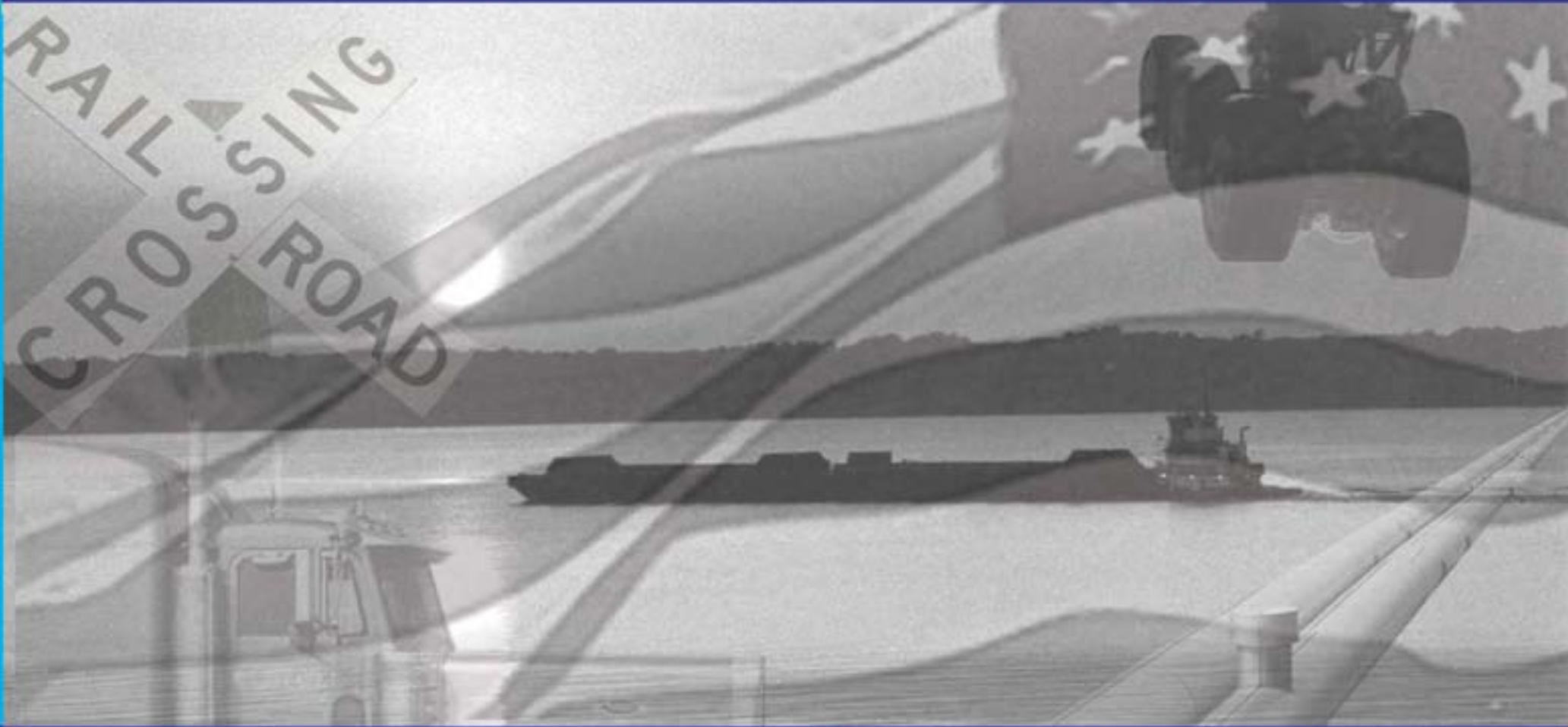


# America's Freight Transportation Gateways

*Connecting Our Nation to Places and Markets Abroad*



U.S. Department of Transportation  
Bureau of Transportation Statistics



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# Introduction and Overview

Transportation gateways—seaports, airports, and land border crossings—are the entry and exit points for international merchandise trade between the United States and countries around the world. During the past decade, the leading U.S. gateways handled increasing volumes of freight as the movement of merchandise trade to and from our nation rose. Some facilities increased in relative importance, while others declined. Changes in freight movement influenced investment needs for air and marine facilities, land border crossings, and connecting infrastructure linking gateways to commercial and population centers.

From 1990 through 2003, the value of U.S. international merchandise trade increased from \$889 billion to about \$2 trillion (in current terms), growing at an average rate of 6 percent per year (table 1).<sup>1</sup> For most years in the period, growth in trade was steadily up, with each year showing an increase over the prior year. The exceptions were 2001 and 2002, reflecting the impact on trade of a slow economy and the September 11 terrorist attacks. By 2003, trade had rebounded to 2000 levels in inflation-adjusted terms.

While over 400 U.S. seaports, airports, and land border crossings handle international merchandise trade, most of that trade passes through a relatively small number of gateways.

In 2003:

- the nation's top five freight transportation gateways, handled more than one-fourth (\$533 billion) of the total value of U.S. international merchandise trade,

<sup>1</sup> In inflation-adjusted terms, U.S. international trade grew from \$837 billion to \$2 trillion (in chained 2000 dollars).

**TABLE 1. U.S. International Merchandise Trade, 1990–2003 (Current \$, billions)**

Year	Total	Exports	Imports	Exports as % of Total
1990	889	393	496	44.2
1991	911	422	489	46.3
1992	980	447	532	45.7
1993	1,045	465	580	44.5
1994	1,176	512	664	43.6
1995	1,327	583	744	44.0
1996	1,414	623	791	44.0
1997	1,558	688	870	44.1
1998	1,594	680	914	42.7
1999	1,718	693	1,025	40.3
2000	1,997	780	1,217	39.1
2001	1,873	731	1,142	39.0
2002	1,857	693	1,164	37.3
2003	1,983	724	1,259	36.5
<b>Percent change, 1990-2003</b>	<b>123.1</b>	<b>84.2</b>	<b>153.9</b>	
<b>Average annual growth rate, 1990-2003</b>	<b>6.4</b>	<b>4.8</b>	<b>7.4</b>	

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, based on data from U.S. International Trade Commission, USITC Interactive Tariff and Trade Dataweb, available at <http://dataweb.usitc.gov/> as of Sept. 15, 2004.

- the nation's top 14 gateways handled more than 50 percent of U.S. international merchandise trade, and
- the top 50 gateways handled 80 percent (\$1.6 trillion) of that trade.<sup>2</sup>

<sup>2</sup> This report uses the value of traded goods instead of 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 is presented in figure 2. Additional information on U.S. trade data is presented in box 2.

*America's Freight Transportation Gateways* is a data profile of the nation's leading international transportation gateways. It is a collection of information that highlights the top 25 freight gateways and provides the most recent annual information on the goods and infrastructure at these seaports, airports, and land border crossings (box 1). A companion *Gateway Resource* CD provides additional information on over 200 gateways that are key points of entry and exit for U.S. international trade.

### THE NATION'S TOP FREIGHT TRANSPORTATION GATEWAYS

The U.S. air, land, and water transportation systems and the services they provide all play critical roles in U.S. international merchandise trade. Figure 1 shows the location, by value, of the nation's top 25 ports of exit and entry for U.S. international trade shipments in 2003. In that year, the top three gateways represented the three transportation modes—water, air, and land:

1. The Port of Los Angeles was the leading gateway for international trade with over \$122 billion in oceanborne cargo.
2. John F. Kennedy (JFK) International Airport ranked second in value with \$112 billion in total trade.
3. The land border crossing of Detroit ranked third with a total of \$102 billion in export-import trade.

Table 2 shows that the top 50 freight gateways, ranked by value of total trade, are located in 21 states and Puerto Rico.

During the 1990s, JFK Airport was the leading gateway for overall merchandise trade by total value of shipments. In 2003, the Port of Los Angeles rose to the number one position, a notable change from 1999, when it ranked fourth. Between 1999 and 2003, imports at the Port of Los Angeles jumped 52 percent in value, while exports grew about 20 percent—an overall growth of 47 percent, far above the 14 percent average growth for the top 25 gateways (table 3). This growth reflects a major increase

#### BOX 1. Selecting the Leading Gateways

This report ranks freight gateways by the value of merchandise trade they handle. The Bureau of Transportation Statistics (BTS) compiled value data from multiple sources that allows 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 uses value for ranking 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 because U.S. exporters are not required to report export weight for these land modes.

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.

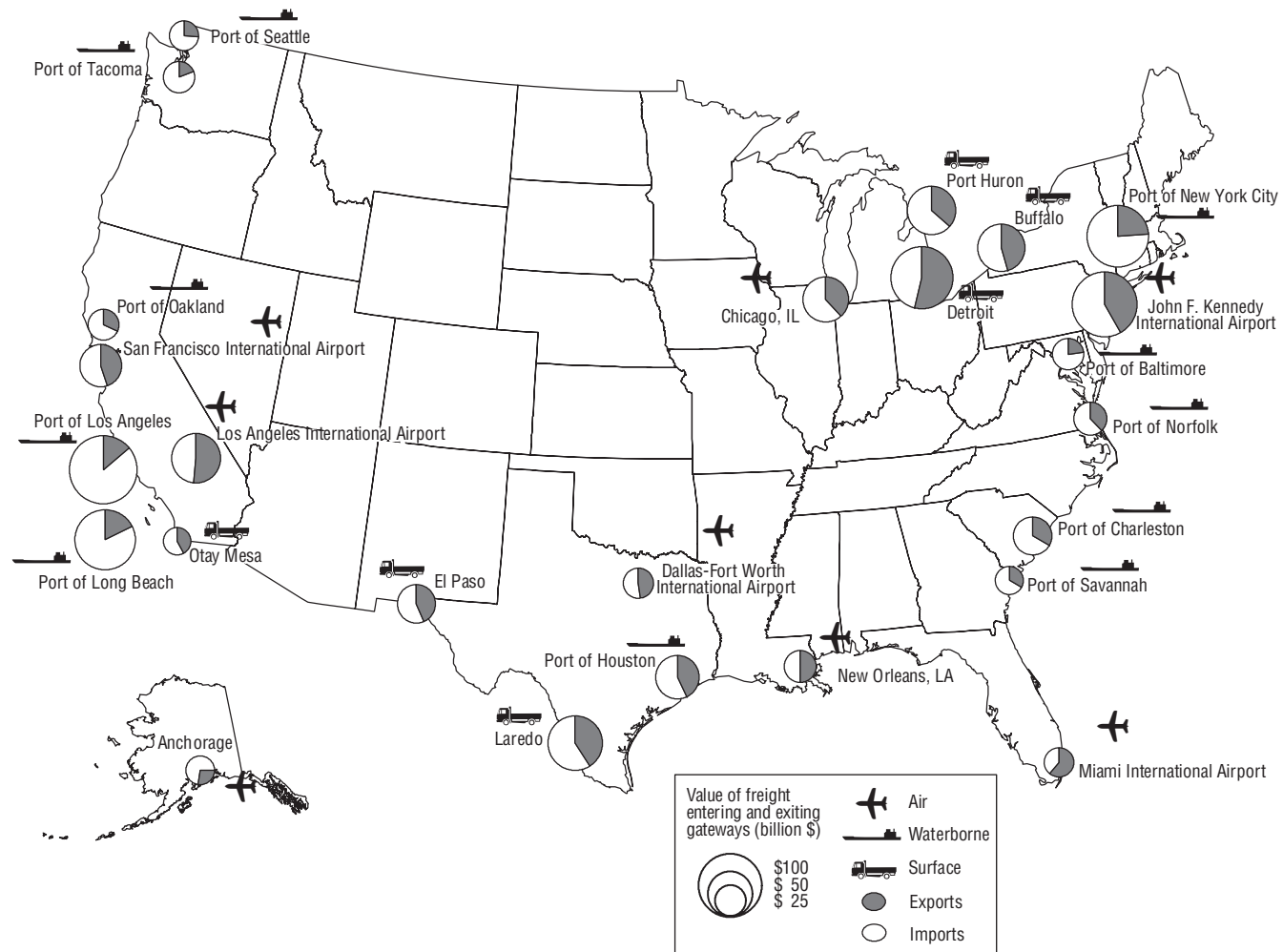
in trade with Asia and Pacific-Rim countries, especially growth in goods from China.

Both exports and imports pass through America's freight transportation gateways. 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. But among the top 25 freight gateways in 2003, only three—the land port of Detroit, Los Angeles International Airport, and the Miami International Airport—handled more exports than imports in value terms (table 2).

#### Modal Shares

The U.S. water transportation system carries more trade, both in terms of tonnage and value, than any other mode (figure 2)

FIGURE 1. Location of the Top 25 U.S. International Freight Gateways Ranked by Shipment Value: 2003



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% 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. Also due to U.S. Census Bureau confidentiality regulations, data for some of the air gateways include courier operations. For example, data for New Orleans Custom Port's international air cargo include FedEx air cargo activity in Memphis, TN.

SOURCES: **Air**—U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, special tabulation, August 2004. **Water**—U.S. Department of Transportation, Maritime Administration, Office of Statistical and Economic Analysis, special tabulations from Waterborne Databank, August 2004. **Land**—U.S. Department of Transportation, Bureau of Transportation Statistics, Transborder Surface Freight Data as of August 2004.

AMERICA'S FREIGHT TRANSPORTATION GATEWAYS

TABLE 2. Top 50 U.S. Freight Gateways, Ranked by Value of Shipments: 2003 (Current \$, billions)

Rank	Port name	Mode	Total U.S.				Rank	Port name	Mode	Total U.S.			
			trade	Exports	Imports	Exports as % of total				trade	Exports	Imports	Exports as % of total
1	Port of Los Angeles, CA	Water	122	17	105	13.8	26	Port of New Orleans, LA	Water	19	11	8	57.9
2	JFK International Airport, NY	Air	112	47	65	41.7	27	Cleveland, OH	Air	19	10	9	51.3
3	Port of Detroit, MI	Land	102	55	47	53.5	28	Atlanta, GA	Air	18	8	10	45.6
4	Port of New York and New Jersey	Water	101	24	77	24.0	29	Port of Miami, FL	Water	17	7	10	41.1
5	Port of Long Beach, CA	Water	96	17	79	17.9	30	Port of Champlain-Rouses Point, NY	Land	14	5	9	36.2
6	Port of Laredo, TX	Land	79	32	46	41.1	31	Port of Hidalgo, TX	Land	14	6	8	43.6
7	Los Angeles International Airport, CA	Air	64	33	31	51.1	32	Newark, NJ	Air	13	3	10	20.1
8	Port Huron, MI	Land	62	23	40	36.4	33	San Juan International Airport, PR	Air	12	5	7	42.4
9	Port of Buffalo-Niagara Falls, NY	Land	59	27	32	46.1	34	Port of Blaine, WA	Land	12	5	7	43.6
10	Chicago, IL	Air	54	21	34	37.9	35	Port of Portland, OR	Water	12	3	9	25.1
11	Port of Houston, TX	Water	50	21	28	43.0	36	Port of Jacksonville, FL	Water	11	2	9	20.8
12	San Francisco International Airport, CA	Air	47	21	26	44.1	37	Port Everglades, FL	Water	10	4	6	41.4
13	Port of Charleston, SC	Water	39	13	26	34.0	38	Port of Nogales, AZ	Land	10	4	7	34.2
14	Port of El Paso, TX	Land	39	17	22	42.6	39	Port of Philadelphia, PA	Water	10	1	10	6.1
15	Port of Norfolk Harbor, VA	Water	29	11	18	37.4	40	Port of Morgan City, LA	Water	10	0	10	1.8
16	New Orleans, LA	Air	27	14	14	50.0	41	Port of Brownsville, TX	Land	10	5	5	51.5
17	Port of Tacoma, WA	Water	26	5	21	19.8	42	Port of Alexandria Bay, NY	Land	10	4	6	38.2
18	Port of Baltimore, MD	Water	26	6	20	21.9	43	Port of Corpus Christie, TX	Water	10	2	8	19.8
19	Port of Oakland, CA	Water	25	8	17	30.9	44	Port of Beaumont, TX	Water	10	1	9	9.9
20	Dallas-Fort Worth, TX	Air	24	11	12	48.3	45	Port of Pembina, ND	Land	9	5	4	53.1
21	Port of Seattle, WA	Water	23	6	17	24.6	46	Boston Logan Airport, MA	Air	9	6	3	62.0
22	Miami International Airport, FL	Air	23	14	9	61.5	47	Port of Calexico-East, CA	Land	9	4	5	42.4
23	Anchorage, AK	Air	22	6	16	25.5	48	Philadelphia International Airport, PA	Air	9	5	4	53.8
24	Port of Savannah, GA	Water	21	7	14	34.7	49	Port of Sweetgrass, MT	Land	7	4	4	48.1
25	Port of Otay Mesa Station, CA	Land	20	8	11	42.0	50	Seattle-Tacoma International Airport, WA	Air	7	4	3	56.8
									<b>Total, top 50 gateways</b>	<b>1,587</b>	<b>576</b>	<b>1,011</b>	<b>36.3</b>
									<b>Total, U.S. merchandise trade by all modes</b>	<b>1,983</b>	<b>724</b>	<b>1,259</b>	<b>36.5</b>
									<b>Top 50 gateways as share of U.S. total (percent)</b>	<b>80.0</b>	<b>79.6</b>	<b>80.3</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% 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. Also due to U.S. Census Bureau confidentiality 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.

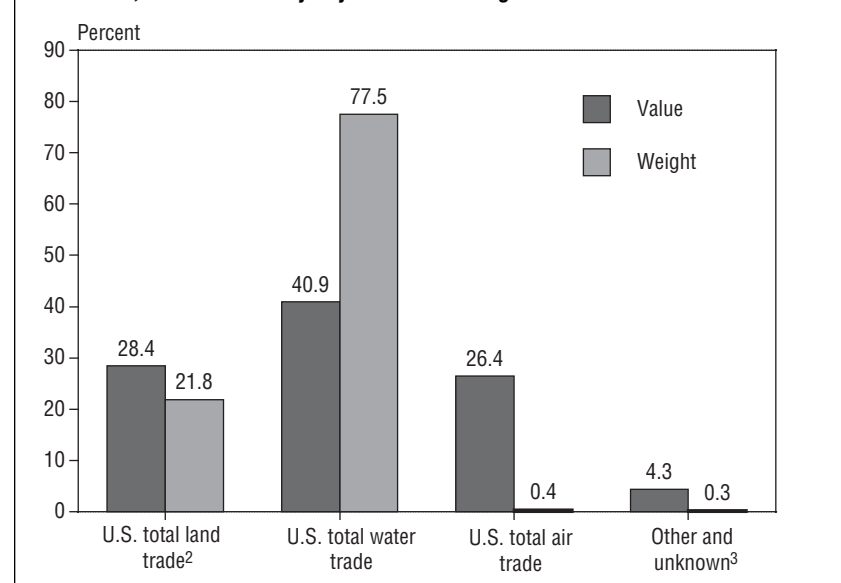
SOURCES: **Air**—U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, special tabulation, August 2004. **Water**—U.S. Department of Transportation, Maritime Administration, Office of Statistical and Economic Analysis, special tabulations from Waterborne Databank, August 2004. **Land**—U.S. Department of Transportation, Bureau of Transportation Statistics, Transborder Surface Freight Data as of August 2004.

**TABLE 3. Percentage Change in the Value of Merchandise Trade Handled by the Top 25 U.S. Freight Gateways: 1999 and 2003**

Rank in 1999	Rank in 2003	Port name	Mode	Percent change, 1999-2003		
				Total trade	Exports	Imports
4	1	Port of Los Angeles, CA	Water	46.7	19.6	52.2
1	2	JFK International Airport	Air	6.6	5.0	7.8
2	3	Port of Detroit, MI	Land	10.0	12.5	7.3
5	4	Port of New York and New Jersey	Water	40.3	35.8	41.8
3	5	Port of Long Beach, CA	Water	7.1	20.0	4.7
9	6	Port of Laredo, TX	Land	21.7	8.7	32.9
8	7	Los Angeles International Airport, CA	Air	-5.0	-9.2	-0.2
10	8	Port Huron, MI	Land	25.3	31.2	22.2
7	9	Port of Buffalo-Niagara Falls, NY	Land	-16.1	-22.3	-10.1
11	10	Chicago, IL	Air	37.2	13.8	56.9
12	11	Port of Houston, TX	Water	47.2	29.1	64.5
6	12	San Francisco International Airport, CA	Air	-35.2	-35.9	-34.5
15	13	Port of Charleston, SC	Water	33.5	19.4	42.1
13	14	Port of El Paso, TX	Land	19.5	21.1	18.4
17	15	Port of Norfolk Harbor, VA	Water	19.4	-3.3	38.9
18	16	New Orleans, LA	Air	18.0	31.7	6.9
23	17	Port of Tacoma, WA	Water	55.8	36.9	61.3
21	18	Port of Baltimore, MD	Water	33.8	7.3	43.8
16	19	Port of Oakland, CA	Water	0.6	-23.1	16.7
27	20	Dallas-Fort Worth, TX	Air	68.3	83.7	56.0
14	21	Port of Seattle, WA	Water	-27.2	3.4	-33.6
19	22	Miami International Airport, FL	Air	-1.6	-7.5	9.4
20	23	Anchorage, AK	Air	2.0	-10.5	7.1
30	24	Port of Savannah, GA	Water	58.1	45.5	65.8
24	25	Port of Otay Mesa Station, CA	Land	25.3	33.3	20.2
<b>Total, top 25 ports</b>				<b>14.3</b>	<b>6.5</b>	<b>19.2</b>
<b>Total, U.S. merchandise trade—all ports</b>				<b>15.5</b>	<b>4.5</b>	<b>22.9</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% 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. Also due to U.S. Census Bureau confidentiality 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.

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**FIGURE 2. Modal Shares of U.S. Merchandise Trade Handled by Land, Water, and Air Gateways by Value and Weight:<sup>1</sup> 2003**

<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 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, pipeline, and miscellaneous surface 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, Bureau of Transportation Statistics, based on: **Value data**—total trade, from U.S. International Trade Commission, USITC Interactive Tariff and Trade Databank, available at <http://dataweb.usitc.gov/> as of Sept. 15, 2004; **weight data**—Foreign Trade Division, U.S. Exports of Merchandise, CD-ROM and U.S. Imports of Merchandise, CD-ROM, December 2003. Truck, rail, pipeline, other and unknown data—USDOT, BTS, Transborder Surface Freight Data 2004; and special calculation, October 2004.

## AMERICA'S FREIGHT TRANSPORTATION GATEWAYS

78 percent of the weight and 41 percent of the value of U.S. merchandise trade in 2003. Pound for pound, water cargo tends to be lower in value than cargo carried by other modes. Freight moving through land gateways accounts for 22 percent of the weight of overall U.S. trade, but 28 percent of the value.

In 2003 air cargo's share of total trade tonnage was less than 1 percent, but that cargo accounted for 26 percent of the value of all U.S. trade.

Modes vary in the proportion of imports and exports they carry. While water transportation accounted for 79 percent of U.S. import tonnage and 74 percent of U.S. export tonnage in 2003, its share of the value of all U.S. imports was 48 percent and its share of all exports was 29 percent. By contrast, trucks moved 27 percent of the value of all exports and 17 percent of all imports.

### Land Freight Gateways

In 2003, nearly one-third (32 percent) of the value of overall U.S. merchandise trade was with our two largest trading partners, Canada and Mexico, and was valued at \$629 billion (table 4). Land trade—carried by truck, rail, and pipeline—accounted for 89 percent of this value, or \$563 billion.<sup>3</sup> Since 1990, the value of U.S. land trade with Canada and Mexico has grown at an average annual rate of 8 percent per year, compared with about 6 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 from 23 percent in 1990 to 28 percent in 2003 (figure 3).<sup>4</sup> Canada, Mexico, and the United States are all participants in the North American Free Trade Agreement

<sup>3</sup> Maritime vessels accounted for about 6 percent and air cargo 5 percent.

<sup>4</sup> Official figures are unavailable by tonnage because weight data for surface exports are not collected by U.S. authorities.

**TABLE 4. Value of U.S. Merchandise Trade with NAFTA Partners Compared with U.S. Trade with Overseas Countries: 1990–2003 (Current \$, billions)**

	Overall	NAFTA v. 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	1,560	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	1,857	604	1,253	32.5	67.5
2003	1,983	629	1,354	31.7	68.3
<b>Percent change, 1990-2003</b>	<b>123.1</b>	<b>170.2</b>	<b>106.4</b>		
<b>Average annual growth rate, 1990-2003</b>	<b>6.4</b>	<b>7.9</b>	<b>5.7</b>		

KEY: NAFTA = North American Free Trade Agreement

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, based on **total trade**, from U.S. International Trade Commission, USITC Interactive Tariff and Trade Dataweb, available at <http://dataweb.usitc.gov/> as of Sept. 15, 2004.

(NAFTA), which was put in place by the three countries in 1994. For convenience, this report refers to U.S. trade with Canada and Mexico as U.S.-NAFTA trade.

Even though there are over 75 land ports along the U.S.-Canadian border and over 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 border as well as the growth of major transportation corridors. In 2003, the top three ports for

**TABLE 5. Value of U.S. Merchandise Trade by Land, Water, and Air Gateways: 1990–2003 (Current \$, billions)**

	Total U.S. international merchandise trade	U.S. total land trade	U.S. total water trade	U.S. total air trade	Other and unknown <sup>1</sup>
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	1,560	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	1,857	541	729	498	89
2003	1,983	563	811	523	86
<b>Percent change, 1990-2003</b>	<b>123.1</b>	<b>176.2</b>	<b>86.8</b>	<b>159.9</b>	<b>73.4</b>
<b>Average annual growth rate, 1990-2003</b>	<b>6.4</b>	<b>8.1</b>	<b>4.9</b>	<b>7.6</b>	<b>4.3</b>

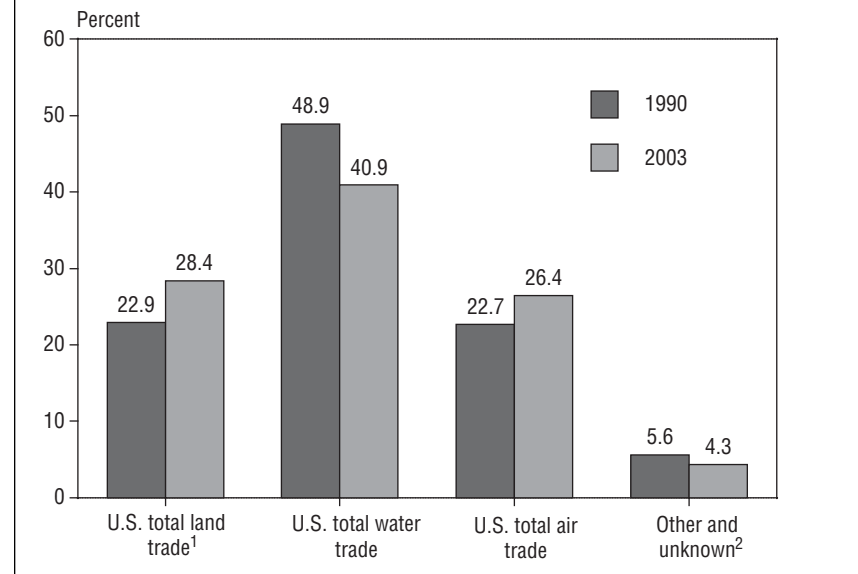
<sup>1</sup> Includes purchased vehicles such as aircraft or boats moving from manufacturer to customer where the vehicle itself is the shipment, pedestrians carrying freight, and miscellaneous.

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, from U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, *U.S. Exports of Merchandise* CD and *U.S. Imports of Merchandise* CD, various annual December CDs.

U.S.-NAFTA land trade by value were Detroit, Michigan; Laredo, Texas; and Port Huron, Michigan. In total, these three ports accounted for over 41 percent of the value of all U.S.-NAFTA land trade in 2003.

Most of the top U.S. land border ports serve as national and multistate regional trade gateways in addition to serving local markets. The proportions vary quite a bit among gateways. Only about 30 percent of the value of shipments passing through Detroit originates or terminates in Michigan. And, for Laredo,

**FIGURE 3. Land, Water, and Air Gateways' Share of U.S. Merchandise Trade by Value: 1990 and 2003**



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

<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.

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, based on **total trade**, from U.S. International Trade Commission, USITC Interactive Tariff and Trade Dataweb, available at <http://dataweb.usitc.gov/> as of Sept. 15, 2004.

the biggest U.S.-Mexican border port, only 25 percent of the value of shipments start or end within Texas. By comparison, 91 percent of the freight 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 nearly three-quarters (72 percent) of all U.S. land trade, worth about \$404 billion in 2003, up about 2 percent from 2002. Rail transborder freight climbed to \$96 billion in 2003, a 4 percent increase from the previous year. Pipelines

carried \$32 billion worth of products, a 43 percent rise from 2002, primarily due to a rise in the value of U.S. imports of petroleum products from Canada.

Although trucks haul the majority of U.S. trade by value at the major land ports, many border crossings are important rail gateways, facilitating the transport of long-haul freight to and from origins and destinations in several states. Over half of the value of U.S.-NAFTA rail trade passes through just two gateways, Laredo, Texas, and Port Huron, Michigan. These two ports, along with Eagle Pass, Texas, have seen large growth in the value of rail cargo in recent years, in part due to rail privatization in Mexico and new North American rail alliances. Rail marketing alliances, such as the NAFTA Railway formed by Kansas City Southern and other rail lines, provide integrated service from the United States into Mexico and Canada with a single freight rate.<sup>5</sup>

By weight, land modes hauled over 254 million tons of *imported* goods entering the United States from Canada and Mexico in 2003, exceeding the 2000 level by nearly 4 percent (table 6). The tonnage of land imports from Canada grew 3 percent, while tonnage from Mexico grew about 7 percent.<sup>6</sup> Regarding modal shares, in 2003 trucks moved 37 percent of the tonnage of total land trade imports, rail moved 32 percent, and pipelines accounted for 31 percent. Trucks hauled a larger percentage of the tonnage of U.S. land imports from Mexico (74 percent) than from Canada (32 percent). By comparison, in 2003 rail transported 25 percent of the tonnage of land imports from Mexico and 33 percent from Canada.

<sup>5</sup> Kansas City Southern (KCS). 2002. The NAFTA Railway. Available at <http://www.kcsi.com> as of October 2004. The primary partners of NAFTA Railway are Kansas City Southern Railway (KCSR), Texas Mexican Railway (Tex Mex), Grupo Transportacion Ferroviaria Mexicana (TFM) and Panama Canal Railway Co. (PCRC).

<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 based on value-to-weight ratios from import data.

### ***Vehicle Crossings at the Land Gateways***

Large numbers of vehicles and equipment carrying imported goods enter the United States each day. In 2003, there were nearly 11 million commercial truck crossings into the United States from Canada and Mexico, down 5 percent from the 11.6 million crossings in 2000 (table 7).<sup>7</sup> Commercial trucks crossing into the United States at the busiest land gateways—Detroit, Michigan, and Laredo, Texas—generate heavy north-south truck traffic from Detroit through Memphis, Tennessee, and San Antonio, Texas, to Laredo. These commercial trucks entering the United States carried 8.3 million full containers and 2.6 million empty containers in 2003.

The land gateways also handled over 42,000 trains carrying about 2.5 million containers headed for the United States from Canada and Mexico in 2003 (approximately 114 trains and 6,700 containers per day). Nearly 34,000 of these trains entered from Canada. Between 2000 and 2003, the number of rail containers entering the United States grew faster (14 percent) than the incoming truck containers (5 percent). Most of the growth was in incoming rail containers from Canada (table 7).

### ***Water Freight Gateways***

In 2003, over two-thirds (68 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

<sup>7</sup> These figures represent the number of incoming crossings and 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 for all land border crossing ports are not collected by U.S. government agencies. Some State Departments of Transportation (e.g., Texas) and Metropolitan Planning Organizations (e.g., Whartcom County in Washington State) collect outgoing crossings data for border ports in their areas.

**TABLE 6. Weight of U.S. Merchandise Imports Entering by Surface Modes: 2000–2003 (Short tons, thousands)**

	U.S.-NAFTA imports (from Canada and Mexico)				U.S. imports from Canada				U.S. imports from Mexico				Percent change, 2000-2003		
	2000	2001	2002	2003	2000	2001	2002	2003	2000	2001	2002	2003	U.S.-NAFTA	U.S.-Canada	U.S.-Mexico
Truck	95,250	91,639	96,344	94,954	72,445	69,120	72,960	71,043	22,805	22,520	23,384	23,912	-0.3	-1.9	4.9
Rail	73,409	75,033	78,036	80,867	66,094	66,632	69,421	72,650	7,315	8,401	8,615	8,216	10.2	9.9	12.3
Pipeline	76,129	75,399	74,826	78,009	76,001	75,381	74,820	78,009	129	18	5	0.1	2.5	2.6	-99.9
Other <sup>1</sup>	247	443	562	592	95	263	103	225	152	180	458	367	139.7	137.5	141.0
<b>Total</b>	<b>245,035</b>	<b>242,514</b>	<b>249,768</b>	<b>254,421</b>	<b>214,635</b>	<b>211,395</b>	<b>217,305</b>	<b>221,927</b>	<b>30,400</b>	<b>31,119</b>	<b>32,463</b>	<b>32,495</b>	<b>3.8</b>	<b>3.4</b>	<b>6.9</b>
<b>Relative percent share of weight</b>															
Truck	38.9	37.8	38.6	37.3	33.8	32.7	33.6	32.0	75.0	72.4	72.0	73.6			
Rail	30.0	30.9	31.2	31.8	30.8	31.5	31.9	32.7	24.1	27.0	26.5	25.3			
Pipeline	31.1	31.1	30.0	30.7	35.4	35.7	34.4	35.2	0.4	0.1	0.0	0.0			
Other <sup>1</sup>	0.1	0.2	0.2	0.2	0.0	0.1	0.0	0.1	0.5	0.6	1.4	1.1			
<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>100.0</b>	<b>100.0</b>	<b>100.0</b>			

KEY: NAFTA = North American Free Trade Agreement

<sup>1</sup> 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.

NOTE: Weight data for U.S. exports are unavailable because U.S. exporters using land modes are not required to file this information. Totals may not add to 100 due to rounding.

SOURCES: U.S. Department of Transportation, Bureau of Transportation Statistics, Transborder Surface Freight Data as of October 2004.

**TABLE 7. Truck, Train, and Rail Container Crossings into the United States from Canada and Mexico: 2000–2003 (Crossings, thousands)**

Mode	Crossings from Canada and Mexico				Crossings from Canada				Crossings from Mexico				Percent change, 2000-2003		
	2000	2001	2002	2003	2000	2001	2002	2003	2000	2001	2002	2003	U.S.-NAFTA	U.S.-Canada	U.S.-Mexico
Truck	11,574	11,082	11,343	10,966	7,048	6,777	6,916	6,728	4,526	4,305	4,427	4,238	-5.2	-4.5	-6.4
Truck containers	10,433	10,880	11,254	10,952	6,232	6,591	6,820	6,606	4,201	4,288	4,434	4,345	5.0	6.0	3.4
Full	7,685	7,943	8,341	8,325	5,335	5,571	5,818	5,673	2,350	2,372	2,523	2,652	8.3	6.3	12.8
Empty	2,748	2,937	2,914	2,626	897	1,021	1,002	933	1,851	1,916	1,911	1,693	-4.4	4.0	-8.5
Rail	41	41	40	42	33	34	33	34	7	7	8	8	2.7	1.3	9.4
Rail containers	2,167	2,362	2,433	2,476	1,595	1,779	1,830	1,868	572	583	602	607	14.3	17.1	6.2
Full	1,482	1,598	1,656	1,669	1,215	1,331	1,386	1,402	266	267	270	266	12.6	15.4	0.1
Empty	685	764	777	807	379	448	444	466	306	316	333	341	17.8	22.8	11.6

NOTE: Data do not represent individual unique vehicles. Border crossing data for outgoing vehicle and equipment crossings are not collected for all border crossing ports.

SOURCE: U.S. Department of Transportation (USDOT), Bureau of Transportation Statistics (BTS), Border Crossing Data 2000-2003, based on data from U.S. Department of Homeland Security, Customs and Border Protection, Operations Management Database, 2004.

was worth about \$1.4 trillion (table 4). Since 1990, the value of this U.S. overseas<sup>8</sup> trade has more than doubled, rising at an average annual rate of 6 percent per year (table 4). Maritime trade accounted for about 60 percent of this trade; air freight accounted for the rest.<sup>9</sup>

U.S. maritime trade passing through our seaports rose from \$434 billion in 1990 to \$811 billion in 2003 at about a 5 percent annual rate (table 5). This robust growth in U.S. overseas trade highlights the rising importance of China, which now ranks as our second largest provider of merchandise imports by value of shipments.<sup>10</sup> The growth also underscores the continued expansion of trade with several Pacific Rim nations and the rise of the Port of Los Angeles as the nation's top freight gateway by value in 2003. While cargo passing through our seaports in 2003 accounted for the largest modal share (41 percent) of the value of overall U.S. merchandise trade, this share declined from 49 percent in 1990 as land and air trade's share increased (figure 3).

The Port of Los Angeles' prominence 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 container trade, while the U.S. Gulf Coast ports are primarily involved in dry bulk and tanker trade. Gulf ports such as Houston, Texas, lead other U.S. ports in terms of tonnage of international cargo

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<sup>8</sup> Canada remains the top overall partner for total imports and exports followed by Mexico.

<sup>9</sup> For comparison purposes U.S.-NAFTA maritime and air trade are excluded from these statistics. In 2003, U.S. maritime trade with Canada and Mexico was \$38 billion; U.S. air trade was \$28 billion.

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

shipments—agricultural, petroleum, coal, and other bulk commodities. In general, bulk commodities are lower value per ton, and containerized commodities are higher value per ton.

Over 1.2 billion short tons of international maritime cargo was transported through U.S. seaports in 2003, with exports accounting for 30 percent and imports accounting for 70 percent of that tonnage. Table 8 shows that the list of the largest seaports changes when ranked by tonnage rather than by cargo value. In 2003, the top three seaport gateways by weight were the Port of Houston (over 126 million tons of freight), followed by the Port of South Louisiana (80 million tons) and the Port of New York and New Jersey (78 million tons). The top 20 seaports accounted for 64 percent of the maritime export tonnage and 72 percent of the import tonnage.

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

In 2003, air freight accounted for 26 percent (\$523 billion) of the total U.S. merchandise trade of nearly \$2 trillion, up from 23 percent in 1990 (figure 3). Between 1990 and 2003, 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).

John F. Kennedy (JFK) International Airport in New York was the leading U.S. airport for international freight by value in 2003, handling over one-fifth (21 percent) of U.S. air imports and exports, valued at \$112 billion. JFK Airport also was the leading overall gateway by value until 2003, when it was overtaken by the maritime Port of Los Angeles because of huge growth in U.S.-Asia trade.

Over 8 million tons of international air freight was moved on nonstop international air segments through all the U.S. air gate-

TABLE 8. U.S. Maritime Freight Gateways, Ranked by Value and Weight: 2003

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	Port of Los Angeles, CA	122,051	16,865	105,186	1	Port of Houston, TX	126,098	36,245	89,853
2	Port of New York and New Jersey	101,176	24,303	76,873	2	Port of South Louisiana, LA	80,324	49,517	30,807
3	Port of Long Beach, CA	95,863	17,163	78,700	3	Port of New York and New Jersey	77,934	8,739	69,195
4	Port of Houston, TX	49,893	21,439	28,454	4	Port of Beaumont, TX	68,747	5,415	63,331
5	Port of Charleston, SC	39,375	13,374	26,000	5	Port of Corpus Christi, TX	53,386	8,631	44,755
6	Port of Norfolk Harbor, VA	29,495	11,026	18,469	6	Port of Long Beach, CA	51,348	14,176	37,172
7	Port of Tacoma, WA	26,332	5,203	21,129	7	Port of New Orleans, LA	48,697	27,898	20,799
8	Port of Baltimore, MD	25,956	5,686	20,270	8	Port of Texas City, TX	43,392	3,207	40,185
9	Port of Oakland, CA	25,144	7,762	17,382	9	Port of Los Angeles, CA	41,840	12,682	29,158
10	Port of Seattle, WA	23,078	5,688	17,390	10	Port of Lake Charles, LA	31,762	3,937	27,825
11	Port of Savannah, GA	21,349	7,418	13,931	11	Port of Freeport, TX	25,089	2,425	22,663
12	Port of New Orleans, LA	19,411	11,237	8,174	12	Port of Mobile, AL	25,019	7,474	17,545
13	Port of Miami, FL	16,610	6,826	9,785	13	Port of Norfolk Harbor, VA	24,187	15,045	9,142
14	Port of Portland, OR	11,810	2,966	8,844	14	Port of Baltimore, MD	23,955	5,095	18,860
15	Port of Jacksonville, FL	11,235	2,334	8,901	15	Port of Baton Rouge, LA	23,095	4,446	18,650
16	Port Everglades, FL	10,499	4,348	6,151	16	Port of Savannah, GA	21,268	8,211	13,057
17	Port of Philadelphia, PA	10,315	634	9,681	17	Port of Pascagoula, MS	20,783	3,269	17,514
18	Port of Morgan City, LA	10,108	181	9,927	18	Port of Plaquemines, LA	18,917	10,449	8,468
19	Port of Corpus Christie, TX	9,859	1,957	7,902	19	Port of Philadelphia, PA	18,481	166	18,315
20	Port of Beaumont, TX	9,616	954	8,662	20	Port Arthur, TX	18,421	4,161	14,259
<b>Total, top 20 seaports</b>		<b>669,174</b>	<b>167,362</b>	<b>501,812</b>	<b>Total, top 20 seaports</b>		<b>842,742</b>	<b>231,190</b>	<b>611,552</b>
<b>Total, U.S. waterborne trade (all seaports)</b>		<b>811,086</b>	<b>206,205</b>	<b>604,881</b>	<b>Total, U.S. waterborne trade (all seaports)</b>		<b>1,211,480</b>	<b>363,478</b>	<b>848,002</b>
<b>Top 20 seaports as share of U.S. maritime total (percent)</b>		<b>82.5</b>	<b>81.2</b>	<b>83.0</b>	<b>Top 20 seaports as share of U.S. maritime total (percent)</b>		<b>69.6</b>	<b>63.6</b>	<b>72.1</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).

SOURCES: U.S. Department of Transportation, Bureau of Transportation Statistic, based on: **Value**—U.S. Department of Commerce, Bureau of the Census, Foreign Trade Division, August 2004; **Weight**—special tabulations from U.S. Army Corps of Engineers, Waterborne Commerce of United States data, November 2004.

ways in 2003. Anchorage was the nation's leading air gateway by weight, handling 26 percent of the total international air-freight tonnage. Because the types of commodities transported by air are higher in value per ton (e.g., cut flowers, electronics, and clothing) than those transported by other freight modes, the value of shipments is a much better indicator than weight in revealing the importance of air gateways to the nation's international commerce.

## THE GATEWAYS AND DATA NEEDS

Research and analysis needed to aid effective transportation decisionmaking is hampered by the lack of complete data on U.S. international freight. No single data source provides all the data needed for international transportation research (see box 2). Fully understanding trends in the movement of goods and having reliable forecasts for transportation decisionmaking requires consistent and comparable data on both the weight and the

**BOX 2. 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 transportation 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 several sources: the U.S. Census Bureau's U.S. Merchandise Trade data, the Bureau of Economic Analysis' (BEA) balance of payments trade data, the Bureau of Transportation Statistics' (BTS) Transborder Surface Freight Data and Office of Airline Information (OAI) air cargo data, and the U.S. Customs and Border Protection's (CBP) border-crossing data.

Data on U.S. *total* international merchandise trade and trade by air and water modes are from the Census Bureau's Foreign Trade Division. U.S. *total* merchandise trade data in inflation-adjusted terms are from the BEA. Inflation-adjusted data, however, are unavailable for imports and exports and for mode of transportation details. 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 Surface 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 trains 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. 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 see:**

U.S. Department of Transportation, Bureau of Transportation Statistics, *U.S. International Trade and Freight Transportation Trends*, Appendix B, Washington, DC: 2003.

U.S. Department of Transportation, Bureau of Transportation Statistics, *North American Trade and Travel Trends*, Washington, DC: 2002.

value of internationally traded goods. The lack of weight data for land exports is a problem for transportation freight analysis. Shipment weight data are currently not collected for exports transported by truck, rail, and pipeline. The International Trade Data System (ITDS), a federal information technology initiative led by the U.S. Customs and Border Protection, is expected to meet this need, providing not only the weight information by mode of transportation but also better origin and destination data. The ITDS is expected to be fully operational in 2010.<sup>11</sup>

Another data gap for international freight transportation analysis is the lack of outbound border crossing information from official U.S. government sources. Data are only collected for incoming trucks and trains and the containers they carry. This data gap limits analysis of the level of transportation activity at the land border gateways regarding capacity needs, congestion management, traffic delays, and safety.

<sup>11</sup> Additional information on the ITDS is available at <http://www.itds.treas.gov/>.

# 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 through the gateways 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 1999-2003
- annual land trade value 1999-2003
- trend in annual incoming trucks, 1994-2003
- trend in monthly incoming trucks, 2001-2003

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 1999-2003

- top carriers to and from the airports
- trend in annual air tonnage, 1994-2003
- trend in monthly air tonnage, 2001-2003

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, 1997-2003
- trend in monthly maritime tonnage, 2002-2003

The report presents the freight gateways according to their ranking by value of shipments in 2003, as listed in table 2. The companion CD to this report, *Gateway Resource CD*, provides more detailed information on these 25 gateways and also covers over 200 additional freight gateways.

## Port of Los Angeles, California—Water Gateway

The maritime Port of Los Angeles is the nation's busiest waterborne freight gateway for international merchandise trade by value of shipments. It's also our *top overall* gateway by value when compared with all U.S. freight gateways—land, air, and sea.

In 2003, merchandise trade moving in and out of the Port of Los Angeles (\$122 billion) accounted for 15 percent of the value of total U.S. international waterborne trade. These freight shipments accounted for more than 8 percent of all U.S. waterborne exports and 17 percent of waterborne imports.

Los Angeles is a major gateway for imports with inbound shipments accounting for 86 percent of the value of freight it handled in 2003—a ratio of export to imports of about 1 to 9 compared to the overall U.S. ratio of exports to imports of about 1 to 3.

By weight, the facility ranks *ninth* among all water gateways, handling 42 million tons or 3 percent of total U.S. international waterborne freight tonnage. Although Los Angeles is a significant gateway for both imports and exports, inbound freight shipments accounted for 70 percent of tonnage handled by the port in 2003. Between 1999 and 2003, the tonnage of cargo handled at Los Angeles increased 18 percent, due mostly to growth in imports, which grew by 23 percent from 24 million tons to 29 million tons. Exports hovered around 13 million tons.

Los Angeles is primarily a port for ships transporting containers—large, portable, reusable boxes that typically carry high-value cargo—which explains why this port ranks *first* by value

and *ninth* by weight. In 2003, the port handled 3.9 million TEUs (twenty-foot equivalent units) carrying international imports and exports. This accounted for almost one out of every five (19 percent) of U.S. containerized TEUs handled at all our nation's seaports. About 79 percent of the port's containerized cargo was inbound.

Over 2,300 vessels called at the Port of Los Angeles in 2003. Container vessels were the most frequent type to call at the port, accounting for 70 percent. About 10 percent of the calls were by tanker ships.

China was the port's leading origin country for imports by weight of shipments, followed by Taiwan, and Hong Kong in 2003.<sup>1</sup> Japan was the leading destination for exports leaving Los Angeles, followed by China, and Taiwan. The leading seaport pairs for cargo leaving or arriving at Los Angeles were the Port of Hong Kong, Taiwan's Port of Kao Hsiung, and China's Yantian.

In 2003, the top containerized imports were furniture, apparel, electronic products, toys, and computer equipment while the top containerized exports were wastepaper, synthetic resins, fabric, animal feed, and scrap metal.<sup>2</sup>

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<sup>1</sup> For official merchandise trade statistics, the Census Bureau reports Hong Kong separately. In this report, China refers to mainland China.

<sup>2</sup> The Port of Los Angeles website, <http://www.portoflosangeles.org/about/facts.htm>.

**TABLE 1. Value and Weight of U.S. International Merchandise Freight: 2003**

Overall and Water Modes (\$ millions)	Total	Exports	Imports
Total U.S. trade by all modes (land, water, air)	1,983,139	723,743	1,259,396
Total U.S. trade by water	807,112	202,481	604,631
<b>Value of International Waterborne Freight via Los Angeles (\$ millions)</b>			
Total waterborne freight through port	122,051	16,865	105,186
Percent of total U.S. waterborne freight	15.1%	8.3%	17.4%
<b>Weight of Waterborne Freight (short tons, millions)</b>			
Total U.S. trade by water	1,211	363	848
Total waterborne freight through port	42	13	29
Percent of total U.S. waterborne freight	3.2%	3.3%	3.1%
<b>Containerized Freight (TEUs, thousands)</b>			
Total U.S. containerized freight	21,117	7,102	14,015
Total containerized freight through port	3,948	842	3,106
Percent of total U.S. containerized freight	18.7%	11.9%	22.2%

KEY: TEU = Twenty-foot Equivalent Unit.

**TABLE 2. Top 3 Destination and Origin Countries for International Waterborne Freight via Port of Los Angeles, CA: 2003 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Japan	2,935	1	China Mainland	7,336
2	China Mainland	2,251	2	China Taiwan	3,061
3	China Taiwan	1,484	3	Hong Kong	2,841

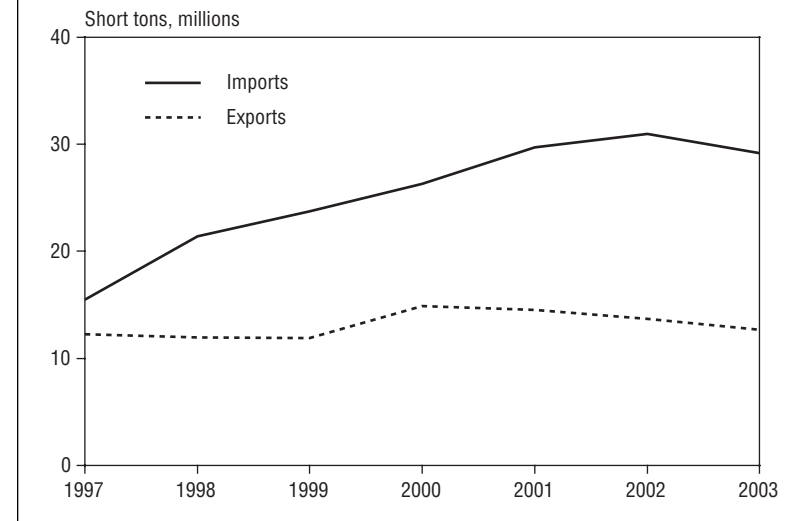
**TABLE 3. Top 3 Destination and Origin Ports for International Waterborne Freight via Port of Los Angeles, CA: 2003 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Hong Kong, Hong Kong	1,356	1	Hong Kong, Hong Kong	2,838
2	Kao Hsiung, China Taiwan	1,253	2	Kao Hsiung, China Taiwan	2,618
3	Singapore, Singapore	973	3	Yantian, China Mainland	2,392

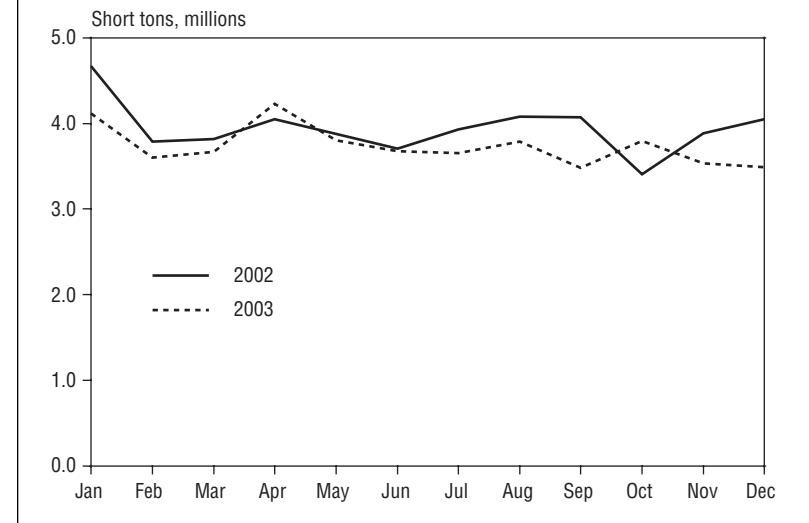
**TABLE 4. Port Calls By Vessel Type, Port of Los Angeles, CA: 2003**

	Container	Tanker	Dry bulk	General	Other	Total
Calls	1,658	244	189	98	170	2,359
Capacity (deadweight tons, thousands)	83,983	9,735	8,976	2,615	3,756	109,065

**FIGURE 1. Monthly Maritime Cargo via Port of Los Angeles, CA: 1997–2003**



**FIGURE 2. Monthly Maritime Cargo via Port of Los Angeles, CA: 2002–2003**



SOURCES: U.S. Department of Transportation, Bureau of Transportation Statistics, based on data from multiple sources: **Table 1**—Overall and Water Modes: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, *U.S. Exports and Imports of Merchandise*, CD-ROM; Value of Intl. Waterborne Freight—MARAD, special tabulation, August 2004; Weight of Waterborne Freight: U.S. Army Corps of Engineers, *Foreign Cargo Data*, November 2004; Containerized Freight: U.S. Army Corps of Engineers, special tabulation, November 2004. **Tables 2 and 3**—U.S. Army Corps of Engineers, *Foreign Cargo Data*, October 2004. **Table 4**—MARAD, special tabulation, October 2004. **Figure 1**—U.S. Army Corps of Engineers, *Foreign Cargo Data*, 1997–2002 final, 2003 preliminary, November 2004. **Figure 2**—U.S. Army Corps of Engineers, special tabulation, October 2004.

## John F. Kennedy International Airport, NY—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. And it was the *second* busiest overall by value when compared with all U.S. freight gateways—air, land, and sea.

In 2003, over 21 percent of the value of all U.S. international air freight moved through JFK airport. By weight, JFK ranks third among all air gateways, with 11 percent of U.S. international air freight tonnage passing through it.

JFK airport serves as a major hub for movement of bidirectional air freight between the United States and Europe. In 2003, the top three JFK origin-destination trade route pairs on nonstop segments were in Europe—London, Brussels, and Frankfurt. However, information on the actual markets from which goods are imported and to which goods are exported, shows that most of the markets are actually in Asia and that Europe's hub airports are only a link in this global supply chain. In 2003, the top origin markets for merchandise imports through JFK airport were Seoul, Hong Kong, and Taipei with London taking the fourth spot. Similarly, the top destination markets for merchandise exports from JFK airport were Tokyo, Seoul, and London.<sup>1</sup> It is possible that merchandise goods are transported by air or other modes to more specific locations beyond these origin and destination hub gateways. However, the data needed to analyze a shipment's entire history are unavailable.

<sup>1</sup> Based on Bureau of Transportation Statistics, Office of Airline Information, *Form 41 International Market Data*. Similar origin-destination airport-pair data by value are not available from the merchandise trade data.

Between 1999 and 2003, the value of merchandise air freight passing through JFK airport increased 7 percent, while the total weight of the cargo declined by 12 percent because of changes in the mix of the goods handled and the shipment of higher value-per-ton products. Some of the merchandise imported through JFK airport includes woven and knit apparel, machinery, electrical machinery, medical instruments, and footwear. Similarly, major commodities exported through JFK include machinery, electrical machinery, medical instruments, plastics, and paper.<sup>2</sup>

Nearly 100 air carriers operate out of JFK, but the top two carriers for air freight, American Airlines and the German airline, Lufthansa, together transported 21 percent of the imports and 17 percent of the exports in 2003.<sup>3</sup>

In recent years JFK ranked as the number one gateway in the country by value of international merchandise trade, but in 2003 fell behind the maritime Port of Los Angeles. After some sluggish growth, the U.S. economy appears to be rebounding and international air cargo is expected to rise.

<sup>2</sup> Port Authority of New York and New Jersey, available at <http://www.panynj.gov/aviation/traffic/coverfram.HTM> as of Oct. 7, 2004

<sup>3</sup> Federal Express Corp. also has a large facility at JFK airport, but BTS data have only limited information about these FedEx operations.

**TABLE 1. Value and Weight of U.S. International Merchandise Freight: 2003**

Overall and Air Modes	Total	Exports	Imports
Total U.S. trade by all modes (land, sea, air) (\$ millions)	1,983,139	723,743	1,259,396
Total U.S. trade by Air (\$ millions)	523,343	235,602	287,741
<b>Value of International Air Freight by JFK, NY</b>			
Total air trade through JFK, NY (\$ millions)	111,926	46,621	65,306
Percent of total U.S. air freight value	21.4%	19.8%	22.7%
<b>Weight of International Air Freight</b>			
Total International air freight through U.S. Gateways (short tons)	8,391,870	3,370,539	5,021,331
Total U.S. air freight via JFK, NY (short tons)	891,133	347,973	543,160
Percent of total U.S. air freight weight	10.6%	10.3%	10.8%

**TABLE 2. Top 3 Destination and Origin Countries for International Air Freight via JFK, NY: 2003 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	United Kingdom	68	1	United Kingdom	96
2	Belgium	63	2	Belgium	85
3	Germany	50	3	Germany	65

**TABLE 3. Top 3 Destination and Origin Cities for International Air Freight via JFK, NY: 2003 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Brussels, Belgium	53	1	London, United Kingdom	74
2	London, United Kingdom	44	2	Brussels, Belgium	49
3	Frankfurt, Germany	29	3	Frankfurt, Germany	42

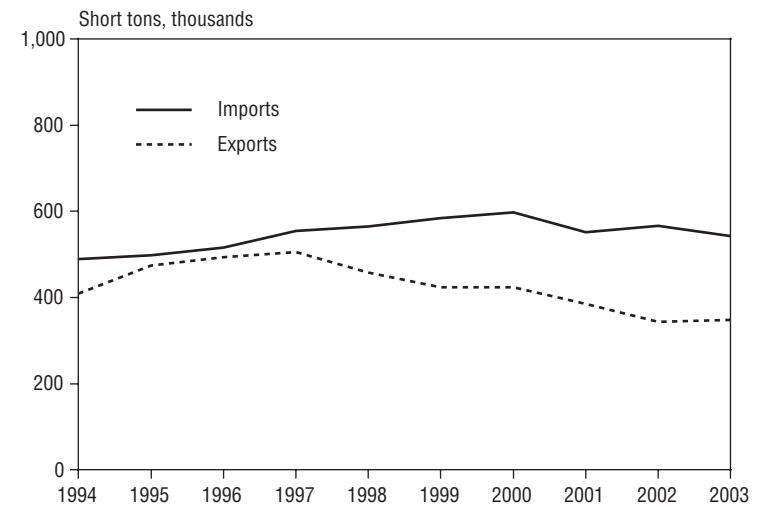
**TABLE 4. Total Air Freight Exports and Imports via JFK, NY: 1999–2003 (Short tons, thousands)**

	1999	2000	2001	2002	2003
Imports	584	598	551	568	543
Exports	423	423	385	345	348
Total	1,007	1,021	936	914	891

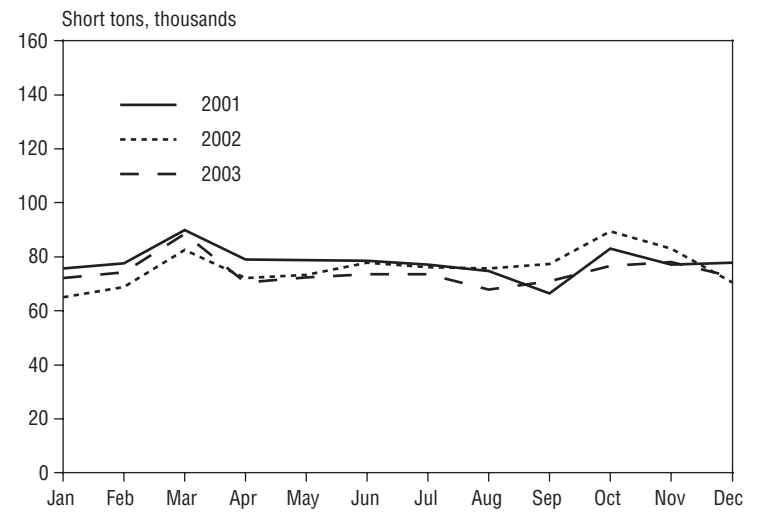
**TABLE 5. Top 3 Air Carriers for Exports and Imports via JFK, NY: 2003 (Short tons, thousands)**

Rank	Export carrier	Tons	Rank	Import carrier	Tons
1	Lufthansa German Airlines	37	1	American Airlines, Inc.	63
2	American Airlines, Inc.	27	2	Lufthansa German Airlines	55
3	Atlas Air, Inc.	19	3	Polar Air Cargo Airways	31

**FIGURE 1. Air Freight Exports and Imports via JFK, NY: 1994–2003**



**FIGURE 2. Monthly International Air Cargo via JFK, NY: 2001–2003**



SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, based on data from multiple sources, September 2004. **Table 1**—Value data: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, *U.S. Exports and Imports of Merchandise*, CD-ROM; Weight data: U.S. Department of Transportation, Bureau of Transportation Statistics, *Form 41 Traffic - Segment Data*, various years, as of Sept. 16, 2004. **Tables 2, 3, 4, 5 and Figures 1 and 2**—U.S. Department of Transportation, Bureau of Transportation Statistics, *Form 41 Traffic - Segment Data*, various years, as of Sept. 16, 2004.

## Detroit, Michigan—Land Gateway

**D**etroit is our nation's busiest land border gateway by value for imports and exports transported across the border by highways, railroads, and pipelines. And its land ports are our *third* leading gateway when compared with all U.S. freight gateways—land, air, and sea.

In 2003, merchandise trade passing through Detroit (\$102 billion) accounted for 18 percent of the value of U.S. total land trade. These freight shipments accounted for more than one-fifth (23 percent) of all U.S. land exports and 15 percent of land imports. Detroit is a major gateway for both exports and imports, with outbound shipments accounting for 54 percent and inbound shipments 46 percent of the value of freight handled by its land ports in 2003.

Trucking is by far the most heavily used mode of transportation for freight passing through Detroit, accounting for 83 percent of the value (\$85 billion) of total land trade in 2003, down from 91 percent in 1999. Rail accounted for 16 percent in 2003, up from 9 percent in 1999. By weight, trucking also accounts for the largest share of the land imports tonnage (see insert table).

Detroit is an international gateway that serves every state. In 2003, about 72 percent of the value of *truck* freight passing through Detroit originated or terminated outside Michigan. Over half (59 percent) of the truck imports and 82 percent of the

truck exports passing through Detroit are to and from other states. The top three states served by Detroit's land transportation facilities are Michigan, Ohio, and California, accounting for 52 percent of the merchandise trade transported through Detroit.

Thousands of commercial trucks cross into the United States from Canada through the Windsor Tunnel and Ambassador Bridge in Detroit. These facilities handled over 1.6 million incoming truck crossings in 2003, up 40 percent from about 1.2 million crossings in 1994 (figure 1). These trucks carried about 1.6 million containers into the United States from Canada in 2003. By comparison about 250,000 rail containers from Canada crossed into the United States at Detroit in 2003.

**Weight of Land Imports via Detroit, MI, by Mode: 2003**

Mode	Tonnage	Percent
Total	19,769,497	100.0%
Truck	14,550,581	73.6%
Rail	4,852,179	24.5%
Pipeline	361,823	1.8%
Other <sup>1</sup>	4,914	0.02%

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

SOURCE: U.S. DOT, BTS, Transborder Data. Weight data for land exports are unavailable.

Growth in U.S.–North American land trade and the heavy concentration of this trade at a few major gateways will likely continue to influence freight traffic at Detroit land facilities and the rapidly emerging north-south transportation corridor.

**TABLE 1. Value of U.S. International Merchandise Freight: 2003**

	\$ millions		
	Total	Exports	Imports
<b>Overall and Land Modes</b>			
Total U.S. trade by all modes (land, sea, air)	1,983,139	723,743	1,259,396
Total U.S. trade by land	562,776	240,486	322,291
<b>Value of International Land Freight via Detroit, MI</b>			
Total land trade through port	101,890	54,549	47,341
Percent of total U.S. land freight value	18.1%	22.7%	14.7%
<b>Value of International Land Freight by Mode via Detroit, MI</b>			
Truck	84,811	48,632	36,179
Rail	16,723	5,680	11,043
Pipeline	92	32	61
Other and unknown	263	205	58
<b>Value of Land Freight O&amp;D, All Modes via Detroit, MI</b>			
To and from Michigan	29,689	10,522	19,167
To and from other U.S. States	72,200	44,026	28,174
Other states' shipments as percent of freight value via port	70.9%	80.7%	59.5%
<b>Value of Truck Freight O&amp;D, via Detroit, MI</b>			
To and from Michigan	23,813	9,004	14,809
To and from other U.S. States	60,998	39,627	21,370
Other states' shipments as percent of freight value via port	71.9%	81.5%	59.1%

KEY: O&D = origin and destination.

**TABLE 2. Top 3 States Trade via Detroit, MI: 2003 (\$ millions)**

Rank	State	Total	Exports	Imports
1	Michigan	29,689	10,522	19,167
2	Ohio	13,989	9,816	4,173
3	California	9,159	2,572	6,587

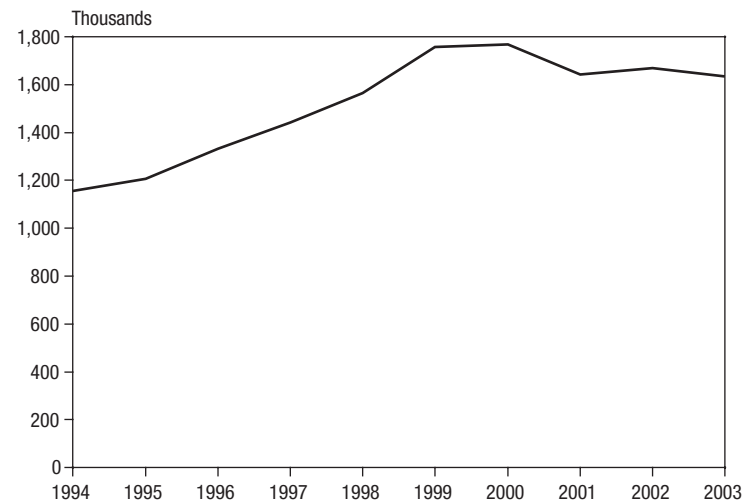
**TABLE 3. Incoming Full and Empty Container Crossings via Detroit, MI: 1999–2003 (Thousands)**

	1999	2000	2001	2002	2003
Via truck	1,763	1,655	1,722	1,668	1,589
Via rail	262	238	305	294	254

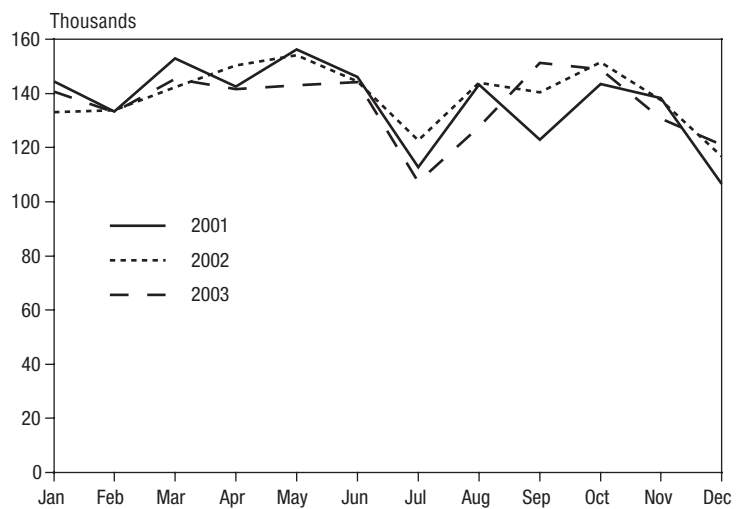
**TABLE 4. Value of International Land Trade via Detroit, MI, by Mode: 1999–2003 (\$ millions)**

	1999	2000	2001	2002	2003
Truck	83,889	85,468	79,762	85,062	84,811
Rail	8,343	8,598	11,909	15,607	16,723
Pipeline	45	78	67	50	92
Other and unknown	306	297	244	172	263
Total	92,583	94,441	91,982	100,891	101,890

**FIGURE 1. Incoming Truck Crossings via Detroit, MI: 1994–2003**



**FIGURE 2. Monthly Incoming Truck Crossings via Detroit, MI: 2001–2003**



SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, based on data from multiple sources, August 2004. **Tables 1, 2, and 4**—Overall: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, *U.S. Exports and Imports of Merchandise*, CD-ROM; Land Freight: U.S. Department of Transportation, Bureau of Transportation Statistics, *Transborder Surface Freight Data*, 1999–2003. **Table 3, Figures 1 and 2**—U.S. Department of Transportation, Bureau of Transportation Statistics, *Border Crossing/Entry Data*, 1994–2003, based on data from U.S. Department of Homeland Security, Customs and Border Protection, *Operations Management Database*.

## Port of New York & New Jersey, New York—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 2003. It ranked *fourth* overall among all land, water, and air gateways with over \$101 billion dollars of international freight moving through it. This amount of trade represents about 13 percent of the value of U.S. international waterborne freight shipments and 5 percent of total U.S. international merchandise trade by all modes of transportation.

By weight, the facility is ranked *third* among all U.S. water gateways. Over 6 percent of all U.S. international waterborne tonnage (78 million tons) moved through this port in 2003.

The Port of New York and New Jersey handled 2.8 million TEUs (twenty-foot equivalent units) in 2003, making it third in the number of TEUs handled, behind the California ports of Los Angeles and Long Beach. Of the 4,900 vessel calls at the port in 2003, 47 percent were container ships, and 27 percent were tanker ships.

Imports accounted for the lion's share of both tonnage and value of the freight handled by the port, with 89 percent (69 million short tons) of the total tonnage and 76 percent (\$77 billion) of the value coming from imports.

Between 1999 and 2003, the value of merchandise trade through the Port of New York and New Jersey increased by 40 percent—a 42 percent increase for imports and a 36 percent increase for exports. During the same period the tonnage handled through this port increased by 27 percent.

In 2003, Canada was the largest origin country for imports and China was the largest destination country for exports of trade through the port. By weight, the top-5 origin countries for imports accounted for one-third of imports through the Port of New York and New Jersey while the top-5 export destination countries accounted for 40 percent of this port's exports. The top foreign ports of origin and destination for this port were Point Tupper, Nova Scotia, Canada and Hong Kong, China, respectively.

The top import cargo commodities on a tonnage basis were beverages, vehicles, and plastic, while the top general cargo export commodities were wood pulp, plastic, and machinery. The Port of New York and New Jersey continues to be the largest oceanborne auto-handling port in the nation.<sup>1</sup>

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<sup>1</sup> Commodities information available at <http://www.panynj.gov> as of Nov. 16, 2004.

**TABLE 1. Value and Weight of U.S. International Merchandise Freight: 2003**

Overall and Water Modes (\$ millions)	Total	Exports	Imports
Total U.S. trade by all modes (land, water, air)	1,983,139	723,743	1,259,396
Total U.S. trade by water	807,112	202,481	604,631
<b>Value of International Waterborne Freight via New York (\$ millions)</b>			
Total waterborne freight through port	101,176	24,303	76,873
Percent of total U.S. waterborne freight	12.5%	12.0%	12.7%
<b>Weight of Waterborne Freight (short tons, millions)</b>			
Total U.S. trade by water	1,211	363	848
Total waterborne freight through port	78	9	69
Percent of total U.S. waterborne freight	6.4%	2.4%	8.2%
<b>Containerized Freight (TEUs, thousands)</b>			
Total U.S. containerized freight	21,117	7,102	14,015
Total containerized freight through port	2,811	821	1,990
Percent of total U.S. containerized freight	13.3%	11.6%	14.2%

KEY: TEU = Twenty-foot Equivalent Unit.

**TABLE 2. Top 3 Destination and Origin Countries for International Waterborne Freight via Port of New York: 2003 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	China Mainland	1,347	1	Canada	8,833
2	Hong Kong	830	2	United Kingdom	4,652
3	South Korea	514	3	Algeria	3,204

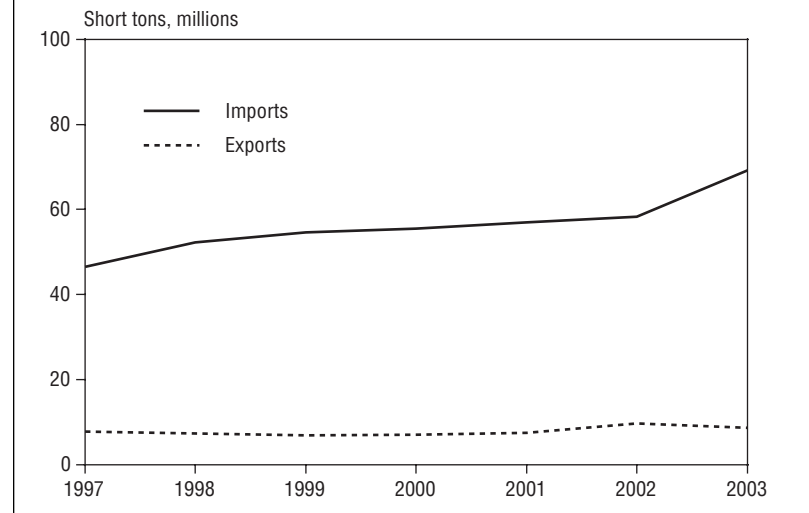
**TABLE 3. Top 3 Destination and Origin Ports for International Waterborne Freight via Port of New York: 2003 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Hong Kong, Hong Kong	830	1	Point Tupper, Canada	4,092
2	Shanghai, China Mainland	414	2	Ventspils, Latvia	2,876
3	Rotterdam, Netherlands	380	3	Skikda, Algeria	2,495

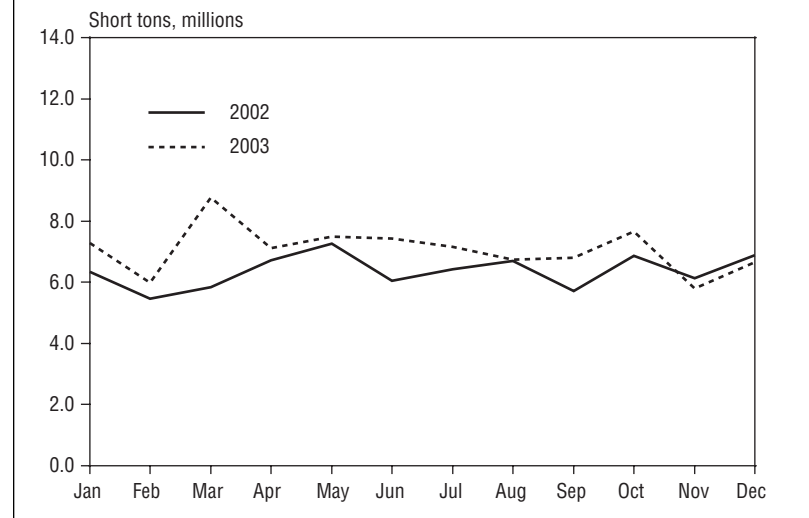
**TABLE 4. Port Calls By Vessel Type, Port of New York: 2003**

	Container	Tanker	Dry bulk	General	Other	Total
Calls	2,296	1,319	339	156	743	4,853
Capacity (deadweight tons, thousands)	103,208	72,835	13,184	3,091	162,567	354,885

**FIGURE 1. Maritime Imports and Exports via Port of New York: 1997–2003**



**FIGURE 2. Monthly Maritime Cargo via Port of New York: 2002–2003**



SOURCES: U.S. Department of Transportation, Bureau of Transportation Statistics, based on data from multiple sources: **Table 1**—Overall and Water Modes: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, *U.S. Exports and Imports of Merchandise*, CD-ROM; Value of Intl. Waterborne Freight—MARAD, special tabulation, August 2004; Weight of Waterborne Freight: U.S. Army Corps of Engineers, *Foreign Cargo Data*, November 2004; Containerized Freight: U.S. Army Corps of Engineers, special tabulation, November 2004. **Tables 2 and 3**—U.S. Army Corps of Engineers, *Foreign Cargo Data*, October 2004. **Table 4**—MARAD, special tabulation, October 2004. **Figure 1**—U.S. Army Corps of Engineers, *Foreign Cargo Data*, 1997–2002 final, 2003 preliminary, November 2004. **Figure 2**—U.S. Army Corps of Engineers, special tabulation, October 2004.

## Port of Long Beach, California—Water Gateway

The maritime Port of Long Beach (POLB) is the nation's *third* busiest waterborne freight gateway for international merchandise trade by value of shipments. It is our *fifth* busiest gateway by value when compared with all U.S. freight gateways—land, air, and sea.

In 2003, merchandise trade passing through the Port of Long Beach (\$96 billion) accounted for 12 percent of the value of total U.S. international waterborne trade. These freight shipments accounted for more than 9 percent of all U.S. waterborne exports and 13 percent of imports. POLB is a major gateway for imports with inbound shipments accounting for 82 percent of the value of freight it handled in 2003.

By weight, the facility ranks *sixth* among all water gateways, handling 51 million tons or 4 percent of total U.S. international waterborne freight tonnage. Although Long Beach is a significant gateway for both imports and exports, inbound freight shipments account for 72 percent of the tonnage handled by the port in 2003. Between 1999 and 2003, the tonnage of cargo handled at Long Beach increased 26 percent, due mostly to growth in imports from 27 million to 37 million tons (or 37 percent). Exports rose slightly from 13 million to 14 million tons.

Long Beach is primarily a container port although it handles noncontainerized bulk cargo. In 2003, the port handled about 3.8 million TEUs (twenty-foot equivalent units) carrying interna-

tional imports and exports. This accounted for 18 percent of U.S. containerized TEUs handled at all our nation's seaports. About 78 percent of the POLB's containerized cargo was inbound.

Nearly 2,800 vessels called at Port of Long Beach in 2003. Container vessels were the most frequent type to call at the port, accounting for 48 percent.<sup>1</sup> About 27 percent of the calls were by tanker ships.

China was the port's leading origin country for imports by weight of shipments, followed by Mexico, and Hong Kong in 2003.<sup>2</sup> China was the leading destination for exports leaving Long Beach, followed by South Korea, and Japan. The leading foreign seaports for cargo leaving or arriving at Long Beach were Port of Hong Kong, China's Yantian, and South Korea's Port of Pusan.

In 2003, the top containerized imports were machinery, electric equipment, motor vehicles, clothing, and toys while the top exports were machinery, plastics, electric equipment, meat, and chemicals.<sup>3</sup>

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<sup>1</sup> In July 2004, Orient Overseas Container Line's *OOCL Ningbo*—an 8,000-TEU vessel and one of the world's two largest containerships—docked at the Port of Long Beach.

<sup>2</sup> For official merchandise trade statistics, the Census Bureau reports Hong Kong separately. In this report, China refers to mainland China.

<sup>3</sup> The Port of Long Beach website, [http://www.polb.com/html/1\\_about/overview.html](http://www.polb.com/html/1_about/overview.html).

**TABLE 1. Value and Weight of U.S. International Merchandise Freight: 2003**

Overall and Water Modes (\$ millions)	Total	Exports	Imports
Total U.S. trade by all modes (land, water, air)	1,983,139	723,743	1,259,396
Total U.S. trade by water	807,112	202,481	604,631
<b>Value of International Waterborne Freight via Long Beach (\$ millions)</b>			
Total waterborne freight through port	95,863	17,163	78,700
Percent of total U.S. waterborne freight	11.9%	8.5%	13.0%
<b>Weight of Waterborne Freight (short tons, millions)</b>			
Total U.S. trade by water	1,211	363	848
Total waterborne freight through port	51	14	37
Percent of total U.S. waterborne freight	4.0%	4.1%	4.0%
<b>Containerized Freight (TEUs, thousands)</b>			
Total U.S. containerized freight	21,117	7,102	14,015
Total containerized freight through port	3,811	838	2,973
Percent of total U.S. containerized freight	18.0%	11.8%	21.2%

KEY: TEU = Twenty-foot Equivalent Unit.

**TABLE 2. Top 3 Destination and Origin Countries for International Waterborne Freight via Port of Long Beach, CA: 2003 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	China Mainland	3,160	1	China Mainland	7,889
2	South Korea	2,451	2	Mexico	3,358
3	Japan	2,301	3	Hong Kong	3,302

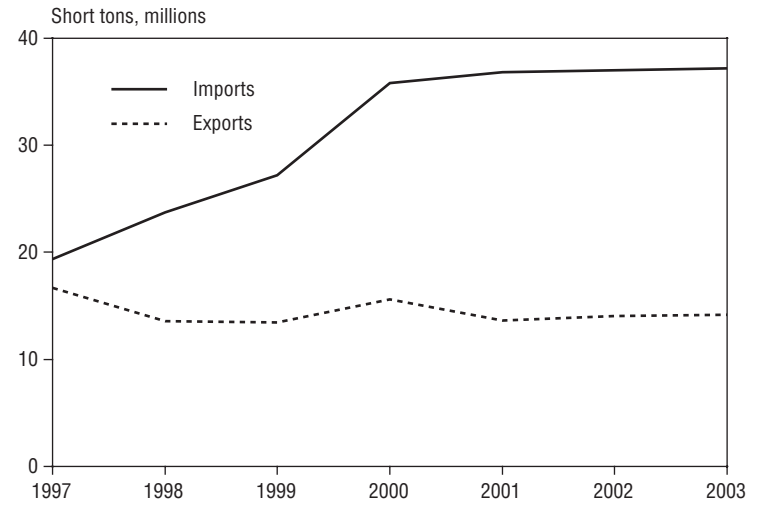
**TABLE 3. Top 3 Destination and Origin Ports for International Waterborne Freight via Port of Long Beach, CA: 2003 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Pusan, South Korea	1,426	1	Hong Kong, Hong Kong	3,302
2	Hong Kong, Hong Kong	1,230	2	Yantian, China Mainland	2,730
3	Singapore, Singapore	875	3	Pusan, South Korea	2,427

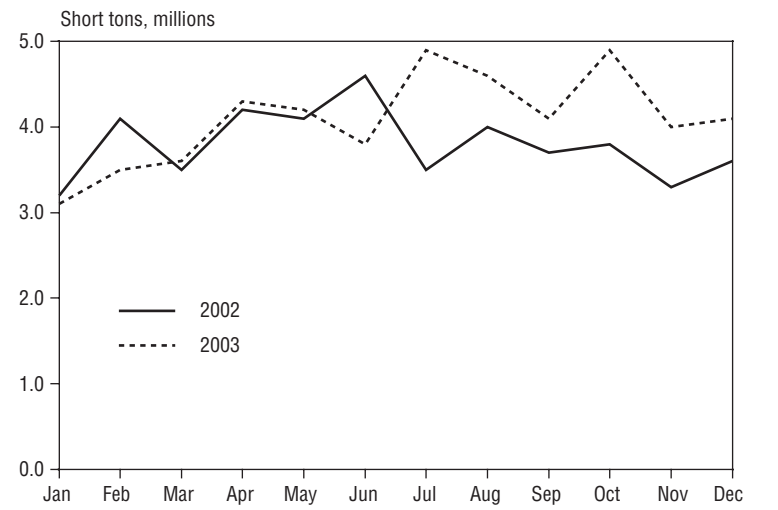
**TABLE 4. Port Calls By Vessel Type, Port of Long Beach, CA: 2003**

	Container	Tanker	Dry bulk	General	Other	Total
Calls	1,317	670	402	196	186	2,771
Capacity (deadweight tons, thousands)	63,378	65,825	18,373	5,019	3,830	156,425

**FIGURE 1. Maritime Imports and Exports via Port of Long Beach, CA: 1997–2003**



**FIGURE 2. Monthly Maritime Cargo via Port of Long Beach, CA: 2002–2003**



SOURCES: U.S. Department of Transportation, Bureau of Transportation Statistics, based on data from multiple sources: **Table 1**—Overall and Water Modes: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, *U.S. Exports and Imports of Merchandise*, CD-ROM; Value of Intl. Waterborne Freight—MARAD, special tabulation, August 2004; Weight of Waterborne Freight: U.S. Army Corps of Engineers, *Foreign Cargo Data*, November 2004; Containerized Freight: U.S. Army Corps of Engineers, special tabulation, November 2004. **Tables 2 and 3**—U.S. Army Corps of Engineers, *Foreign Cargo Data*, October 2004. **Table 4**—MARAD, special tabulation, October 2004. **Figure 1**—U.S. Army Corps of Engineers, *Foreign Cargo Data*, 1997–2002 final, 2003 preliminary, November 2004. **Figure 2**—U.S. Army Corps of Engineers, special tabulation, October 2004.

## Laredo, Texas—Land Gateway

Laredo, Texas, is our nation's *second* busiest land gateway by value of imports and exports transported across the border by highways, railroads, and pipelines. And its land ports are our *sixth* leading gateway when compared with all U.S. freight gateways—land, air, and sea.

In 2003, merchandise trade passing through Laredo (\$79 billion) accounted for 14 percent of the value of U.S. total land trade. Laredo is a major gateway for both export and imports, with inbound shipments accounted for 59 percent and outbound shipments 41 percent of the value of freight handled by its land ports in 2003.

Trucks carried the bulk of freight passing through Laredo, in terms of value of shipments, followed by rail. In 2003, truck's moved 69 percent of the value of land trade passing through Laredo, down from 78 percent in 1999. Rail had a 30 percent market share of the value in 2003, up from 22 percent in 1999. Between 1999 and 2003, the value of rail freight via Laredo increased at an average of 11 percent per year, compared to the value of truck freight which grew about 2 percent per year. 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 every state. About 76 percent of the value of *truck* freight passing through Laredo originates or terminates outside Texas. By value, nearly 81 percent of truck imports and 70 percent of truck exports passing

through Laredo are to and from other states. The top three states served by Laredo's land transportation facilities account for over half of the merchandise trade passing through Laredo – Michigan (24 percent), Texas (23 percent), and California (7 percent). These three states accounted for 58 percent of Laredo's land imports and 45 percent of its land exports in 2003.

Thousands of commercial trucks cross into the United States from Mexico through Laredo, Texas, using the World Trade Bridge, the most important truck crossing on the U.S.-Mexican border, and the Columbia Bridge. Laredo's international bridge crossings handled over 1.4 million incoming truck crossings in 2003, more than double the 668,000 crossings in 1994 (figure 1). About 1.3 million truck containers entered into the United States at Laredo from Mexico in 2003. By comparison about 313,000 rail containers crossed into the United States at Laredo from Mexico in 2003.

Given the current growth rate, spurred in part by the North American Free Trade Agreement (NAFTA), the volume of freight passing through Laredo and the associated truck traffic on local roads could be expected to rise.

**Weight of Land Imports via Laredo, TX, by Mode: 2003**

Mode	Tonnage	Percent
Total	14,456,220	100.0%
Truck	9,299,019	64.3%
Rail	5,151,822	35.6%
Pipeline	91	0.001%
Other <sup>1</sup>	5,288	0.037%

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

SOURCE: U.S. DOT, BTS, Transborder Data. Weight data for land exports are unavailable.

**TABLE 1. Value of U.S. International Merchandise Freight: 2003**

	\$ millions		
	Total	Exports	Imports
<b>Overall and Land Modes</b>			
Total U.S. trade by all modes (land, sea, air)	1,983,139	723,743	1,259,396
Total U.S. surface trade (land)	562,776	240,486	322,291
<b>Value of International Land Freight via Laredo, TX</b>			
Total land mode trade through port	78,763	32,394	46,369
Percent of total U.S. surface freight by land modes	14.0%	13.5%	14.4%
<b>Value of International Land Freight by Mode via Laredo, TX</b>			
Truck	54,620	24,161	30,459
Rail	23,940	8,143	15,798
Pipeline	0.2	0.0	0.2
Other and unknown	203	90	113
<b>Value of Land Freight O&amp;D, All Modes via Laredo, TX</b>			
To and from Texas	17,705	10,237	7,468
To and from other U.S. States	61,058	22,156	38,902
Percent of other states' freight shipments via Laredo	77.5%	68.4%	83.9%
<b>Value of Truck Freight O&amp;D via Laredo, TX</b>			
To and from Texas	13,201	7,271	5,930
To and from other U.S. States	41,418	16,889	24,529
Other states' shipments as percent of freight via port	75.8%	69.9%	80.5%

KEY: O&D = origin and destination.

**TABLE 2. Top 3 States Trade via Laredo, TX: 2003 (\$ millions)**

Rank	State	Total	Exports	Imports
1	Michigan	18,502	2,869	15,633
2	Texas	17,705	10,237	7,468
3	California	5,358	1,365	3,993

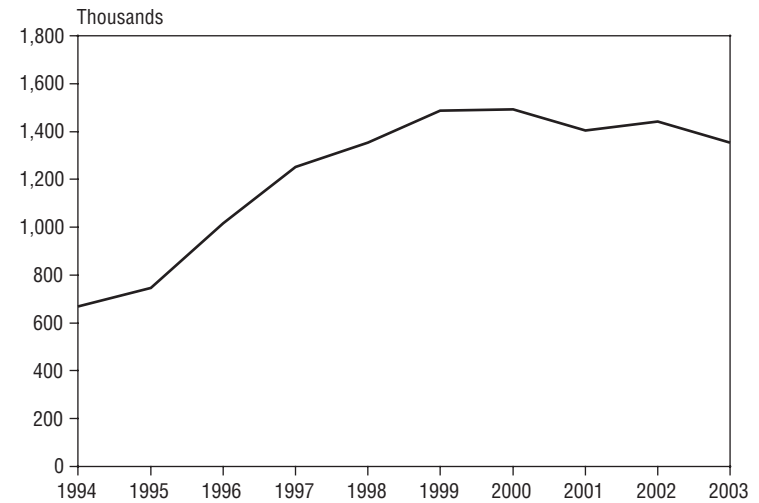
**TABLE 3. Incoming Full and Empty Container Crossings via Laredo, TX: 1999–2003 (Thousands)**

	1999	2000	2001	2002	2003
Via truck	1,493	1,352	1,405	1,438	1,345
Via rail	214	243	274	297	313

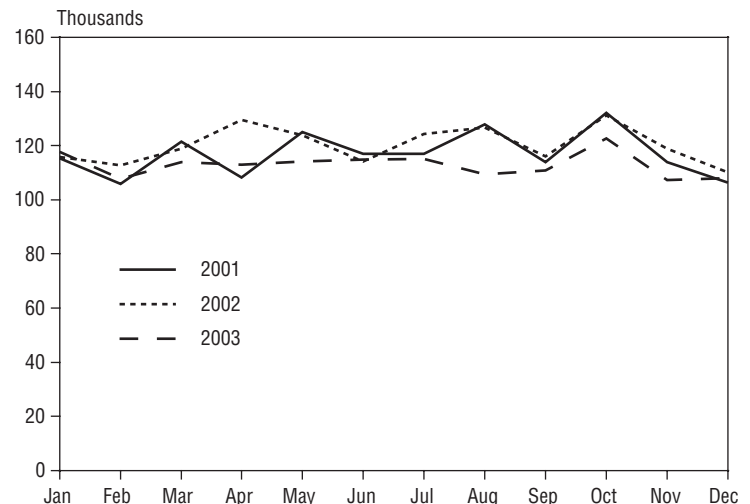
**TABLE 4. Value of International Land Trade via Laredo, TX, by Mode: 1999–2003 (\$ millions)**

	1999	2000	2001	2002	2003
Truck	50,646	60,047	55,298	55,801	54,620
Rail	13,934	23,465	24,179	23,265	23,940
Pipeline	0.0	0.3	0.2	0.4	0.2
Other and unknown	116	162	130	213	203
Total	64,695	83,674	79,607	79,279	78,763

**FIGURE 1. Incoming Truck Crossings via Laredo, TX: 1994–2003**



**FIGURE 2. Monthly Incoming Truck Crossings via Laredo, TX: 2001–2003**



SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, based on data from multiple sources, August 2004. **Tables 1, 2, and 4**—Overall: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, *U.S. Exports and Imports of Merchandise*, CD-ROM; Land Freight: U.S. Department of Transportation, Bureau of Transportation Statistics, *Transborder Surface Freight Data*, 1999–2003. **Table 3, Figures 1 and 2**—U.S. Department of Transportation, Bureau of Transportation Statistics, *Border Crossing/Entry Data*, 1994–2003, based on data from U.S. Department of Homeland Security, Customs and Border Protection, *Operations Management Database*.

## Los Angeles International Airport, California—Air Freight Gateway

**L**os Angeles International Airport (LAX) was the nation's *second* busiest international airfreight gateway by value of shipments in 2003. And it was the *seventh* leading gateway when compared with all U.S. freight gateways—airports, sea-ports, and land ports.

In 2003, about 12 percent of the value of all U.S. international air freight moved through LAX. By weight, LAX ranks fourth among all air gateways, with 7 percent of U.S. international air freight moving through it.

LAX is a major U.S. hub for trade with Pacific-rim countries. The major origin and destination markets for merchandise goods moving through LAX are South Korea, Japan, and Taiwan, accounting for nearly 50 percent of the total tonnage transported<sup>1</sup>. In terms of merchandise transported on nonstop international flight segments, Seoul, South Korea is the top origin point for imports, while London, England emerges as the top destination for exports.

Between 1999 and 2003, the tonnage of international air freight passing through LAX rose 6 percent; imports grew by 7 percent while exports rose by 3 percent. By value, air cargo through LAX declined 5 percent; exports fell by 9 percent and imports fell slightly (less than 1 percent). Some of the major commodities

exported through LAX are vegetables, fruits, and nuts; clothing; computer equipment; and medical instruments, while the leading imports are apparel, computer equipment, audio and video media, and office machinery.<sup>2</sup>

By comparison, the value of international air freight moving through LAX (\$64 billion) is less than one-third of the value of international *maritime* freight moving through the regional sea-ports of Los Angeles and Long Beach (\$218 billion). In total, these air and sea ports accounted for \$282 billion in international merchandise trade in 2003; followed by the New York area where the John F. Kennedy International Airport and the sea-ports of New York/New Jersey accounted for \$213 billion in international trade. These large amounts of freight emphasize the importance of the two West Coast and East Coast cities as leading U.S. gateways for their respective regional economies as well as for the entire nation.

A large number of domestic and international, passenger and cargo carriers operate out of LAX. The top three air carriers moved 25 percent of the weight of air imports and 18 percent of the weight of air exports handled at LAX in 2003. Korean Air Lines carried most of the imports while the Mexican cargo carrier, Aerotransportes Mas De Carga, transported most of the exports out of LAX.

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<sup>1</sup> Based on *Form 41 International Market Data* from Office of Airline Information, Bureau of Transportation Statistics. Origin-destination airport-pair data by value are not available from the merchandise trade data.

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<sup>2</sup> Commodity information available from LAX website at <http://www.lawa.org/lax/laxframe.html> as of Sept. 18, 2004.

**TABLE 1. Value and Weight of U.S. International Merchandise Freight: 2003**

Overall and Air Modes	Total	Exports	Imports
Total U.S. trade by all modes (land, sea, air) (\$ millions)	1,983,139	723,743	1,259,396
Total U.S. trade by air (\$ millions)	523,343	235,602	287,741
<b>Value of International Air Freight by Los Angeles International (LAX), CA</b>			
Total air trade through LAX, CA (\$ millions)	63,838	32,590	31,248
Percent of total U.S. air freight value	12.2%	13.8%	10.9%
<b>Weight of International Air Freight</b>			
Total international air freight through U.S. gateways (short tons)	8,391,870	3,370,539	5,021,331
Total U.S. air freight via LAX, CA (short tons)	618,812	249,342	369,470
Percent of total U.S. air freight weight	7.4%	7.4%	7.4%

**TABLE 2. Top 3 Destination and Origin Countries for International Air Freight via LAX, CA: 2003 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Mexico	39	1	South Korea	91
2	United Kingdom	32	2	Taiwan	50
3	Taiwan	27	3	Japan	40

**TABLE 3. Top 3 Destination and Origin Cities for International Air Freight via LAX, CA: 2003 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	London, United Kingdom	32	1	Seoul, South Korea	91
2	Taipei, Taiwan	27	2	Taipei, Taiwan	50
3	Seoul, South Korea	26	3	Tokyo, Japan	34

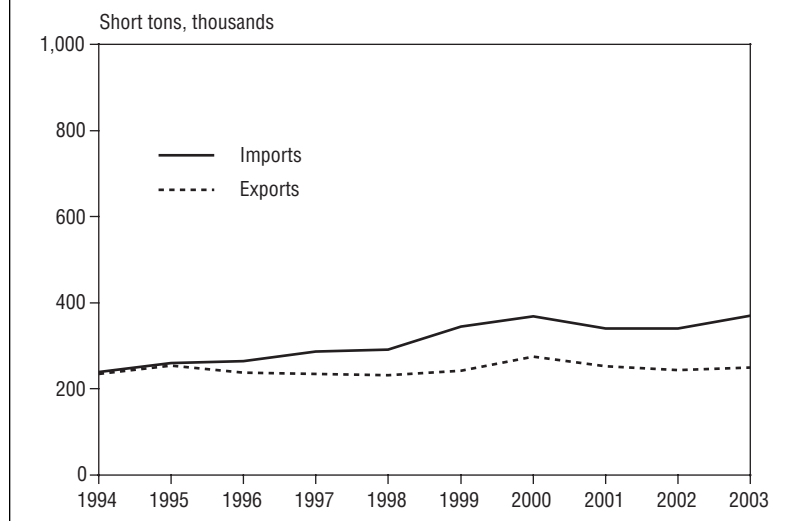
**TABLE 4. Total Air Freight Exports and Imports via LAX, CA: 1999–2003 (Short tons, thousands)**

	1999	2000	2001	2002	2003
Imports	345	369	340	340	369
Exports	242	274	253	243	249
Total	587	643	593	583	619

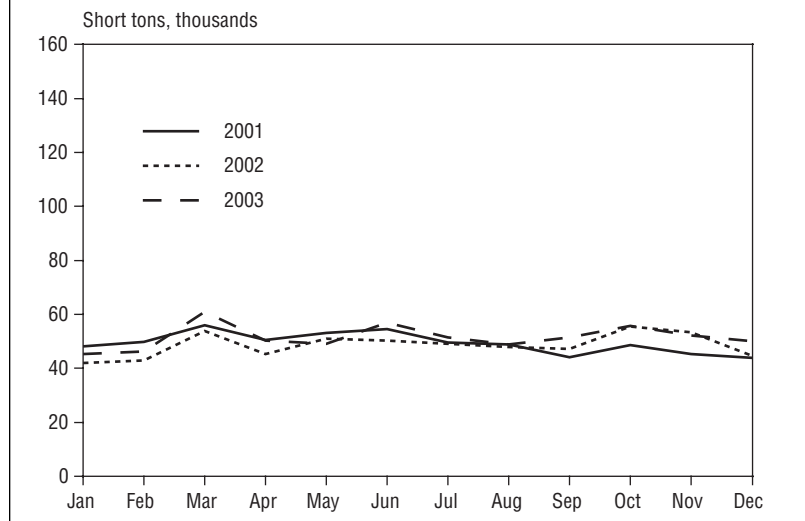
**TABLE 5. Top 3 Air Carriers for Exports and Imports via LAX, CA: 2003 (Short tons, thousands)**

Rank	Export carrier	Tons	Rank	Import carrier	Tons
1	Aerotransportes Mas De Crga	16	1	Korean Air Lines Co., Ltd.	45
2	Lufthansa German Airlines	16	2	Eva Airways Corporation	27
3	Eva Airways Corporation	13	3	Atlas Air, Inc.	21

**FIGURE 1. Air Freight Imports and Exports via LAX, CA: 1994–2003**



**FIGURE 2. Monthly International Air Cargo via LAX, CA: 2001–2003**



SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, based on data from multiple sources, September 2004. **Table 1**—Value data: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, *U.S. Exports and Imports of Merchandise*, CD-ROM; Weight data: U.S. Department of Transportation, Bureau of Transportation Statistics, *Form 41 Traffic - Segment Data*, various years, as of Sept. 16, 2004. **Tables 2, 3, 4, 5 and Figures 1 and 2**—U.S. Department of Transportation, Bureau of Transportation Statistics, *Form 41 Traffic - Segment Data*, various years, as of Sept. 16, 2004.

## Port Huron, Michigan—Land Gateway

Port Huron is our nation's *third* busiest land border gateway by value for imports and exports transported across the border by highways, railroads, and pipelines. And its land ports are our *eighth* leading gateway when compared with all U.S. freight gateways—land, air, and sea.

In 2003, merchandise trade passing through Port Huron (\$62 billion) accounted for 11 percent of the value of U.S. total land trade. These freight shipments accounted for 9 percent of U.S. land exports and 12 percent of land imports. Port Huron is a major gateway for both exports and imports, with outbound shipments accounting for 36 percent and inbound shipments accounting for 64 percent of the value of freight handled by its land ports in 2003.

Trucking is the most heavily used mode of transportation for freight passing through Port Huron, accounting for 57 percent of the value (\$36 billion) of land trade in 2003. However, since 1999 truck's share of land trade crossing through Port Huron has declined from 61 percent, due in part to increases in rail shipments. Between 1999 and 2003, rail freight increased 23 percent by value. Rail accounted for 37 percent of the port's transborder land trade in 2003. By weight, rail accounted for the largest share of the land import tonnage for Port Huron in 2003 (see insert table).

Port Huron is an international gateway that serves every state. About 65 percent of the value of *truck* freight passing through Port Huron originates or terminates outside of Michigan. Over

two-thirds (67 percent) of truck imports and 63 percent of truck exports passing through Port Huron are to and from other states. The top three states served by Port Huron's land transportation facilities are Michigan, Illinois, and California, accounting for 58 percent of the merchandise trade transported through Port Huron.

The Blue Water Bridge crossings at Port Huron consist of two spans connecting the United States to Canada. One is a recently constructed bridge that opened in 1997 with traffic going out-bound (into Canada). The other span, with traffic heading into the United States, originally opened in 1938 and was reopened after renovations in 1999.<sup>1</sup>

**Weight of Land Imports via Port Huron, MI, by Mode: 2003**

Mode	Tonnage	Percent
Total	29,291,010	100.0%
Truck	9,690,055	33.1%
Rail	12,979,348	44.3%
Pipeline	6,615,633	22.6%
Other <sup>1</sup>	5,974	0.02%

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

SOURCE: U.S. DOT, BTS, Transborder Data. Weight data for land exports are unavailable.

The inbound bridge handled over 928 thousand incoming truck crossings in 2003, up more than 52 percent from about 609 thousand crossings in 1994 (figure 1). Since 1999, rail containers entering the United States through Port Huron increased by 36 percent and truck containers rose by 22 percent.

<sup>1</sup> Source: Michigan Department of Transportation web site, available at [http://www.michigan.gov/mdot/0,1607,7-151-9618\\_11070-22062—,00.html](http://www.michigan.gov/mdot/0,1607,7-151-9618_11070-22062—,00.html), as of Sept. 14, 2004.

**TABLE 1. Value of U.S. International Merchandise Freight: 2003**

	\$ millions		
	Total	Exports	Imports
<b>Overall and Land Modes</b>			
Total U.S. trade by all modes (land, sea, air)	1,983,139	723,743	1,259,396
Total U.S. trade by land	562,776	240,486	322,291
<b>Value of International Land Freight via Port Huron, MI</b>			
Total land trade through port	62,294	22,698	39,596
Percent of total U.S. land freight value	11.1%	9.4%	12.3%
<b>Value of International Land Freight by Mode via Port Huron, MI</b>			
Truck	35,720	18,171	17,549
Rail	22,889	4,098	18,791
Pipeline	3,637	399	3,238
Other and unknown	48	30	19
<b>Value of Land Freight O&amp;D, All Modes via Port Huron, MI</b>			
To and from Michigan	26,883	6,929	19,954
To and from other U.S. States	35,411	15,768	19,642
Other states' shipments as percent of freight value via port	56.8%	69.5%	49.6%
<b>Value of Truck Freight O&amp;D, via Port Huron, MI</b>			
To and from Michigan	12,475	6,654	5,821
To and from other U.S. States	23,245	11,517	11,728
Other states' shipments as percent of freight value via port	65.1%	63.4%	66.8%

KEY: O&D = origin and destination.

**TABLE 2. Top 3 States Trade via Port Huron, MI: 2003 (\$ millions)**

Rank	State	Total	Exports	Imports
1	Michigan	26,883	6,929	19,954
2	Illinois	5,438	2,671	2,767
3	California	3,467	1,997	1,470

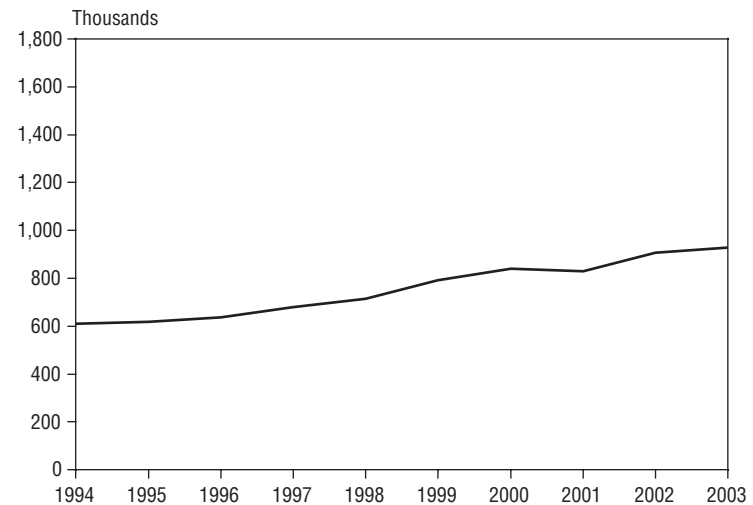
**TABLE 3. Incoming Full and Empty Container Crossings via Port Huron, MI: 1999–2003 (Thousands)**

	1999	2000	2001	2002	2003
Via truck	758	768	814	907	928
Via rail	338	425	449	430	459

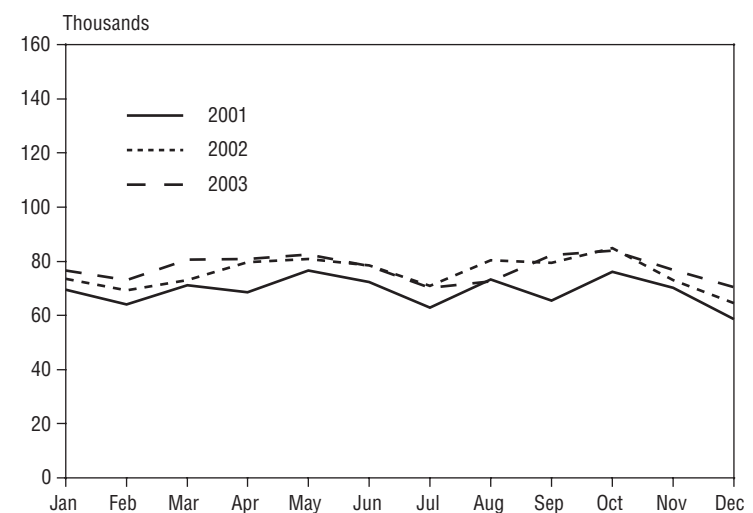
**TABLE 4. Value of International Land Trade via Port Huron, MI, by Mode: 1999–2003 (\$ millions)**

	1999	2000	2001	2002	2003
Truck	30,219	32,770	29,955	32,876	35,720
Rail	18,584	24,645	22,914	22,376	22,889
Pipeline	969	2,280	2,764	2,102	3,637
Other and unknown	5	8	14	16	48
Total	49,777	59,704	55,648	57,370	62,294

**FIGURE 1. Incoming Truck Crossings via Port Huron, MI: 1994–2003**



**FIGURE 2. Monthly Incoming Truck Crossings via Port Huron, MI: 2001–2003**



SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, based on data from multiple sources, August 2004. **Tables 1, 2, and 4**—Overall: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, *U.S. Exports and Imports of Merchandise*, CD-ROM; Land Freight: U.S. Department of Transportation, Bureau of Transportation Statistics, *Transborder Surface Freight Data*, 1999–2003. **Table 3, Figures 1 and 2**—U.S. Department of Transportation, Bureau of Transportation Statistics, *Border Crossing/Entry Data*, 1994–2003, based on data from U.S. Department of Homeland Security, Customs and Border Protection, *Operations Management Database*.

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

**B**uffalo–Niagara Falls is our nation's *fourth* busiest land border gateway by value for imports and exports transported across the border by highways, railroads, and pipelines. And its land ports are our *ninth* leading gateway when compared with all U.S. freight gateways—land, air, and sea.

In 2003, merchandise trade passing through Buffalo–Niagara Falls (\$59 billion) accounted for nearly 11 percent of the value of U.S. total land trade. These freight shipments accounted for over 11 percent of all U.S. land exports and 10 percent of land imports. Buffalo–Niagara Falls is a major gateway for both exports and imports, with outbound shipments accounting for 46 percent and inbound shipments 54 percent of the value of freight handled by its land ports in 2003.

Trucking is the most heavily used mode of transportation for freight passing through Buffalo–Niagara Falls, accounting for 77 percent (\$46 billion) of the value of land trade through the port in 2003. Truck's share of the value of goods passing through Buffalo–Niagara Falls has remained relatively steady for the past five years, hovering between 75 and 79 percent. By weight, trucking accounts for the largest share of the land imports tonnage (see insert table). In 2003, rail carried about \$9 billion of land freight, accounting for 15 percent of the value of Buffalo–Niagara Falls' land trade, down from 24 percent in 1999.

Buffalo–Niagara Falls is an international gateway that serves every state. About 80 percent of the value of truck freight passing through Buffalo–Niagara Falls originates or terminates outside of New York. Nearly 76 percent of truck imports and 84 percent of truck exports passing through Buffalo–Niagara Falls are to and from other states. The top three states served by Buffalo–Niagara Falls' land transportation facilities are New York, Pennsylvania, and Michigan, which account for 38 percent of the merchandise trade transported through Buffalo–Niagara Falls.

Over one million trucks per year use the Peace Bridge in Buffalo–Niagara Falls and the Lewiston/Queenston Bridge to haul freight into the United States from Canada. Between 1994

and 2003, the number of trucks entering the United States through these facilities increased by 31 percent (figure 1). Since 1999, truck containers entering the United States through Buffalo–Niagara Falls increased by 5 percent and rail containers fell by 6 percent.

**Weight of Land Imports via Buffalo–Niagara Falls by Mode: 2003**

Mode	Tonnage	Percent
Total	20,048,268	100.0%
Truck	11,404,155	56.9%
Rail	6,052,599	30.2%
Pipeline	2,585,143	12.9%
Other <sup>1</sup>	6,371	0.03%

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

SOURCE: U.S. DOT, BTS, Transborder Data. Weight data for land exports are unavailable.

**TABLE 1. Value of U.S. International Merchandise Freight: 2003**

	\$ millions		
Overall and Land Modes	Total	Exports	Imports
Total U.S. trade by all modes (land, sea, air)	1,983,139	723,743	1,259,396
Total U.S. trade by land	562,776	240,486	322,291
<b>Value of International Land Freight via Buffalo-Niagara Falls, NY</b>			
Total land trade through port	59,369	27,367	32,002
Percent of total U.S. land freight value	10.5%	11.4%	9.9%
<b>Value of International Land Freight by Mode via Buffalo-Niagara Falls, NY</b>			
Truck	45,753	24,988	20,765
Rail	9,127	1,763	7,364
Pipeline	3,949	276	3,673
Other and unknown	541	341	200
<b>Value of Land Freight O&amp;D, All Modes via Buffalo-Niagara Falls, NY</b>			
To and from New York	9,585	4,011	5,574
To and from other U.S. States	49,784	23,356	26,428
Other states' shipments as percent of freight value via port	83.9%	85.3%	82.6%
<b>Value of Truck Freight O&amp;D, via Buffalo-Niagara Falls, NY</b>			
To and from New York	9,024	3,994	5,030
To and from other U.S. States	36,729	20,994	15,734
Other states' shipments as percent of freight value via port	80.3%	84.0%	75.8%

KEY: O&D = origin and destination.

**TABLE 2. Top 3 States Trade via Buffalo-Niagara Falls, NY: 2003 (\$ millions)**

Rank	State	Total	Exports	Imports
1	New York	9,585	4,011	5,574
2	Pennsylvania	6,968	3,029	3,938
3	Michigan	6,036	1,413	4,623

**TABLE 3. Incoming Full and Empty Container Crossings via Buffalo-Niagara Falls, NY: 1999–2003 (Thousands)**

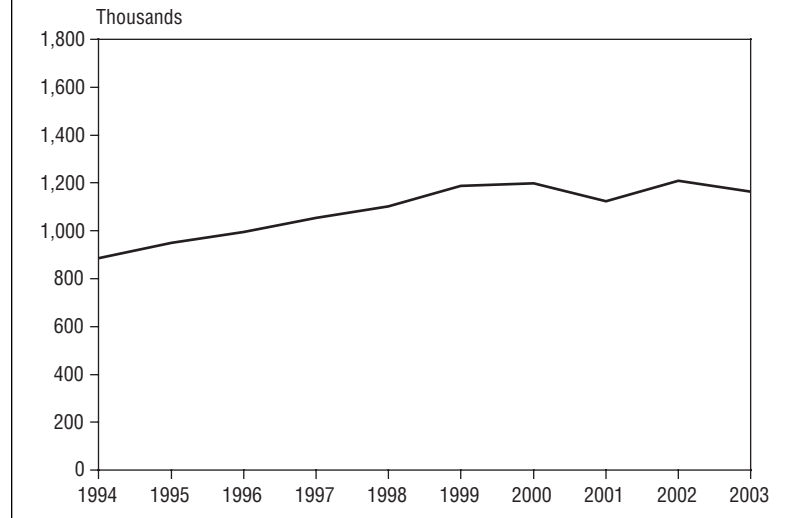
	1999	2000	2001	2002	2003
Via truck	1,112	1,187	1,123	1,208	1,163
Via rail	160	181	151	149	150

**TABLE 4. Value of International Land Trade via Buffalo-Niagara Falls, NY, by Mode: 1999–2003 (\$ millions)**

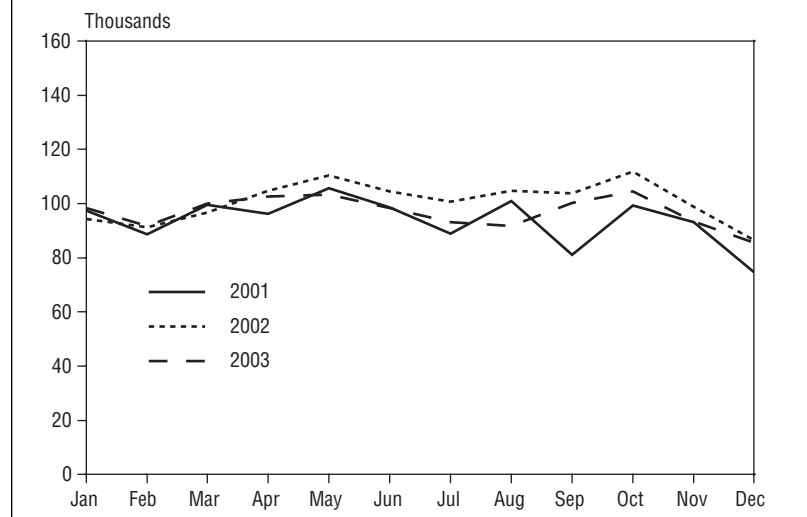
	1999	2000	2001	2002	2003
Truck	52,998	54,659	47,196	43,732	45,753
Rail	16,990	14,473	10,497	8,786	9,127
Pipeline	404	566	2,023	2,302	3,949
Other and unknown	454	433	762	269	541
Total	70,847	70,132	60,478	55,089	59,369

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, based on data from multiple sources, August 2004. **Tables 1, 2, and 4**—Overall: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, *U.S. Exports and Imports of Merchandise*, CD-ROM; Land Freight: U.S. Department of Transportation, Bureau of Transportation Statistics, *Transborder Surface Freight Data*, 1999-2003. **Table 3, Figures 1 and 2**—U.S. Department of Transportation, Bureau of Transportation Statistics, *Border Crossing/Entry Data*, 1994-2003, based on data from U.S. Department of Homeland Security, Customs and Border Protection, *Operations Management Database*.

**FIGURE 1. Incoming Truck Crossings via Buffalo-Niagara Falls, NY: 1994–2003**



**FIGURE 2. Monthly Incoming Truck Crossings via Buffalo-Niagara Falls, NY: 2001–2003**



## Chicago, Illinois—Air Freight Gateway

The Chicago Air Gateway comprises O'Hare International Airport and the Midway Airport.<sup>1</sup> The two airports combined were the nation's *third* busiest international air cargo gateway by value of shipments. They were the *tenth* overall gateway by value when compared with all U.S. freight gateways—airports, seaports, and land ports.

In 2003, more than 10 percent of the value of all U.S. international air cargo moved through the Chicago airports. By weight, Chicago ranks fifth among all air gateways, with 6 percent of U.S. international air freight tonnage moving through it.

Between the two Chicago area airports, most of the international merchandise trade tonnage moves through the O'Hare International Airport. In 2003, 99 percent of the weight of Chicago international air trade moved through the O'Hare airport while the Midway Airport accounted for less than 1 percent of the weight.

Chicago is a hub for air trade with Western Europe as well as Pacific-Rim countries. By tonnage, the major origin and destination countries for air cargo on nonstop international flights to and from Chicago are Germany, the United Kingdom, and Japan. However, information on the actual origin markets for imports through Chicago shows that Japan is the top market from which goods are imported followed by South Korea and

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<sup>1</sup> Data on the value of air merchandise trade from the Census Bureau combine freight activity for Chicago's two airports—O'Hare and Midway. BTS combines the tonnage of freight activity at the two airports to make the weight data comparable to the value data.

Hong Kong, while for exports the top destination markets from Chicago are Japan, the United Kingdom, and Germany.<sup>2</sup>

As with other gateway airports, the goods imported from or exported to Pacific-Rim countries via Chicago are either routed through European countries or through U.S. West Coast airports like Los Angeles International Airport and San Francisco International Airport or through Anchorage International Airport in Alaska. The key air carriers transporting international merchandise trade through Chicago area airports are Lufthansa, American Airlines, and United Airlines.

In 2003, the total international merchandise trade through the Chicago area airports was valued at \$54 billion. Between 1999 and 2003, this trade grew 37 percent by value of shipments; imports jumped 57 percent while exports rose by 14 percent. Also during this period, the tonnage of air freight imports through Chicago fell slightly, with imports declining about 1 percent and exports falling less than 1 percent.

The O'Hare International Airport is currently going through a major modernization program to keep pace with the increasing cargo and passenger traffic moving through it. This multibillion dollar program aims to help airport managers better manage air traffic congestion and flight delays at the airport and further improve the airport's capacity for handling international merchandise trade.

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<sup>2</sup> Based on *Form 41 International Market Data* from the Office of Airline Information, Bureau of Transportation Statistics.

**TABLE 1. Value and Weight of U.S. International Merchandise Freight: 2003**

Overall and Air Modes	Total	Exports	Imports
Total U.S. trade by all modes (land, sea, air) (\$ millions)	1,983,139	723,743	1,259,396
Total U.S. trade by air (\$ millions)	523,343	235,602	287,741
<b>Value of International Air Freight by Chicago, IL</b>			
Total air trade through Chicago, IL (\$ millions)	54,335	20,597	33,737
Percent of total U.S. air freight value	10.4%	8.7%	11.7%
<b>Weight of International Air Freight</b>			
Total international air freight through U.S. gateways (short tons)	8,391,870	3,370,539	5,021,331
Total U.S. air freight via Chicago, IL (short tons)	512,356	235,461	276,895
Percent of total U.S. air freight weight	6.1%	7.0%	5.5%

**TABLE 2. Top 3 Destination and Origin and Destination Countries for International Air Freight via Chicago, IL: 2003 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	United Kingdom	58	1	Germany	47
2	Germany	31	2	United Kingdom	40
3	Japan	24	3	Japan	40

**TABLE 3. Top 3 Destination and Origin Cities for International Air Freight via Chicago, IL: 2003 (Short tons, thousands)**

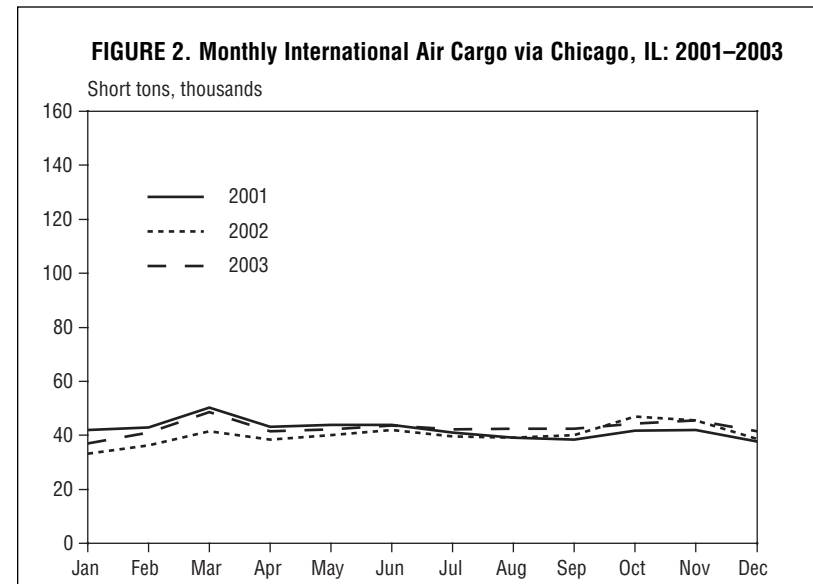
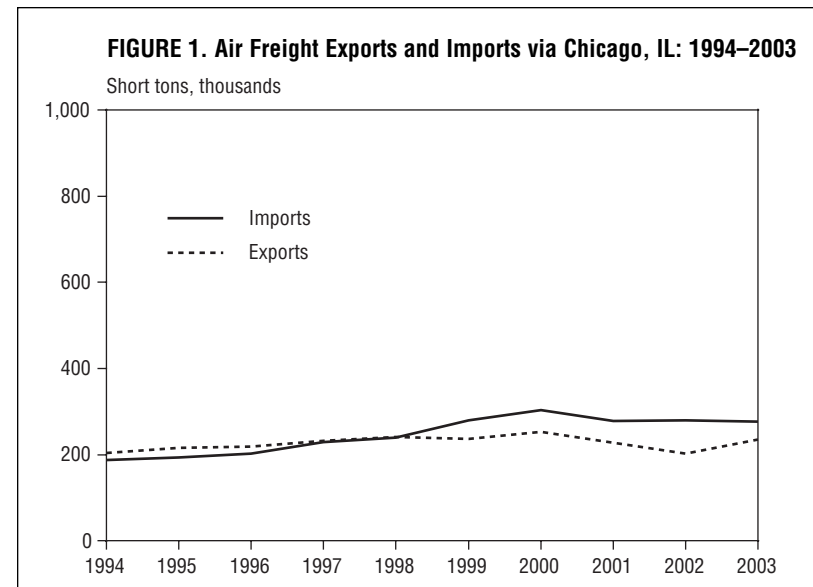
Rank	Export destination	Tons	Rank	Import origin	Tons
1	London, United Kingdom	34	1	Frankfurt, Germany	42
2	Frankfurt, Germany	28	2	Tokyo, Japan	39
3	Tokyo, Japan	24	3	Paris, France	37

**TABLE 4. Total Air Freight Exports and Imports via Chicago, IL: 1999–2003 (Short tons, thousands)**

	1999	2000	2001	2002	2003
Imports	280	304	278	279	277
Exports	236	252	228	202	235
Total	516	556	506	481	512

**TABLE 5. Top 3 Air Carriers for Exports and Imports via Chicago, IL: 2003 (Short tons, thousands)**

Rank	Export carrier	Tons	Rank	Import carrier	Tons
1	Lufthansa German Airlines	31	1	Lufthansa German Airlines	36
2	American Airlines, Inc.	28	2	United Air Lines, Inc.	35
3	Compagnie Nat'l Air France	23	3	American Airlines, Inc.	35



SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, based on data from multiple sources, September 2004. **Table 1**—Value data: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, *U.S. Exports and Imports of Merchandise*, CD-ROM; Weight data: U.S. Department of Transportation, Bureau of Transportation Statistics, *Form 41 Traffic - Segment Data*, various years, as of Sept. 16, 2004. **Tables 2, 3, 4, 5 and Figures 1 and 2**—U.S. Department of Transportation, Bureau of Transportation Statistics, *Form 41 Traffic - Segment Data*, various years, as of Sept. 16, 2004.

## Port of Houston, Texas—Water Gateway

The maritime Port of Houston was the nation's *fourth* busiest waterborne freight gateway for international trade by value of shipments in 2003. It ranked *eleventh* overall among all land, water, and air gateways with nearly \$50 billion of international freight moving through it. This amount of trade represents about 6 percent of the value of U.S. international waterborne freight shipments and 3 percent of the total value of U.S. international merchandise trade by all modes of transportation.

By weight, the facility is ranked *first* among all U.S. water gateways. In 2003, the port handled a total of 126 million tons of freight or 10 percent of all U.S. international waterborne tonnage. Houston primarily handles noncontainerized bulk products, which typically are heavy, high-volume products, such as ore, grain, or oil, as compared to specialized products transported via containers. This explains why the Port of Houston ranks first by weight.

There were 4,900 vessel calls made to the Port of Houston in 2003, of which 54 percent were tanker ships, and 15 percent were container ships. The port handled a total of 0.9 million TEUs (twenty-foot equivalent units).

Of the 126 million tons shipped through the Port of Houston, 71 percent were inbound shipments valued at \$28 billion (about \$317 per ton) while the exports, accounting for 29 percent of tonnage, were valued at \$21 billion (about \$591 per ton). This high-

lights the higher value per ton of merchandise exported as compared to imported through this port.

Mexico was the top trading partner for inbound and outbound shipments at the gateway, accounting for 34 million short tons. The top-five origin countries for imports and top-five destination countries for exports accounted for 47 percent of all tonnage moving through the Port of Houston. The Port of Cayo Arcas, Mexico is the largest origin point for imports while the Port of Tuxpan, Mexico is the major destination for exports followed by Antwerp, Belgium.

Between 1999 and 2003, the value of goods moving through the Port of Houston increased by over 47 percent—29 percent for exports and 65 percent for imports. During the same period, the tonnage of international merchandise trade through the port increased by 25 percent.

The major commodities imported through this gateway include petroleum and petroleum products, crude fertilizers and minerals, organic chemicals; and iron and steel. The major commodities exported through this port include petroleum and petroleum products; organic chemicals, cereals, and cereal products; and plastics.<sup>1</sup>

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<sup>1</sup> Commodities information available at <http://www.portofhouston.com/busdev/tradestatistics.html> as of Nov. 16, 2004

**TABLE 1. Value and Weight of U.S. International Merchandise Freight: 2003**

Overall and Water Modes (\$ millions)	Total	Exports	Imports
Total U.S. trade by all modes (land, water, air)	1,983,139	723,743	1,259,396
Total U.S. trade by water	807,112	202,481	604,631
<b>Value of International Waterborne Freight via Houston (\$ millions)</b>			
Total waterborne freight through port	49,893	21,439	28,454
Percent of total U.S. waterborne freight	6.2%	10.6%	4.7%
<b>Weight of Waterborne Freight (short tons, millions)</b>			
Total U.S. trade by water	1,211	363	848
Total waterborne freight through port	126	36	90
Percent of total U.S. waterborne freight	10.4%	10.0%	10.6%
<b>Containerized Freight (TEUs, thousands)</b>			
Total U.S. containerized freight	21,117	7,102	14,015
Total containerized freight through port	927	472	455
Percent of total U.S. containerized freight	4.4%	6.6%	3.2%

KEY: TEU = Twenty-foot Equivalent Unit.

**TABLE 2. Top 3 Destination and Origin Countries for International Waterborne Freight via Port of Houston, TX: 2003 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Mexico	6,428	1	Mexico	28,123
2	Italy	1,926	2	Venezuela	9,746
3	Panama	1,656	3	Algeria	4,120

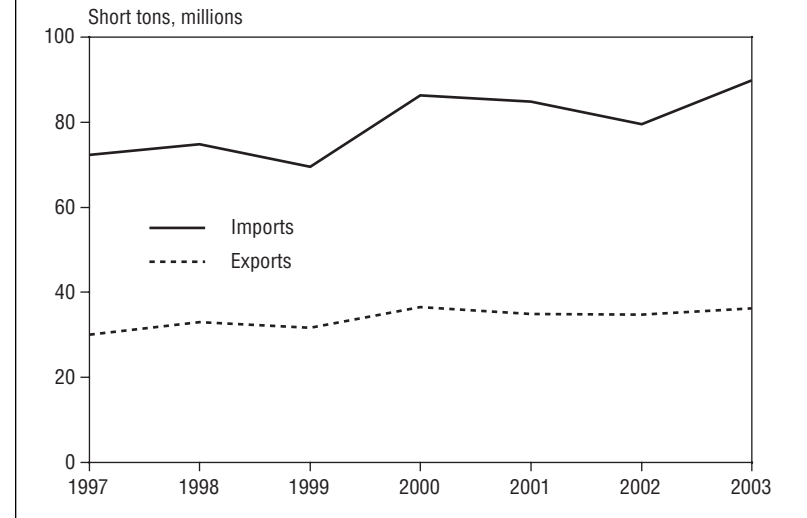
**TABLE 3. Top 3 Destination and Origin Ports for International Waterborne Freight via Port of Houston, TX: 2003 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Tuxpan, Mexico	2,360	1	Cayo Arcas, Mexico	9,444
2	Antwerp, Belgium	1,472	2	Dos Bocas, Mexico	6,276
3	Veracruz, Mexico	1,404	3	Carmen, Mexico	5,012

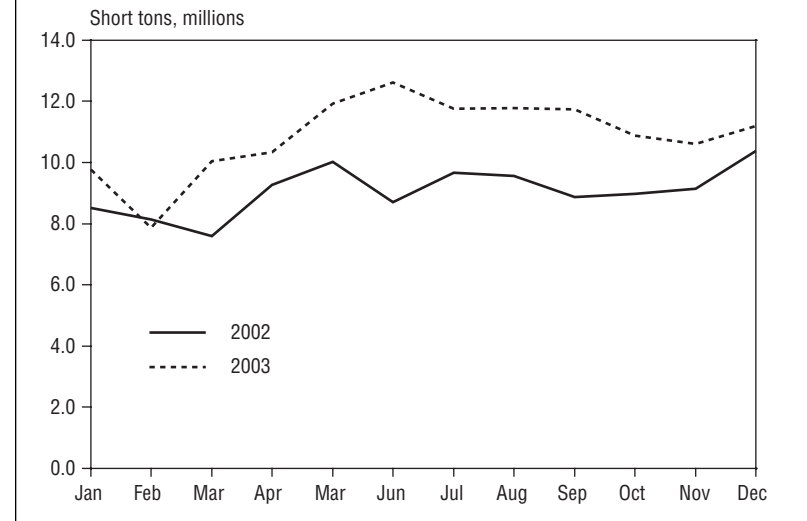
**TABLE 4. Port Calls by Vessel Type, Port of Houston, TX: 2003**

	Container	Tanker	Dry bulk	General	Other	Total
Calls	748	2,612	680	300	517	4,857
Capacity (deadweight, thousands)	26,250	133,363	25,495	6,657	20,344	212,109

**FIGURE 1. Maritime Imports and Exports via Port of Houston, TX: 1997–2003**



**FIGURE 2. Monthly Maritime Cargo via Port of Houston, TX: 2002–2003**



SOURCES: U.S. Department of Transportation, Bureau of Transportation Statistics, based on data from multiple sources: **Table 1**—Overall and Water Modes: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, *U.S. Exports and Imports of Merchandise*, CD-ROM; Value of Intl. Waterborne Freight—MARAD, special tabulation, August 2004; Weight of Waterborne Freight: U.S. Army Corps of Engineers, *Foreign Cargo Data*, November 2004; Containerized Freight: U.S. Army Corps of Engineers, special tabulation, November 2004. **Tables 2 and 3**—U.S. Army Corps of Engineers, *Foreign Cargo Data*, October 2004. **Table 4**—MARAD, special tabulation, October 2004. **Figure 1**—U.S. Army Corps of Engineers, *Foreign Cargo Data*, 1997–2002 final, 2003 preliminary, November 2004. **Figure 2**—U.S. Army Corps of Engineers, special tabulation, October 2004.

## 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. And it was the *twelfth* leading gateway when compared with all U.S. freight gateways—airports, seaports, and land ports.

In 2003, nearly 9 percent of all U.S. international merchandise air freight by value moved through SFO. By weight, SFO ranked sixth among air gateways, with over 3 percent of U.S. international air merchandise tonnage moving through it.

SFO is a major hub for trade with Pacific-Rim countries, just like the Los Angeles International Airport. But, unlike the East Coast and Midwest airports, which show European countries as the first stop for goods destined for Pacific-Rim countries, SFO has direct proximity to those markets because of its geographic location. The major origin and destination countries on nonstop international flight segments to and from SFO are Japan, South Korea, and Taiwan. For SFO, the top origin and destination markets also happen to be in the same countries.<sup>1</sup>

The San Francisco area is home to Silicon Valley. As such the major categories of exports from SFO include high technology products like computers, semiconductors and semiconductor

equipment, electronic equipment and parts, medical equipment, telecommunication equipment, and pharmaceuticals.<sup>2</sup> Similar information about imports is not available.

In 2003, SFO handled over \$47 billion worth of international air freight. A downturn in the technology sector affected air trade passing through SFO. Between 1999 and 2003, the value of international freight handled at SFO declined 35 percent; exports fell by 36 percent and imports fell by 34 percent. Among the top 25 combined air, land, and maritime gateways, SFO had the worst decline in the value of its trade, primarily because of the downturn in the technology sector. During the same period the tonnage of freight moving through SFO declined by 12 percent.

Several major domestic and international air carriers operate through SFO. United Airlines is the largest carrier of international merchandise exports as well as imports through SFO. The top three air carriers (United Air Lines, Nippon Cargo Airlines, and Korean Air Lines) together, accounted for 45 percent of the imports and 39 percent of the exports in 2003. San Francisco airport has recently added new cargo facilities, which will play an important role if the technology sector recovers and the merchandise trade through SFO rebounds.

<sup>1</sup> Based on *Form 41 International Market Data* from Office of Airline Information, Bureau of Transportation Statistics.

<sup>2</sup> Bay Area Economic Forum, *Report on International Trade and the Bay Area Economy*, January 2003.

**TABLE 1. Value and Weight of U.S. International Merchandise Freight: 2003**

Overall and Air Modes	Total	Exports	Imports
Total U.S. trade by all modes (land, sea, air) (\$ millions)	1,983,139	723,743	1,259,396
Total U.S. trade by air (\$ millions)	523,343	235,602	287,741
<b>Value of International Air Freight by San Francisco International Airport (SFO), CA</b>			
Total air trade through SFO, CA (\$ millions)	46,625	20,570	26,055
Percent of total U.S. air freight value	8.9%	8.7%	9.1%
<b>Weight of International Air Freight</b>			
Total international air freight through U.S. gateways (short tons)	8,391,870	3,370,539	5,021,331
Total U.S. air freight via SFO, CA (short tons)	286,095	131,300	154,795
Percent of total U.S. air freight weight	3.4%	3.9%	3.1%

**TABLE 2. Top 3 Destination and Origin Countries for International Air Freight via SFO, CA: 2003 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Taiwan	36	1	Japan	58
2	South Korea	25	2	South Korea	22
3	Japan	20	3	Taiwan	21

**TABLE 3. Top 3 Destination and Origin Cities for International Air Freight via SFO, CA: 2003 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Taipei, Taiwan	35	1	Tokyo, Japan	56
2	Seoul, South Korea	25	2	Seoul, South Korea	22
3	Tokyo, Japan	18	3	Taipei, Taiwan	21

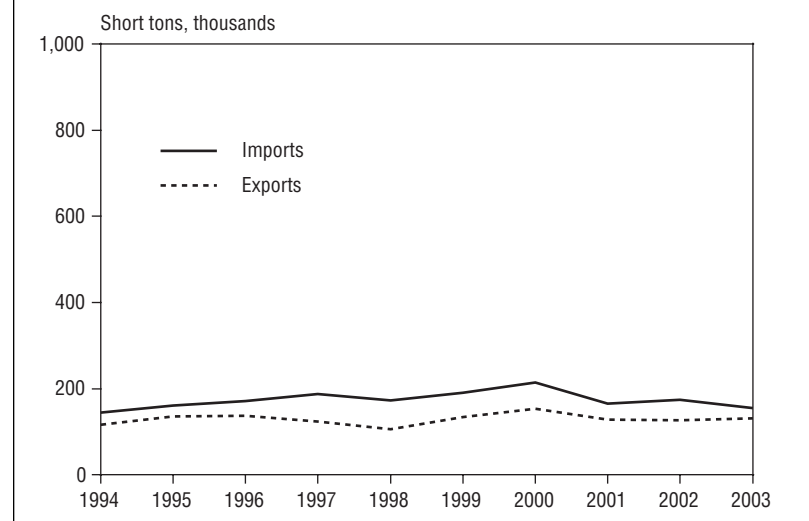
**TABLE 4. Total Air Freight Exports and Imports via SFO, CA: 1999–2003 (Short tons, thousands)**

	1999	2000	2001	2002	2003
Imports	190	214	166	174	155
Exports	134	154	128	126	131
Total	324	368	293	300	286

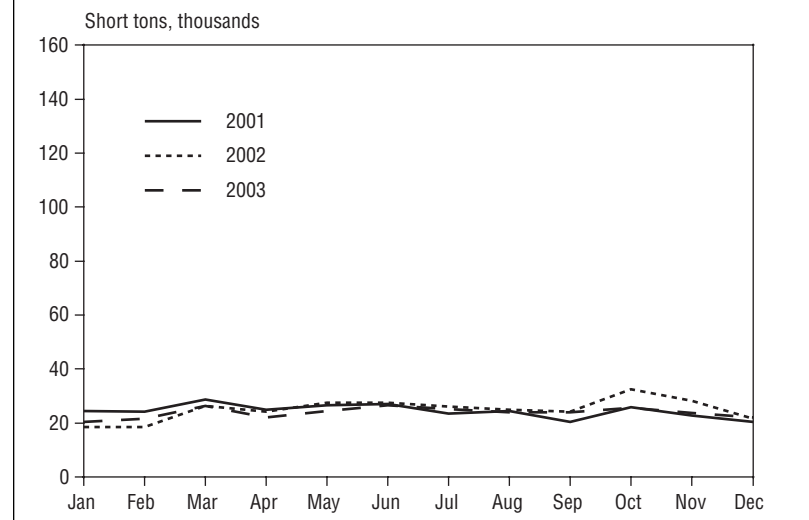
**TABLE 5. Top 3 Air Carriers for Exports and Imports via SFO, CA: 2003 (Short tons, thousands)**

Rank	Export carrier	Tons	Rank	Import carrier	Tons
1	United Air Lines, Inc.	19	1	United Air Lines, Inc.	28
2	Asiana Airlines, Inc.	16	2	Nippon Cargo Airlines	25
3	China Airlines, Ltd	16	3	Korean Air Lines Co., Ltd.	17

**FIGURE 1. Air Freight Exports and Imports via SFO, CA: 1994–2003**



**FIGURE 2. Monthly International Air Cargo via SFO, CA: 2001–2003**



SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, based on data from multiple sources, September 2004. **Table 1**—Value data: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, *U.S. Exports and Imports of Merchandise*, CD-ROM; Weight data: U.S. Department of Transportation, Bureau of Transportation Statistics, *Form 41 Traffic - Segment Data*, various years, as of Sept. 16, 2004. **Tables 2, 3, 4, 5 and Figures 1 and 2**—U.S. Department of Transportation, Bureau of Transportation Statistics, *Form 41 Traffic - Segment Data*, various years, as of Sept. 16, 2004.

## 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 2003. It ranked *thirteenth* overall among all land, water, and air gateways with approximately \$39 billion of international freight moving through it. This amount of trade represents about 5 percent of the value of U.S. international waterborne freight shipments and 2 percent of the total value of U.S. merchandise trade by all modes of transportation.

By weight, the facility is ranked *twenty-first* among all U.S. water gateways. In 2003, over 18 million tons of freight moved through this port accounting for almost 2 percent of the total U.S. international waterborne freight tonnage.

In 2003, containers handled by the Port of Charleston amounted to 1.2 million TEUs (twenty-foot equivalent units), making it the second busiest container port on the East and Gulf coast, right behind the Port of New York & New Jersey. Over 2,000 vessels from various ports around the world called at the Port of Charleston in 2003; 69 percent of these were container ships, followed by tankers and dry-bulk carriers at 8 percent each.<sup>1</sup>

Imports through the Port of Charleston accounted for 69 percent of tonnage and 66 percent of the value of goods for the port in

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<sup>1</sup> Dry-bulk ships carry homogeneous dry cargoes such as grain, coal, steel, and iron ore.

2003. Merchandise exports accounted for 31 percent of tonnage and 34 percent of value in 2003.

Between 1999 and 2003, the value of merchandise goods transported through the Port of Charleston increased by over 33 percent—42 percent for imports and 19 percent for exports. During the same period, the tonnage of merchandise goods increased by 30 percent—imports increased by 64 percent while exports decreased by 12 percent.

The Port of Charleston is a major point for imports from Latin American countries and exports to European countries. The top five origin countries for imports and top five destination countries for exports accounted for 38 percent and 46 percent of imports and exports, respectively in 2003. Brazil is the largest origin country for imports while Germany is the major destination for exports.

The major commodities imported through the Port of Charleston include consumer goods, machinery, food, acids and chemicals, and textiles. The major commodities exported through this port include food items, paper products, wood pulp, clay products, and acids and chemicals.<sup>2</sup>

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<sup>2</sup> Commodities information available at [http://www.port-of-charleston.com/about\\_the\\_port/statistics/top\\_10\\_list.asp](http://www.port-of-charleston.com/about_the_port/statistics/top_10_list.asp) as of Nov. 16, 2004.

**TABLE 1. Value and Weight of U.S. International Merchandise Freight: 2003**

Overall and Water Modes (\$ millions)	Total	Exports	Imports
Total U.S. trade by all modes (land, water, air)	1,983,139	723,743	1,259,396
Total U.S. trade by water	807,112	202,481	604,631
<b>Value of International Waterborne Freight via Charleston (\$ millions)</b>			
Total waterborne freight through port	39,375	13,374	26,000
Percent of total U.S. waterborne freight	4.9%	6.6%	4.3%
<b>Weight of Waterborne Freight (short tons, millions)</b>			
Total U.S. trade by water	1,211	363	848
Total waterborne freight through port	18	6	13
Percent of total U.S. waterborne freight	1.5%	1.6%	1.5%
<b>Containerized Freight (TEUs, thousands)</b>			
Total U.S. containerized freight	21,117	7,102	14,015
Total containerized freight through port	1,245	522	723
Percent of total U.S. containerized freight	5.9%	7.3%	5.2%

KEY: TEU = Twenty-foot Equivalent Unit.

**TABLE 2. Top 3 Destination and Origin Countries for International Waterborne Freight via Port of Charleston, SC: 2003 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Germany	684	1	Brazil	1,315
2	Netherlands	521	2	Germany	1,155
3	Belium	509	3	Venezuela	913

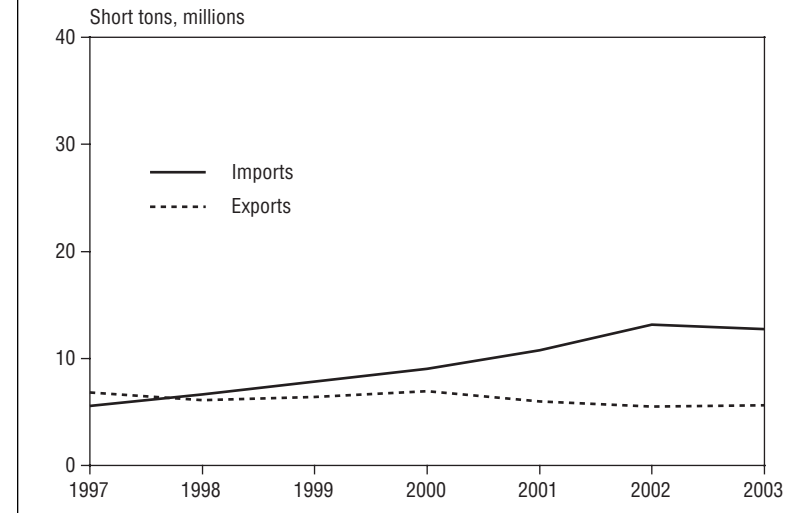
**TABLE 3. Top 3 Destination and Origin Ports for International Waterborne Freight via Port of Charleston, SC: 2003 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Bremerhaven, Germany	560	1	Ponta da Madeira, Brazil	813
2	Rotterdam, Netherlands	516	2	Bremerhaven, Germany	776
3	Antwerp, Belgium	509	3	Rotterdam, Netherlands	652

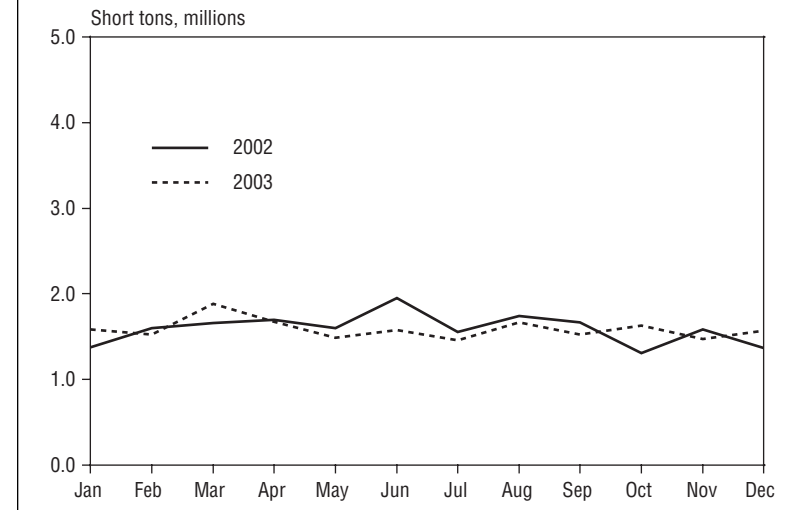
**TABLE 4. Port Calls by Vessel Type, Port of Charleston, SC: 2003**

	Container	Tanker	Dry bulk	General	Other	Total
Calls	1,402	164	162	97	199	2,024
Capacity (deadweight tons, thousands)	63,776	7,344	6,471	3,596	3,904	85,090

**FIGURE 1. Maritime Imports and Exports via Port of Charleston, SC: 1997–2003**



**FIGURE 2. Monthly Maritime Cargo via Port of Charleston, SC: 2002–2003**



SOURCES: U.S. Department of Transportation, Bureau of Transportation Statistics, based on data from multiple sources: **Table 1**—Overall and Water Modes: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, *U.S. Exports and Imports of Merchandise*, CD-ROM; Value of Intl. Waterborne Freight—MARAD, special tabulation, August 2004; Weight of Waterborne Freight: U.S. Army Corps of Engineers, *Foreign Cargo Data*, November 2004; Containerized Freight: U.S. Army Corps of Engineers, special tabulation, November 2004. **Tables 2 and 3**—U.S. Army Corps of Engineers, *Foreign Cargo Data*, October 2004. **Table 4**—MARAD, special tabulation, October 2004. **Figure 1**—U.S. Army Corps of Engineers, *Foreign Cargo Data*, 1997–2002 final, 2003 preliminary, November 2004. **Figure 2**—U.S. Army Corps of Engineers, special tabulation, October 2004.

## El Paso, Texas—Land Gateway

El Paso, Texas, is our nation's *fifth* busiest land border gateway by value for imports and exports transported across the border by highways, railroads, and pipelines. And its land ports are our *fourteenth* overall gateway when compared with all U.S. freight gateways—land, air, and sea.

In 2003, merchandise trade passing through El Paso (\$39 billion) accounted for 7 percent of the value of U.S. total land trade. While El Paso is a major gateway for both export and imports, inbound shipments accounted for 57 percent and outbound shipments 43 percent of the value of freight handled by its land border ports in 2003.

Trucks carry the bulk of freight passing through El Paso, in terms of value of shipments, followed by rail. Since 1999, trucks have carried over 90 percent of trade passing through El Paso. By weight, trucking also accounts for the largest share of land imports tonnage (see insert table).

El Paso is an international gateway that served all but one state in 2003—Hawaii. About 33 percent of the value of truck freight passing through El Paso originates or terminates outside of Texas. Only 9 percent of truck exports passing through El Paso come from states other than Texas. Over half (53 percent) of truck imports passing through El Paso, however, go to states

other than Texas. The top three states served by El Paso's land transportation facilities accounted for 81 percent of the value of the port's land freight. Michigan, the second largest state that has its international trade passing through El Paso, accounted for 13 percent of the land trade passing through the port in 2003. Almost 93 percent of Michigan's international trade through El Paso is imports.

Between 1999 and 2003, rail containers rose by 56 percent while truck containers remained steady. However, truck containers make up 93 percent of the container entries. Trucks enter El Paso through the Bridge of the Americas and the Ysleta Port (Zaragoza Bridge). Between 1994 and 2003, the number of trucks entering the United States through these facilities increased by 15 percent (figure 1).

**Weight of Land Imports via El Paso, TX, by Mode: 2003**

Mode	Tonnage	Percent
Total	3,357,958	100.0%
Truck	2,396,149	71.4%
Rail	870,841	25.9%
Pipeline	276	0.01%
Other <sup>1</sup>	90,692	2.7%

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

SOURCE: U.S. DOT, BTS, Transborder Data. Weight data for land exports are unavailable.

Given the current growth rate, spurred in part by the North American Free Trade Agreement (NAFTA), the volume of freight passing through El Paso and the associated truck traffic on local roads could be expected to rise.

**TABLE 1. Value of U.S. International Merchandise Freight: 2003**

	\$ millions		
Overall and Land Modes	Total	Exports	Imports
Total U.S. trade by all modes (land, sea, air)	1,983,139	723,743	1,259,396
Total U.S. trade by land	562,776	240,486	322,291
<b>Value of International Land Freight via El Paso, TX</b>			
Total land trade through port	39,204	16,714	22,491
Percent of total U.S. land freight value	7.0%	6.9%	7.0%
<b>Value of International Land Freight by Mode via El Paso, TX</b>			
Truck	35,935	16,190	19,745
Rail	2,473	431	2,042
Pipeline	85	85	NA
Other and unknown	711	7	704
<b>Value of Land Freight O&amp;D, All Modes via El Paso, TX</b>			
To and from Texas	24,993	14,972	10,022
To and from other U.S. States	14,211	1,742	12,469
Other states' shipments as percent of freight value via port	36.2%	10.4%	55.4%
<b>Value of Truck Freight O&amp;D, via El Paso, TX</b>			
To and from Texas	24,093	14,781	9,312
To and from other U.S. States	11,842	1,409	10,433
Other states' shipments as percent of freight value via port	33.0%	8.7%	52.8%

KEY: O&D = origin and destination.

**TABLE 2. Top 3 States Trade via El Paso, TX: 2003 (\$ millions)**

Rank	State	Total	Exports	Imports
1	Texas	24,993	14,972	10,022
2	Michigan	4,979	373	4,605
3	Ohio	1,781	173	1,607

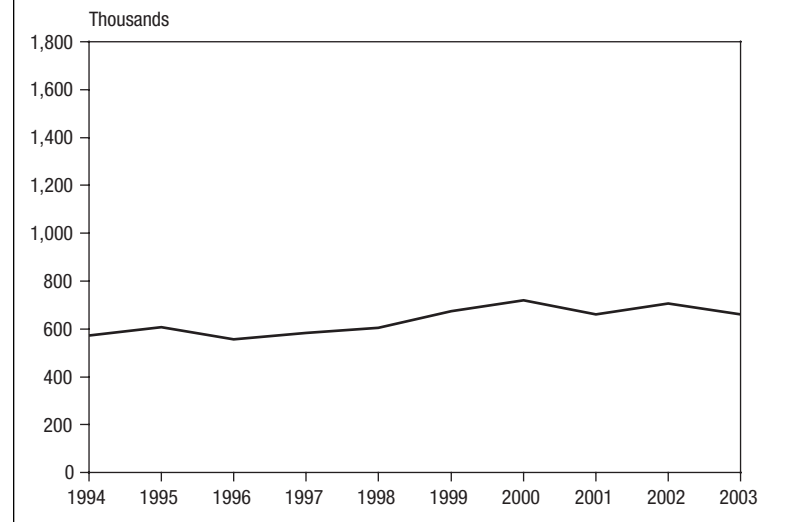
**TABLE 3. Incoming Full and Empty Container Crossings via El Paso, TX: 1999–2003 (Thousands)**

	1999	2000	2001	2002	2003
Via truck	666	688	667	715	665
Via rail	33	35	45	47	51

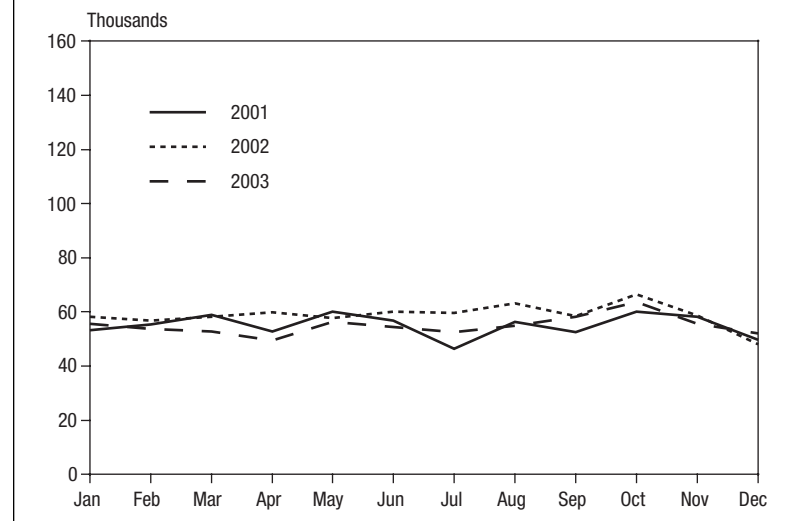
**TABLE 4. Annual Breakdown of the Value of International Land Trade via El Paso, TX: 1994–2003 (\$ millions)**

	1999	2000	2001	2002	2003
Truck	29,296	36,008	34,697	35,094	35,935
Rail	293	1,433	1,575	2,051	2,473
Pipeline	135	206	99	100	85
Other and unknown	2,170	1,729	1,560	1,205	711
Total	31,894	39,376	37,931	38,450	39,204

**FIGURE 1. Incoming Truck Crossings via El Paso, TX: 1994–2003**



**FIGURE 2. Seasonally Adjusted Truck Entries via El Paso, TX: 2001–2003**



SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, based on data from multiple sources, August 2004. **Tables 1, 2, and 4**—Overall: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, *U.S. Exports and Imports of Merchandise*, CD-ROM; Land Freight: U.S. Department of Transportation, Bureau of Transportation Statistics, *Transborder Surface Freight Data*, 1999–2003. **Table 3, Figures 1 and 2**—U.S. Department of Transportation, Bureau of Transportation Statistics, *Border Crossing/Entry Data*, 1994–2003, based on data from U.S. Department of Homeland Security, Customs and Border Protection, *Operations Management Database*.

## Port of Norfolk, Virginia—Water Gateway

The maritime Port of Norfolk was the nation's *sixth* busiest waterborne freight gateway for international trade by value of shipments in 2003. It ranked *fifteenth* overall among all land, water, and air gateways with \$29 billion of international freight moving through it. This amount of trade represents nearly 4 percent of the value of U.S. international waterborne freight shipments and 2 percent of the total value of U.S. international merchandise trade by all modes of transportation.

In 2003, over 24 million tons of international merchandise trade moved through the Port of Norfolk. This included 15 million tons of exports and 9 million tons of imports. Thus, among the leading U.S. maritime ports by weight, the Port of Norfolk is one of the few where, by tonnage, exports are greater than imports. But by value of imports and exports, the imports still accounted for the bigger share of the trade. Thus, the value per ton of merchandise goods exported through the Port of Norfolk is less than the value per ton of goods imported.

The Port of Norfolk handled over 1 million TEUs (twenty-foot equivalent units) in 2003. There were over 700 vessel calls made at the port, of which 73 percent were container ships and 13 percent were dry-bulk ships.<sup>1</sup> The total deadweight tonnage of all the port calls was nearly 35,000 tons.

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<sup>1</sup> Dry-bulk ships carry homogeneous dry cargoes such as grain, coal, steel, and iron ore.

Between 1999 and 2003, the total value of international merchandise trade through the Port of Norfolk increased by over 19 percent—the imports increased by 39 percent while the exports declined by 3 percent. During the same period, the overall tonnage declined by 21 percent—exports declined by 32 percent while imports increased by 9 percent.

Canada is the top origin country for imports through the Port of Norfolk, followed by Germany and Brazil, while Belgium is the leading destination for exports followed by Italy and Brazil. The top-5 origin countries for imports and destination countries for exports accounted for 47 percent of the total tonnage moving through the port in 2003.

The major commodities imported through the Port of Norfolk include crude oil; salt, sulfur, earth, and stone; machinery; wood; and fertilizers. The major commodities exported include coal; wood pulp; wood; grains, seeds and fruit; and paper and paperboard.<sup>2</sup>

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<sup>2</sup> Commodities information available at <http://www.vaports.com/main.htm> as of Nov. 16, 2004.

**TABLE 1. Value and Weight of U.S. International Merchandise Freight: 2003**

Overall and Water Modes (\$ millions)	Total	Exports	Imports
Total U.S. trade by all modes (land, water, air)	1,983,139	723,743	1,259,396
Total U.S. trade by water	807,112	202,481	604,631
<b>Value of International Waterborne Freight via Norfolk (\$ millions)</b>			
Total waterborne freight through port	29,495	11,026	18,469
Percent of total U.S. waterborne freight	3.7%	5.4%	3.1%
<b>Weight of Waterborne Freight (short tons, millions)</b>			
Total U.S. trade by water	1,211	363	848
Total waterborne freight through port	24	15	9
Percent of total U.S. waterborne freight	2.0%	4.1%	1.1%
<b>Containerized Freight (TEUs, thousands)</b>			
Total U.S. containerized freight	21,117	7,102	14,015
Total containerized freight through port	1,084	448	636
Percent of total U.S. containerized freight	5.1%	6.3%	4.5%

KEY: TEU = Twenty-foot Equivalent Unit.

**TABLE 2. Top 3 Destination and Origin Countries for International Waterborne Freight via Port of Norfolk, VA: 2003 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Belgium	2,050	1	Canada	969
2	Italy	1,957	2	Germany	656
3	Brazil	1,614	3	Brazil	609

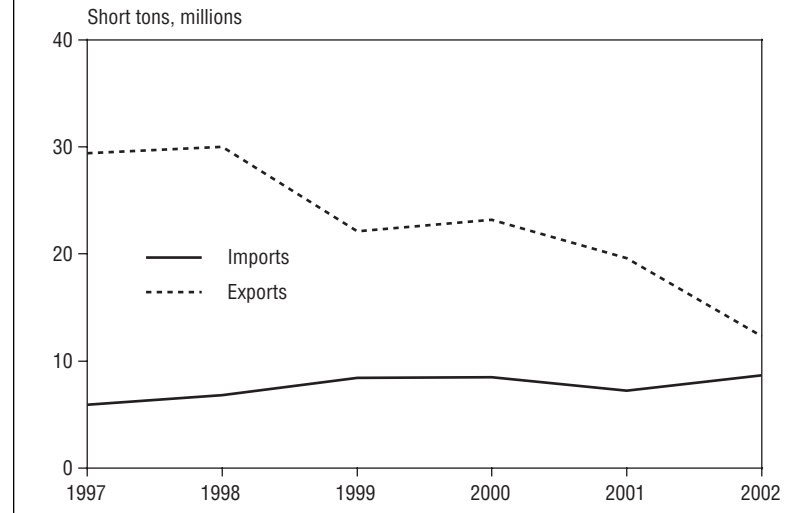
**TABLE 3. Top 3 Destination and Origin Ports for International Waterborne Freight via Port of Norfolk, VA: 2003 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Antwerp, Belgium	1,734	1	Rotterdam, Netherlands	560
2	Victoria, Brazil	1,177	2	Whiffen Head, Canada	548
3	Gijon, Spain	810	3	Bremerhaven, Germany	522

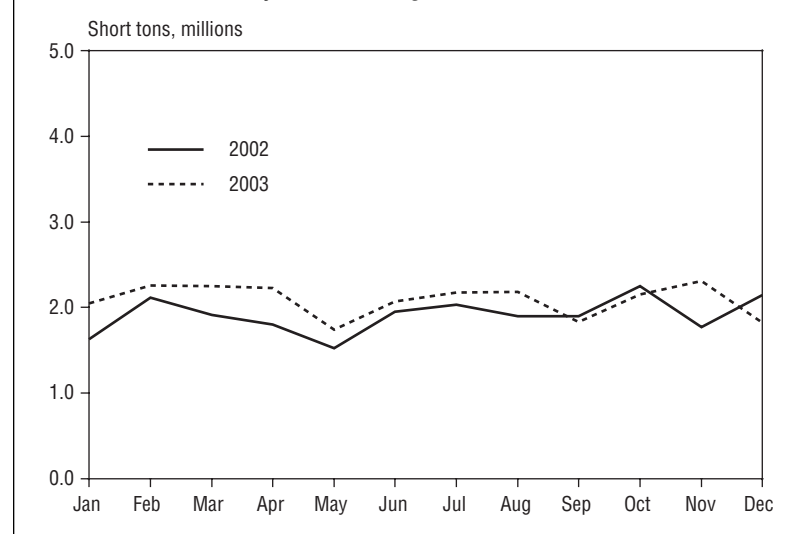
**TABLE 4. Port Calls By Vessel Type, Port of Norfolk, VA: 2003**

	Container	Tanker	Dry bulk	General	Other	Total
Calls	524	14	96	27	52	713
Capacity (deadweight tons, thousands)	24,988	454	6,181	578	2,519	34,720

**FIGURE 1. Maritime Imports and Exports via Port of Norfolk, VA: 1997–2003**



**FIGURE 2. Monthly Maritime Cargo via Port of Norfolk, VA: 2002–2003**



SOURCES: U.S. Department of Transportation, Bureau of Transportation Statistics, based on data from multiple sources: **Table 1**—Overall and Water Modes: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, *U.S. Exports and Imports of Merchandise*, CD-ROM; Value of Intl. Waterborne Freight—MARAD, special tabulation, August 2004; Weight of Waterborne Freight: U.S. Army Corps of Engineers, *Foreign Cargo Data*, November 2004; Containerized Freight: U.S. Army Corps of Engineers, special tabulation, November 2004. **Tables 2 and 3**—U.S. Army Corps of Engineers, *Foreign Cargo Data*, October 2004. **Table 4**—MARAD, special tabulation, October 2004. **Figure 1**—U.S. Army Corps of Engineers, *Foreign Cargo Data*, 1997–2002 final, 2003 preliminary, November 2004. **Figure 2**—U.S. Army Corps of Engineers, special tabulation, October 2004.

## New Orleans Customs Port, Louisiana—Air Freight Gateway

**N**ew Orleans Customs Port ranked *fifth* among all U.S. international air freight gateways by value of shipments, and *sixteenth* overall by value among all freight gateways—airports, seaports, and land ports in 2003. About 5 percent of the value of U.S. international air merchandise moves through the New Orleans Customs Port. By weight, this customs port ranked eighth among all air gateways, with 3 percent of U.S. international air merchandise moving through it.<sup>1</sup>

The international air merchandise trade moving through the New Orleans Customs Port has two components—air trade through the Louis Armstrong International Airport in New Orleans and air trade moved by Federal Express Corporation (FedEx) facilities located at the Memphis International Airport in Tennessee. The addition of FedEx's Memphis operation to Louis Armstrong International Airport to form the Customs New Orleans air gateway is an accounting adjustment made by the Foreign Trade Division of the U.S. Census Bureau because the carrier's export and import paperwork are filed at 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 Port into the portion handled by FedEx at Memphis and that handled by the Louis Armstrong International Airport.

If considered separately, Memphis International Airport by itself would be one of the largest international air freight gateways in the United States (ranked 25th among U.S. international *airports* by value in 2003). But it is not listed among the top 25 *overall*

freight gateways profiled in this report because the value of its FedEx operations is added to that of New Orleans Customs Port.

By weight, BTS air freight tonnage data show that international air cargo moved by FedEx through Memphis International Airport (253,047 short tons) in 2003, accounted for nearly all (over 99 percent) of the total tonnage (253,294 short tons) moved through the New Orleans customs gateway.

The FedEx facility at the Memphis International Airport is a major hub for air trade with our NAFTA partners—Canada and Mexico—and with Europe. In terms of merchandise goods transported on nonstop international flight segments, Canada, Mexico, and the United Kingdom are the top three destinations for exports while Canada, France, and Mexico are the top three origin countries for imports moved by FedEx through Memphis. In total, the top three destination countries accounted for 68 percent of the export tonnage and the top three origin countries accounted for 57 percent of the import tonnage handled at Memphis. The origin and destination markets for international air cargo by FedEx are the same as those on nonstop international flight segments.<sup>2</sup>

Between 1999 and 2003, the value of trade through the New Orleans Customs Port increased by 18 percent—32 percent for exports and 7 percent for imports. During the same period, the tonnage of international merchandise goods attributed to this port increased by 63 percent—80 percent for exports and 51 percent for imports. These increases can be attributed to the growth of international air trade transported by FedEx through Memphis International Airport.

<sup>1</sup> Weight information based on *Form 41 International Market Data* from Office of Airline Information, Bureau of Transportation Statistics.

<sup>2</sup> Based on *Form 41 International Market Data* from Office of Airline Information, Bureau of Transportation Statistics.

**TABLE 1. Value and Weight of U.S. International Merchandise Freight: 2003**

Overall and Air Modes	Total	Exports	Imports
Total U.S. trade by all modes (land, sea, air) (\$ millions)	1,983,139	723,743	1,259,396
Total U.S. trade by air (\$ millions)	523,343	235,602	287,741
<b>Value of International Air Freight by New Orleans, LA</b>			
Total air trade through New Orleans, LA (\$ millions)	27,370	13,692	13,678
Percent of total U.S. air freight value	5.2%	5.8%	4.8%
<b>Weight of International Air Freight</b>			
Total international air freight through U.S. gateways (short tons)	8,391,870	3,370,539	5,021,331
Total U.S. air freight via New Orleans, LA (short tons)	253,294	116,255	137,039
Percent of total U.S. air freight weight	3.0%	3.4%	2.7%

**TABLE 2. Top 3 Destination and Origin Countries for International Air Freight via New Orleans, LA: 2003 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Canada	34	1	Canada	28
2	Mexico	23	2	France	26
3	United Kingdom	22	3	Mexico	24

**TABLE 3. Top 3 Destination and Origin Cities for International Air Freight via New Orleans, LA: 2003 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	London, United Kingdom	22	1	Paris, France	26
2	Paris, France	21	2	London, United Kingdom	17
3	Toronto, Canada	13	3	Osaka, Japan	15

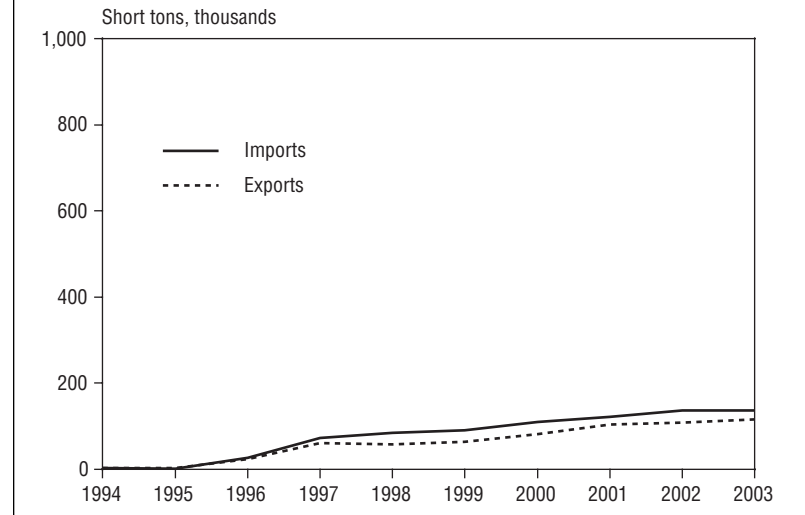
**TABLE 4. Total Air Freight Exports and Imports via New Orleans, LA: 1999–2003 (Short tons, thousands)**

	1999	2000	2001	2002	2003
Imports	91	110	123	137	137
Exports	65	81	104	108	116
Total	155	191	226	246	253

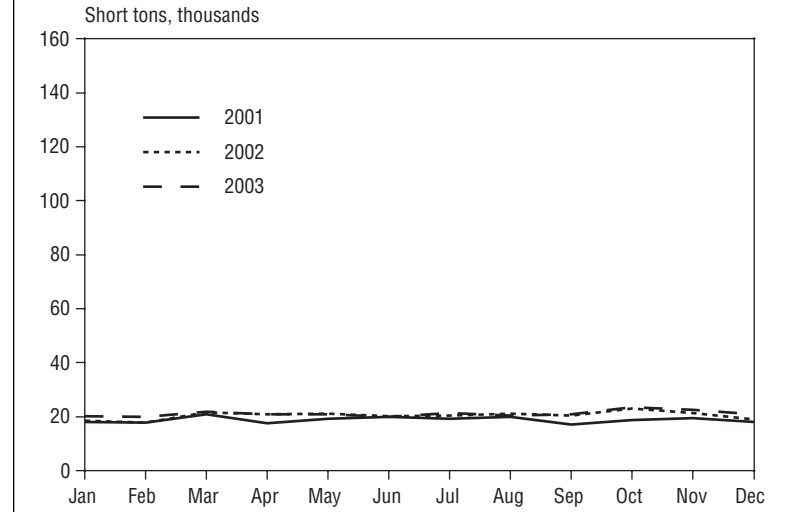
**TABLE 5. Top 3 Air Carriers for Exports and Imports via New Orleans, LA: 2003 (Short tons, thousands)**

Rank	Export carrier	Tons	Rank	Import carrier	Tons
1	Federal Express Corporation	116	1	Federal Express Corporation	137
2	Taca Int'l Airlines	0.1	2	Taca Int'l Airlines	0.1
3	Air Canada	0.01	3	Continental Air Lines, Inc.	0.02

**FIGURE 1. Air Freight Exports and Imports via New Orleans, LA: 1994–2003**



**FIGURE 2. Monthly International Air Cargo via New Orleans, LA: 2001–2003**



SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, based on data from multiple sources, September 2004. **Table 1**—Value data: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, *U.S. Exports and Imports of Merchandise*, CD-ROM; Weight data: U.S. Department of Transportation, Bureau of Transportation Statistics, *Form 41 Traffic - Segment Data*, various years, as of Sept. 16, 2004. **Tables 2, 3, 4, 5 and Figures 1 and 2**—U.S. Department of Transportation, Bureau of Transportation Statistics, *Form 41 Traffic - Segment Data*, various years, as of Sept. 16, 2004.

## Port of Tacoma, Washington—Water Gateway

The maritime Port of Tacoma is the nation's *seventh* busiest waterborne freight gateway for international merchandise trade by value of shipments. And it is our *seventeenth* busiest gateway by value when compared with all U.S. freight gateways—land, air, and sea.

In 2003, merchandise trade passing through the Port of Tacoma (\$26 billion) accounted for 3 percent of the value of total U.S. international waterborne trade. These freight shipments accounted for more than 3 percent of all U.S. waterborne exports and 4 percent of imports. Tacoma is a major gateway for imports with inbound shipments accounting for 80 percent and outbound shipments of 20 percent of the value of freight it handled in 2003.

By weight, the facility ranks *twenty-seventh* among all water gateways, handling 15 million tons or one percent of total U.S. international waterborne freight. Although Tacoma is a significant gateway for both imports and exports, outbound freight shipments accounted for 63 percent of tonnage handled by the port in 2003. Between 1999 and 2003, the tonnage of cargo handled at Tacoma increased 17 percent. Imports grew by 35 percent to 5 million tons and exports rose by 9 percent to about 9 million tons.

Tacoma is primarily a container port, although it handles non-containerized bulk cargo. In 2003, the port handled 0.9 million TEUs (twenty-foot equivalent units) carrying international imports and exports. This accounted for 4 percent of U.S. containerized TEUs handled at all our nation's seaports. About 65

percent of the Tacoma's containerized cargo was inbound. Over 70 percent of the port's import cargo heads east by rail on one of the port's two mainline railroads – Burlington Northern Santa Fe and Union Pacific.<sup>1</sup>

Nearly 1,200 vessels called at Tacoma in 2003. Container vessels were the most frequent type to call at the port, accounting for 45 percent of the port calls. About 16 percent of the calls were by dry-bulk ship.<sup>2</sup>

Canada was the port's leading origin country for imports by weight of shipments in 2003, followed by Japan and China.<sup>3</sup> Taiwan was the leading destination for exports leaving Tacoma, followed by Japan and China. The leading foreign seaports for cargo leaving or arriving at Tacoma were Taiwan's Kao Hsiung, Port of Tokyo, and Port of Hong Kong.

In 2003, the port's containerized cargo included auto parts, machinery components, shoes, toys, frozen meats, and sea food. Other noncontainerized cargoes were automobiles, grain, wood chips, and gypsum.<sup>4</sup>

<sup>1</sup> Estimate of rail share of imports from Port of Tacoma website, available at <http://www.portoftacoma.com/files/SpSu04.pdf>.

<sup>2</sup> Dry-bulk ships carry homogeneous dry cargoes such as grain, coal, steel, and iron ore.

<sup>3</sup> For official merchandise trade statistics, the Census Bureau reports Hong Kong separately. In this report, China refers to mainland China.

<sup>4</sup> The Port of Tacoma website, <http://www.portoftacoma.com/shipping.cfm?sub=49>.

**TABLE 1. Value and Weight of U.S. International Merchandise Freight: 2003**

Overall and Water Modes (\$ millions)	Total	Exports	Imports
Total U.S. trade by all modes (land, water, air)	1,983,139	723,743	1,259,396
Total U.S. trade by water	807,112	202,481	604,631
<b>Value of International Waterborne Freight via Tacoma (\$ millions)</b>			
Total waterborne freight through port	26,332	5,203	21,129
Percent of total U.S. waterborne freight	3.3%	2.6%	3.5%
<b>Weight of Waterborne Freight (short tons, millions)</b>			
Total U.S. trade by water	1,211	363	848
Total waterborne freight through port	15	9	5
Percent of total U.S. waterborne freight	1.2%	2.6%	0.6%
<b>Containerized Freight (TEUs, thousands)</b>			
Total U.S. containerized freight	21,117	7,102	14,015
Total containerized freight through port	923	326	597
Percent of total U.S. containerized freight	4.4%	4.6%	4.3%

KEY: TEU = Twenty-foot Equivalent Unit.

**TABLE 2. Top 3 Destination and Origin Countries for International Waterborne Freight via Port of Tacoma, WA: 2003 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	China Taiwan	3,004	1	Canada	1,162
2	Japan	2,399	2	Japan	1,065
3	China Mainland	1,732	3	China Mainland	966

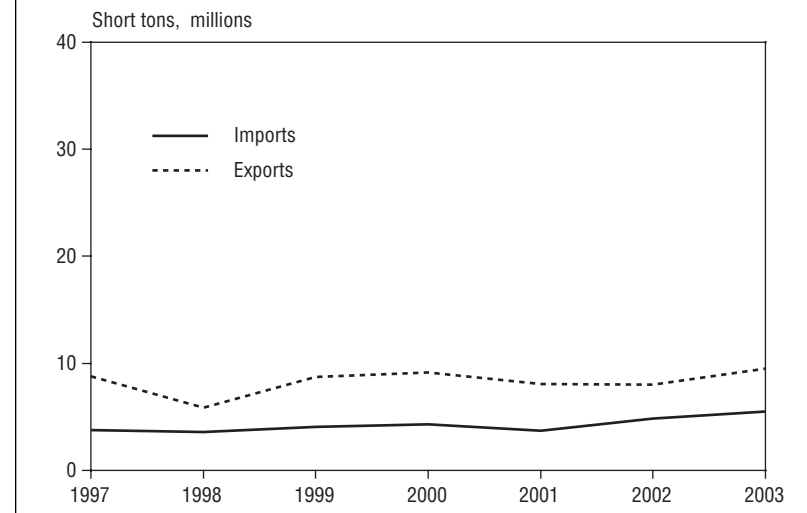
**TABLE 3. Top 3 Destination and Origin Ports for International Waterborne Freight via Port of Tacoma, WA: 2003 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Kao Hsiung, China Taiwan	2,769	1	Hong Kong, Hong Kong	708
2	Tokyo, Japan	922	2	Kao Hsiung, China Taiwan	685
3	Hong Kong, Hong Kong	743	3	Pusan, South Korea	551

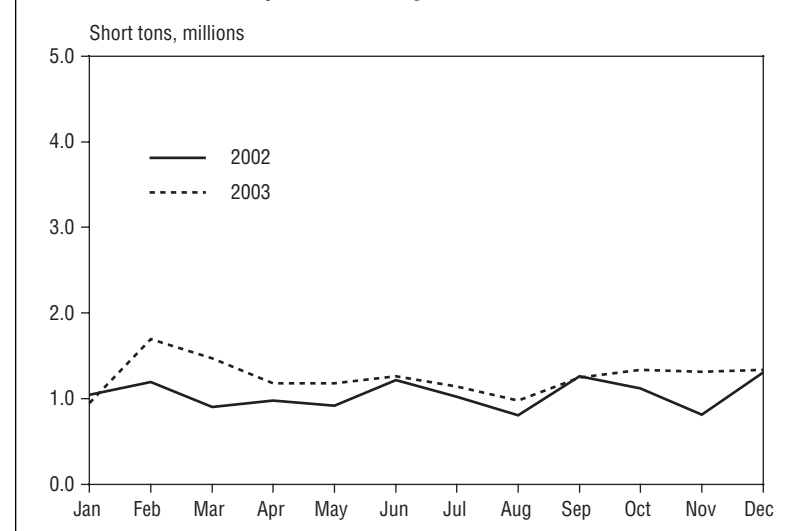
**TABLE 4. Port Calls By Vessel Type, Port of Tacoma, WA: 2003**

	Container	Tanker	Dry bulk	General	Other	Total
Calls	533	89	191	25	336	1,174
Capacity (deadweight tons, thousands)	28,542	5,438	11,040	797	6,322	52,138

**FIGURE 1. Maritime Imports and Exports via Port of Tacoma, WA: 1997–2003**



**FIGURE 2. Monthly Maritime Cargo via Port of Tacoma, WA: 2002–2003**



SOURCES: U.S. Department of Transportation, Bureau of Transportation Statistics, based on data from multiple sources: **Table 1**—Overall and Water Modes: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, *U.S. Exports and Imports of Merchandise*, CD-ROM; Value of Intl. Waterborne Freight—MARAD, special tabulation, August 2004; Weight of Waterborne Freight: U.S. Army Corps of Engineers, *Foreign Cargo Data*, November 2004; Containerized Freight: U.S. Army Corps of Engineers, special tabulation, November 2004. **Tables 2 and 3**—U.S. Army Corps of Engineers, *Foreign Cargo Data*, October 2004. **Table 4**—MARAD, special tabulation, October 2004. **Figure 1**—U.S. Army Corps of Engineers, *Foreign Cargo Data*, 1997–2002 final, 2003 preliminary, November 2004. **Figure 2**—U.S. Army Corps of Engineers, special tabulation, October 2004.

## Port of Baltimore, Maryland—Water Gateway

The maritime Port of Baltimore was the nation's *eighth* busiest waterborne freight gateway for international trade by value of shipments in 2003. It ranked *eighteenth* overall among all air, land, and water gateways with nearly \$26 billion of international freight moving through it. This amount of trade represents nearly 3 percent of the value of U.S. international waterborne freight movements and 1 percent of the total value of U.S. international trade by all modes of transportation.

By weight, Baltimore ranks *fourteenth* among all waterborne gateways in the country. Some 24 million tons of international trade moved through the port in 2003—19 million tons of imports and 5 million tons of exports. This accounted for nearly 2 percent of total U.S. waterborne freight tonnage.

The Port of Baltimore handled containers amounting to 0.3 million TEUs (twenty-foot equivalent units) in 2003. There were over 1,600 vessel calls made at the port, of which 21 percent were container ships, and 19 percent were dry-bulk ships.<sup>1</sup>

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<sup>1</sup> Dry-bulk ships carry homogeneous dry cargoes such as grain, coal, steel, and iron ore.

Canada is the leading country for both imports and exports, accounting for over 18 percent of tonnage moving through the Port of Baltimore. The top-5 origin countries for imports account for 50 percent of import tonnage while the top-5 export destinations account for 55 percent of export tonnage.

Between 1999 and 2003, the value of trade through the Port of Baltimore increased by 34 percent—44 percent for imports and 7 percent for exports. During the same period, the tonnage of merchandise trade moved through the port increased by 4 percent—imports increased by 22 percent while exports decreased by 33 percent.

The major commodities moving through the Port of Baltimore include automobiles, steel, forest products, lumber, paper and paper products, wood pulp, and breakbulk.<sup>2</sup> It is one of the major ports on the East coast specializing in Roll-on/Roll-off cargo like automobiles, and earth-moving and large farm machinery.

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<sup>2</sup> Commodities information available at <http://www.mpa.state.md.us/info/index.htm> as of Nov. 16, 2004.

**TABLE 1. Value and Weight of U.S. International Merchandise Freight: 2003**

Overall and Water Modes (\$ millions)	Total	Exports	Imports
Total U.S. trade by all modes (land, water, air)	1,983,139	723,743	1,259,396
Total U.S. trade by water	807,112	202,481	604,631
<b>Value of International Waterborne Freight via Baltimore (\$ millions)</b>			
Total waterborne freight through port	25,956	5,686	20,270
Percent of total U.S. waterborne freight	3.2%	2.8%	3.4%
<b>Weight of Waterborne Freight (short tons, millions)</b>			
Total U.S. trade by water	1,211	363	848
Total waterborne freight through port	24	5	19
Percent of total U.S. waterborne freight	2.0%	1.4%	2.2%
<b>Containerized Freight (TEUs)</b>			
Total U.S. containerized freight	21,117	7,102	14,015
Total containerized freight through port	306	110	196
Percent of total U.S. containerized freight	1.4%	1.5%	1.4%

KEY: TEU = Twenty-foot Equivalent Unit.

**TABLE 2. Top 3 Destination and Origin Countries for International Waterborne Freight via Port of Baltimore, MD: 2003 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Canada	797	1	Canada	3,604
2	Belgium	688	2	Brazil	2,944
3	Netherlands	666	3	Trinidad	1,325

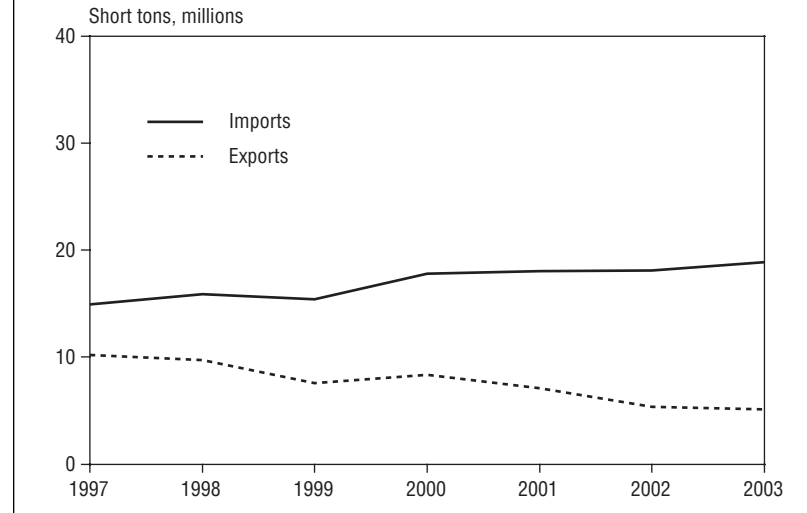
**TABLE 3. Top 3 Destination and Origin Ports for International Waterborne Freight via Port of Baltimore, MD: 2003 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Rotterdam, Netherlands	662	1	Seven Islands, Canada	2,057
2	Antwerp, Belgium	595	2	Point Fortin, Trinidad	948
3	Sines, Portugal	391	3	Praia Mole, Brazil	882

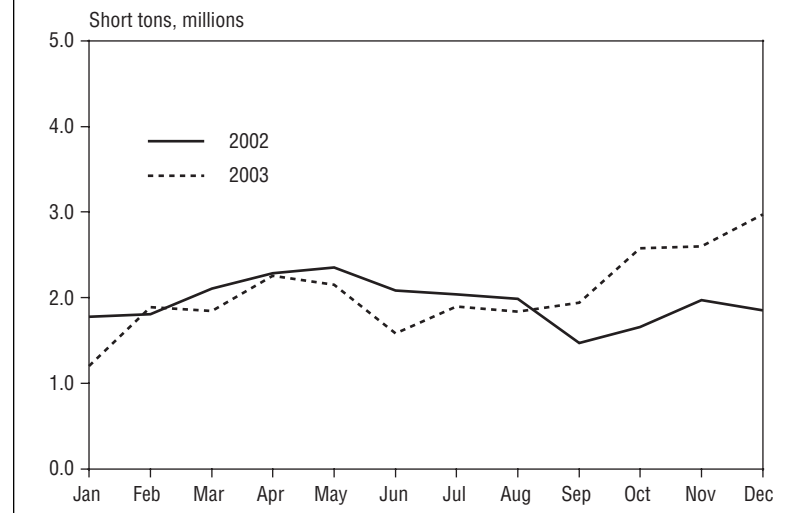
**TABLE 4. Port Calls By Vessel Type, Port of Baltimore, MD: 2003**

	Container	Tanker	Dry bulk	General	Other	Total
Calls	337	121	305	151	721	1,635
Capacity (deadweight tons, thousands)	13,781	4,526	15,051	3,614	16,415	53,388

**FIGURE 1. Maritime Imports and Exports via Port of Baltimore, MD: 1997–2003**



**FIGURE 2. Monthly Maritime Cargo via Port of Baltimore, MD: 2002–2003**



SOURCES: U.S. Department of Transportation, Bureau of Transportation Statistics, based on data from multiple sources: **Table 1**—Overall and Water Modes: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, *U.S. Exports and Imports of Merchandise*, CD-ROM; Value of Intl. Waterborne Freight—MARAD, special tabulation, August 2004; Weight of Waterborne Freight: U.S. Army Corps of Engineers, *Foreign Cargo Data*, November 2004; Containerized Freight: U.S. Army Corps of Engineers, special tabulation, November 2004. **Tables 2 and 3**—U.S. Army Corps of Engineers, *Foreign Cargo Data*, October 2004. **Table 4**—MARAD, special tabulation, October 2004. **Figure 1**—U.S. Army Corps of Engineers, *Foreign Cargo Data*, 1997–2002 final, 2003 preliminary, November 2004. **Figure 2**—U.S. Army Corps of Engineers, special tabulation, October 2004.

## Port of Oakland, California—Water Gateway

The maritime Port of Oakland is the nation's *ninth* busiest waterborne freight gateway for international merchandise trade by value of shipments. And it is our *nineteenth* busiest gateway by value when compared with all U.S. freight gateways—land, air, and sea.

In 2003, merchandise trade passing through the Port of Oakland (\$25 billion) accounted for 3 percent of the value of total U.S. international waterborne trade. These freight shipments accounted for nearly 4 percent of all U.S. waterborne exports and 3 percent of imports. Inbound shipments accounted for 69 percent and outbound shipments 31 percent of the value of freight that the port handled in 2003.

By weight, the facility ranks *thirty-third* among all water gateways, handling 10 million tons, which accounts for about one percent of total U.S. international waterborne freight. Because the port's imports are higher in value per ton than its exports, imports accounted for a higher share of the port's cargo by value, even though exports accounted for 58 percent of tonnage handled in 2003. Between 1999 and 2003, the tonnage of cargo handled at Oakland rose 10 percent, from 9 million to 10 million tons.

Oakland is primarily a container port, although it handles some noncontainerized cargo. In 2003, the port handled 1 million TEUs (twenty-foot equivalent units) carrying international

imports and exports. This accounted for 5 percent of U.S. containerized TEUs handled at all our nation's seaports. Oakland's containerized cargo was about evenly divided between outbound and inbound shipments. On a typical day, Oakland handles an average of 2,800 TEUs of containerized cargo.

Over 1,800 vessels called at Port of Oakland in 2003. Container vessels were the most frequent type to call at the port, accounting for 94 percent of the total.

China was the port's leading origin country for imports by weight of shipments in 2003, followed by Japan, Taiwan, and Hong Kong.<sup>1</sup> China was the leading destination for exports leaving Oakland, followed by Taiwan, Japan, and Hong Kong. The leading foreign seaports for cargo leaving or arriving at Oakland were Port of Hong Kong, Taiwan's Kao Hsiung, and South Korea's Port of Pusan.

In 2003, the top containerized imports were auto parts, iron and steel, wood and related products, and computer equipment and office machinery, while the top exports were waste paper, animal feeds, red meat, and wine.<sup>2</sup>

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<sup>1</sup> For official merchandise trade statistics, the Census Bureau reports Hong Kong separately. In this report, China refers to mainland China.

<sup>2</sup> The Port of Oakland website, [http://www.portofoakland.com/maritime/facts\\_cargo.asp](http://www.portofoakland.com/maritime/facts_cargo.asp).

**TABLE 1. Value and Weight of U.S. International Merchandise Freight: 2003**

Overall and Water Modes (\$ millions)	Total	Exports	Imports
Total U.S. trade by all modes (land, water, air)	1,983,139	723,743	1,259,396
Total U.S. trade by water	807,112	202,481	604,631
<b>Value of International Waterborne Freight via Oakland (\$ millions)</b>			
Total waterborne freight through port	25,144	7,762	17,382
Percent of total U.S. waterborne freight	3.1%	3.8%	2.9%
<b>Weight of Waterborne Freight (short tons, millions)</b>			
Total U.S. trade by water	1,211	363	848
Total waterborne freight through port	10	6	4
Percent of total U.S. waterborne freight	0.8%	1.6%	0.5%
<b>Containerized Freight (TEUs, thousands)</b>			
Total U.S. containerized freight	21,117	7,102	14,015
Total containerized freight through port	1,021	504	517
Percent of total U.S. containerized freight	4.8%	7.1%	3.7%

KEY: TEU = Twenty-foot Equivalent Unit.

**TABLE 2. Top 3 Destination and Origin Countries for International Waterborne Freight via Port of Oakland, CA: 2003 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	China Mainland	1,391	1	China Mainland	973
2	Japan	1,229	2	China Taiwan	445
3	China Taiwan	742	3	Japan	410

**TABLE 3. Top 3 Destination and Origin Ports for International Waterborne Freight via Port of Oakland, CA: 2003 (Short tons, thousands)**

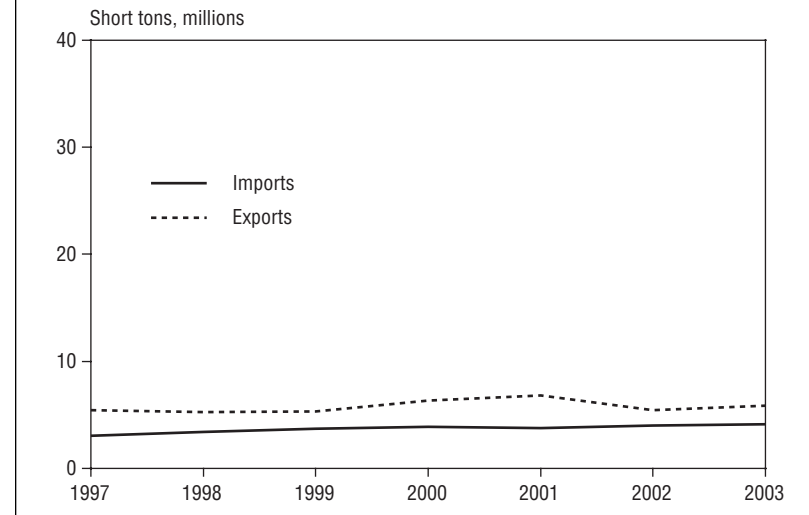
Rank	Export destination	Tons	Rank	Import origin	Tons
1	Hong Kong, Hong Kong	734	1	Kao Hsiung, China Taiwan	422
2	Kao Hsiung, China Taiwan	657	2	Hong Kong, Hong Kong	401
3	Pusan, South Korea	509	3	Shanghai, China Mainland	368

**TABLE 4. Port Calls By Vessel Type, Port of Oakland, CA: 2003**

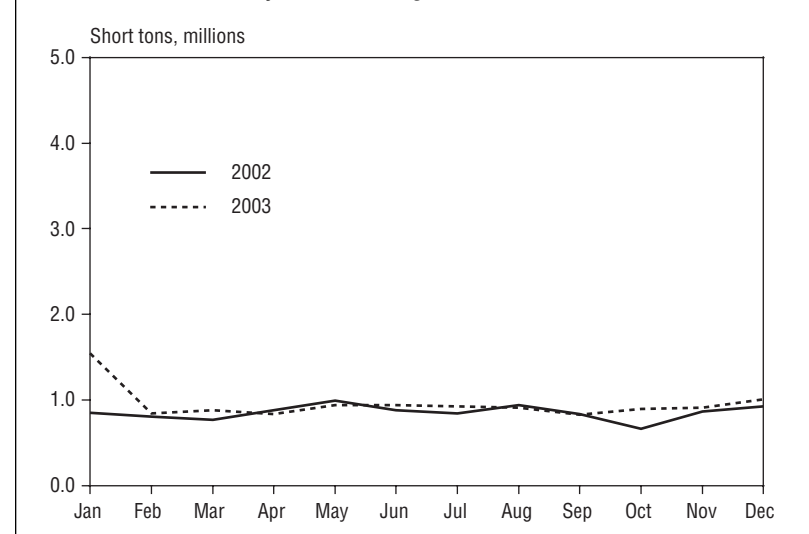
	Container	Tanker	Dry bulk	General	Other	Total
Calls	1,699	NA	40	34	29	1,802
Capacity (deadweight tons, thousands)	81,964	NA	1,474	1,457	583	85,478

NOTES: NA = No data provided for Tankers. Other is comprised of gas, combination and RoRo vessels, but gas and combination are not available for Oakland.

**FIGURE 1. Maritime Imports and Exports via Port of Oakland, CA: 1997–2003**



**FIGURE 2. Monthly Maritime Cargo via Port of Oakland, CA: 2002–2003**



SOURCES: U.S. Department of Transportation, Bureau of Transportation Statistics, based on data from multiple sources: **Table 1**—Overall and Water Modes: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, *U.S. Exports and Imports of Merchandise*, CD-ROM; Value of Intl. Waterborne Freight—MARAD, special tabulation, August 2004; Weight of Waterborne Freight: U.S. Army Corps of Engineers, *Foreign Cargo Data*, November 2004; Containerized Freight: U.S. Army Corps of Engineers, special tabulation, November 2004. **Tables 2 and 3**—U.S. Army Corps of Engineers, *Foreign Cargo Data*, October 2004. **Table 4**—MARAD, special tabulation, October 2004. **Figure 1**—U.S. Army Corps of Engineers, *Foreign Cargo Data*, 1997–2002 final, 2003 preliminary, November 2004. **Figure 2**—U.S. Army Corps of Engineers, special tabulation, October 2004.

## Dallas-Fort Worth International Airport, Texas—Air Freight Gateway

**D**allas-Fort Worth International Airport (DFW) was the *sixth* busiest international air cargo gateway in the United States by value of shipments, and the *twentieth* overall by value among all freight gateways—airports, seaports, and land ports in 2003. About 5 percent (\$24 billion) of the value of all U.S. international merchandise air freight moved through DFW in 2003. By weight, DFW ranks sixteenth among air gateways, with 1 percent of U.S. international air cargo tonnage moving through it.

DFW is a major hub for trade with Europe as well as Pacific-Rim countries. By weight, the United Kingdom and Germany were the leading origin countries for imports as well as destination countries for exports handled at DFW on nonstop international flight segments in 2003. The two countries together accounted for 38 percent of the tonnage of air imports and 53 percent of air exports through DFW. Even though the major nonstop international segments end or start in Europe, Taiwan is the actual leading market for exports and imports moving through DFW.<sup>1</sup> The major commodities moving through DFW include high-tech products such as semiconductors, computer equipment, aircraft parts, and medical and electrical equipment.<sup>2</sup>

<sup>1</sup> Based on *Form 41 International Market Data* from the Office of Airline Information, Bureau of Transportation Statistics.

<sup>2</sup> Metroport Transportation Partnership, *Growth Trends in Metroport Cities*, available from Center for Economic Development and Research, University of North Texas.

Between 1999 and 2003, the value of shipments passing through DFW grew the most (by over 68 percent) compared to the other top 25 air, land, and sea gateways in the United States. Exports increased by 84 percent while imports increased by 56 percent. During the same period, the overall tonnage moving through DFW declined slightly by about 3 percent. The large increase in the value of DFW's air cargo is primarily due to the high value electronic and computer-related merchandise imported and exported through DFW. By tonnage, between 1999 and 2003, the weight of air cargo passing through DFW declined 3 percent; imports fell by 10 percent while exports grew by about 5 percent.

American Airlines is the largest air freight carrier at DFW. In 2003, it moved over 57 percent of international merchandise tonnage through DFW. The other key air carriers include Lufthansa and Korean Air.

The strong presence of aircraft manufacturing and related industries and electronic industries in the Dallas-Fort Worth area is likely to generate increasing air cargo through this freight gateway.

**TABLE 1. Value and Weight of U.S. International Merchandise Freight: 2003**

Overall and Air Modes	Total	Exports	Imports
Total U.S. trade by all modes (land, sea, air) (\$ millions)	1,983,139	723,743	1,259,396
Total U.S. trade by air (\$ millions)	523,343	235,602	287,741
<b>Value of International Air Freight by Dallas-Fort Worth, TX</b>			
Total air trade through Dallas-Fort Worth, TX (\$ millions)	23,562	11,391	12,170
Percent of total U.S. air freight value	4.5%	4.8%	4.2%
<b>Weight of International Air Freight</b>			
Total international air freight through U.S. gateways (short tons)	8,391,870	3,370,539	5,021,331
Total U.S. air freight via Dallas-Fort Worth, TX (short tons)	104,971	55,222	49,749
Percent of total U.S. air freight weight	1.3%	1.6%	1.0%

**TABLE 2. Top 3 Destination and Origin Countries for International Air Freight via Dallas-Fort Worth, TX: 2003 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Germany	18	1	United Kingdom	10
2	United Kingdom	12	2	Germany	9
3	Belgium	4	3	Japan	7

**TABLE 3. Top 3 Destination and Origin Cities for International Air Freight via Dallas-Fort Worth, TX: 2003 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Frankfurt, Germany	15	1	London, United Kingdom	10
2	London, United Kingdom	11	2	Frankfurt, Germany	9
3	Brussels, Belgium	4	3	Tokyo, Japan	7

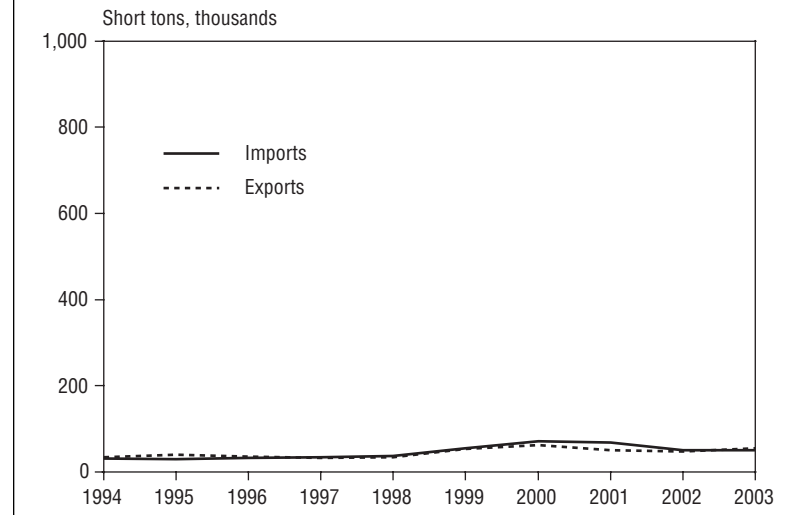
**TABLE 4. Total Air Freight Exports and Imports via Dallas-Fort Worth, TX: 1999–2003 (Short tons, thousands)**

	1999	2000	2001	2002	2003
Imports	55	72	67	50	50
Exports	53	62	51	48	55
Total	108	134	118	98	105

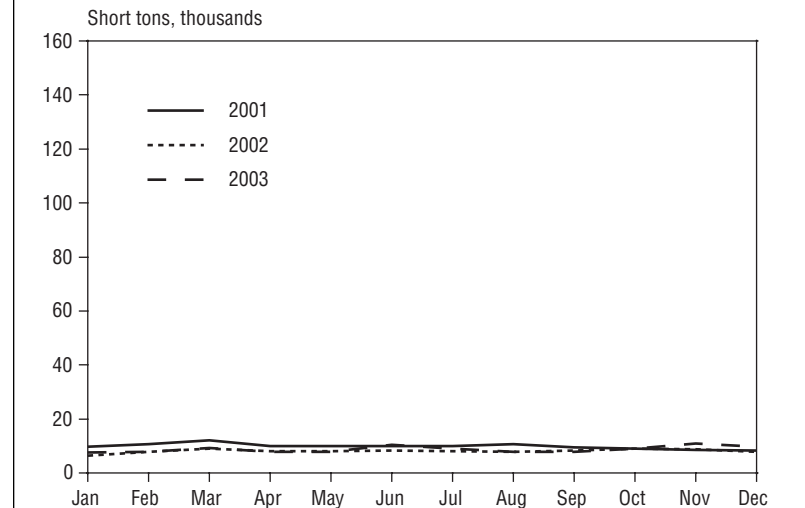
**TABLE 5. Top 3 Air Carriers for Exports and Imports via Dallas-Fort Worth, TX: 2003 (Short tons, thousands)**

Rank	Export carrier	Tons	Rank	Import carrier	Tons
1	American Airlines, Inc.	26,412	1	American Airlines, Inc.	33,686
2	Lufthansa German Airlines	15,514	2	Korean Air Lines Co., Ltd.	6,520
3	Singapore Airlines Ltd.	4,497	3	British Airways Plc	4,488

**FIGURE 1. Air Freight Exports and Imports via Dallas-Fort Worth, TX: 1994–2003**



**FIGURE 2. Monthly International Air Cargo via Dallas-Fort Worth, TX: 2001–2003**



SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, based on data from multiple sources, September 2004. **Table 1**—Value data: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, *U.S. Exports and Imports of Merchandise*, CD-ROM; Weight data: U.S. Department of Transportation, Bureau of Transportation Statistics, *Form 41 Traffic - Segment Data*, various years, as of Sept. 16, 2004. **Tables 2, 3, 4, 5 and Figures 1 and 2**—U.S. Department of Transportation, Bureau of Transportation Statistics, *Form 41 Traffic - Segment Data*, various years, as of Sept. 16, 2004.

## Port of Seattle, Washington—Water Gateway

The maritime Port of Seattle is the nation's *tenth* busiest waterborne freight gateway for international merchandise trade by value of shipments. And it is our *twenty-first* busiest gateway by value when compared with all U.S. freight gateways—land, air, and sea.

In 2003, merchandise trade passing through the Port of Seattle (\$23 billion) accounted for 3 percent of the value of total U.S. international waterborne trade. Seattle is a major gateway for imports with inbound shipments accounting for 75 percent of the value of freight it handled in 2003.

By weight, the facility ranks *twenty-eighth* among all water gateways, handling 13 million tons and accounting for about one percent of total U.S. international waterborne freight. Because the port's imports are higher in value per ton than its exports, imports accounted for a higher share of the port's cargo by value, even though by weight the tonnage of imports and exports handled in 2003 were about equal. Between 1999 and 2003, the tonnage of cargo handled at Seattle declined 15 percent, from 16 million to 13 million tons, due mostly to a decline in import tonnage, which fell by 23 percent.

The Port of Seattle is primarily a container port, although it handles some noncontainerized bulk cargo. In 2003, the port handled over 0.8 million TEUs (twenty-foot equivalent units) carrying international imports and exports. This accounted for 4 percent of U.S. containerized TEUs handled at all our nation's

seaports. About 61 percent of Seattle's containerized cargo was inbound shipments.

Over 1,000 vessels called at the Port of Seattle in 2003. Container vessels were the most frequent type to call at the port, accounting for 74 percent. About 20 percent of the calls were by dry-bulk ships.<sup>1</sup>

Canada was the port's leading origin country for imports by weight of shipments, followed by China and Japan in 2003.<sup>2</sup> Japan was the leading destination by weight for exports leaving Seattle, followed by China and Taiwan.<sup>3</sup> The leading foreign seaports for cargo leaving or arriving at Seattle were Taiwan's Kao Hsiung, South Korea's Port of Pusan, Canada's Port of Blubber Bay, and Port of Tokyo.

In 2003, the top containerized imports were wearing apparel, video games, footwear, and motor vehicle parts while the top exports were inorganic chemicals; beef, pork, and poultry; oilseeds; and industrial equipment.<sup>4</sup>

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<sup>1</sup> Dry-bulk ships carry homogeneous dry cargoes such as grain, coal, steel, and iron ore.

<sup>2</sup> China, Japan, and South Korea were the leading trade partners by value (<http://www.portseattle.org/seaport/statistics/trade/part2-Top30-2003.shtml>).

<sup>3</sup> For official merchandise trade statistics, the Census Bureau reports Hong Kong separately. In this report, China refers to mainland China.

<sup>4</sup> The Port of Seattle website, <http://www.portseattle.org/seaport/statistics/trade/part1.shtml>.

**TABLE 1. Value and Weight of U.S. International Merchandise Freight: 2003**

Overall and Water Modes (\$ millions)	Total	Exports	Imports
Total U.S. trade by all modes (land, water, air)	1,983,139	723,743	1,259,396
Total U.S. trade by water	807,112	202,481	604,631
<b>Value of International Waterborne Freight via Seattle (\$ millions)</b>			
Total waterborne freight through port	23,078	5,688	17,390
Percent of total U.S. waterborne freight	2.9%	2.8%	2.9%
<b>Weight of Waterborne Freight (short tons, millions)</b>			
Total U.S. trade by water	1,211	363	848
Total waterborne freight through port	13	7	7
Percent of total U.S. waterborne freight	1.1%	1.9%	0.8%
<b>Containerized Freight (TEUs, thousands)</b>			
Total U.S. containerized freight	21,117	7,102	14,015
Total containerized freight through port	805	315	490
Percent of total U.S. containerized freight	3.8%	4.4%	3.5%

KEY: TEU = Twenty-foot Equivalent Unit.

**TABLE 2. Top 3 Destination and Origin Countries for International Waterborne Freight via Port of Seattle, WA: 2003 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Japan	1,906	1	Canada	2,934
2	China Mainland	1,704	2	China Mainland	744
3	China Taiwan	1,476	3	Japan	547

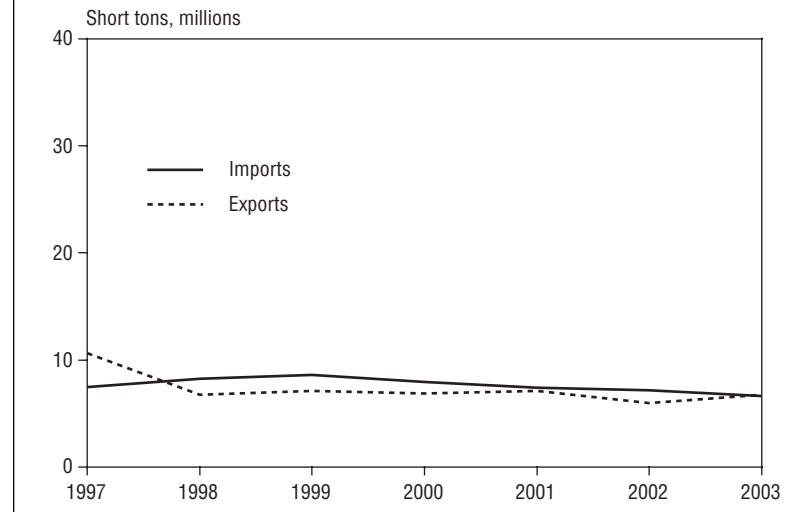
**TABLE 3. Top 3 Destination and Origin Ports for International Waterborne Freight via Port of Seattle, WA: 2003 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Kao Hsiung, China Taiwan	1,350	1	Blubber Bay, Canada	904
2	Tokyo, Japan	669	2	Hong Kong, Hong Kong	529
3	Dalian, China Mainland	573	3	Pusan, South Korea	524

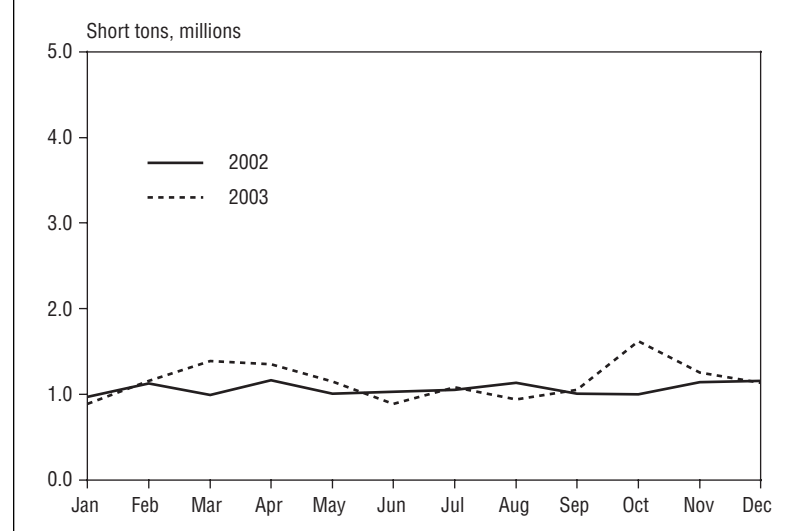
**TABLE 4. Port Calls By Vessel Type, Port of Seattle, WA: 2003**

	Container	Tanker	Dry bulk	General	Other	Total
Rank	748	12	199	38	19	1,016
Capacity (deadweight tons, thousands)	38,740	407	10,890	1,656	259	51,950

**FIGURE 1. Maritime Imports and Exports via Port of Seattle, WA: 1997–2003**



**FIGURE 2. Monthly Maritime Cargo via Port of Seattle, WA: 2002–2003**



SOURCES: U.S. Department of Transportation, Bureau of Transportation Statistics, based on data from multiple sources: **Table 1**—Overall and Water Modes: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, *U.S. Exports and Imports of Merchandise*, CD-ROM; Value of Intl. Waterborne Freight—MARAD, special tabulation, August 2004; Weight of Waterborne Freight: U.S. Army Corps of Engineers, *Foreign Cargo Data*, November 2004; Containerized Freight: U.S. Army Corps of Engineers, special tabulation, November 2004. **Tables 2 and 3**—U.S. Army Corps of Engineers, *Foreign Cargo Data*, October 2004. **Table 4**—MARAD, special tabulation, October 2004. **Figure 1**—U.S. Army Corps of Engineers, *Foreign Cargo Data*, 1997–2002 final, 2003 preliminary, November 2004. **Figure 2**—U.S. Army Corps of Engineers, special tabulation, October 2004.

## Miami International Airport, Florida—Air Freight Gateway

**M**iami International Airport (MIA) ranked *seventh* by value of shipments among all international air gateways in the United States, and *twenty-second* overall by value among all freight gateways—airports, seaports, and land ports in 2003. About 4 percent (\$23 billion) of the value of all U.S. international air freight moved through MIA in 2003. By weight, MIA ranked second among all air gateways with 16 percent of U.S. international air cargo moving through it.

MIA is a major hub for trade with Latin American countries—the only air gateway of the top 25 gateways that has major partners in countries other than Pacific-Rim countries. By weight, Colombia was the major destination for exports and the leading origin country for imports through MIA on nonstop international flight segments in 2003. International merchandise trade with Colombia alone accounted for more than 27 percent of the weight of all air cargo handled at MIA in 2003. The other key origin countries for imports through MIA are Ecuador and Chile. Along with Colombia, these three countries are origin points for 50 percent of import tonnage through MIA. The other key destinations for exports through MIA include Brazil and Mexico, which together with Colombia account for 40 percent of exports through MIA. The origin and destination markets for MIA are similar to the origin and destination points for nonstop international flight segments.<sup>1</sup>

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<sup>1</sup> Based on Form 41 International Market Data from the Office of Airline Information, Bureau of Transportation Statistics.

The majority of MIA's air cargo imports are perishable products, including flowers, fruits, vegetables, and seafood plus some assembled clothing. MIA's air export cargo includes computers and peripherals, machinery, medical equipment, telecommunications equipment, agricultural machinery, apparel articles, and aircraft parts.<sup>2</sup>

Since 1999, the overall value of international merchandise trade through MIA has declined by 2 percent—exports have decreased by 8 percent while imports grew by 9 percent in value. During the same period, the overall weight of air freight through MIA rose by 3 percent—imports tonnage increased 19 percent while the export tonnage declined by 15 percent.

United Parcel Service is the major U.S. air carrier for imports and exports, accounting for over 9 percent of the weight of all air freight through MIA in 2003. The other major carriers were Panamericanos, S.A. (Tampa Airlines) of Colombia and Atlas Air. In total, these top 3 air carriers moved 29 percent of imports and 26 percent of exports in 2003. MIA is embarking on a major modernization plan to improve its cargo facilities and to accommodate the anticipated growth in trade volume over the next few years.

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<sup>2</sup> Available from MIA website at [http://www.miami-airport.com/html/cargo\\_facts.html](http://www.miami-airport.com/html/cargo_facts.html) as of Oct. 7, 2004.

**TABLE 1. Value and Weight of U.S. International Merchandise Freight: 2003**

Overall and Air Modes	Total	Exports	Imports
Total U.S. trade by all modes (land, sea, air) (\$ millions)	1,983,139	723,743	1,259,396
Total U.S. trade by air (\$ millions)	523,343	235,602	287,741
<b>Value of International Air Freight by Miami, FL</b>			
Total air trade through Miami, FL (\$ millions)	22,724	13,971	8,753
Percent of total U.S. air freight value	4.3%	5.9%	3.0%
<b>Weight of International Air Freight</b>			
Total international air freight through U.S. gateways (short tons)	8,391,870	3,370,539	5,021,331
Total U.S. air freight via Miami, FL (short tons)	1,358,400	517,588	840,811
Percent of total U.S. air freight weight	16.2%	15.4%	16.7%

**TABLE 2. Top 3 Destination and Origin Countries for International Air Freight via Miami, FL: 2003 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Colombia	102	1	Colombia	266
2	Brazil	76	2	Ecuador	81
3	Mexico	28	3	Chile	77

**TABLE 3. Top 3 Destination and Origin Cities for International Air Freight via Miami, FL: 2003 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Bogota, Colombia	70	1	Bogota, Colombia	209
2	Sao Paulo, Brazil	42	2	Guayaquil, Ecuador	76
3	San Jose, Costa Rica	22	3	Santiago, Chile	76

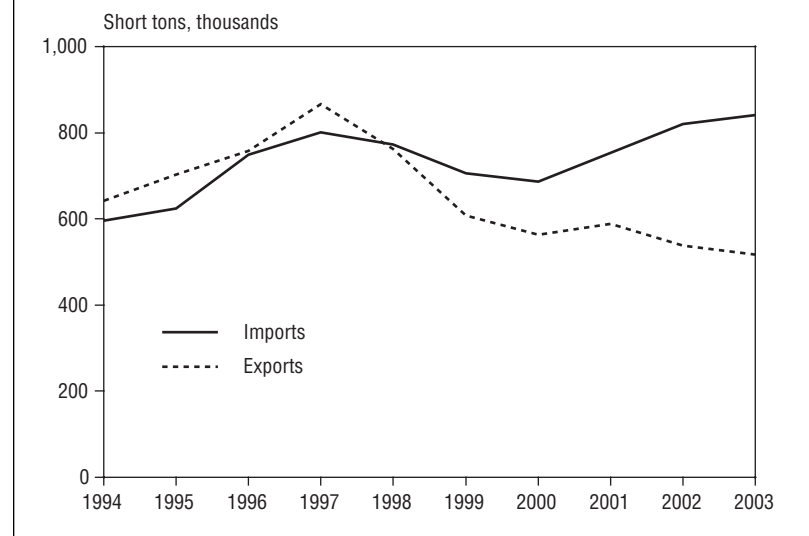
**TABLE 4. Total Air Freight Exports and Imports via Miami, FL: 1999–2003 (Short tons, thousands)**

	1999	2000	2001	2002	2003
Imports	706	687	754	820	841
Exports	608	564	588	538	518
Total	1,314	1,250	1,342	1,359	1,358

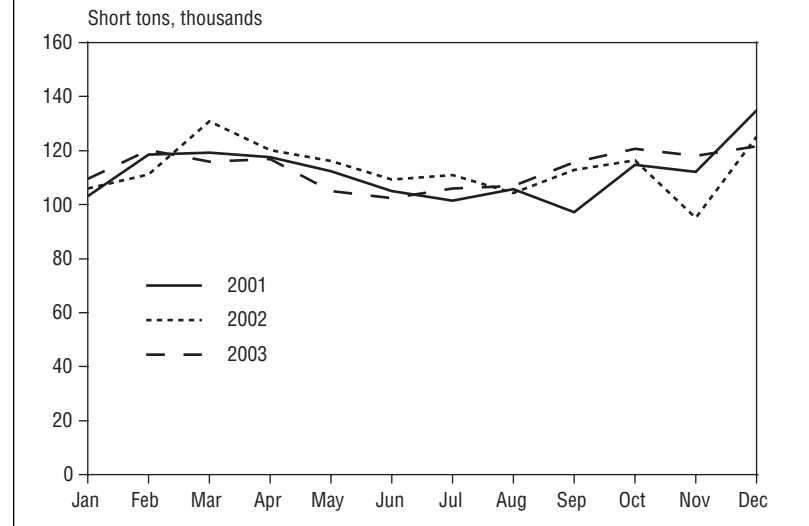
**TABLE 5. Top 3 Air Carriers for Exports and Imports via Miami, FL: 2003 (Short tons, thousands)**

Rank	Export carrier	Tons	Rank	Import carrier	Tons
1	United Parcel Service	53	1	Panamericanos,s.A. Tampa	95
2	Lan-Chile Airlines	42	2	Atlas Air, Inc.	74
3	Panamericanos,s.A. Tampa	39	3	United Parcel Service	73

**FIGURE 1. Air Freight Exports and Imports via Miami, FL: 1994–2003**



**FIGURE 2. Monthly International Air Cargo via Miami, FL: 2001–2003**



SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, based on data from multiple sources, September 2004. **Table 1**—Value data: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, *U.S. Exports and Imports of Merchandise*, CD-ROM; Weight data: U.S. Department of Transportation, Bureau of Transportation Statistics, *Form 41 Traffic - Segment Data*, various years, as of Sept. 16, 2004. **Tables 2, 3, 4, 5 and Figures 1 and 2**—U.S. Department of Transportation, Bureau of Transportation Statistics, *Form 41 Traffic - Segment Data*, various years, as of Sept. 16, 2004.

## Ted Stevens Anchorage International Airport, Alaska—Air Freight Gateway

**T**ed Stevens Anchorage International Airport (ANC) was the nation's *eighth* busiest international air freight gateway by value of shipments, and the *twenty-third* overall by value among all gateways—airports, seaports, and land ports in 2003. Nearly 4 percent (\$22 billion) of the value of all U.S. international air cargo moved through ANC in 2003. By weight, ANC ranks first among all U.S. air gateways with 26 percent of the tonnage of U.S. international air freight moving through it.

ANC occupies a unique position among international air gateways. In 1996, the U.S. Department of Transportation (USDOT) 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 include cargo transfer from 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.<sup>1</sup> 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 increased 21 percent by tonnage from 1996 to 1997 and continues to grow today.

ANC is a major hub for international air trade to Asian countries, with most flights from the United States destined for Asia

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<sup>1</sup> Anchorage International Airport web site, available at <http://www.dot.state.ak.us/anc/Management/Marketing/usdot.htm> as of Nov. 1, 2004.

or flights from Asia destined for the United States making an operational stop at ANC. The top three origin and destination countries on nonstop international flight segments through ANC are South Korea, Japan, and Taiwan. In total, the three countries accounted for 77 percent of the tonnage of international air cargo handled at ANC in 2003. The origin and destination markets for ANC are also the same as origin and destination countries on nonstop international flight segments.<sup>2</sup>

Between 1999 and 2003, the value of international merchandise trade moving through ANC increased by 2 percent. Exports declined by nearly 11 percent while imports increased by 7 percent. During the same period, the weight of air cargo handled at ANC climbed 30 percent—with import tonnage rising by 43 percent and export tonnage rising by about 10 percent. The large growth in air cargo tonnage has enhanced ANC's position as a national and international air freight hub.

Federal Express is the major U.S. carrier among the top air carriers for imports and exports, accounting for 12 percent of the air cargo tonnage in 2003. The other major cargo carriers at ANC in 2003 were Korean Air Lines, China Airlines, and Japan Air Lines.

As U.S. and Asia trade increases, particularly with China, the number of flights between the two countries and the international air cargo passing through ANC is likely to increase.

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<sup>2</sup> Based on *Form 41 International Market Data* from the Office of Airline Information, Bureau of Transportation Statistics.

**TABLE 1. Value and Weight of U.S. International Merchandise Freight: 2003**

Overall and Air Modes	Total	Exports	Imports
Total U.S. trade by all modes (land, sea, air) (\$ millions)	1,983,139	723,743	1,259,396
Total U.S. trade by air (\$ millions)	523,343	235,602	287,741
<b>Value of International Air Freight by Anchorage, AK</b>			
Total air trade through Anchorage, AK (\$ millions)	22,125	5,638	16,486
Percent of total U.S. air freight value	4.2%	2.4%	5.7%
<b>Weight of International Air Freight</b>			
Total international air freight through U.S. gateways (short tons)	8,391,870	3,370,539	5,021,331
Total U.S. air freight via Anchorage, AK (short tons)	2,180,231	702,303	1,477,928
Percent of total U.S. air freight weight	26.0%	20.8%	29.4%

**TABLE 2. Top 3 Destination and Origin Countries for International Air Freight via Anchorage, AK: 2003 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Japan	311	1	South Korea	453
2	South Korea	150	2	Taiwan	351
3	Taiwan	109	3	Japan	314

**TABLE 3. Top 3 Destination and Origin Cities for International Air Freight via Anchorage, AK: 2003 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Tokyo, Japan	268	1	Seoul, South Korea	453
2	Seoul, South Korea	146	2	Taipei, Taiwan	351
3	Taipei, Taiwan	108	3	Tokyo, Japan	206

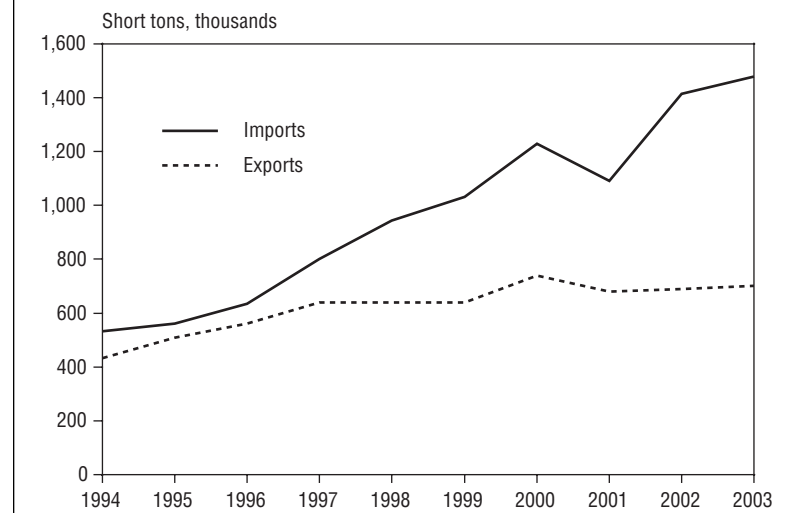
**TABLE 4. Total Air Freight Exports and Imports via Anchorage, AK: 1999–2003 (Short tons, thousands)**

	1999	2000	2001	2002	2003
Imports	1,032	1,230	1,091	1,415	1,478
Exports	640	739	681	690	702
Total	1,672	1,969	1,772	2,105	2,180

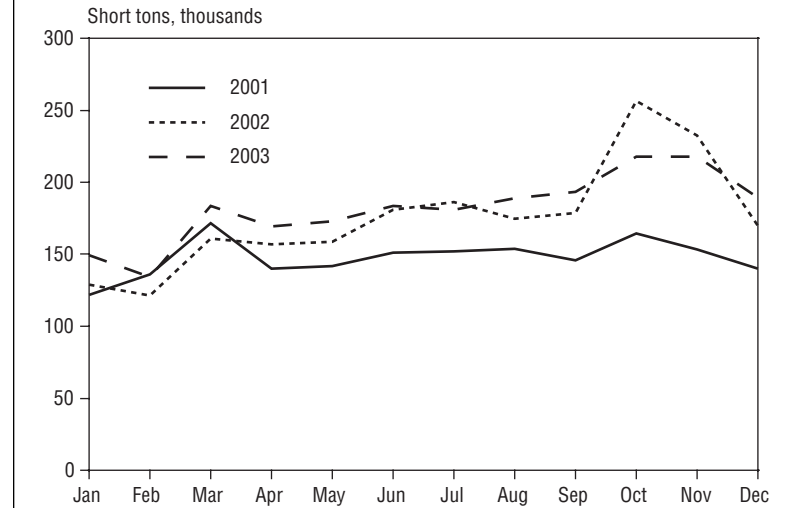
**TABLE 5. Top 3 Air Carriers for Exports and Imports via Anchorage, AK: 2003 (Short tons, thousands)**

Rank	Export carrier	Tons	Rank	Import carrier	Tons
1	Federal Express Corporation	106	1	Korean Air Lines Co., Ltd.	194
2	Japan Air Lines Co., Ltd.	99	2	Federal Express Corporation	162
3	Korean Air Lines Co., Ltd.	94	3	China Airlines, Ltd	142

**FIGURE 1. Air Freight Exports and Imports via Anchorage, AK: 1994–2003**



**FIGURE 2. Monthly International Air Cargo via Anchorage, AK: 2001–2003**



SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, based on data from multiple sources, September 2004. **Table 1**—Value data: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, *U.S. Exports and Imports of Merchandise*, CD-ROM; Weight data: U.S. Department of Transportation, Bureau of Transportation Statistics, *Form 41 Traffic - Segment Data*, various years, as of Sept. 16, 2004. **Tables 2, 3, 4, 5 and Figures 1 and 2**—U.S. Department of Transportation, Bureau of Transportation Statistics, *Form 41 Traffic - Segment Data*, various years, as of Sept. 16, 2004.

## Port of Savannah, Georgia—Water Gateway

The maritime Port of Savannah was the nation's *eleventh* busiest waterborne freight gateway for international trade by value of shipments in 2003. It ranked *twenty-fourth* overall among all land, water, and air gateways with over \$21 billion of international freight moving through it, up from thirtieth in 1999. This amount of trade represents about 3 percent of the value of U.S. international waterborne freight shipments and just over 1 percent of the total value of U.S. international merchandise trade by all modes of transportation.

By weight, 21 million tons of merchandise goods moved through the Port of Savannah in 2003. This accounts for about 2 percent of the total U.S. waterborne tonnage. Savannah ranks *sixteenth* by weight among all U.S. international waterborne ports.

The Port of Savannah handled 1.1 million TEUs (twenty-foot equivalent units) in 2003. It is one of the fastest growing container ports in the country and currently ranks *sixth* among all U.S. container ports. There were over 2,000 vessel calls made at the Port of Savannah in 2003, 60 percent of these were container ships followed by dry-bulk and tanker ships at 11 percent each.

The Port of Savannah is a major point for imports from South and Central America and the Caribbean and for exports to Asian countries. By tonnage, Venezuela is the largest origin country for imports while Japan is the largest destination country for exports. The top-5 origin and destination countries for imports and exports respectively accounted for 46 percent of all tonnage moved through the Port of Savannah in 2003.

Between 1999 and 2003, the value of trade through the Port of Savannah increased by 58 percent—46 percent for exports and 66 percent for imports. During the same period the tonnage moving through the Port of Savannah increased by 40 percent—34 percent for exports and 44 percent for imports.

In 2003, the major commodity imports by weight through the Port of Savannah were petroleum products, crude petroleum, coal, sugar, and furniture. The leading exports by weight were clays, wood pulp, paper and paper board, meat, and wood.<sup>1</sup>

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<sup>1</sup> Source: Special tabulation from Port of Savannah, November 2004.

**TABLE 1. Value and Weight of U.S. International Merchandise Freight: 2003**

Overall and Water Modes (\$ millions)	Total	Exports	Imports
Total U.S. trade by all modes (land, water, air)	1,983,139	723,743	1,259,396
Total U.S. trade by water	807,112	202,481	604,631
<b>Value of International Waterborne Freight via Savannah (\$ millions)</b>			
Total waterborne freight through port	21,349	7,418	13,931
Percent of total U.S. waterborne freight	2.6%	3.7%	2.3%
<b>Weight of Waterborne Freight (short tons, millions)</b>			
Total U.S. trade by water	1,211	363	848
Total waterborne freight through port	21	8	13
Percent of total U.S. waterborne freight	1.8%	2.3%	1.5%
<b>Containerized Freight (TEUs, thousands)</b>			
Total U.S. containerized freight	21,117	7,102	14,015
Total containerized freight through port	1,121	517	603
Percent of total U.S. containerized freight	5.3%	7.3%	4.3%

KEY: TEU = Twenty-foot Equivalent Unit.

**TABLE 2. Top 3 Destination and Origin Countries for International Waterborne Freight via Port of Savannah, GA: 2003 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Japan	1,105	1	Venezuela	2,261
2	China Mainland	757	2	Trinidad	1,180
3	South Korea	746	3	China Mainland	1,050

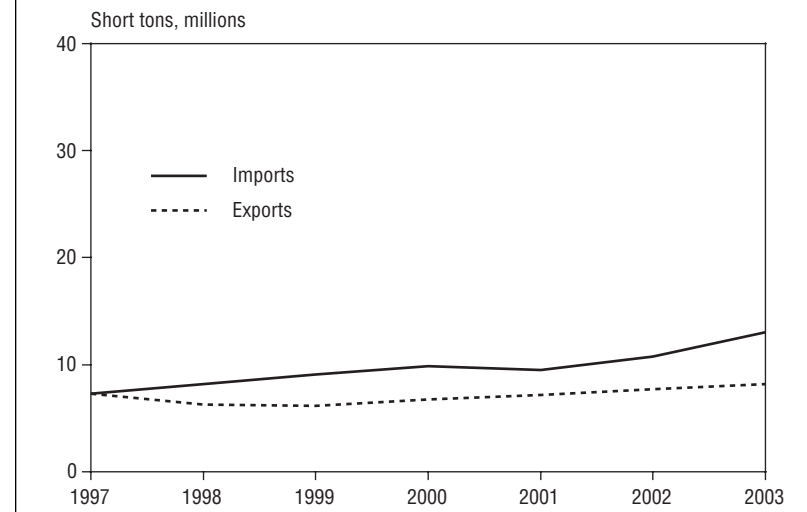
**TABLE 3. Top 3 Destination and Origin Ports for International Waterborne Freight via Port of Savannah, GA: 2003 (Short tons, thousands)**

Rank	Export destination	Tons	Rank	Import origin	Tons
1	Hong Kong, Hong Kong	732	1	Bajo Grande, Venezuela	1,203
2	Pusan, South Korea	546	2	Point Fortin, Trinidad	897
3	Shanghai, China Mainland	478	3	Freeport, Bahamas	753

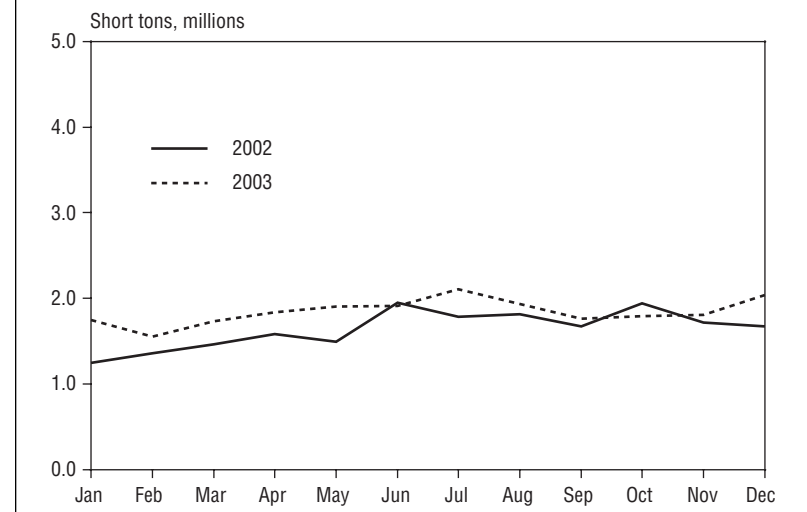
**TABLE 4. Port Calls By Vessel Type, Port of Savannah, GA: 2003**

	Container	Tanker	Dry bulk	General	Other	Total
Calls	1,258	226	233	175	195	2,087
Capacity (deadweight tons, thousands)	61,219	8,350	6,894	4,972	6,353	87,789

**FIGURE 1. Maritime Imports and Exports via Port of Savannah, GA: 1997–2003**



**FIGURE 2. Monthly Maritime Cargo via Port of Savannah, GA: 2002–2003**



SOURCES: U.S. Department of Transportation, Bureau of Transportation Statistics, based on data from multiple sources: **Table 1**—Overall and Water Modes: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, *U.S. Exports and Imports of Merchandise*, CD-ROM; Value of Intl. Waterborne Freight—MARAD, special tabulation, August 2004; Weight of Waterborne Freight: U.S. Army Corps of Engineers, *Foreign Cargo Data*, November 2004; Containerized Freight: U.S. Army Corps of Engineers, special tabulation, November 2004. **Tables 2 and 3**—U.S. Army Corps of Engineers, *Foreign Cargo Data*, October 2004. **Table 4**—MARAD, special tabulation, October 2004. **Figure 1**—U.S. Army Corps of Engineers, *Foreign Cargo Data*, 1997–2002 final, 2003 preliminary, November 2004. **Figure 2**—U.S. Army Corps of Engineers, special tabulation, October 2004.

## Otay Mesa, California—Land Gateway

Otay Mesa, California, is our nation's *sixth* busiest land border gateway by value for imports and exports transported across the border by highways. And its land ports are our *twenty-fifth* leading gateway when compared with all U.S. freight gateways—land, air, and sea.

In 2003, merchandise trade passing through Otay Mesa (\$20 billion) accounted for about 4 percent of the value of U.S. total land trade. Otay Mesa is a major gateway for both exports and imports, with inbound shipments accounting for 58 percent and outbound shipments 42 percent of the value of freight handled by its land ports in 2003.

Otay Mesa is primarily a truck crossing.<sup>1</sup> It is the only land border port in California that ranks in the overall top 25 gateways. California's next largest land port in 2003 was Calexico-East, which moved \$9 billion worth of international trade. Between 1999 and 2003, truck freight via Otay Mesa increased by 26 percent. By weight, trucks also account for nearly all of the land imports tonnage (see insert table).

Although Otay Mesa served 48 states in 2003, it is primarily a local and regional gateway. Compared to other land ports in the

<sup>1</sup> While there is rail trade that travels through the port, the value of this trade is relatively small and reporting the figure would disclose proprietary business information.

top 25 gateways overall, a higher share of goods traveling through Otay Mesa are to or from California. Only 8 percent of the exports and 14 percent of the imports passing through Otay Mesa are to and from other states. The top three states served by Otay Mesa's land transportation facilities are California, Maryland, and Ohio. The latter two combined, however, account for only 3 percent of the trade passing through Otay Mesa.

Between 1994 and 2003, the number of trucks entering the United States from Mexico through Otay Mesa increased by 59 percent, from 440,000 to 697,000 (figure 1).

**Weight of Land Imports via Otay Mesa, CA, by Mode: 2003**

Mode	Tonnage	Percent
Total	2,591,574	100.0%
Truck	2,590,479	100.0%
Other <sup>1</sup>	1,095	0.04%

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

SOURCE: U.S. DOT, BTS, Transborder Data. Weight data for land exports are unavailable.

Over 711,500 truck containers entered the United States via Otay Mesa in 2003, up 20 percent from 1999. Although the value of rail trade via Otay Mesa is unreported, the number of incoming train container crossings is available. The 3,440 rail containers that entered Otay Mesa in

2003 account for less than half of one percent of the total containers entering the port. Almost all of the rail containers are empty, explaining why there is so little international rail trade going through the port.

**TABLE 1. Value of U.S. International Merchandise Freight: 2003**

	\$ millions		
	Total	Exports	Imports
<b>Overall and Land Modes</b>			
Total U.S. trade by all modes (land, sea, air)	1,983,139	723,743	1,259,396
Total U.S. trade by land	562,776	240,486	322,291
<b>Value of International Land Freight via Otay Mesa, CA</b>			
Total land trade through port	19,678	8,263	11,416
Percent of total U.S. land freight value	3.5%	3.4%	3.5%
<b>Value of International Land Freight by Mode via Otay Mesa, CA</b>			
Truck	19,661	8,260	11,400
Rail	NA	NA	NA
Pipeline	NA	NA	NA
Other and unknown	18	2	15
<b>Value of Land Freight O&amp;D, All Modes via Otay Mesa, CA</b>			
To and from California	17,427	7,625	9,803
To and from other U.S. States	2,251	638	1,613
Other states' shipments as percent of freight value via port	11.4%	7.7%	14.1%
<b>Value of Truck Freight O&amp;D, via Otay Mesa, CA</b>			
To and from California	17,414	7,623	9,792
To and from other U.S. States	2,246	638	1,609
Other states' shipments as percent of freight value via port	11.4%	7.7%	14.1%

KEY: O&D = origin and destination.

**TABLE 2. Top 3 States Trade via Otay Mesa, CA: 2003 (\$ millions)**

Rank	State	Total	Exports	Imports
1	California	17,427.3	7,624.7	9,802.6
2	Maryland	316.5	0.3	316.3
3	Ohio	245.1	236.0	9.1

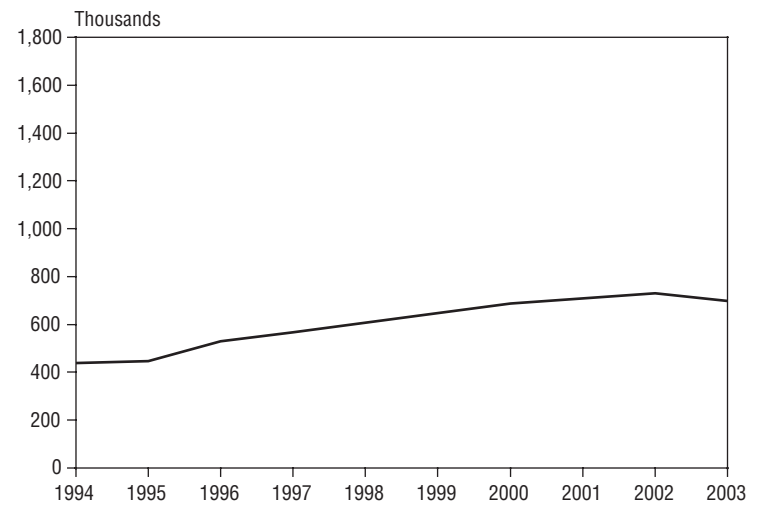
**TABLE 3. Incoming Full and Empty Container Crossings via Otay Mesa, CA: 1999–2003 (Thousands)**

	1999	2000	2001	2002	2003
Via truck	593	681	716	726	712
Via rail	4	4	3	4	3

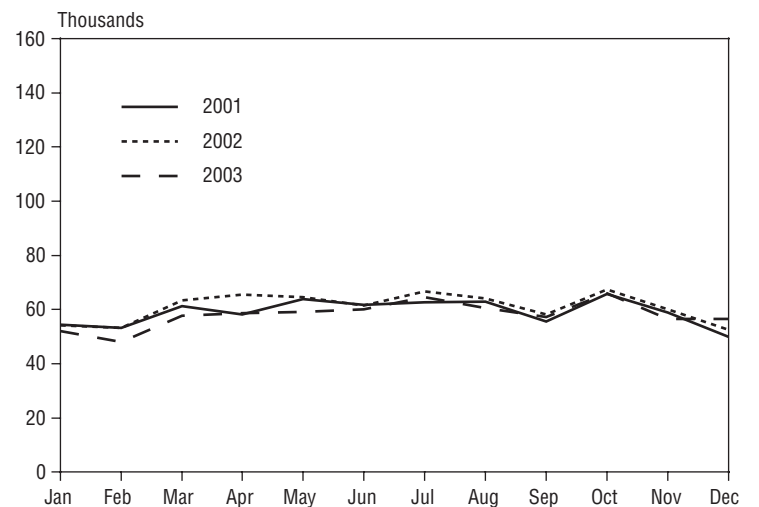
**TABLE 4. Value of International Land Trade via Otay Mesa, CA, by Mode: 1999–2003 (\$ millions)**

	1999	2000	2001	2002	2003
Truck	15,584	18,760	19,385	20,368	19,661
Rail	NA	NA	NA	NA	NA
Pipeline	2	2	1	0.2	NA
Other and unknown	42	12	15	18	18
Total	15,627	18,773	19,401	20,386	19,678

**FIGURE 1. Incoming Truck Crossings via Otay Mesa, CA: 1994–2003**



**FIGURE 2. Monthly Incoming Truck Crossings via Otay Mesa, CA: 2001–2003**



SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, based on data from multiple sources, August 2004. **Tables 1, 2, and 4**—Overall: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, *U.S. Exports and Imports of Merchandise*, CD-ROM; Land Freight: U.S. Department of Transportation, Bureau of Transportation Statistics, *Transborder Surface Freight Data*, 1999–2003. **Table 3, Figures 1 and 2**—U.S. Department of Transportation, Bureau of Transportation Statistics, *Border Crossing/Entry Data*, 1994–2003, based on data from U.S. Department of Homeland Security, Customs and Border Protection, *Operations Management Database*.



# Appendix—Top 125 Freight Gateways by Value

**APPENDIX TABLE. Top U.S. Freight Gateways Handling International Merchandise Valued Over \$1 Billion: 2003**  
(\$ millions)

Rank by value	Gateway name	Mode	Total trade	Exports	Imports
1	Los Angeles, CA	Water	122,051	16,865	105,186
2	John F. Kennedy International Airport, NY	Air	111,926	46,621	65,306
3	Detroit, MI	Land	101,890	54,549	47,341
4	New York and New Jersey	Water	101,176	24,303	76,873
5	Long Beach, CA	Water	95,863	17,163	78,700
6	Laredo, TX	Land	78,763	32,394	46,369
7	Los Angeles International Airport, CA	Air	63,838	32,590	31,248
8	Port Huron, MI	Land	62,294	22,698	39,596
9	Buffalo-Niagara Falls, NY	Land	59,369	27,367	32,002
10	Chicago, IL	Air	54,335	20,597	33,737
11	Houston, TX	Water	49,893	21,439	28,454
12	San Francisco International Airport, CA	Air	46,625	20,570	26,055
13	Charleston, SC	Water	39,375	13,374	26,000
14	El Paso, TX	Land	39,204	16,714	22,491
15	Norfolk, VA	Water	29,495	11,026	18,469
16	New Orleans, LA	Air	27,370	13,692	13,678
17	Tacoma, WA	Water	26,332	5,203	21,129
18	Baltimore, MD	Water	25,956	5,686	20,270
19	Oakland, CA	Water	25,144	7,762	17,382
20	Dallas-Fort Worth, TX	Air	23,562	11,391	12,170
21	Seattle, WA	Water	23,078	5,688	17,390
22	Miami International Airport Cargo Facilities, FL	Air	22,724	13,971	8,753
23	Anchorage, AK	Air	22,125	5,638	16,486
24	Savannah, GA	Water	21,349	7,418	13,931
25	Otay Mesa Station,	Land	19,678	8,263	11,416
26	New Orleans, LA	Water	19,411	11,237	8,174
27	Cleveland, OH	Air	18,585	9,535	9,050
28	Atlanta, GA	Air	18,187	8,297	9,890
29	Miami, FL	Water	16,610	6,826	9,785
30	Champlain-Rouses Point,	Land	14,439	5,222	9,217
31	Hidalgo, TX	Land	14,428	6,285	8,143
32	Newark, NJ	Air	12,970	2,606	10,363
33	San Juan International Airport, PR	Air	12,220	5,185	7,035
34	Blaine, WA	Land	12,005	5,239	6,766
35	Portland, OR	Water	11,810	2,966	8,844

*Continued next page*

## AMERICA'S FREIGHT TRANSPORTATION GATEWAYS

Rank by value	Gateway name	Mode	Total trade	Exports	Imports
36	Jacksonville, FL	Water	11,235	2,334	8,901
37	Port Everglades, FL	Water	10,499	4,348	6,151
38	Nogales, AZ	Land	10,354	3,538	6,816
39	Philadelphia, PA	Water	10,315	634	9,681
40	Morgan City, LA	Water	10,108	181	9,927
41	Brownsville, TX	Land	10,062	5,186	4,876
42	Alexandria Bay, NY	Land	10,035	3,838	6,198
43	Corpus Christie, TX	Water	9,859	1,957	7,902
44	Beaumont, TX	Water	9,616	954	8,662
45	Pembina, ND	Land	9,476	5,034	4,441
46	Logan Airport Boston, MA	Air	9,179	5,694	3,485
47	Calexico-East,	Land	8,890	3,770	5,120
48	Philadelphia International Airport, PA	Air	8,688	4,676	4,013
49	Sweetgrass, MT	Land	7,470	3,596	3,874
50	Seattle-Tacoma International Airport, WA	Air	7,255	4,119	3,137
51	Houston Intercontinental Airport, TX	Air	7,096	4,263	2,833
52	Texas City, TX	Water	6,534	1,713	4,821
53	Portal, ND	Land	6,243	3,392	2,851
54	Washington, DC	Air	6,210	2,209	4,001
55	Gramercy, LA	Water	5,892	3,781	2,111
56	Eagle Pass, TX	Land	5,739	2,942	2,797
57	Boston, MA	Water	5,681	715	4,966
58	Port Arthur, TX	Water	5,553	412	5,141
59	Brunswick, GA	Water	5,432	669	4,763
60	Port Hueneme, CA	Water	5,362	139	5,222
61	Wilmington, DE	Water	5,221	581	4,640
62	Lake Charles, LA	Water	5,192	576	4,616
63	Highgate Springs/Alburg, VT	Land	5,189	1,805	3,384
64	San Juan, PR	Water	5,167	1,049	4,117
65	Eastport, ID	Land	5,106	827	4,279
66	Freeport, TX	Water	5,099	1,060	4,039
67	International Falls, MN	Land	5,008	848	4,160
68	Christiansted, VI	Water	4,989	253	4,736
69	Chester, PA	Water	4,949	772	4,177
70	Baton Rouge, LA	Water	4,629	948	3,681
71	San Diego, CA	Water	4,539	76	4,463
72	Nashville, TN	Air	4,219	196	4,022
73	Chicago, IL	Land	4,058	26	4,032
74	Mobile, AL	Water	3,968	1,465	2,503
75	Gulfport, MS	Water	3,808	1,574	2,234
76	Great Falls, MT	Land	3,768	7	3,761

APPENDIX—TOP 125 FREIGHT GATEWAYS BY VALUE

Rank by value	Gateway name	Mode	Total trade	Exports	Imports
77	Newport News, VA	Water	3,440	1,222	2,218
78	Oakland, CA	Air	3,344	3,250	94
79	Minneapolis-St. Paul, MN	Air	3,296	1,432	1,864
80	Pascagoula, MS	Water	3,212	436	2,775
81	Paulsboro, NJ	Water	2,930	43	2,887
82	Calais, ME	Land	2,909	618	2,291
83	Burlington, VT	Land	2,899	2	2,897
84	Del Rio, TX	Land	2,772	1,276	1,496
85	Tampa, FL	Water	2,703	1,520	1,183
86	Providence, RI	Water	2,686	56	2,630
87	Ogdensburg, NY	Land	2,665	161	2,505
88	Indianapolis, IN	Air	2,630	2,603	27
89	Duluth, MN	Land	2,603	5	2,598
90	Cincinnati-Lawrenceburg, OH	Air	2,577	1,372	1,205
91	Huntsville, AL	Air	2,451	1,181	1,270
92	Philadelphia, PA	Air	2,424	108	2,316
93	Memphis, TN	Land	2,381	1	2,380
94	Memphis, TN	Air	2,374	804	1,571
95	Honolulu International Airport, HI	Air	2,337	307	2,030
96	Wilmington, NC	Water	2,199	957	1,243
97	Anchorage, AK	Water	2,196	2,066	129
98	Derby Line, VT	Land	2,102	395	1,707
99	Richmond, CA	Water	2,066	230	1,836
100	Houlton, ME	Land	2,061	498	1,563
101	Sault Ste. Marie, MI	Land	1,977	540	1,438
102	Honolulu, HI	Water	1,961	159	1,802
103	Aguadilla, PR	Air	1,770	1,715	55
104	Port Townsend, WA	Land	1,648	1	1,647
105	West Palm Beach, FL	Water	1,614	792	822
106	Denver, CO	Land	1,576	28	1,548
107	El Segundo, CA	Water	1,560	1	1,559
108	Orlando, FL	Air	1,524	319	1,205
109	Galveston, TX	Water	1,502	407	1,095
110	St. Rose, LA	Water	1,480	763	716
111	Sumas, WA	Land	1,451	446	1,006
112	Detroit Metropolitan Airport, Detroit, MI	Air	1,441	363	1,077
113	Phoenix, AZ	Air	1,397	377	1,020
114	Richmond-Petersburg, VA	Water	1,349	637	713
115	Vancouver, WA	Water	1,316	555	762
116	Detroit, MI	Air	1,294	884	410
117	Kalama, WA	Water	1,196	1,135	61
118	Noyes, MN	Land	1,139	254	886

*Continued next page*

## AMERICA'S FREIGHT TRANSPORTATION GATEWAYS

Rank by value	Gateway name	Mode	Total trade	Exports	Imports
119	Denver, CO	Air	1,103	624	479
120	Santa Teresa, NM	Land	1,089	347	743
121	Trout River, NY	Land	1,056	62	994
122	Louisville, KY	Air	1,040	830	210
123	Portland International Airport, OR	Air	1,028	583	446
124	New Haven, CT	Water	1,013	63	950
125	Portland, ME	Water	1,008	110	899
<b>Air gateways</b>					
Airports included in top 125 gateways above			509,146	228,604	280,542
All other airport gateways			14,197	6,998	7,199
Total all airport gateways			523,343	235,602	287,741
<b>Land gateways</b>					
Land ports included in top 125 gateways above			523,798	218,171	305,627
All other land border gateways			38,978	22,314	16,664
Total all land border gateways			562,776	240,486	322,291
<b>Water gateways</b>					
Seaports included in top 125 gateways above			786,620	194,299	592,321
All other seaport gateways			20,492	8,182	12,310
Total all seaport gateways			807,112	202,481	604,631
<b>TOTAL U.S. overall—all modes</b>			<b>1,983,139</b>	<b>723,743</b>	<b>1,259,396</b>
<b>Top 125 above for air, land, and water gateways</b>			<b>1,819,565</b>	<b>641,075</b>	<b>1,178,490</b>
<b>Top 125 as a share of all U.S. gateways</b>			<b>91.8%</b>	<b>88.6%</b>	<b>93.6%</b>

NOTE: **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 shipment 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%–3% 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. Also due to U.S. Census Bureau confidentiality regulations, data for courier operations are included in the airport totals for JFK International Airport, Los Angeles, and New Orleans.

SOURCES: **Air**—U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, special tabulation, August 2004. **Water**—U.S. Department of Transportation, Maritime Administration, Office of Statistical and Economic Analysis, special tabulations from Waterborne Databank, August 2004. **Land**—U.S. Department of Transportation, Bureau of Transportation Statistics, Transborder Land Freight Data as of August 2004.



