by Columbia and Brazil. Italy was the leading destination for exports, followed by Belgium and Brazil (table 2).<sup>42</sup> The Port of Bremerhaven, Germany, was the largest origin point for imports, and the Port of Antwerp, Belgium, was the major destination for exports (table 3).

More than 1,300 vessel calls were made at the port in 2007. Of these, 74 percent were container ships and 16 percent were dry-bulk ships.<sup>43</sup> The total deadweight tonnage of all the port calls was nearly 69 million tons (table 4).

The major commodities imported through the Port of Norfolk included mineral fuel and oil; machinery; salt, sulfur, earth, and stone; fertilizers; and furniture and bedding. The major commodities exported included mineral fuel and oil, cereals, fertilizers, food waste, animal feed, and wood pulp.<sup>44</sup>

<sup>42</sup> Data for 2008 are not available for weight and vessels calls. Data in tables 2, 3, and 4 are from 2007.

<sup>43</sup> Dry-bulk ships carry homogeneous dry cargoes, such as grain, coal, steel, and iron ore.

<sup>44</sup> Port of Virginia website, [www.portofvirginia.com/development/port-stats.aspx](http://www.portofvirginia.com/development/port-stats.aspx) as of Aug. 10, 2009.

**TABLE 1. Value and Weight of U.S. International Merchandise Freight: 2008**

Overall and Water Modes	Total	Exports	Imports
Total U.S. trade by all modes (land, water, air) (\$ millions)	3,189,710	1,198,063	1,991,617
Total U.S. trade by water (\$ millions)	1,623,863	471,536	1,152,327
<b>Value of International Waterborne Freight via Norfolk</b>			
Total waterborne freight through port (\$ millions)	53,950	23,927	30,023
Percent of total U.S. waterborne freight	3.3	5.1	2.6
<b>Weight of Waterborne Freight</b>			
Total U.S. trade by water (short tons, millions)	1,519	536	983
Total waterborne freight through port (short tons, millions)	39	29	10
Percent of total U.S. waterborne freight	2.6	5.5	1.0
<b>Containerized Freight</b>			
Total U.S. containerized freight (TEUs, thousands)	28,309	11,277	17,032
Total containerized freight through port (TEUs, thousands)	1,585	778	807
Percent of total U.S. containerized freight	5.6	6.9	4.7

KEY: TEU = Twenty-foot equivalent unit

**TABLE 2. Top 3 Destination and Origin Countries for International Waterborne Freight via Port of Norfolk, VA: 2007 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Italy	2,360	1	China Mainland	1,401
2	Belgium	2,093	2	Colombia	1,191
3	Brazil	2,053	3	Brazil	716

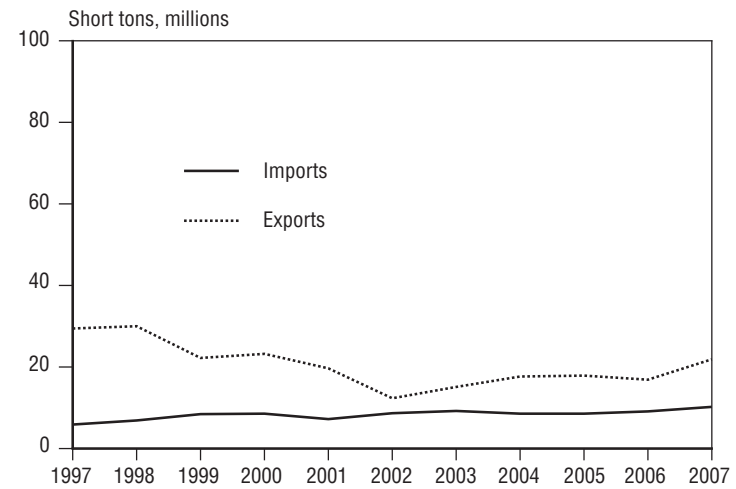
**TABLE 3. Top 3 Destination and Origin Ports for International Waterborne Freight via Port of Norfolk, VA: 2007 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Antwerp, Belgium	1,569	1	Bremerhaven, Germany	514
2	Taranto, Italy	1,089	2	Yantian, China Mainland	499
3	Dunkerque, France	924	3	Rotterdam, Netherlands	481

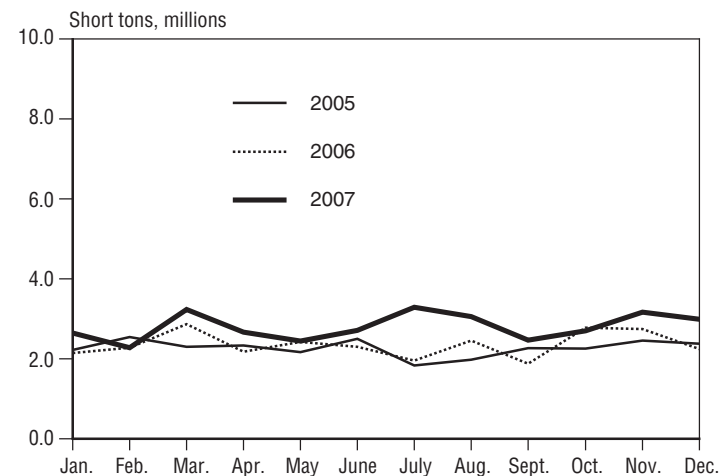
**TABLE 4. Port Calls By Vessel Type, Port of Norfolk, VA: 2007**

	Container	Tanker	Dry bulk	General	Other	Total
Calls	990	41	214	26	65	1,336
Capacity (deadweight tons, thousands)	48,892	1,366	13,367	904	3,913	68,442

**FIGURE 1. Maritime Imports and Exports via Port of Norfolk, VA: 1997–2007**



**FIGURE 2. Monthly Maritime Cargo via Port of Norfolk, VA: 2005–2007**



**SOURCES:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from multiple sources, October 2009. **Table 1**—Overall and water modes, value and weight of maritime cargo: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, U.S. Exports and Imports of Merchandise, available at [www.census.gov/foreign-trade/www](http://www.census.gov/foreign-trade/www) as of May 12, 2009. Containerized freight: U.S. Department of Transportation, Maritime Administration, [www.marad.dot.gov/library\\_landing\\_page/data\\_and\\_statistics/Data\\_and\\_Statistics.htm](http://www.marad.dot.gov/library_landing_page/data_and_statistics/Data_and_Statistics.htm) as of Aug. 5, 2009. **Tables 2 and 3**—U.S. Army Corps of Engineers, Foreign Cargo Data, July 20, 2009, available at [www.ndc.ivr.usace.army.mil/data/dataimex.htm](http://www.ndc.ivr.usace.army.mil/data/dataimex.htm) as of July 20, 2009. **Table 4**—Maritime Administration, special tabulation, July 20, 2009. **Figure 1**—U.S. Army Corps of Engineers, Foreign Cargo Data, 1997–2007, available at [www.ivr.usace.army.mil/ndc/db/foreign/db/](http://www.ivr.usace.army.mil/ndc/db/foreign/db/) as of July 20, 2009. **Figure 2**—U.S. Army Corps of Engineers, special tabulation, July 20, 2009.

**No. 15 by value****San Francisco International Airport, California—Air Freight Gateway**

**S**an Francisco International Airport (SFO) was the fourth busiest international air cargo gateway in the United States by value of shipments in 2008. It was the 15th leading gateway when compared with all U.S. air, land, and sea freight gateways.

In 2008, SFO handled 7 percent of all U.S. international merchandise air freight by value (table 1). About \$53 billion worth of merchandise trade was shipped through SFO in 2008, a decrease of 14 percent from \$62 billion in 2007. Exports fell about 10 percent, and imports fell 18 percent (USDOC CB 2009b).<sup>45</sup> By weight, SFO ranked ninth among air gateways, handling about 3 percent of U.S. international air merchandise tonnage (table 1).<sup>46</sup> It handled nearly 260,000 tons of international air cargo in 2008, down 14 percent from 2007 (table 2).

SFO, like Los Angeles International Airport, is a major hub for trade with Pacific Rim countries. But unlike East Coast and Midwest airports, which show European countries as the first stops for goods destined for Pacific Rim countries, SFO connects directly to Asian markets because of its geographic location. In 2008, the major origin and destination countries on nonstop international flight segments to and from SFO were Japan, South Korea, and Taiwan (table 3). For SFO, the top origin and destination markets were also the same countries.<sup>47</sup>

The San Francisco area is home to high technology firms of Silicon Valley. Accordingly, the major categories of exports from SFO include high-tech products such as computers, semiconductors and semiconductor equipment, electronic equipment and parts, medical equipment, and telecommunications equipment. Because of the dominance of technology products shipped from SFO, the airport has a value-to-weight ratio

more than twice that of most U.S. airports.<sup>48</sup> Similar information about imports is not available. Among the top 25 combined air, land, and maritime gateways, SFO had the sixth highest ratio of exports to imports in terms of the value of its trade (50 percent), primarily because of the dominance of the technology-related exports.<sup>49</sup>

Several major domestic and international air carriers operate through SFO. In 2008, United Airlines was the largest carrier of international merchandise imports and the second largest carrier of exports. The top air carriers were United Airlines, Asiana Airlines, China Airlines, and Eva Airways (table 5). SFO has recently added new cargo facilities, which will serve an important role in the airport's capacity to handle more merchandise trade as the world economic conditions improve.

<sup>45</sup> The 2007 data used in this comparison are not presented in table 1. The data are available online in the gateways database at [www.bts.gov](http://www.bts.gov).

<sup>46</sup> Ranking of air gateways by weight is available in table 9 of this report's overview section.

<sup>47</sup> This information is based on Form 41 International Market Data from the Bureau of Transportation Statistics, Office of Airline Information. Origin-destination airport-pair data by value are not available from the merchandise trade data. See box 2, page 15, for further discussion of the segment and market data.

<sup>48</sup> Bay Area Council Economic Institute, International Trade and the Bay Area Economy: Regional Interests and Global Outlook 2008 (San Francisco: Bay Area Council Economic Institute, 2008), available online at [www.bayeconfor.org/keypub.html](http://www.bayeconfor.org/keypub.html) as of July 20, 2009.

<sup>49</sup> See table 2 in this report's overview section.

**TABLE 1. Value and Weight of U.S. International Merchandise Freight: 2008**

Overall and Air Mode	Total	Exports	Imports
Total U.S. trade by all modes (land, sea, air) (\$ millions)	3,189,710	1,198,063	1,991,617
Total U.S. trade by air (\$ millions)	805,574	388,347	417,227
<b>Value of International Air Freight via SFO, CA</b>			
Total air trade through SFO, CA (\$ millions)	52,758	26,598	26,161
Percent of total U.S. air freight value	6.5	6.8	6.3
<b>Weight of International Air Freight</b>			
Total international air freight through U.S. gateways (short tons)	9,427,627	4,256,630	5,170,997
Total U.S. air freight via SFO, CA (short tons)	259,126	140,758	118,368
Percent of total U.S. air freight weight	2.7	3.3	2.3

**TABLE 2. Total Air Freight Exports and Imports via SFO, CA: 2000–2008 (Short tons, thousands)**

	2000	2005	2006	2007	2008
Imports	214	148	162	170	118
Exports	154	134	125	132	141
<b>Total</b>	<b>368</b>	<b>282</b>	<b>287</b>	<b>301</b>	<b>259</b>

**TABLE 3. Top 3 Destination and Origin Countries for International Air Freight via SFO, CA: 2008 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	South Korea	35	1	Japan	22
2	Japan	33	2	South Korea	19
3	Taiwan	22	3	Taiwan	18

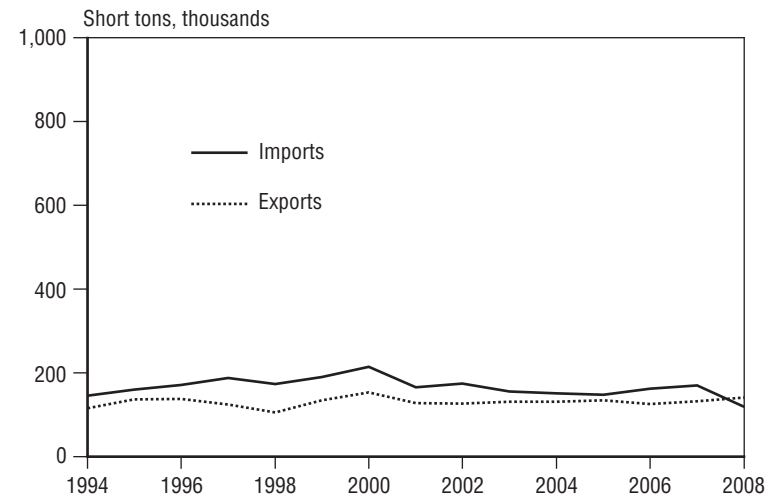
**TABLE 4. Top 3 Destination and Origin Cities for International Air Freight via SFO, CA: 2008 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Seoul, South Korea	35	1	Seoul, South Korea	19
2	Tokyo, Japan	29	2	Taipei, Taiwan	18
3	Taipei, Taiwan	22	3	Tokyo, Japan	17

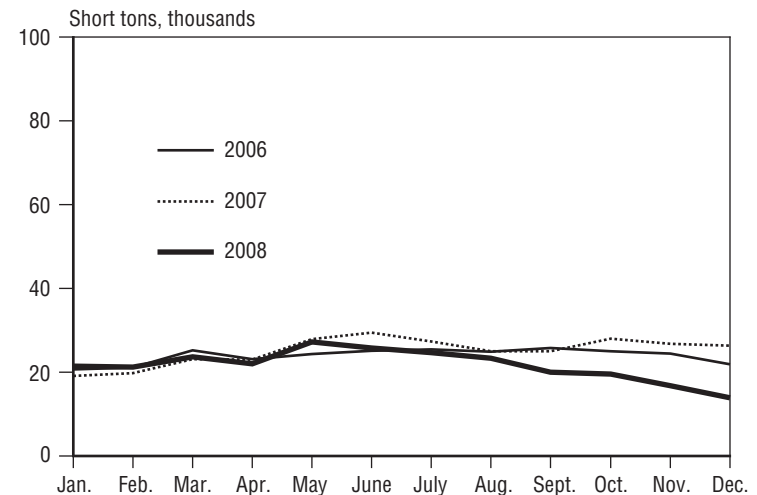
**TABLE 5. Top 3 Air Carriers for Exports and Imports via SFO, CA: 2008 (Short tons, thousands)**

Rank	Export carrier	Tons	Rank	Import carrier	Tons
1	Asiana Airlines Inc.	24	1	United Airlines Inc.	38
2	United Airlines Inc.	18	2	Eva Airways Corporation	13
3	China Airlines Ltd.	13	3	Korean Air Lines Co. Ltd.	10

**FIGURE 1. Air Freight Exports and Imports via SFO, CA: 1994–2008**



**FIGURE 2. Monthly International Air Cargo via SFO, CA: 2006–2008**



**SOURCES:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from multiple sources: **Table 1**—Value data: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, U.S. Exports and Imports of Merchandise, available at [www.census.gov/foreign-trade/www](http://www.census.gov/foreign-trade/www) as of May 12, 2009. Weight data: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Form 41 Traffic—T-100 Segment Data, various years, as of July 20, 2009. **Tables 2, 3, 4, and 5 and Figures 1 and 2**—U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Form 41 Traffic—T-100 Segment Data, various years, as of July 20, 2009.

**No. 16 by value****Port of New Orleans, Louisiana—Water Gateway**

The maritime Port of New Orleans was the nation's eighth busiest waterborne freight gateway for international trade by value of shipments in 2008. It ranked 16th among all land, water, and air gateways, handling nearly \$50 billion dollars of international freight. The seaport's overall ranking jumped from 26th in 2003.<sup>50</sup> In 2008, the merchandise trade handled at New Orleans represented about 3 percent of the value of U.S. international waterborne freight shipments, accounting for 5 percent of U.S. waterborne exports and 2 percent of imports (table 1).

By weight, the Port of New Orleans ranked second among all U.S. international water ports, following Houston, another Gulf Coast port. In 2008, the port handled 98 million tons of goods, accounting for about 6 percent of the total U.S. international waterborne tonnage. The port processed more than 230,000 TEUs (20-foot equivalent units) of containerized maritime freight in 2008 (table 1).

The Port of New Orleans has a global reach, and no single continent dominates its export destinations and import origins. Venezuela was the top origin country for imports in 2007, followed by Mexico and China (table 2).<sup>51</sup> Japan was the leading destination for exports, followed by Mexico and Egypt. The Port of Point Lisas, Trinidad, was the largest origin point for imports, and Tokyo, Japan, was the major destination for exports (table 3).<sup>52</sup>

In 2007, container ships made only 6 percent of the nearly 5,000 vessel calls at the Port of New Orleans. Dry-bulk ships made 49 percent of the vessel calls, and tankers made 34 percent (table 4).<sup>53</sup>

The Port of New Orleans is a leading gateway for general cargo, providing important access to markets in Midwestern states via a 14,500-mile inland waterway system.<sup>54</sup> Commodities handled at the port were diverse. Chemicals, coal, timber and other forest products, and copper came through the port as exports or imports. The port also handled steel and natural rubber, as well as grain and coffee.<sup>55</sup>

<sup>50</sup> U.S. Department of Transportation, Bureau of Transportation Statistics, *America's Freight Transportation Gateways: Connecting Our Nation to Places and Markets Abroad* (Washington, D.C.: U.S. Department of Transportation, Bureau of Transportation Statistics, 2004).

<sup>51</sup> Data for 2008 are not available for weight and vessels calls. Data in tables 2, 3, and 4 are from 2007.

<sup>52</sup> Note that the top port is not in the top country listed here because this port handles a larger share of its country's trade with this U.S. gateway. By comparison, trade with the top country is distributed among more ports, and thus each rank lower on the port list.

<sup>53</sup> Dry-bulk ships carry homogeneous dry cargoes, such as grain, coal, steel, and iron ore.

<sup>54</sup> Port of New Orleans website, [www.portno.com/pno\\_pages/about\\_overview.htm](http://www.portno.com/pno_pages/about_overview.htm) as of Aug. 10, 2009.

<sup>55</sup> Port of New Orleans website, [www.portno.com/pno\\_pages/about\\_overview.htm](http://www.portno.com/pno_pages/about_overview.htm) as of Aug. 10, 2009.

**TABLE 1. Value and Weight of U.S. International Merchandise Freight: 2008**

Overall and Water Modes	Total	Exports	Imports
Total U.S. trade by all modes (land, water, air) (\$ millions)	3,189,710	1,198,063	1,991,617
Total U.S. trade by water (\$ millions)	1,623,863	471,536	1,152,327
<b>Value of International Waterborne Freight via New Orleans</b>			
Total waterborne freight through port (\$ millions)	49,765	25,348	24,417
Percent of total U.S. waterborne freight	3.1	5.4	2.1
<b>Weight of Waterborne Freight</b>			
Total U.S. trade by water (short tons, millions)	1,519	536	983
Total waterborne freight through port (short tons, millions)	98	62	35
Percent of total U.S. waterborne freight	6.4	11.6	3.6
<b>Containerized Freight</b>			
Total U.S. containerized freight (TEUs, thousands)	28,309	11,277	17,032
Total containerized freight through port (TEUs, thousands)	235	154	81
Percent of total U.S. containerized freight	0.8	1.4	0.5

KEY: TEU = Twenty-foot equivalent unit

**TABLE 2. Top 3 Destination and Origin Countries for International Waterborne Freight via Port of New Orleans, LA: 2007 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Japan	1,802	1	Venezuela	4,226
2	Mexico	1,371	2	Mexico	1,883
3	Egypt	803	3	China	1,257

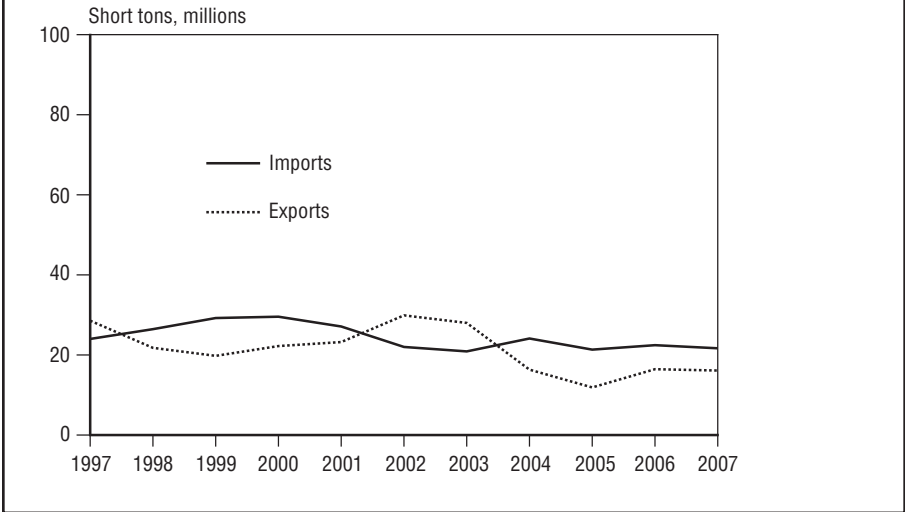
**TABLE 3. Top 3 Destination and Origin Ports for International Waterborne Freight via Port of New Orleans, LA: 2007 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Tokyo, Japan	1,627	1	Point Lisas, Trinidad	794
2	Veracruz, Mexico	994	2	Cayo Arcas, Mexico	784
3	Puerto Cortes, Honduras	726	3	Puerto La Cruz, Mexico	587

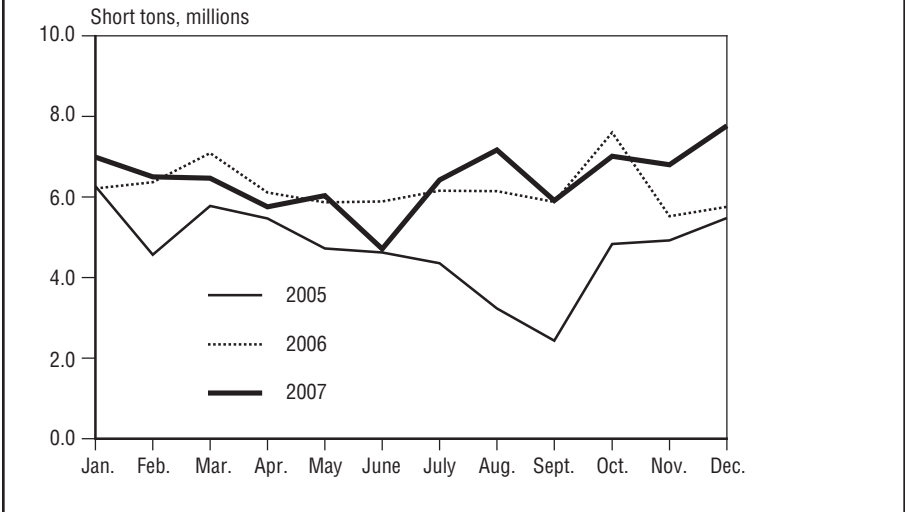
**TABLE 4. Port Calls By Vessel Type, Port of New Orleans, LA: 2007**

	Container	Tanker	Dry bulk	General	Other	Total
Calls	281	1,667	2,392	338	206	4,884
Capacity (deadweight tons, thousands)	12,189	103,556	108,085	9,075	7,066	239,972

**FIGURE 1. Maritime Imports and Exports via Port of New Orleans, LA: 1997–2007**



**FIGURE 2. Monthly Maritime Cargo via Port of New Orleans, LA: 2005–2007**



**SOURCES:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from multiple sources, October 2009. **Table 1**—Overall and water modes, value and weight of maritime cargo: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, U.S. Exports and Imports of Merchandise, available at [www.census.gov/foreign-trade/www](http://www.census.gov/foreign-trade/www) as of May 12, 2009. Containerized freight: U.S. Department of Transportation, Maritime Administration, [www.marad.dot.gov/library\\_landing\\_page/data\\_and\\_statistics/Data\\_and\\_Statistics.htm](http://www.marad.dot.gov/library_landing_page/data_and_statistics/Data_and_Statistics.htm) as of Aug. 5, 2009. **Tables 2 and 3**—U.S. Army Corps of Engineers, Foreign Cargo Data, July 20, 2009, available at [www.ndc.ivr.usace.army.mil/data/dataimex.htm](http://www.ndc.ivr.usace.army.mil/data/dataimex.htm) as of July 20, 2009. **Table 4**—Maritime Administration, special tabulation, July 20, 2009. **Figure 1**—U.S. Army Corps of Engineers, Foreign Cargo Data, 1997–2007, available at [www.iwr.usace.army.mil/ndc/db/foreign/dbf/](http://www.iwr.usace.army.mil/ndc/db/foreign/dbf/) as of July 20, 2009. **Figure 2**—U.S. Army Corps of Engineers, special tabulation, July 20, 2009.



**No. 17 by value****New Orleans Customs District Port, Louisiana—Air Freight Gateway**

New Orleans Customs District Port ranked fifth among all U.S. international air freight gateways by value of shipments in 2008. It was the 17th leading gateway by value among all air, land, and sea freight gateways.

International air merchandise trade moving through the New Orleans Customs District Port has two components: air trade through Louis Armstrong International Airport in New Orleans and merchandise shipped by FedEx facilities located at Memphis International Airport in Tennessee. The Foreign Trade Division of the U.S. Census Bureau combines operations at FedEx's Memphis hub and the Louis Armstrong International Airport to form the New Orleans Customs District Port because FedEx's export and import paperwork is filed in New Orleans. As a result of this adjustment, it is not possible to separate the value of air cargo passing through the New Orleans Customs District Port into the portion handled by FedEx at Memphis and that handled by Louis Armstrong International Airport.

In 2008, more than 6 percent of the value of U.S. international air merchandise moved through the New Orleans Customs District Port (table 1). About \$50 billion worth of merchandise trade passed through New Orleans, an increase of 9 percent from \$46 billion in 2007. Exports increased about 8 percent, and imports increased 9 percent (USDOD CB 2009b).<sup>56</sup> By weight, the New Orleans Customs Port ranked sixth among all air gateways, handling 4 percent of U.S. international air merchandise.<sup>57</sup> It handled about 384,000 tons of international air cargo in 2008, almost the same as the tonnage in 2007 (table 2).<sup>58</sup>

The Bureau of Transportation Statistics air freight tonnage data show that international air cargo moved by FedEx through Memphis Interna-

tional Airport (383,600 short tons) in 2008 accounted for nearly all (more than 99 percent) of the total tonnage (384,000 short tons) moved through the New Orleans Customs gateway. If considered separately, Memphis International Airport would be one of the largest international air freight gateways in the United States (ranked 21st among U.S. international airports by value in 2008). But it is not listed among the top 25 freight gateways profiled in this report because the value of its FedEx operation is added to that of the New Orleans Customs District Port.

The FedEx facility at Memphis International Airport is a major hub for air trade with the nation's NAFTA partners—Canada and Mexico—and with Europe. In terms of merchandise goods transported on nonstop international flight segments, Canada, Mexico, and Germany were the top three origins and destinations (table 3). The major city segments were Paris, Toronto, and Frankfurt (table 4). The top origin and destination markets for international air cargo handled at Memphis were the same countries as those on nonstop international flight segments.<sup>59</sup>

<sup>56</sup> The 2007 data used in this comparison are not presented in table 1. The data are available online in the gateways database at [www.bts.gov](http://www.bts.gov).

<sup>57</sup> Ranking of air gateways by weight is available in table 9 of this report's overview section.

<sup>58</sup> Weight information is based on Form 41 International Market Data from the Bureau of Transportation Statistics, Office of Airline Information.

<sup>59</sup> This information is based on Form 41 International Market Data from the Bureau of Transportation Statistics, Office of Airline Information. Origin-destination airport-pair data by value are not available from the merchandise trade data. See box 2, page 15, for further discussion of the segment and market data.

**TABLE 1. Value and Weight of U.S. International Merchandise Freight: 2008**

Overall and Air Mode	Total	Exports	Imports
Total U.S. trade by all modes (land, sea, air) (\$ millions)	3,189,710	1,198,063	1,991,617
Total U.S. trade by air (\$ millions)	805,574	388,347	417,227
<b>Value of International Air Freight via New Orleans, LA</b>			
Total air trade through New Orleans, LA (\$ millions)	49,765	25,348	24,417
Percent of total U.S. air freight value	6.2	6.5	5.9
<b>Weight of International Air Freight</b>			
Total international air freight through U.S. gateways (short tons)	9,427,627	4,256,630	5,170,997
Total U.S. air freight via New Orleans, LA (short tons)	383,807	183,459	200,348
Percent of total U.S. air freight weight	4.1	4.3	3.9

**TABLE 2. Total Air Freight Exports and Imports via New Orleans, LA: 2000–2008 (Short tons, thousands)**

	2000	2005	2006	2007	2008
Imports	110	169	186	203	200
Exports	81	134	152	186	183
<b>Total</b>	<b>191</b>	<b>303</b>	<b>339</b>	<b>389</b>	<b>384</b>

**TABLE 3. Top 3 Destination and Origin Countries for International Air Freight via New Orleans, LA: 2008 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Canada	60	1	Canada	37
2	Mexico	35	2	Mexico	36
3	France	31	3	Germany	34

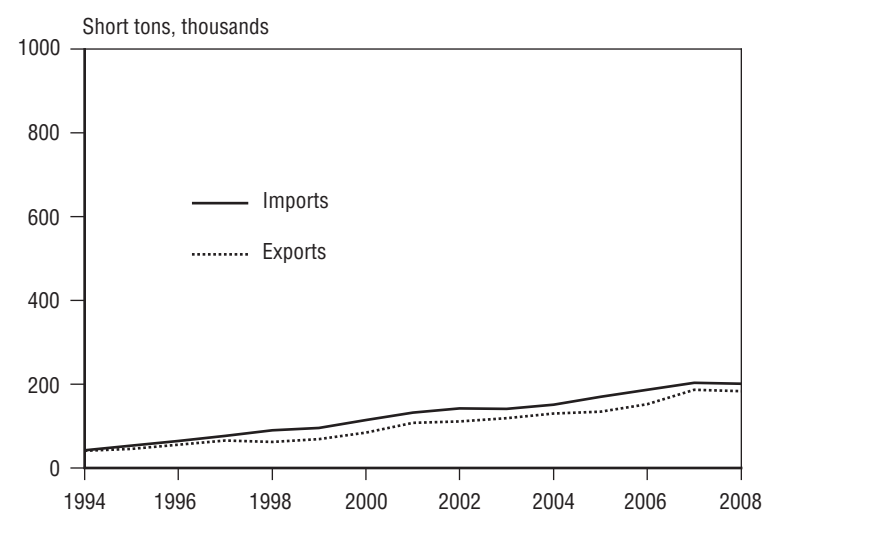
**TABLE 4. Top 3 Destination and Origin Cities for International Air Freight via New Orleans, LA: 2008 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Paris, France	31	1	Paris, France	32
2	Toronto, Canada	25	2	Frankfurt, Germany	21
3	Frankfurt, Germany	18	3	London, United Kingdom	20

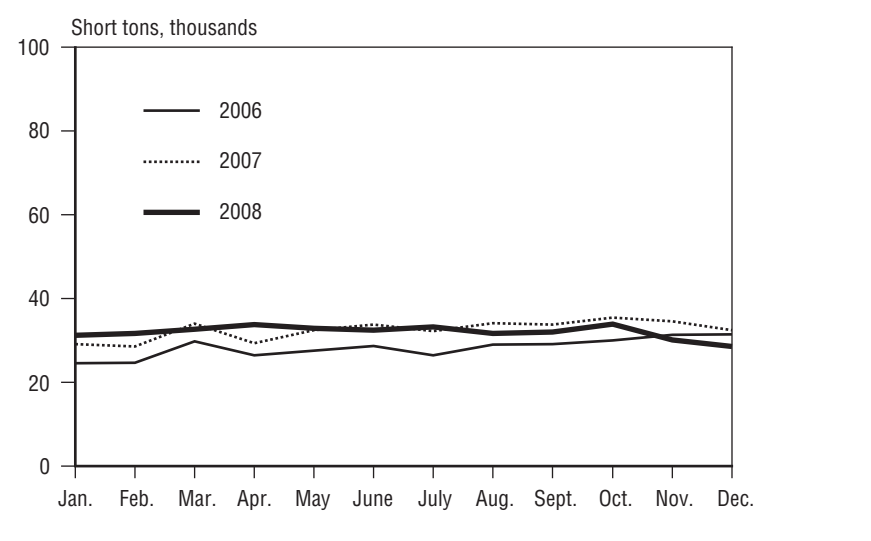
**TABLE 5. Top 3 Air Carriers for Exports and Imports via New Orleans, LA: 2008 (Short tons, thousands)**

Rank	Export carrier	Tons	Rank	Import carrier	Tons
1	Federal Express Corporation	181.33	1	Federal Express Corporation	198.42
2	Northwest Airlines Inc.	2.08	2	Northwest Airlines Inc.	1.81
3	USA Jet Airlines Inc.	0.02	3	Atlas Air Inc.	0.08

**FIGURE 1. Air Freight Exports and Imports via New Orleans, LA: 1994–2008**



**FIGURE 2. Monthly International Air Cargo via New Orleans, LA: 2006–2008**



**SOURCES:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from multiple sources: **Table 1**—Value data: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, U.S. Exports and Imports of Merchandise, available at [www.census.gov/foreign-trade/www](http://www.census.gov/foreign-trade/www) as of May 12, 2009. Weight data: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Form 41 Traffic—T-100 Segment Data, various years, as of July 20, 2009. **Tables 2, 3, 4, and 5 and Figures 1 and 2**—U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Form 41 Traffic—T-100 Segment Data, various years, as of July 20, 2009.

**No. 18 by value**

**El Paso, Texas—Land Gateway**

El Paso, Texas was the nation's fifth busiest land border gateway by value for imports and exports transported across the border by highways, railroads, and pipelines in 2008. Its land ports were the 18th leading gateway when compared with all U.S. land, air, and sea freight gateways.

In 2008, merchandise trade passing through El Paso (\$48 billion) accounted for 6 percent of the value of U.S. total land trade. El Paso was a major gateway for both export and imports, with inbound shipments accounting for 58 percent of the value of freight handled by its land ports in 2008 and outbound shipments for 42 percent (table 1).

Trucks carried the bulk of freight passing through El Paso in terms of value of shipments, followed by rail. In 2008, trucks carried \$42 billion worth of goods, accounting for 88 percent of the land freight. In 2000, trucks carried more than 90 percent of trade passing through El Paso, but the market share for trucks has declined slightly as rail's share has risen. In 2008, rail carried 11 percent of the value of land freight, up from 4 percent in 2000 (table 2). By weight, trucking also accounted for the largest share of land imports tonnage (see insert table).

El Paso is an international gateway that served almost every state in 2008. About 32 percent of the value of truck freight passing through El Paso originated or terminated outside Texas. Only 11 percent of truck exports passing through El Paso came from states other than Texas. Nearly half (47 percent) of truck imports passing through El Paso, however, went to states other than Texas (table 1). The top three states served by El Paso's land transportation facilities—Texas, Michigan, and California—accounted for 78 percent of the value of the gateway's land freight. Michigan, the state that had the second largest international trade pass-

ing through El Paso, accounted for 8 percent of the gateway's land trade in 2008. More than 90 percent of Michigan's international trade through El Paso was imports (table 3).

From 2000 to 2008, the number of rail containers passing through El Paso more than quadrupled, and truck containers rose 9 percent (table 4). However, truck containers made up 82 percent of the container entries. Trucks enter El Paso via the Bridge of the Americas and the Ysleta Port (Zaragoza Bridge). From 2000 to 2008, the number of trucks entering the United States at these crossings increased 5 percent (figure 1).

**Weight of Land Imports via El Paso, TX, by Mode: 2008**

Mode	Tonnage	Percent
<b>Total</b>	<b>4,548,847</b>	<b>100.0</b>
Truck	2,861,107	62.9
Rail	1,679,178	36.9
Pipeline	0	0.0
Other <sup>1</sup>	8,562	0.2

<sup>1</sup>Other includes mail, pedestrians carrying freight, Foreign Trade Zone, and miscellaneous.

**SOURCE:** USDOT, RITA, BTS, Transborder Freight Data. Weight data for land exports are unavailable.

Given the long-term growth rate of U.S.-NAFTA trade, the volume of freight passing through El Paso and the associated truck traffic on local roads can be expected to rise.

**TABLE 1. Value of U.S. International Merchandise Freight: 2008 (\$ millions)**

Overall and Land Modes	Total	Exports	Imports
Total U.S. trade by all modes (land, sea, air)	3,400,661	1,300,532	2,100,129
Total U.S. trade by land	829,875	365,269	464,606
<b>Value of International Land Freight via El Paso, TX</b>			
Total land trade through port	48,174	20,156	28,018
Percent of total U.S. land freight value	5.8	5.5	6.0
<b>Value of International Land Freight by Mode via El Paso, TX</b>			
Truck	42,199	17,396	24,803
Rail	5,260	2,292	2,969
Pipeline	447	447	0
Other and unknown	268	22	246
<b>Value of Land Freight O&amp;D, All Modes, via El Paso, TX</b>			
To and from Texas	30,318	16,394	13,924
To and from other U.S. states	17,857	3,762	14,095
Other states' shipments as percent of freight value via port	37.1	18.7	50.3
<b>Value of Truck Freight O&amp;D via El Paso, TX</b>			
To and from Texas	28,771	15,520	13,251
To and from other U.S. states	13,428	1,876	11,552
Other states' shipments as percent of freight value via port	31.8	10.8	46.6

KEY: O&D = Origin and destination

**TABLE 2. Value of International Land Trade via El Paso, TX, by Mode: 2000–2008 (\$ millions)**

	2000	2005	2006	2007	2008
Truck	36,008	39,524	42,237	43,479	42,199
Rail	1,433	3,039	3,946	5,156	5,260
Pipeline	206	369	516	322	447
Other and unknown	1,729	43	24	96	268
<b>Total</b>	<b>39,376</b>	<b>42,974</b>	<b>46,724</b>	<b>49,054</b>	<b>48,174</b>

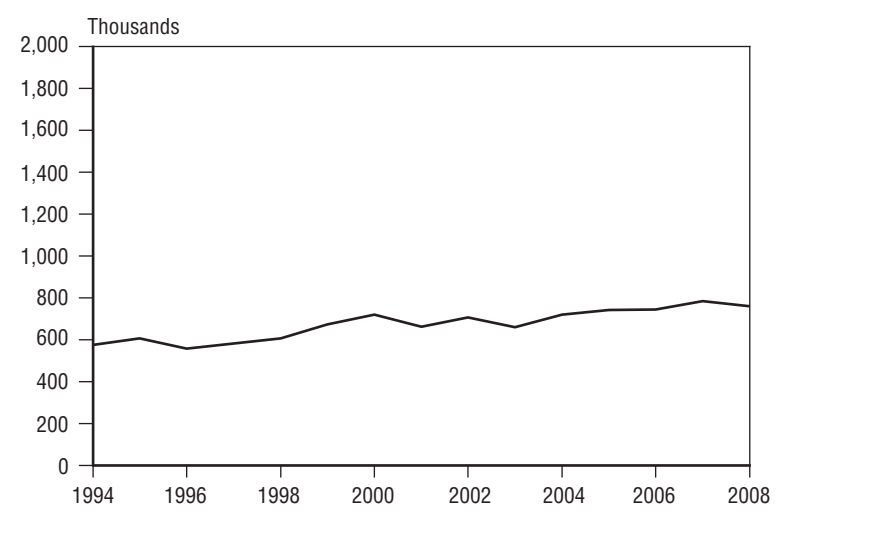
**TABLE 3. Top 3 States for Trade via El Paso, TX: 2008 (\$ millions)**

Rank	State	Total	Exports	Imports
1	Texas	30,318	16,394	13,924
2	Michigan	3,706	301	3,405
3	California	3,493	413	3,080

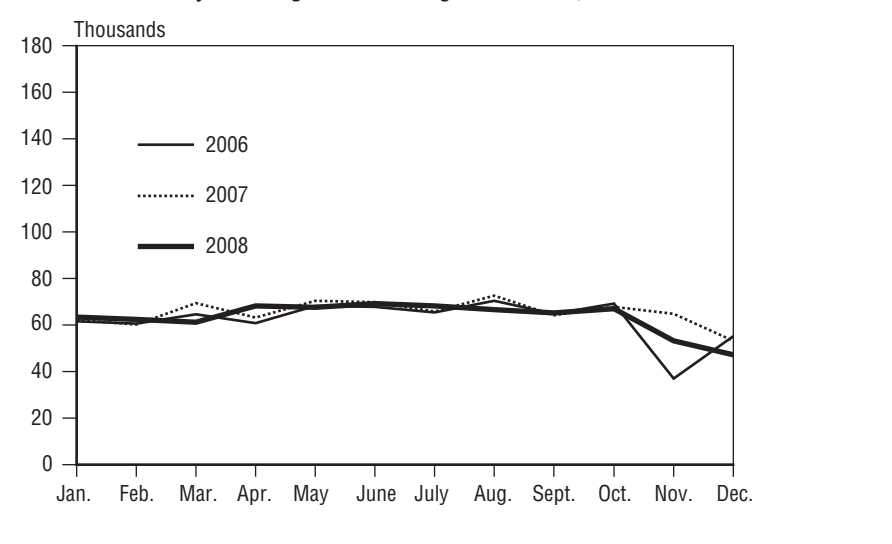
**TABLE 4. Incoming Full and Empty Container Crossings via El Paso, TX: 2000–2008 (Thousands)**

	2000	2005	2006	2007	2008
Via truck	688	735	758	759	753
Via rail	35	144	186	179	161

**FIGURE 1. Incoming Truck Crossings via El Paso, TX: 1994–2008**



**FIGURE 2. Monthly Incoming Truck Crossings via El Paso, TX: 2006–2008**



**SOURCES:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from multiple sources: **Tables 1, 2, and 3**—Overall: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, U.S. Exports and Imports of Merchandise, available at [www.census.gov/foreign-trade/www](http://www.census.gov/foreign-trade/www) as of May 12, 2009. Land Freight: U.S. Department of Transportation, Bureau of Transportation Statistics, Transborder Surface Freight Data, 2000–2008. **Table 4, Figures 1 and 2**—U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Border Crossing/Entry Data, 1994–2008, based on data from U.S. Department of Homeland Security, Customs and Border Protection, Operations Management Database.

**No. 19 by value****Port of Baltimore, Maryland—Water Gateway**

The maritime Helen Delich Bentley Port of Baltimore was the nation's ninth busiest waterborne freight gateway for international trade by value of shipments in 2008. It ranked 19th among all air, land, and water gateways, handling more than \$45 billion of international freight. In 2008, the merchandise trade handled at Baltimore represented nearly 3 percent of the value of U.S. international waterborne freight shipments, accounting for about 3 percent of U.S. waterborne exports and 3 percent of imports (table 1).

By weight, Baltimore ranked 15th among all U.S. water gateways in 2008. About 33 million tons of international trade—18 million tons of imports and 15 million tons of exports—moved through the port, accounting for more than 2 percent of the total U.S. waterborne freight tonnage. The port handled more than 430,000 TEUs (20-foot equivalent units) in 2008, about 2 percent of the total U.S. containerized international freight (table 1).

By weight of shipments, Canada was the leading country for imports moving through the port in 2007, and the Netherlands was the leading country for exports (table 2).<sup>60</sup> The leading seaport for cargo leaving the Port of Baltimore was Amsterdam, Netherlands. The top origin port for imports was Freeport, Bahamas (table 3).<sup>61</sup>

More than 1,800 vessel calls were made at the port in 2007. Of these, 23 percent were container ships and 20 percent were dry-bulk ships (table 4).<sup>62</sup>

The Port of Baltimore is the top seaport for handling automobiles in the United States. In early 2009, the port had about 57,000 new cars at its terminals, and it had to store some at the nearby Baltimore/Washington

International Thurgood Marshall Airport.<sup>63</sup> This situation was partly the result of the slowdown in economic activity within the United States and the reduction of consumer spending on durable goods.

The major commodities exported through the Port of Baltimore included coal, general cargo, oil, metal waste and scrap, and other mineral fuel and asphalt. Major imported commodities included general cargo, iron ore, coke, salt, and gypsum.<sup>64</sup> Baltimore is one of the major ports on the East Coast specializing in roll-on/roll-off cargo, such as automobiles and earth-moving and large farm machinery.

<sup>60</sup> Data for 2008 are not available for weight and vessels calls. Data in tables 2, 3, and 4 are from 2007.

<sup>61</sup> Note that the top port is not in the top country listed here because this port handles a larger share of its country's trade with this U.S. gateway. By comparison, trade with the top country is distributed among more ports, and thus each rank lower on the port list.

<sup>62</sup> Dry-bulk ships carry homogeneous dry cargoes, such as grain, coal, steel, and iron ore.

<sup>63</sup> B. Dennis, Too Many Cars and They're Not on the Road: After "Car Bubble" Collapses, Excess Inventory Creates a Backlog, Washington Post, Apr. 3, 2009, A1.

<sup>64</sup> Maryland Port Administration website, [www.mpa.state.md.us/info/index.htm](http://www.mpa.state.md.us/info/index.htm) as of Aug. 10, 2009.

**TABLE 1. Value and Weight of U.S. International Merchandise Freight: 2008**

Overall and Water Modes	Total	Exports	Imports
Total U.S. trade by all modes (land, water, air) (\$ millions)	3,189,710	1,198,063	1,991,617
Total U.S. trade by water (\$ millions)	1,623,863	471,536	1,152,327
<b>Value of International Waterborne Freight via Baltimore</b>			
Total waterborne freight through port (\$ millions)	45,312	16,126	29,187
Percent of total U.S. waterborne freight	2.8	3.4	2.5
<b>Weight of Waterborne Freight</b>			
Total U.S. trade by water (short tons, millions)	1,519	536	983
Total waterborne freight through port (short tons, millions)	33	15	18
Percent of total U.S. waterborne freight	2.2	2.8	1.8
<b>Containerized Freight</b>			
Total U.S. containerized freight (TEUs, thousands)	28,309	11,277	17,032
Total containerized freight through port (TEUs, thousands)	430	171	259
Percent of total U.S. containerized freight	1.5	1.5	1.5

KEY: TEU = Twenty-foot equivalent unit

**TABLE 2. Top 3 Destination and Origin Countries for International Waterborne Freight via Port of Baltimore, MD: 2007 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Netherlands	2,220	1	Canada	3,212
2	Romania	1,105	2	Brazil	2,679
3	Belgium	895	3	Bahamas	1,047

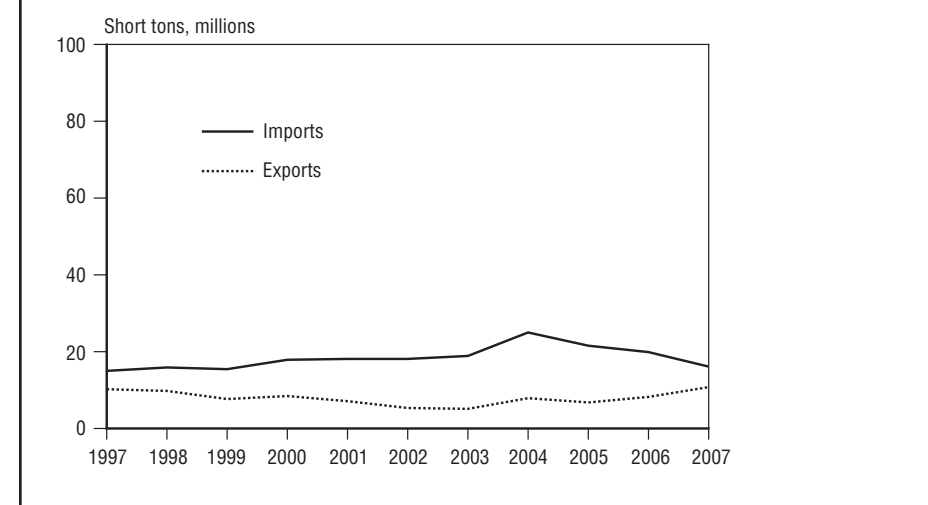
**TABLE 3. Top 3 Destination and Origin Ports for International Waterborne Freight via Port of Baltimore, MD: 2007 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Amsterdam, Netherlands	1,230	1	Freeport, Bahamas	1,047
2	Constanta, Romania	1,105	2	Seven Islands, Canada	979
3	Rotterdam, Netherlands	983	3	Rio de Janeiro, Brazil	732

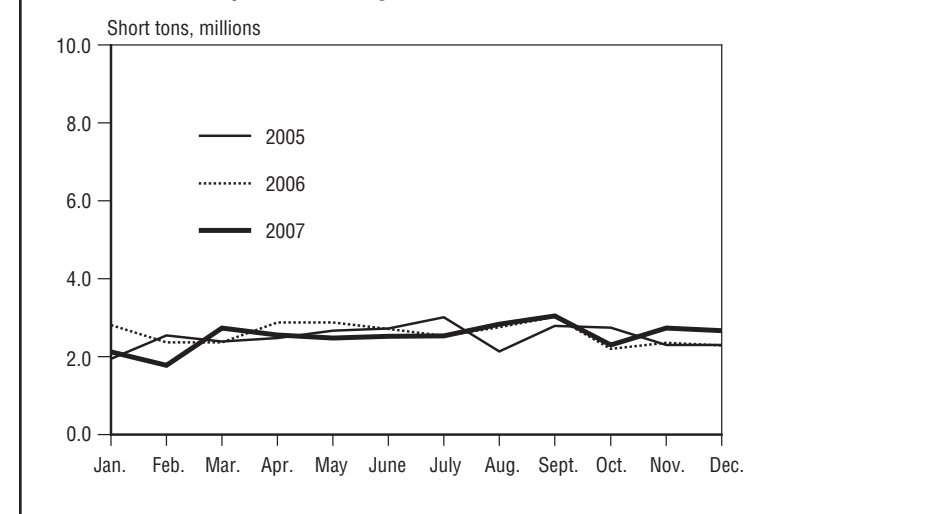
**TABLE 4. Port Calls by Vessel Type, Port of Baltimore, MD: 2007**

	Container	Tanker	Dry bulk	General	Other	Total
Calls	427	162	364	108	772	1,833
Capacity (deadweight tons, thousands)	17,793	5,861	17,891	3,380	18,126	63,052

**FIGURE 1. Maritime Imports and Exports via Port of Baltimore, MD: 1997–2007**



**FIGURE 2. Monthly Maritime Cargo via Port of Baltimore, MD: 2005–2007**



**SOURCES:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from multiple sources, October 2009. **Table 1**—Overall and water modes, value and weight of maritime cargo: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, U.S. Exports and Imports of Merchandise, available at [www.census.gov/foreign-trade/www](http://www.census.gov/foreign-trade/www) as of May 12, 2009. Containerized freight: U.S. Department of Transportation, Maritime Administration, [www.marad.dot.gov/library\\_landing\\_page/data\\_and\\_statistics/Data\\_and\\_Statistics.htm](http://www.marad.dot.gov/library_landing_page/data_and_statistics/Data_and_Statistics.htm) as of Aug. 5, 2009. **Tables 2 and 3**—U.S. Army Corps of Engineers, Foreign Cargo Data, July 20, 2009, available at [www.ndc.ivr.usace.army.mil/data/dataimex.htm](http://www.ndc.ivr.usace.army.mil/data/dataimex.htm) as of July 20, 2009. **Table 4**—Maritime Administration, special tabulation, July 20, 2009. **Figure 1**—U.S. Army Corps of Engineers, Foreign Cargo Data, 1997–2007, available at [www.iwr.usace.army.mil/ndc/db/foreign/dbf/](http://www.iwr.usace.army.mil/ndc/db/foreign/dbf/) as of July 20, 2009. **Figure 2**—U.S. Army Corps of Engineers, special tabulation, July 20, 2009.

**No. 20 by value****Port of Philadelphia, Pennsylvania—Water Gateway**

The maritime Port of Philadelphia was the nation's 10th busiest maritime freight gateway for international maritime trade by value of shipments in 2008. It ranked 20th among all land, water, and air gateways, handling more than \$43 billion of international freight. In 2008, the merchandise trade handled at Philadelphia represented about 3 percent of the value of U.S. international waterborne freight shipments, accounting for 1 percent of U.S. waterborne exports and 3 percent of imports (table 1).

By weight, Philadelphia ranked seventh among all U.S. water ports in 2008. More than 54 million tons of international trade—51 million tons of imports and 3 million tons of exports—moved through the port, accounting for nearly 4 percent of the total U.S. waterborne freight tonnage. The port handled more than 218,000 TEUs (20-foot equivalent units) of containerized freight in 2008 (table 1).

The Port of Philadelphia is a major gateway for imports from African countries. By weight, Nigeria was the top origin country for imports in 2007, followed by Cameroon and Turkey.<sup>65</sup> Australia was the major destination for exports, followed by Canada and Turkey (table 2). All three of the port's top origin points for imports were ports in the oil-rich country of Nigeria. The top destination points for exports were Melbourne and Sydney, Australia, and Montreal, Canada (table 3).

Tankers accounted for 52 percent of the more than 3,100 vessel calls made at the Port of Philadelphia in 2007. Dry-bulk ships and general cargo vessels together made 25 percent of the vessel calls, and container-ships made 16 percent (table 4).<sup>66</sup>

By weight, the major commodities exported through the Port of Philadelphia included refined petroleum products, iron and steel scrap and waste, paper, and meat. Major imported commodities included crude petroleum, refined petroleum products, meat, fruit, wine, beverage, and paper prod-

ucts. The top containerized exports were automobiles and motor vehicle parts, paper products, meat, plastic products, and medical equipment. The top containerized imports were meat, fruit, wine, and paper products. Philadelphia is one of the major ports on the East Coast specializing in breakbulk cargo, such as cocoa beans, dairy products, seeds and bulbs, and general cargo.

<sup>65</sup> Data for 2008 are not available for weight and vessels calls. Data in tables 2, 3, and 4 are from 2007.

<sup>66</sup> Dry-bulk ships carry homogeneous dry cargoes, such as grain, coal, steel, and iron ore.



**TABLE 1. Value and Weight of U.S. International Merchandise Freight: 2008**

Overall and Water Modes	Total	Exports	Imports
Total U.S. trade by all modes (land, water, air) (\$ millions)	3,189,710	1,198,063	1,991,617
Total U.S. trade by water (\$ millions)	1,623,863	471,536	1,152,327
<b>Value of International Waterborne Freight via Philadelphia</b>			
Total waterborne freight through port (\$ millions)	43,176	5,039	38,137
Percent of total U.S. waterborne freight	2.7	1.1	3.3
<b>Weight of Waterborne Freight</b>			
Total U.S. trade by water (short tons, millions)	1,519	536	983
Total waterborne freight through port (short tons, millions)	55	3	51
Percent of total U.S. waterborne freight	3.6	0.6	5.2
<b>Containerized Freight</b>			
Total U.S. containerized freight (TEUs, thousands)	28,309	11,277	17,032
Total containerized freight through port (TEUs, thousands)	218	59	159
Percent of total U.S. containerized freight	0.8	0.5	0.9

KEY: TEU = Twenty-foot equivalent unit

**TABLE 2. Top 3 Destination and Origin Countries for International Waterborne Freight via Port of Philadelphia, PA: 2007 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Australia	143	1	Nigeria	11,796
2	Canada	119	2	Cameroon	1,999
3	Turkey	71	3	Turkey	1,773

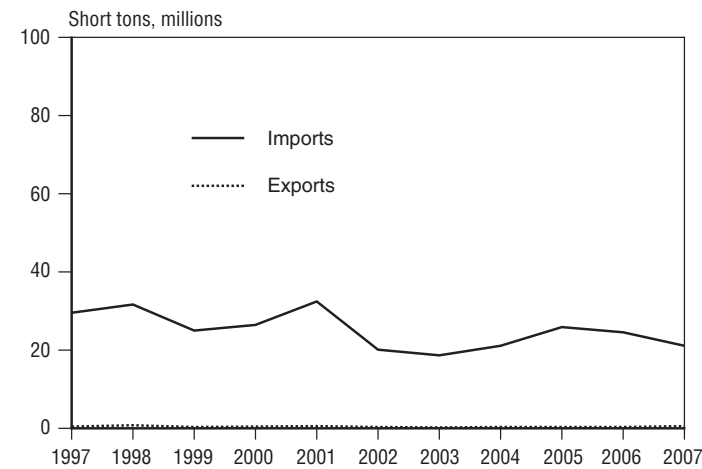
**TABLE 3. Top 3 Destination and Origin Ports for International Waterborne Freight via Port of Philadelphia, PA: 2007 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Melbourne, Australia	65	1	Kwa Ibo Terminal, Nigeria	3,484
2	Sydney, Australia	63	2	Escravos Oil Terminal, Nigeria	3,230
3	Montreal, Canada	32	3	Lagos, Nigeria	1,486

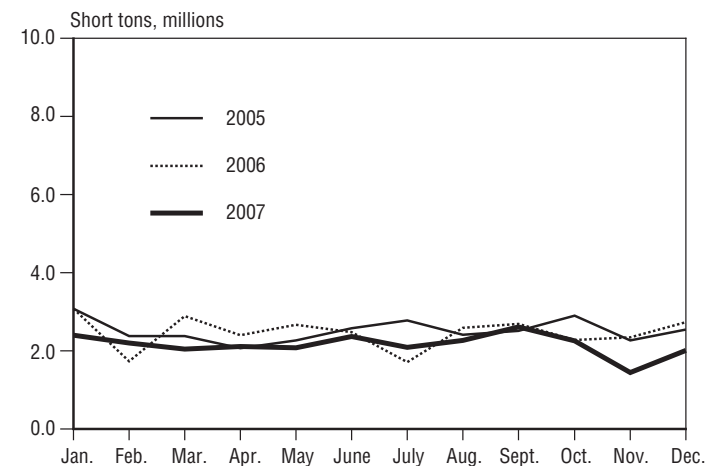
**TABLE 4. Port Calls By Vessel Type, Port of Philadelphia, PA: 2007**

	Container	Tanker	Dry bulk	General	Other	Total
Calls	499	1,646	352	420	231	3,148
Capacity (deadweight tons, thousands)	15,594	149,269	14,678	7,779	4,495	191,814

**FIGURE 1. Maritime Imports and Exports via Port of Philadelphia, PA: 1997–2007**



**FIGURE 2. Monthly Maritime Cargo via Port of Philadelphia, PA: 2005–2007**



**SOURCES:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from multiple sources, October 2009. **Table 1**—Overall and water modes, value and weight of maritime cargo: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, U.S. Exports and Imports of Merchandise, available at [www.census.gov/foreign-trade/www](http://www.census.gov/foreign-trade/www) as of May 12, 2009. Containerized freight: U.S. Department of Transportation, Maritime Administration, [www.marad.dot.gov/library\\_landing\\_page/data\\_and\\_statistics/Data\\_and\\_Statistics.htm](http://www.marad.dot.gov/library_landing_page/data_and_statistics/Data_and_Statistics.htm) as of Aug. 5, 2009. **Tables 2 and 3**—U.S. Army Corps of Engineers, Foreign Cargo Data, July 20, 2009, available at [www.ndc.iwr.usace.army.mil/data/dataimex.htm](http://www.ndc.iwr.usace.army.mil/data/dataimex.htm) as of July 20, 2009. **Table 4**—Maritime Administration, special tabulation, July 20, 2009. **Figure 1**—U.S. Army Corps of Engineers, Foreign Cargo Data, 1997–2007, available at [www.iwr.usace.army.mil/ndc/db/foreign/dbf/](http://www.iwr.usace.army.mil/ndc/db/foreign/dbf/) as of July 20, 2009. **Figure 2**—U.S. Army Corps of Engineers, special tabulation, July 20, 2009.

**No. 21 by value****Ted Stevens Anchorage International Airport, Alaska—Air Freight Gateway**

**T**ed Stevens Anchorage International Airport (ANC) was the nation's sixth busiest international air freight gateway by value of shipments in 2008. It was the 21st leading gateway by value among all air, land, and sea freight gateways.

Five percent of the value of all U.S. international air cargo moved through ANC in 2008 (table 1). About \$41 billion worth of merchandise trade passed through ANC in 2008, a decrease of 8 percent from \$45 billion in 2007. Exports fell about 5 percent, and imports fell 10 percent (USDOC CB 2009b).<sup>67</sup> By weight, ANC ranked first among all U.S. air gateways, handling 26 percent of the tonnage of U.S. international air freight (table 1).<sup>68</sup> It handled about 2.5 million tons of international air cargo in 2008, down 19 percent from 2007 (table 2).

ANC is a major hub for international air trade with Asian countries. Most flights from the United States destined for Asia or from Asia destined for the United States make operational stops at ANC. The top origin and destination countries on nonstop international flight segments through ANC were South Korea; Hong Kong, China; Taiwan; and Japan (table 3). The top cities for nonstop flight segments for air cargo were Seoul, Taipei, and Hong Kong (table 4). The origin and destination markets for ANC were also the same as the origin and destination countries on nonstop international flight segments.<sup>69</sup>

By tonnage, FedEx and United Parcel Service were the major U.S. carriers among the top air carriers for imports and exports. The other major cargo carriers at ANC in 2008 were Korean Air Lines and Cathay Pacific Airways (table 5).

ANC holds a unique position among international air gateways. In 1996, the U.S. Department of Transportation began to permit air carriers from foreign countries (except those from the United Kingdom and Japan) to conduct expanded cargo activities at ANC. These activities included cargo transfer from a foreign carrier's aircraft to any of its other aircraft, transfer from a foreign carrier to any U.S. air carrier, and transfer from one foreign carrier to any other foreign carrier. This ruling gave a tremendous boost to the already growing international merchandise trade through ANC. In part because of this ruling, international air cargo through ANC has increased steadily since 1996. The steady growth in air cargo tonnage has enhanced ANC's position as a national and international air freight hub. From 2002 to 2008, the airport significantly expanded facilities, including taxiways and concourses.<sup>70</sup> As the global economic recession abates and trade between the United States and Asia, particularly China, increases, the number of flights between U.S. and Asian markets and the tonnage of international air cargo passing through ANC are likely to increase.

<sup>67</sup> The 2007 data used in this comparison are not presented in table 1. The data are available online in the gateways database at [www.bts.gov](http://www.bts.gov).

<sup>68</sup> Ranking of air gateways by weight is available in table 9 of this report's overview section.

<sup>69</sup> This information is based on Form 41 International Market Data from the Bureau of Transportation Statistics, Office of Airline Information. Origin-destination airport-pair data by value are not available from the merchandise trade data. See box 2, page 15, for further discussion of the segment and market data.

<sup>70</sup> Ted Stevens Anchorage International Airport, 2008 Master Plan Study Report, January 2009, available at [www.dot.state.ak.us/anc](http://www.dot.state.ak.us/anc) as of July 20, 2009.

**TABLE 1. Value and Weight of U.S. International Merchandise Freight: 2008**

Overall and Air Mode	Total	Exports	Imports
Total U.S. trade by all modes (land, sea, air) (\$ millions)	3,189,710	1,198,063	1,991,617
Total U.S. trade by air (\$ millions)	805,574	388,347	417,227
<b>Value of International Air Freight via Anchorage, AK</b>			
Total air trade through Anchorage, AK (\$ millions)	41,443	10,194	31,249
Percent of total U.S. air freight value	5.1	2.6	7.5
<b>Weight of International Air Freight</b>			
Total international air freight through U.S. gateways (short tons)	9,427,627	4,256,630	5,170,997
Total U.S. air freight via Anchorage, AK (short tons)	2,487,270	796,342	1,690,929
Percent of total U.S. air freight weight	26.4	18.7	32.7

**TABLE 2. Total Air Freight Exports and Imports via Anchorage, AK: 2000–2008 (Short tons, thousands)**

	2000	2005	2006	2007	2008
Imports	1,230	2,024	2,124	2,125	1,691
Exports	739	907	939	946	796
<b>Total</b>	<b>1,969</b>	<b>2,931</b>	<b>3,062</b>	<b>3,071</b>	<b>2,487</b>

**TABLE 3. Top 3 Destination and Origin Countries for International Air Freight via Anchorage, AK: 2008 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	South Korea	203	1	South Korea	455
2	Japan	198	2	Taiwan	328
3	Hong Kong–China	145	3	Hong Kong–China	316

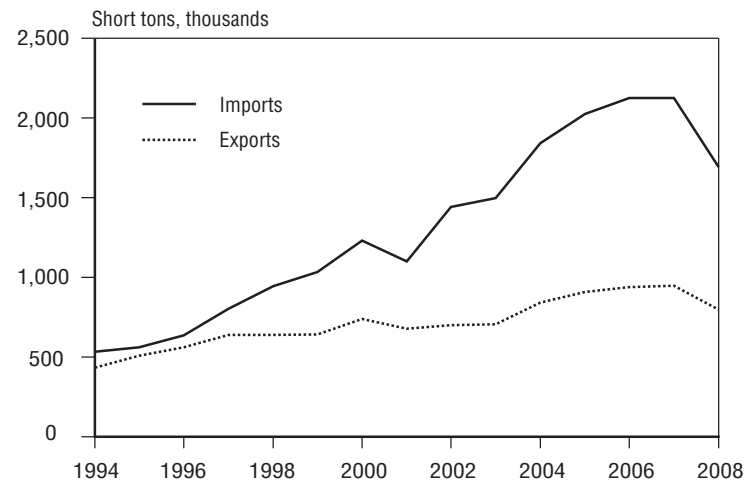
**TABLE 4. Top 3 Destination and Origin Cities for International Air Freight via Anchorage, AK: 2008 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Seoul, South Korea	198	1	Seoul, South Korea	455
2	Tokyo, Japan	157	2	Taipei, Taiwan	328
3	Hong Kong, Hong Kong–China	145	3	Hong Kong, Hong Kong–China	316

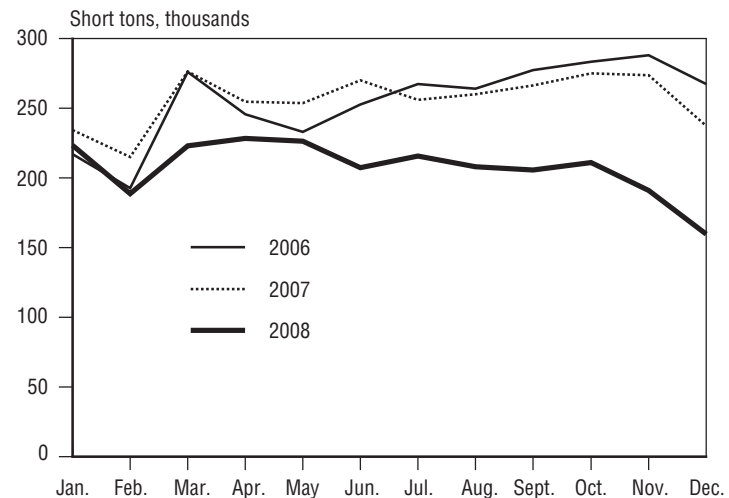
**TABLE 5. Top 3 Air Carriers for Exports and Imports via Anchorage, AK: 2008 (Short tons, thousands)**

Rank	Export carrier	Tons	Rank	Import carrier	Tons
1	Federal Express Corp.	116	1	Korean Air Lines Co. Ltd.	234
2	Korean Air Lines Co. Ltd.	116	2	United Parcel Service	204
3	Cathay Pacific Airways Ltd.	105	3	Federal Express Corp.	174

**FIGURE 1. Air Freight Exports and Imports via Anchorage, AK: 1994–2008**



**FIGURE 2. Monthly International Air Cargo via Anchorage, AK: 2006–2008**



**SOURCES:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from multiple sources: **Table 1**—Value data: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, U.S. Exports and Imports of Merchandise, available at [www.census.gov/foreign-trade/www](http://www.census.gov/foreign-trade/www) as of May 12, 2009. Weight data: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Form 41 Traffic—T-100 Segment Data, various years, as of July 20, 2009. **Tables 2, 3, 4, and 5 and Figures 1 and 2**—U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Form 41 Traffic—T-100 Segment Data, various years, as of July 20, 2009.

**No. 22 by value****Miami International Airport, Florida—Air Freight Gateway**

Miami International Airport (MIA) ranked seventh by value of shipments among all U.S. international air gateways in 2008. It was the 22nd leading gateway by value among all air, land, and sea freight gateways.

In 2008, 5 percent of the value of all U.S. international air freight moved through MIA (table 1). More than \$40 billion worth of merchandise trade passed through MIA, an increase of 16 percent from \$34 billion in 2007. Exports increased 22 percent, and imports grew 4 percent (USDOC CB 2009b).<sup>71</sup> By weight, MIA ranked second among all air gateways, handling 18 percent of U.S. international air cargo (table 1).<sup>72</sup> It handled about 1.7 million tons of international air cargo in 2008, down 5 percent from 2007 (table 2).

MIA is a major hub for trade with South American countries—the only air gateway of the top 25 gateways that has major partners other than European and Pacific Rim countries. By weight, Brazil was the leading country for exports from MIA in 2008 (table 3). Colombia was the second leading destination for exports and the leading origin country for imports through MIA on nonstop international flight segments. The other key origin countries for imports through MIA were Ecuador and Chile. The major city segments for air cargo were Bogota, Colombia; São Paulo, Brazil; and Guayaquil, Ecuador (table 4). The top origin and destination markets for MIA were similar to the origin and destination for nonstop international flight segments.<sup>73</sup>

The majority of MIA's air cargo imports are perishable products, including flowers, fruits, vegetables, and seafood, and some assembled clothing. MIA's air cargo exports include computers and peripherals, machinery, medical equipment, telecommunications equipment, agricultural

machinery, apparel articles, and aircraft parts.<sup>74</sup>

United Parcel Service was MIA's major U.S. air carrier for imports and exports in 2008. The other major carriers were Arrow Air and Lan-Chile Airlines (table 5).

MIA's major modernization plan to improve its cargo handling facilities and to accommodate growth in trade volume has been completed, providing the airport with more than 2.7 million square feet in 17 new cargo buildings.<sup>75</sup>

<sup>71</sup> The 2007 data used in this comparison are not presented in table 1. The data are available online in the gateways database at [www.bts.gov](http://www.bts.gov).

<sup>72</sup> Ranking of air gateways by weight is available in table 9 of this report's overview section.

<sup>73</sup> This information is based on Form 41 International Market Data from the Bureau of Transportation Statistics, Office of Airline Information. Origin-destination airport-pair data by value are not available from the merchandise trade data. See box 2, page 15, for further discussion of the segment and market data.

<sup>74</sup> MIA website at [www.miami-airport.com/html/cargo\\_facts.html](http://www.miami-airport.com/html/cargo_facts.html) as of July 20, 2009.

<sup>75</sup> MIA website at [www.miami-airport.com/html/fact\\_at\\_a\\_glance.html](http://www.miami-airport.com/html/fact_at_a_glance.html).

**TABLE 1. Value and Weight of U.S. International Merchandise Freight: 2008**

Overall and Air Mode	Total	Exports	Imports
Total U.S. trade by all modes (land, sea, air) (\$ millions)	3,189,710	1,198,063	1,991,617
Total U.S. trade by air (\$ millions)	805,574	388,347	417,227
<b>Value of International Air Freight via Miami, FL</b>			
Total air trade through Miami, FL (\$ millions)	40,036	29,208	10,828
Percent of total U.S. air freight value	5.0	7.5	2.6
<b>Weight of International Air Freight</b>			
Total international air freight through U.S. gateways (short tons)	9,427,627	4,256,630	5,170,997
Total U.S. air freight via Miami, FL (short tons)	1,652,356	793,852	858,504
Percent of total U.S. air freight weight	17.5	18.6	16.6

**TABLE 2. Total Air Freight Exports and Imports via Miami, FL: 2000–2008 (Short tons, thousands)**

	2000	2005	2006	2007	2008
Imports	687	897	926	934	859
Exports	564	669	754	810	794
<b>Total</b>	<b>1,250</b>	<b>1,566</b>	<b>1,681</b>	<b>1,743</b>	<b>1,652</b>

**TABLE 3. Top 3 Destination and Origin Countries for International Air Freight via Miami, FL: 2008 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Brazil	174	1	Colombia	259
2	Colombia	128	2	Ecuador	103
3	Venezuela	65	3	Chile	94

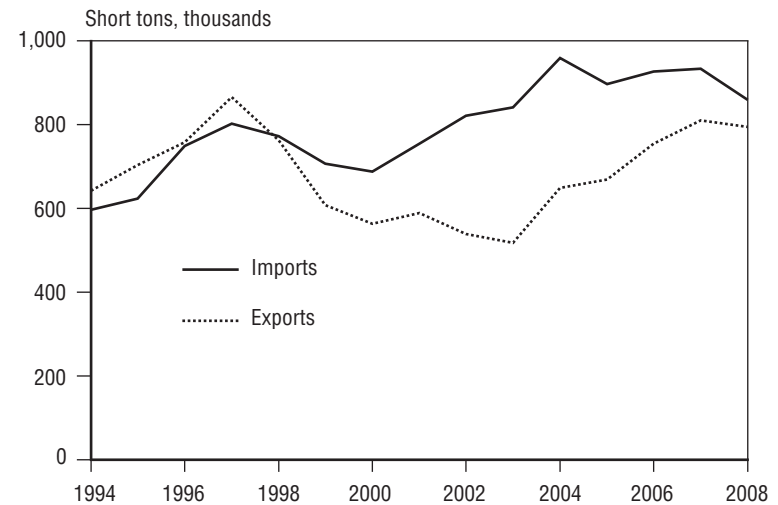
**TABLE 4. Top 3 Destination and Origin Cities for International Air Freight via Miami, FL: 2008 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	São Paulo, Brazil	103	1	Bogota, Colombia	198
2	Bogota, Colombia	93	2	Guayaquil, Ecuador	89
3	Caracas, Venezuela	40	3	Lima, Peru	87

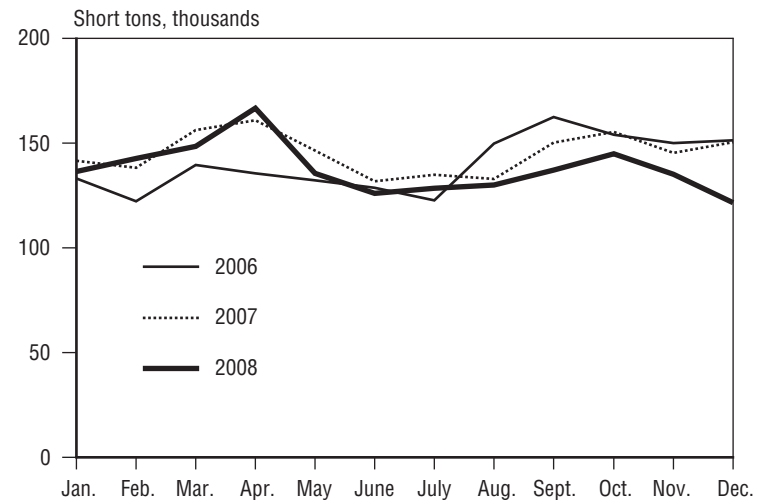
**TABLE 5. Top 3 Air Carriers for Exports and Imports via Miami, FL: 2008 (Short tons, thousands)**

Rank	Export carrier	Tons	Rank	Import carrier	Tons
1	Arrow Air Inc.	100	1	Arrow Air Inc.	112
2	Lan-Chile Airlines	60	2	United Parcel Service	71
3	United Parcel Service	55	3	Lan-Chile Airlines	68

**FIGURE 1. Air Freight Imports and Exports via Miami, FL: 1994–2008**



**FIGURE 2. Monthly International Air Cargo via Miami, FL: 2006–2008**



**SOURCES:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from multiple sources: **Table 1**—Value data: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, U.S. Exports and Imports of Merchandise, available at [www.census.gov/foreign-trade/www](http://www.census.gov/foreign-trade/www) as of May 12, 2009. Weight data: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Form 41 Traffic—T-100 Segment Data, various years, as of July 20, 2009. **Tables 2, 3, 4, and 5 and Figures 1 and 2**—U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Form 41 Traffic—T-100 Segment Data, various years, as of July 20, 2009.

**No. 23 by value****Port of Seattle, Washington—Water Gateway**

The maritime Port of Seattle was the nation's 11th busiest waterborne freight gateway for international merchandise trade by value of shipments in 2008. It ranked 23rd by value among all air, land, and sea gateways. In 2008, merchandise trade passing through the Port of Seattle (\$40 billion) accounted for 3 percent of the value of the total U.S. international waterborne trade. Seattle was a major gateway for imports, with inbound shipments representing 75 percent of the value of the freight it handled in 2008 (table 1).

By weight, the facility ranked 22nd among all U.S. water gateways in 2008, handling 22 million tons of freight, or about 1 percent of the total U.S. international waterborne freight. Exports through the port accounted for 62 percent of the tonnage, and imports accounted for 38 percent. But because Seattle's exports were lower in value per ton than its imports, exports accounted for 25 percent of the port's cargo by value (table 1).

Although the Port of Seattle handles some noncontainerized bulk cargo, it is primarily a container port. In 2008, it handled more than 1 million TEUs (20-foot equivalent units) carrying international imports and exports (table 1). This cargo accounted for 4 percent of the containerized TEUs handled at the nation's seaports. About 61 percent of Seattle's containerized cargo was inbound.

By weight of shipments, Canada was the port's leading origin country for imports in 2007, followed by China and South Korea (table 2).<sup>76</sup> Japan was the leading destination for exports, followed by China and Taiwan.<sup>77</sup> The leading seaports for cargo leaving or arriving at Seattle in 2007 were Tokyo, Japan; Beale Cove, Canada; Kao Hsiung, Taiwan; and Pusan, South Korea (table 3).

<sup>76</sup> Data for 2008 are not available for weight and vessels calls. Data in tables 2, 3, and 4 are from 2007.

<sup>77</sup> For official merchandise trade statistics, the U.S. Census Bureau reports Hong Kong and Taiwan separately. In this report, "China" refers to mainland China.

More than 1,000 vessels called at the Port of Seattle in 2008. Container vessels made the most calls at the port, accounting for 64 percent. About 28 percent of the calls were by dry-bulk ships (table 4).<sup>78</sup>

In 2008, the top imports were toys and sports equipment, machinery, electrical machinery, vehicles (not railway), and knit apparel. The top exports were grains, seeds and fruits; machinery; cereals; fish and seafood; and dairy, eggs, and honey.<sup>79</sup>

<sup>78</sup> Dry-bulk ships carry homogeneous dry cargoes, such as grain, coal, steel, and iron ore.

<sup>79</sup> Port of Seattle website, [www.portseattle.org/seaport/statistics/trade/](http://www.portseattle.org/seaport/statistics/trade/) as of Aug. 10, 2009.

**TABLE 1. Value and Weight of U.S. International Merchandise Freight: 2008**

Overall and Water Modes	Total	Exports	Imports
Total U.S. trade by all modes (land, water, air) (\$ millions)	3,189,710	1,198,063	1,991,617
Total U.S. trade by water (\$ millions)	1,623,863	471,536	1,152,327
<b>Value of International Waterborne Freight via Seattle</b>			
Total waterborne freight through port (\$ millions)	39,989	9,940	30,049
Percent of total U.S. waterborne freight	2.5	2.1	2.6
<b>Weight of Waterborne Freight</b>			
Total U.S. trade by water (short tons, millions)	1,519	536	983
Total waterborne freight through port (short tons, millions)	22	13	8
Percent of total U.S. waterborne freight	1.4	2.5	0.8
<b>Containerized Freight</b>			
Total U.S. containerized freight (TEUs, thousands)	28,309	11,277	17,032
Total containerized freight through port (TEUs, thousands)	1,080	423	656
Percent of total U.S. containerized freight	3.8	3.8	3.9

KEY: TEU = Twenty-foot equivalent unit

**TABLE 2. Top 3 Destination and Origin Countries for International Waterborne Freight via Port of Seattle, WA: 2007 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Japan	3,388	1	Canada	3,619
2	China Mainland	2,966	2	China Mainland	2,450
3	Taiwan	1,750	3	South Korea	1,004

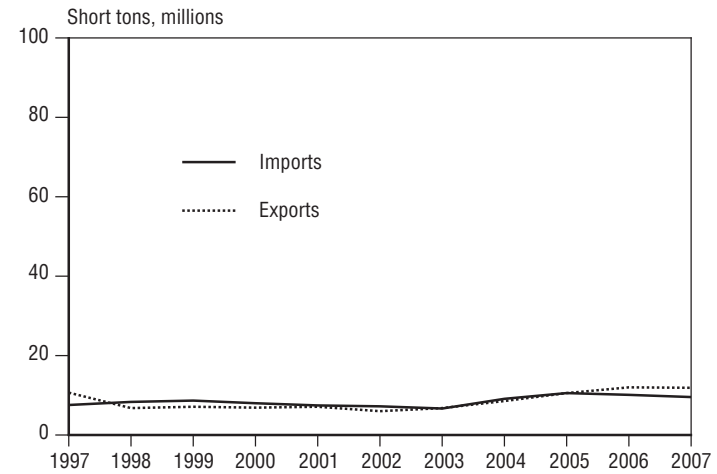
**TABLE 3. Top 3 Destination and Origin Ports for International Waterborne Freight via Port of Seattle, WA: 2007 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Tokyo, Japan	2,133	1	Beale Cove, Canada	1,856
2	Kao Hsiung, Taiwan	1,731	2	Shanghai, China Mainland	938
3	Pusan, South Korea	1,243	3	Pusan, South Korea	774

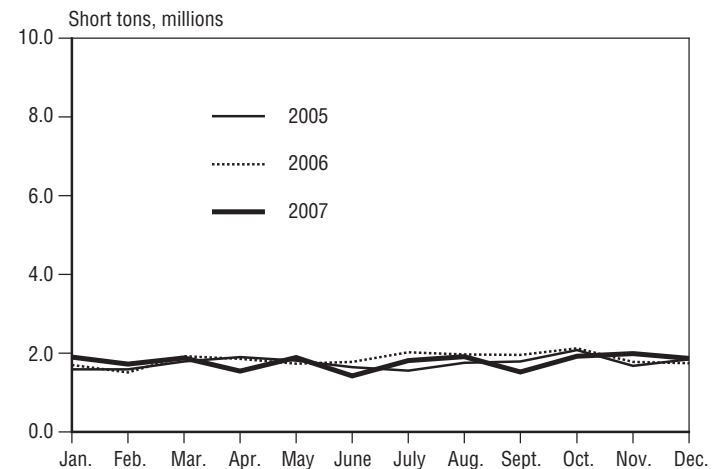
**TABLE 4. Port Calls By Vessel Type, Port of Seattle, WA: 2007**

	Container	Tanker	Dry bulk	General	Other	Total
Calls	666	23	293	60	0	1,042
Capacity (deadweight tons, thousands)	39,485	1,258	16,630	2,563	0	59,936

**FIGURE 1. Maritime Imports and Exports via Port of Seattle, WA: 1997–2007**



**FIGURE 2. Monthly Maritime Cargo via Port of Seattle, WA: 2005–2007**



**SOURCES:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from multiple sources, October 2009. **Table 1**—Overall and water modes, value and weight of maritime cargo: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, U.S. Exports and Imports of Merchandise, available at [www.census.gov/foreign-trade/www](http://www.census.gov/foreign-trade/www) as of May 12, 2009. Containerized freight: U.S. Department of Transportation, Maritime Administration, [www.marad.dot.gov/library\\_landing\\_page/data\\_and\\_statistics/Data\\_and\\_Statistics.htm](http://www.marad.dot.gov/library_landing_page/data_and_statistics/Data_and_Statistics.htm) as of Aug. 5, 2009. **Tables 2 and 3**—U.S. Army Corps of Engineers, Foreign Cargo Data, July 20, 2009, available at [www.ndc.ivr.usace.army.mil/data/dataimex.htm](http://www.ndc.ivr.usace.army.mil/data/dataimex.htm) as of July 20, 2009. **Table 4**—Maritime Administration, special tabulation, July 20, 2009. **Figure 1**—U.S. Army Corps of Engineers, Foreign Cargo Data, 1997–2007, available at [www.ivr.usace.army.mil/ndc/db/foreign/db/](http://www.ivr.usace.army.mil/ndc/db/foreign/db/) as of July 20, 2009. **Figure 2**—U.S. Army Corps of Engineers, special tabulation, July 20, 2009.



**No. 24 by value****Dallas–Fort Worth International Airport, Texas—Air Freight Gateway**

Dallas–Fort Worth International Airport (DFW) was the eighth busiest international air cargo gateway in the United States by value of shipments in 2008. It ranked 24th by value among all air, land, and sea freight gateways.

In 2008, about 5 percent of the value of all U.S. international merchandise air freight moved through DFW. More than \$39 billion worth of merchandise trade passed through DFW in 2008, a decrease of 5 percent from \$41 billion in 2007. Exports decreased 10 percent, and imports fell 1 percent (USDOC CB 2009b).<sup>80</sup> By weight, DFW ranked 13th among air gateways, handling 2 percent of U.S. international air cargo tonnage (table 1).<sup>81</sup> It handled about 141,000 tons of international air cargo in 2008, up 17 percent from 2007 (table 2).

In 2008, DFW remained a major hub for trade with European and Pacific Rim countries. By weight, Germany, Belgium, and the United Kingdom were the leading destination countries for export and import cargo handled at DFW on nonstop international flight segments (table 3). The major origin and destination city segments were Frankfurt, Brussels, and London (table 4). Although the major nonstop international segments ended or started in Europe, Taiwan was the actual leading market for exports and imports handled at DFW.<sup>82</sup> This indicates that the European airports also serve as connecting hubs for air cargo from other markets.

Major commodities handled at DFW include high-tech products such as semiconductors, computer equipment, aircraft parts, and medical and electrical equipment.<sup>83</sup> Other merchandise traded through DFW includes

equipment for oil fields, communications, and transportation, as well as industrial goods.<sup>84</sup> The strong presence of aircraft manufacturing and related industries and electronic industries in the Dallas–Fort Worth area are likely to sustain the air cargo handled at this freight gateway.

In 2008, American Airlines was the largest air freight carrier at DFW, followed by Lufthansa and Singapore Airlines (table 5).

<sup>80</sup> The 2007 data used in this comparison are not presented in table 1. The data are available online in the gateways database at [www.bts.gov](http://www.bts.gov).

<sup>81</sup> Ranking of air gateways by weight is available in table 9 of this report's overview section.

<sup>82</sup> This information is based on Form 41 International Market Data from the Bureau of Transportation Statistics, Office of Airline Information. Origin-destination airport-pair data by value are not available from the merchandise trade data. See box 2, page 15, for further discussion of the segment and market data.

<sup>83</sup> Metroport Transportation Partnership. Growth Trends in the Metroport Cities: Implications for Traffic Congestion, the "Funnel," And DFW Airport, January 2000, available from Center for Economic Development and Research, University of North Texas, at [www.unt.edu/cedr/reports.htm](http://www.unt.edu/cedr/reports.htm) as of July 20, 2009.

<sup>84</sup> Dallas–Fort Worth International Airport, Trade Data, available at [www.dfwairport.com/cargo/trade.php](http://www.dfwairport.com/cargo/trade.php) as of July 20, 2009.

**TABLE 1. Value and Weight of U.S. International Merchandise Freight: 2008**

Overall and Air Mode	Total	Exports	Imports
Total U.S. trade by all modes (land, sea, air) (\$ millions)	3,189,710	1,198,063	1,991,617
Total U.S. trade by air (\$ millions)	805,574	388,347	417,227
<b>Value of International Air Freight via Dallas-Fort Worth, TX</b>			
Total air trade through Dallas-Fort Worth, TX (\$ millions)	39,488	16,403	23,085
Percent of total U.S. air freight value	4.9	4.2	5.5
<b>Weight of International Air Freight</b>			
Total international air freight through U.S. gateways (short tons)	9,427,627	4,256,630	5,170,997
Total U.S. air freight via Dallas-Fort Worth, TX (short tons)	140,877.5	81,933.8	58,943.7
Percent of total U.S. air freight weight	1.5	1.9	1.1

**TABLE 2. Total Air Freight Exports and Imports via Dallas-Fort Worth, TX: 2000-2008 (Short tons, thousands)**

	2000	2005	2006	2007	2008
Imports	72	51	55	52	59
Exports	62	64	68	68	82
<b>Total</b>	<b>134</b>	<b>115</b>	<b>124</b>	<b>120</b>	<b>141</b>

**TABLE 3. Top 3 Destination and Origin Countries for International Air Freight via Dallas-Fort Worth, TX: 2008 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Germany	21	1	Germany	21
2	Belgium	19	2	United Kingdom	10
3	United Kingdom	12	3	Japan	7

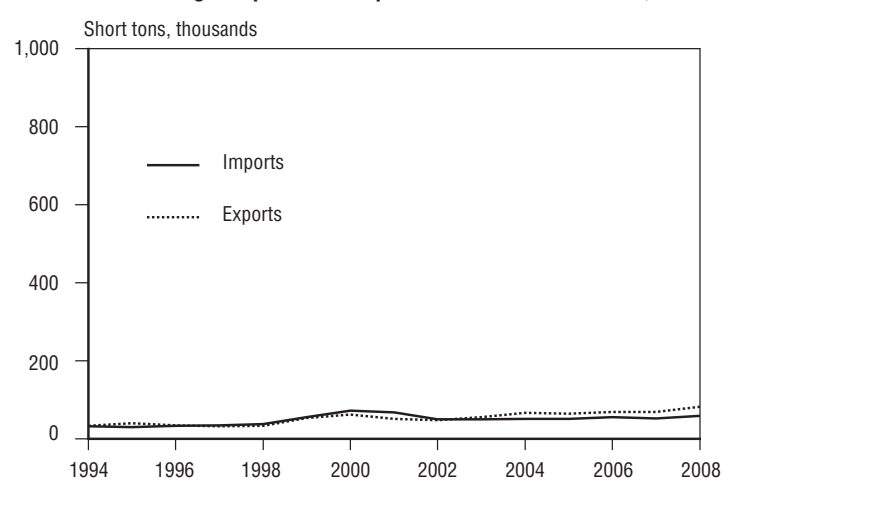
**TABLE 4. Top 3 Destination and Origin Cities for International Air Freight via Dallas-Fort Worth, TX: 2008 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Frankfurt, Germany	21	1	Frankfurt, Germany	21
2	Brussels, Belgium	19	2	London, United Kingdom	10
3	London, United Kingdom	12	3	Tokyo, Japan	7

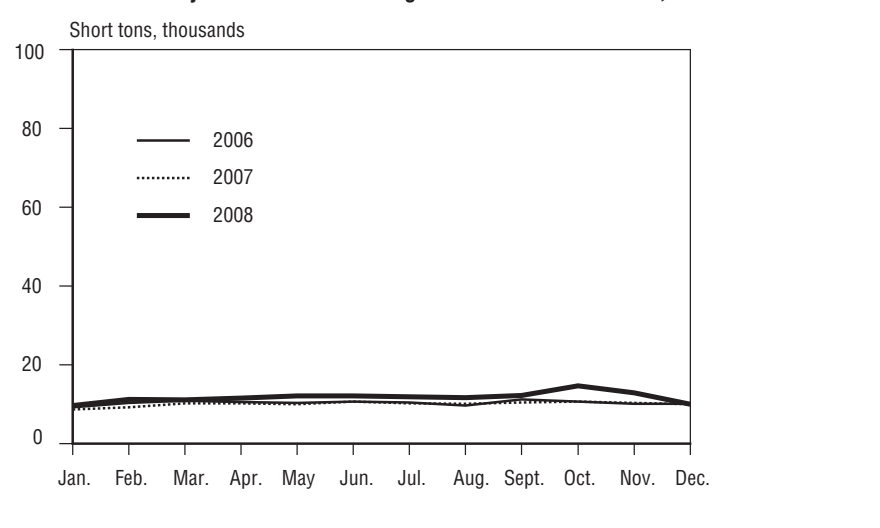
**TABLE 5. Top 3 Air Carriers for Exports and Imports via Dallas-Fort Worth, TX: 2008 (Short tons, thousands)**

Rank	Export carrier	Tons	Rank	Import carrier	Tons
1	American Airlines Inc.	27	1	American Airlines Inc.	26
2	Lufthansa German Airlines	22	2	Lufthansa German Airlines	21
3	Singapore Airlines Ltd.	20	3	British Airways Plc	5

**FIGURE 1. Air Freight Exports and Imports via Dallas-Fort Worth, TX: 1994-2008**



**FIGURE 2. Monthly International Air Cargo via Dallas-Fort Worth, TX: 2006-2008**



**SOURCES:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from multiple sources: **Table 1**—Value data: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, U.S. Exports and Imports of Merchandise, available at [www.census.gov/foreign-trade/www](http://www.census.gov/foreign-trade/www) as of May 12, 2009. Weight data: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Form 41 Traffic—T-100 Segment Data, various years, as of July 20, 2009. **Tables 2, 3, 4, and 5 and Figures 1 and 2**—U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Form 41 Traffic—T-100 Segment Data, various years, as of July 20, 2009.

**No. 25 by value****Port of Oakland, California—Water Gateway**

The maritime Port of Oakland was the nation's 12th busiest waterborne freight gateway for international merchandise trade by value of shipments in 2008. It ranked 25th by value among all land, water, and air gateways. In 2008, merchandise trade passing through the Port of Oakland (\$39 billion) accounted for 2 percent of the value of the total U.S. international waterborne trade. These freight shipments represented nearly 3 percent of U.S. waterborne exports and 2 percent of imports. Inbound shipments accounted for 68 percent of the value of freight that the port handled in 2008, and outbound shipments accounted for 32 percent (table 1).

By weight, the facility ranked 26th among all U.S. water gateways in 2008, handling 19 million tons of freight, or about 1 percent of the total U.S. international waterborne freight. Imports accounted for 52 percent of the tonnage transported through the port (table 1).

Although the Port of Oakland handles some noncontainerized cargo, it is primarily a container port. In 2008, the port handled 1.4 million TEUs (20-foot equivalent units) carrying international imports and exports. This cargo accounted for 5 percent of the containerized TEUs handled at the nation's seaports. Oakland's containerized cargo was fairly evenly divided between outbound and inbound shipments. Imports were 52 percent of the shipments, and exports were 48 percent (table 1).

By weight, China was the port's leading origin country for imports in 2007, followed by Hong Kong and Taiwan.<sup>85</sup> China was the leading destination for exports, followed by Japan and Taiwan (table 2).<sup>86</sup> The leading foreign seaports for cargo leaving or arriving at Oakland were Kao Hsiung, Taiwan; Hong Kong, China; and Shanghai, China (table 3).

More than 2,000 vessels called at Port of Oakland in 2007. Container vessels made the most calls at the port, accounting for 95 percent of the total (table 4).

The top containerized imports were machinery, beverages, furniture and bedding, vehicles (not railway), and apparel. The top exports were edible fruits and nuts, meat and fish products, machinery, vehicles (not railway), and beverages.<sup>87</sup>

<sup>85</sup> For official merchandise trade statistics, the U.S. Census Bureau reports Hong Kong and Taiwan separately. In this report, "China" refers to mainland China.

<sup>86</sup> Data for 2008 are not available for weight and vessels calls. Data in tables 2, 3, and 4 are from 2007.

<sup>87</sup> Port of Oakland website, [www.portofoakland.com/maritime/facts\\_comm\\_02.asp](http://www.portofoakland.com/maritime/facts_comm_02.asp) as of Aug. 10, 2009.

**TABLE 1. Value and Weight of U.S. International Merchandise Freight: 2008**

Overall and Water Modes	Total	Exports	Imports
Total U.S. trade by all modes (land, water, air) (\$ millions)	3,189,710	1,198,063	1,991,617
Total U.S. trade by water (\$ millions)	1,623,863	471,536	1,152,327
<b>Value of International Waterborne Freight via Oakland</b>			
Total waterborne freight through port (\$ millions)	38,698	12,400	26,299
Percent of total U.S. waterborne freight	2.4	2.6	2.3
<b>Weight of Waterborne Freight</b>			
Total U.S. trade by water (short tons, millions)	1,519	536	983
Total waterborne freight through port (short tons, millions)	19	9	10
Percent of total U.S. waterborne freight	1.2	1.7	1.0
<b>Containerized Freight</b>			
Total U.S. containerized freight (TEUs, thousands)	28,309	11,277	17,032
Total containerized freight through port (TEUs, thousands)	1,388	662	726
Percent of total U.S. containerized freight	4.9	5.9	4.3

KEY: TEU = Twenty-foot equivalent unit

**TABLE 2. Top 3 Destination and Origin Countries for International Waterborne Freight via Port of Oakland, CA: 2007 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	China Mainland	2,090	1	China Mainland	2,650
2	Japan	1,310	2	China Hong Kong	529
3	Taiwan	1,041	3	Taiwan	517

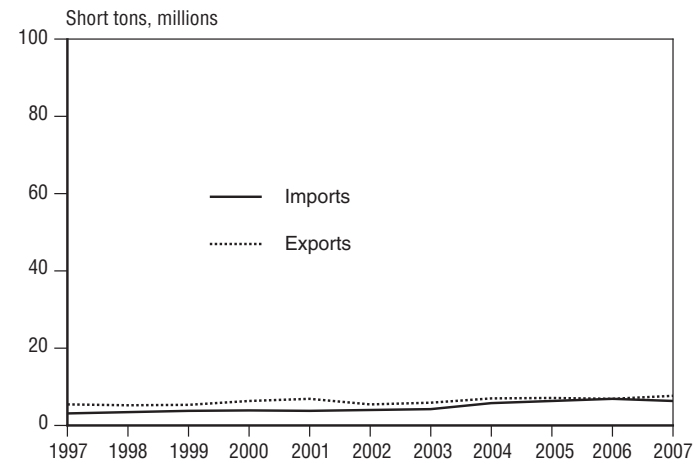
**TABLE 3. Top 3 Destination and Origin Ports for International Waterborne Freight via Port of Oakland, CA: 2007 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Kao Hsiung, Taiwan	866	1	Shanghai, China Mainland	696
2	Hong Kong, China Hong Kong	649	2	Yantian, China Mainland	652
3	Pusan, South Korea	541	3	Hong Kong, China Hong Kong	529

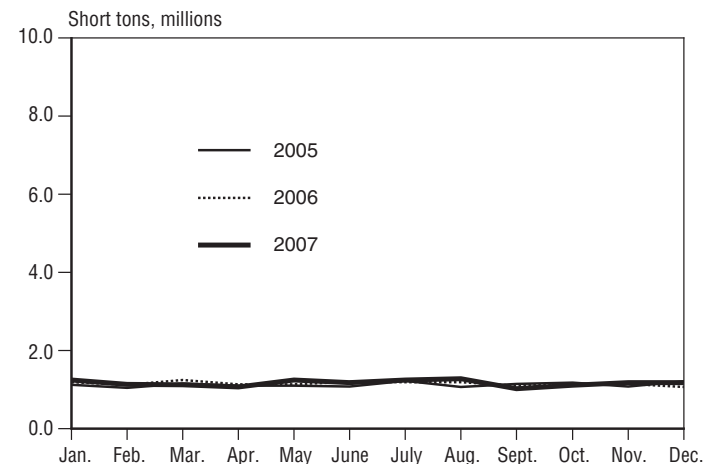
**TABLE 4. Port Calls By Vessel Type, Port of Oakland, CA: 2007**

	Container	Tanker	Dry bulk	General	Other	Total
Calls	1,976	NA	29	36	44	2,085
Capacity (deadweight tons, thousands)	111,622	NA	1,236	1,638	1,055	115,551

**FIGURE 1. Maritime Imports and Exports via Port of Oakland, CA: 1997–2007**



**FIGURE 2. Monthly Maritime Cargo via Port of Oakland, CA: 2005–2007**



**SOURCES:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from multiple sources, October 2009. **Table 1**—Overall and water modes, value and weight of maritime cargo: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, U.S. Exports and Imports of Merchandise, available at [www.census.gov/foreign-trade/www](http://www.census.gov/foreign-trade/www) as of May 12, 2009. Containerized freight: U.S. Department of Transportation, Maritime Administration, [www.marad.dot.gov/library\\_landing\\_page/data\\_and\\_statistics/Data\\_and\\_Statistics.htm](http://www.marad.dot.gov/library_landing_page/data_and_statistics/Data_and_Statistics.htm) as of Aug. 5, 2009. **Tables 2 and 3**—U.S. Army Corps of Engineers, Foreign Cargo Data, July 20, 2009, available at [www.ndc.iwr.usace.army.mil/data/dataimex.htm](http://www.ndc.iwr.usace.army.mil/data/dataimex.htm) as of July 20, 2009. **Table 4**—Maritime Administration, special tabulation, July 20, 2009. **Figure 1**—U.S. Army Corps of Engineers, Foreign Cargo Data, 1997–2007, available at [www.iwr.usace.army.mil/ndc/db/foreign/dbf/](http://www.iwr.usace.army.mil/ndc/db/foreign/dbf/) as of July 20, 2009. **Figure 2**—U.S. Army Corps of Engineers, special tabulation, July 20, 2009.



# Appendix

## Top 125 U.S. Freight Gateways Handling International Merchandise Valued at Nearly \$1.6 billion: 2008 (\$ millions)

Ranked by value	Gateway name	Mode	Total	Exports	Imports
1	Los Angeles, CA	Water	243,910	34,823	209,086
2	Port of New York/New Jersey, NY/NJ	Water	185,385	50,568	134,817
3	John F. Kennedy, NY	Air	167,966	85,516	82,450
4	Houston, TX	Water	147,695	68,821	78,873
5	Detroit, MI	Land	120,168	66,454	53,714
6	Laredo, TX	Land	115,759	53,929	61,830
7	Chicago, IL	Air	97,180	35,822	61,358
8	Long Beach, CA	Water	91,537	31,599	59,938
9	Port Huron, MI	Land	81,223	35,215	46,008
10	Buffalo-Niagara Falls, NY	Land	80,838	40,330	40,508
11	Los Angeles, CA	Air	78,292	41,323	36,970
12	Charleston, SC	Water	62,332	22,281	40,051
13	Savannah, GA	Water	58,987	22,838	36,150
14	Norfolk, VA	Water	53,950	23,927	30,023
15	San Francisco, CA	Air	52,758	26,598	26,161
16	New Orleans, LA	Water	49,765	25,348	24,417
17	New Orleans Customs District, LA	Air	49,585	22,252	27,333
18	El Paso, TX	Land	48,174	20,156	28,018
19	Baltimore, MD	Water	45,312	16,126	29,187
20	Philadelphia, PA	Water	43,176	5,039	38,137
21	Anchorage, AK	Air	41,443	10,194	31,249
22	Miami, FL	Air	40,036	29,208	10,828
23	Seattle, WA	Water	39,989	9,940	30,049
24	Dallas-Fort Worth, TX	Air	39,488	16,403	23,085
25	Oakland, CA	Water	38,698	12,400	26,299
26	Morgan City, LA	Water	38,503	217	38,287
27	Tacoma, WA	Water	35,322	8,230	27,092
28	Atlanta, GA	Air	32,335	12,331	20,004
29	Otay Mesa Station, CA	Land	31,801	10,572	21,229
30	Cleveland, OH	Air	30,812	17,571	13,242
31	Corpus Christi, TX	Water	29,685	4,965	24,721
32	Gramercy, LA	Water	24,261	8,778	15,482
33	Champlain-Rouses Point, NY	Land	23,585	9,421	14,164
34	Jacksonville, FL	Water	22,970	11,164	11,805

Continued next page

**Continued—Top U.S. Freight Gateways Handling International Merchandise Valued Nearly \$1.6 billion: 2008**

(\$ millions)

Ranked by value	Gateway name	Mode	Total	Exports	Imports
35	Texas City, TX	Water	22,726	3,264	19,462
36	Port Everglades, FL	Water	22,572	12,001	10,570
37	Miami, FL	Water	22,183	11,084	11,100
38	Hidalgo, TX	Land	22,149	9,853	12,296
39	Beaumont, TX	Water	21,338	2,847	18,490
40	San Juan, PR	Air	21,276	12,349	8,927
41	Pembina, ND	Land	19,853	11,247	8,606
42	Nogales, AZ	Land	19,115	6,908	12,207
43	Christiansted, VI	Water	19,108	2,589	16,519
44	Blaine, WA	Land	18,433	11,049	7,384
45	Washington, DC	Air	17,475	5,604	11,872
46	Port Arthur, TX	Water	17,352	2,445	14,908
47	Portland, OR	Water	16,805	5,136	11,669
48	Portal, ND	Land	16,515	9,638	6,877
49	Sweetgrass, MT	Land	15,827	7,858	7,970
50	Freeport, TX	Water	15,785	1,989	13,796
51	Philadelphia, PA	Air	15,349	5,342	10,007
52	Lake Charles, LA	Water	15,201	2,439	12,761
53	Boston Logan, MA	Air	14,787	8,738	6,049
54	Newark, NJ	Air	14,621	4,521	10,101
55	Houston, TX	Air	13,545	8,283	5,261
56	Seattle-Tacoma, WA	Air	13,489	8,925	4,564
57	Baton Rouge, LA	Water	13,231	3,061	10,171
58	Eagle Pass, TX	Land	12,830	5,037	7,793
59	Brownsville, TX	Land	12,605	7,911	4,694
60	Alexandria Bay, NY	Land	12,387	5,286	7,101
61	Pascagoula, MS	Water	12,223	2,368	9,854
62	Mobile, AL	Water	12,208	3,388	8,820
63	Boston, MA	Water	11,630	1,874	9,756
64	Chester, PA	Water	11,566	2,065	9,500
65	Richmond, CA	Water	11,475	1,227	10,248
66	Calexico-East, CA	Land	11,288	4,888	6,399
67	International Falls/Rainer, MN	Land	10,691	2,791	7,899
68	Wilmington, DE	Water	9,371	3,089	6,281
69	Eastport, ID	Land	9,363	2,192	7,171
70	El Segundo, CA	Water	8,145	55	8,090
71	San Juan, PR	Water	7,796	2,436	5,361
72	Great Falls, MT	Land	7,258	9	7,249



APPENDIX—TABLE: TOP 125 U.S. FREIGHT GATEWAY BY VALUE: 2008

Ranked by value	Gateway name	Mode	Total	Exports	Imports
73	Philadelphia, PA	Air	7,216	2,755	4,461
74	Tampa, FL	Water	7,197	4,575	2,622
75	San Diego, CA	Water	7,183	71	7,112
76	Brunswick, GA	Water	6,940	1,590	5,349
77	Salt Lake City, UT	Air	6,851	6,645	206
78	San Francisco, CA	Water	6,446	1,771	4,676
79	Galveston, TX	Water	6,059	2,022	4,037
80	Highgate Springs/Alburg, VT	Land	5,973	2,195	3,778
81	Honolulu, HI	Water	5,939	376	5,563
82	Port Hueneme, CA	Water	5,911	401	5,510
83	Nashville, TN	Air	5,433	559	4,874
84	Providence, RI	Water	5,403	255	5,148
85	Wilmington, NC	Water	4,835	1,451	3,384
86	Cincinnati-Lawrenceburg, OH	Air	4,625	2,501	2,124
87	Denver, CO	Land	4,493	8	4,485
88	Ogdensburg, NY	Land	4,454	250	4,204
89	Kalama, WA	Water	4,446	3,987	459
90	Perth Amboy, NJ	Water	4,319	522	3,797
91	Detroit, MI	Water	4,313	3,306	1,008
92	Newport News, VA	Water	4,200	757	3,443
93	Vancouver, WA	Water	3,797	2,445	1,352
94	Calais, ME	Land	3,623	909	2,714
95	Panama City, FL	Water	3,435	617	2,819
96	Bellingham, WA	Water	3,419	184	3,235
97	Anacortes, WA	Land	3,249	2	3,247
98	Louisville, KY	Air	3,121	862	2,258
99	Sault Ste Marie, MI	Land	3,038	962	2,076
100	Memphis, TN	Land	3,037	1	3,036
101	Detroit, MI	Air	2,969	1,185	1,784
102	Anchorage, AK	Water	2,895	2,261	634
103	Del Rio, TX	Land	2,821	1,353	1,468
104	Minneapolis-St. Paul, MN	Air	2,796	1,662	1,133
105	Guayanilla, PR	Water	2,786	160	2,626
106	Honolulu, HI	Air	2,752	975	1,778
107	Huntsville, AL	Air	2,747	1,435	1,312
108	Gulfport, MS	Water	2,681	1,095	1,586
109	Sumas, WA	Land	2,672	1,174	1,498
110	Houlton, ME	Land	2,576	878	1,698
111	Toledo, OH	Land	2,514	11	2,503
112	Derby Line, VT	Land	2,490	494	1,995

Continued next page

**Continued—Top U.S. Freight Gateways Handling International Merchandise Valued Nearly \$1.6 billion: 2008**

(\$ millions)

Ranked by value	Gateway name	Mode	Total	Exports	Imports
113	Portland, WA	Air	2,455	1,814	641
114	Richmond-Petersburg, VA	Water	2,124	939	1,184
115	Burlington, VT	Land	2,092	2	2,090
117	Portland, ME	Water	2,075	49	2,026
118	West Palm Beach, FL	Water	1,881	1,180	701
119	Port Townsend, WA	Land	1,881	3	1,878
120	Martinez, CA	Water	1,772	438	1,334
121	Aguadilla, PR	Air	1,766	1,694	72
122	Port Huron, MI	Water	1,694	1,562	132
123	Chicago, IL	Water	1,601	427	1,174
124	Carquinez Strait, CA	Water	1,595	20	1,576
125	Humacao, PR	Water	1,593	220	1,372
<b>Top 125 above for air, land, and water gateways</b>			<b>3,108,750</b>	<b>1,155,510</b>	<b>1,953,240</b>
<b>Total U.S. overall—all modes</b>			<b>3,400,661</b>	<b>1,300,532</b>	<b>2,100,129</b>
<b>Top 125 as share of all U.S. gateways (percent)</b>			<b>91.4</b>	<b>88.8</b>	<b>93.0</b>

**NOTES:** All data—Trade levels reflect the mode of transportation as a shipment enters or exits a U.S. Customs port. Flows through individual ports are based on reported data collected from U.S. trade documents. Low-value shipments (imports less than \$1,250 and exports less than \$2,500) and intransit shipments are not included in trade data.

Air—Data for all airports are based on U.S. port classifications and include a low level (generally less than 2 percent to 3 percent of the total value) of small user-fee airports located in the same region. Air gateways not identified by airport name include major airports in that geographic area in addition to small regional airports. Because of U.S. Census Bureau nondisclosure regulations, data for some of the air gateways include courier operations. For example, data for New Orleans International Airport include FedEx air cargo activity in Memphis, TN.

**SOURCES:** Air and water—U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, special tabulation, April 2009. Land—U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Transborder Freight Data, as of April 2009.

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## Glossary

Definitions in this glossary are adapted from the U.S. Department of Transportation, Research and Innovative Technologies Administration, Bureau of Transportation Statistics, available at [www.bts.gov/dictionary](http://www.bts.gov/dictionary).

**Break-bulk.** Packages of maritime cargo that are handled individually, palletized, or unitized for purposes of transportation as opposed to bulk and containerized freight.

**Chained dollars.** A measure used to express real prices, defined as prices that are adjusted to remove the effect of changes in the purchasing power of the dollar. Real prices usually reflect buying power relative to a reference year. The “chained-dollar” measure is based on the average weights of goods and services in successive pairs of years. It is “chained” because the second year in each pair, with its weights, becomes the first year of the next pair. Before 1996, real prices were expressed in constant dollars, a weighted measure of goods and services in a single year. See also *current dollars*.

**Container.** A large standard-size metal box into which cargo is packed for shipment aboard specially configured oceangoing containerships. It is designed to be moved with common handling equipment to enable high-speed intermodal transfers in economically large units between ships, railcars, truck chassis, and barges using a minimum of labor. Therefore, the container rather than the cargo in it serves as the transfer unit.

**Containership.** A cargo vessel designed and constructed to transport, within specifically designed cells, portable tanks and freight containers, which are lifted on and off with their contents intact.

**Current dollars.** Dollar value of a good or service in terms of prices current at the time the good or service is sold. See also *chained dollars*.

**Deadweight tons (dwt).** The total weight of a ship’s load, including cargo, fuel, and crew. The deadweight tonnage of a ship is the difference between its weight when completely empty and its weight when fully loaded.

**Gross domestic product (GDP).** The total value of goods and services produced by labor and property located in the United States. As long as the labor and property are located in the United States, the supplier (the workers and, for property, the owners) may be either U.S. residents or residents of foreign countries.

**Intermodal.** Used to denote movements of cargo containers interchangeably between transport modes—i.e., motor, water, and air carriers—and where the equipment is compatible within the multiple systems.

**Intermodal container.** A freight container designed to permit it to be used interchangeably in two or more modes of transport.

**Just in time (JIT).** A method of inventory control in which warehousing is minimal or nonexistent. A container is the movable warehouse and must arrive “just in time,” not too early or too late.

**Merchandise trade exports.** Merchandise transported out of the United States to foreign countries whether such merchandise is exported from within the U.S. Customs Service territory, from a U.S. Customs bonded warehouse, or from a U.S. Foreign Trade Zone. (Foreign Trade Zones are areas, operated as public utilities, under the control of U.S. Customs with facilities for handling, storing, manipulating, manufacturing, and exhibiting goods.)

**Merchandise trade imports.** Commodities of foreign origin entering the United States, as well as goods of domestic origin returned to the United States with no change in condition or after having been processed and/or assembled in other countries. Puerto Rico is a customs district within the U.S. Customs territory, and its trade with foreign countries is included in U.S. import statistics. U.S. import statistics also include merchandise trade between the U.S. Virgin Islands and foreign countries even though the islands are not officially a part of the U.S. Customs territory.

**Real gross domestic product (GDP).** The real counterpart to current/nominal GDP, obtained by valuing output in a given year at prices from another year, called the base year. It reflects correction for inflation and changes in the price of goods and services.

**Roll-on/roll-off vessel.** Ships that are designed to carry wheeled containers or other wheeled cargo and that use the roll-on/roll-off method for loading and unloading.

**Short ton.** A unit of weight equal to 2,000 pounds.

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

**Twenty-foot equivalent unit (TEU).** The standard unit for measuring the volume of containers that seaports handle. Standard container sizes are 20 feet, 40 feet, and 48 feet long.

