America's Container Ports: Delivering the Goods

March 2007

U.S. Department of Transportation
Research and Innovative Technology Administration
Bureau of Transportation Statistics

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HIGHLIGHTS

Five decades ago, the containership revolution started in the United States, changing how the United States and the world handle international freight transportation. In 2006, world maritime container traffic was estimated at 417 million twenty-foot equivalent units (TEUs) (loaded and empty) — 10 percent more than the 378 million TEUs transported in 2005.[1] Today, one container in every nine carrying global trade is bound for or is coming from the United States, comprising 11 percent of worldwide container traffic.

The year 1956 saw the United States pioneer the world's first use of containers for intermodal sea-land movements. Prior to this innovative transfer of containerized cargo between Newark, New Jersey, and Houston, Texas, finding a way to seamlessly move cargo from sea to land and land to sea was the greatest challenge for intermodal freight transportation. A "containership revolution" was born when it was publicly demonstrated that standard metal containers could successfully move goods on land-sea intermodal journeys.

Since that first journey over fifty years ago, containers have greatly changed the movement of U.S.-international freight, port operations, and the distribution of port's share of total oceanborne trade. They have also impacted rail and trucking operations to and from seaports, affecting traffic on the landside of these ports.

> Globally, one maritime container in every nine is bound for or comes from the United States.

From 1995 to 2006, world container traffic more than tripled in volume from 137 million to 417 million TEUs, growing at an average annual rate of about 11 percent (table 1). Expanding U.S. and global economic activity fueled this phenomenal growth in maritime container freight. With the exception of a few products, such as cars transported in specialized vessels, huge container vessels carry manufactured products of nearly every description.

Although the United States remained the leading trading nation, accounting for 12 percent of total world merchandise trade in 2005[2], the United States ranked second in container traffic, a position it has held since relinquishing the number one position to China in 1998. The United States' position in container traffic directly relates to its position as the world's largest trading partner with the world's biggest economy. U.S. total imports ranked first with over 16 percent of global imports in 2005, while U.S. total exports accounted for 8.7 percent of global exports, following Germany, which was the leading exporter. The United States also remained the world's largest economy, accounting for 28 percent of world gross domestic product (GDP) in 2005, up from 25 percent in 1995 (table 1).

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[1] Based on data from Clarkson Research Services Ltd., *Container Intelligence Monthly*, Vol. 8, No. 10, London, UK.

[2] Based on data from World Trade Organization, *2006 Trade Report*.

TABLE 1
U.S. v. World Maritime Container Traffic and Gross Domestic Product: 1995–2006

	Container traffic (total TEUs loaded and empty)				Gross Domestic Product (current U.S. dollars)			
	World (millions)	United States (millions)	U.S. share of world total (percent)	U.S. rank	World (billions)	United States (billions)	U.S. share of world GDP (percent)	U.S. rank
1995	137.2	22.3	16.3	1	29,391	7,398	25.2	1
1996	150.8	22.6	15.0	1	30,080	7,817	26.0	1
1997	160.7	24.5	15.3	1	29,928	8,304	27.7	1
1998	169.6	26.2	15.4	2	29,682	8,747	29.5	1
1999	184.6	28.0	15.2	2	30,786	9,268	30.1	1
2000	225.3	30.4	13.5	2	31,650	9,817	31.0	1
2001	236.7	30.7	13.0	2	31,456	10,128	32.2	1
2002	266.3	32.7	12.3	2	32,714	10,470	32.0	1
2003	305.0	36.3	11.9	2	36,751	10,961	29.8	1
2004	343.0	38.7	11.3	2	41,258	11,712	28.4	1
2005	378.0	42.0	11.1	2	44,455	12,456	28.0	1
2006[a]	417.0	46.3	11.1	2	NA	NA	NA	NA
Percent change, 1995-2006	203.9	107.2						
Average annual rate (percents), 1995-2006	10.6	6.8						

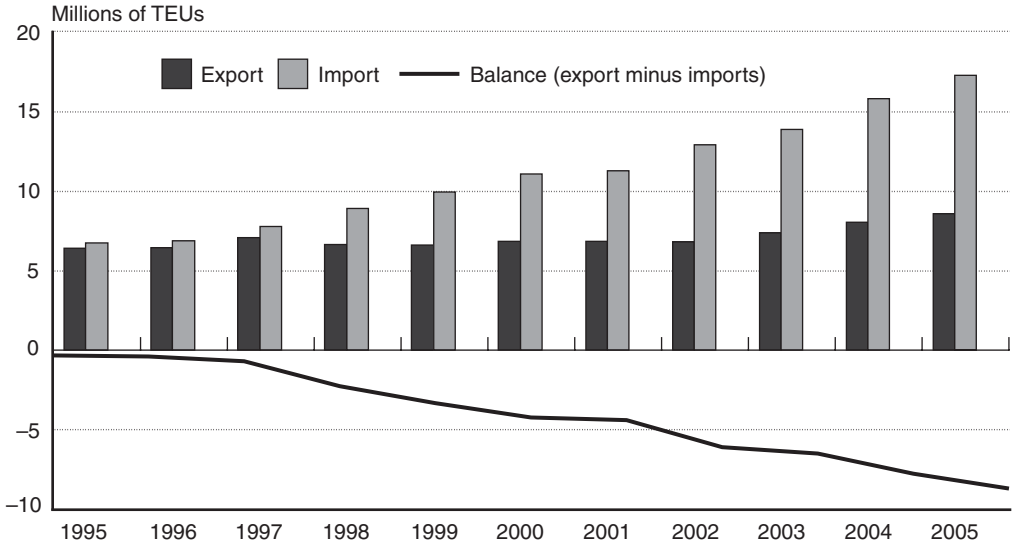
KEY: NA = Not available; TEUs = 20-foot equivalent units.

[a] 2006 estimates are projections from the individual sources.

SOURCES: TEUs: World estimates - **1995–1999** *Containerisation International Yearbook* (London, England: Informa Group, Inc., Various years, 1997–2001). **2000–2002** from United Nations Trade Commission, *Review of Maritime Transportation*, various years. **2003–2006** from Clarkson Research services, *Container Intelligence Monthly*, vol. 8, no. 10, October 2006.
U.S. estimates - AAPA 2006. **GDP:** From International Monetary Fund, www.imf.org, January 2007.

FIGURE 1

U.S. International Maritime Container Traffic: 1995–2005



SOURCE: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from U.S. Department of Transportation, Maritime Administration, which are drawn from the *Journal of Commerce*, Port Import/Export Reporting Service (PIERS) data system, and available at www.marad.dot.gov, as of November 2006.

INBOUND V. OUTBOUND TRAFFIC

America's container seaports are gateways for both imports and exports. But, overall, U.S. seaports handle more TEUs of imports than exports. This U.S. deficit in maritime container traffic has been on the increase since the late 1990s. Prior to 1998, the deficit of U.S.-international container traffic was less than 1 million TEUs per year, but by 2005 this gap had widened to 9 million TEUs (figure 1). In 2005, maritime container imports accounted for two-thirds of container traffic passing through our ports, a major increase from just over one-half in 1995. During this period, the U.S. container trade deficit mirrored that of the overall U.S. merchandise trade deficit, growing at a similar pace. The United States' position in container traffic directly relates to its position as the world's largest trading partner with the world's biggest economy.

> U.S. container traffic nearly doubled over the past decade and the growth is expected to continue.

U.S.-international maritime container traffic nearly doubled between 1995 and 2005, and comparable growth is expected over the next several years (figure 2). In 2005, about 26 million TEUs of U.S.-international oceanborne trade moved through U.S. container ports, up from 13 million in 1995 (PIERS annual data). On a typical day in 2005, U.S. container ports handled an average of 71,000 TEUs, up from 37,000 TEUs per day in 1995. This large number of containers moving through our nation's seaports highlights the significance of container traffic and its potential impact(s) on the economy, local communities, national security, and the environment. The growth in container traffic has resulted in increased vessel, truck, and rail services in and around port regions. Challenges posed by the large-scale movement of container traffic include:

> The standard measure for counting containers is twenty-foot equivalent units (TEUs). This measure is used to count containers of various lengths. A standard 40-foot container equals 2 TEUs, while a 48-foot container equals 2.4 TEUs.

- maintaining efficient cargo flows from point-of-origin to final destination in a safe and secure manner,
- improving air quality and reducing noise surrounding port areas, and
- removing freight bottlenecks at intermodal transfer locations where trucks and railroads connect to marine terminals.

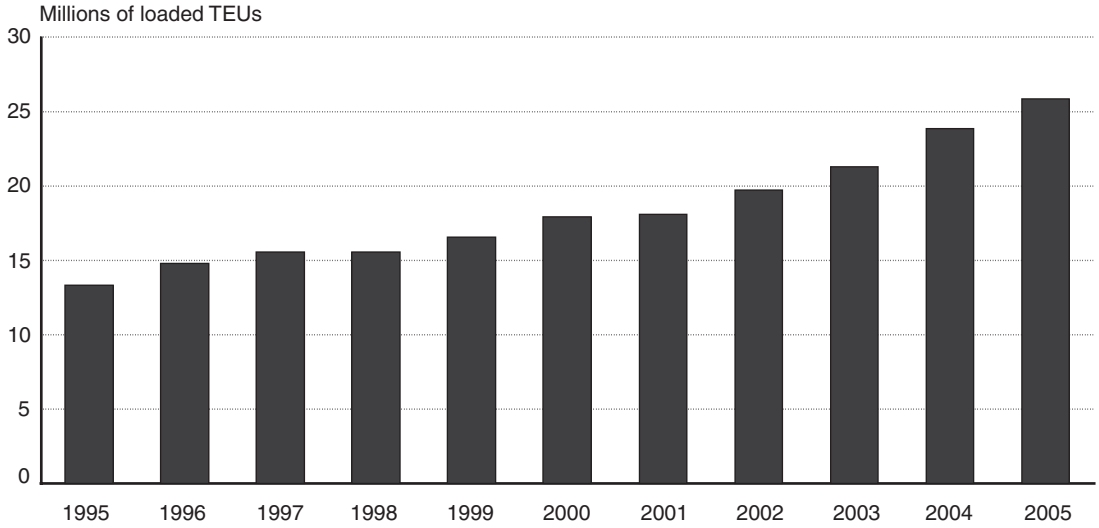
PORT CONCENTRATION

Container traffic in the United States tends to be highly concentrated and is becoming even more so as the use of larger, faster, and more specialized vessels call the ports that are capable of handling them. Because the larger cranes, berths, and storage yards; advanced information technology; and additional dredging needed to accommodate this demand requires significant investments, the limited number of ports that have expanded their investments has resulted in concentrations of container traffic at these facilities.

The top 10 U.S. container ports accounted for 85 percent of U.S. containerized traffic in 2005 (measured in TEUs), up from 78 percent in 1995 (table 2). Five of the top 10 container ports in the United States are on the west coast, four are on the east coast, and one is on the gulf coast (table 2). Between 1995 and 2005, the ports of Los Angeles and Long Beach grew the most in terms of absolute level of container traffic, reflecting increased U.S. trade with Pacific Rim countries. The ports of Savannah, Los Angeles, and Houston had the highest average annual growth rates (table 2). The growth rates for Savannah and Houston reflect the expansion in U.S. container trade with Latin American countries and changes in shippers' decisions on how to move their cargo. For example, in order to limit the impact of port terminal or waterway closures for weather-related and other reasons, some shippers and carriers have included redundancy (e.g., multiple distribu-

FIGURE 2

U.S. International Maritime Containerized Activity: 1995–2005



NOTE: TEUS = twenty-foot equivalent units. One twenty-foot container equals one TEU while one forty-foot container equals two TEUs. Total includes ports for all container ports in all 50 states and Puerto Rico.The data in this figure include only loaded containers in U.S. international maritime activity. It includes U.S. imports and exports, plus transshipments.
SOURCE: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from U.S. Department of Transportation, Maritime Administration, which are drawn from the *Journal of Commerce*, Port Import/Export Reporting Service (PIERS) data system, and available at www.marad.dot.gov, as of November 2006.

tion center locations and additional vessel calls) in their supply chains and vessel rotations.

Between 1995 and 2005, oceanborne containerized cargo handled at the Port of Savannah increased by 13 percent, making it the fastest growing port in the nation. Accompanying the growth in containerized traffic has been the establishment of import distribution centers by several national retailers to handle the thousands of TEUs transiting the nation's seaports.

REGIONAL PORT TRENDS

Over time, the use of oceanborne containers to transport international trade has affected the distribution of total maritime trade among U.S. ports. In the 1980s, when U.S.-Asia-Pacific Rim trade was modest, east coast ports handled the majority of U.S.-international maritime trade. As trade with Asia grew, the east coast ports' share of the value of trade declined while west coast ports' share increased reflecting the growth in container traffic between the two regions. Also during this period, changes in industrial activity in the Midwest affected the volume and type of cargo moving through Great Lakes ports. During this period, several industrial changes, such as changes in the location and distribution of final assembly plants and companies that produce auto parts, affected manufacturing activities in the Midwest. Since the 1990s, some auto companies and parts producers have moved out of the Midwest, impacting overall goods movements in the Great Lakes region. Gulf of Mexico ports experienced a modest increase in their relative share as trade with Latin America grew.

Over half, nearly 55 percent, of U.S. containerized merchandise trade in terms of TEUs passed through west coast ports in 2005, up from 42 percent in 1980. Regionally, west coast ports grew the fastest during this 25-year period (figure 3).

Although west coast ports handled the most container trade, they also had a larger share of the oceanborne containerized trade deficit, in terms of the export-import balance, than other regional U.S. ports. Overall, west coast ports serve more as U.S. import gateways than as export gateways to the

TABLE 2
Top 10 U.S. Maritime Container Ports: 1995-2005
(Thousands of TEUs)

Port	1995	2000	2005	Daily average number of TEUs (1995)	Daily average number of TEUs (2000)	Daily average number of TEUs (2005)	Percent change, 1995-2005	Average annual growth rate, 1995-2005 (percent)
Los Angeles, CA	1,849	3,228	4,864	5,066	8,843	13,326	163.1	10.2
Long Beach, CA	2,137	3,204	4,378	5,855	8,777	11,996	104.9	7.4
New York, NY	1,537	2,200	3,387	4,211	6,028	9,280	120.4	8.2
Charleston, SC	758	1,246	1,509	2,077	3,414	4,133	99.0	7.1
Savannah, GA	445	720	1,469	1,219	1,973	4,025	230.2	12.7
Oakland, CA	919	989	1,374	2,518	2,709	3,764	49.5	4.1
Seattle, WA	993	960	1,339	2,721	2,630	3,670	34.9	3.0
Norfolk, VA	647	850	1,319	1,773	2,330	3,613	103.8	7.4
Houston, TX	489	733	1,222	1,340	2,009	3,347	149.8	9.6
Tacoma, WA	604	647	1,155	1,654	1,773	3,164	91.3	6.7
Total top 10 ports	**10,378**	**14,777**	**22,016**	**28,432**	**40,486**	**60,318**	**112.1**	**7.8**
Total all ports[1]	**13,328**	**17,938**	**25,868**	**36,515**	**49,144**	**70,872**	**94.1**	**6.9**
Top 10, percent of total	**77.9**	**82.4**	**85.1**					

NOTE: TEUS = twenty-foot equivalent units. One twenty-foot container equals one TEU while one forty-foot container equals two TEUs.

[1] Total includes ports for all container ports in all 50 states and Puerto Rico.
The data in this table include only loaded containers in U.S. international maritime activity. It includes U.S. imports and exports, plus transshipments, therefore the trade levels will be greater than those reported from U.S. international trade statistics, which excludes transshipments. The data also excludes military shipments.

SOURCE: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from U.S. Department of Transportation, Maritime Administration, which are drawn from the *Journal of Commerce*, Port Import/Export Reporting Service (PIERS) data system, and available at www.marad.dot.gov, as of November 2006.

rest of the world. In contrast, east coast ports tend to handle more container exports than imports. Gulf coast ports handle nearly an equal share of container imports and exports.

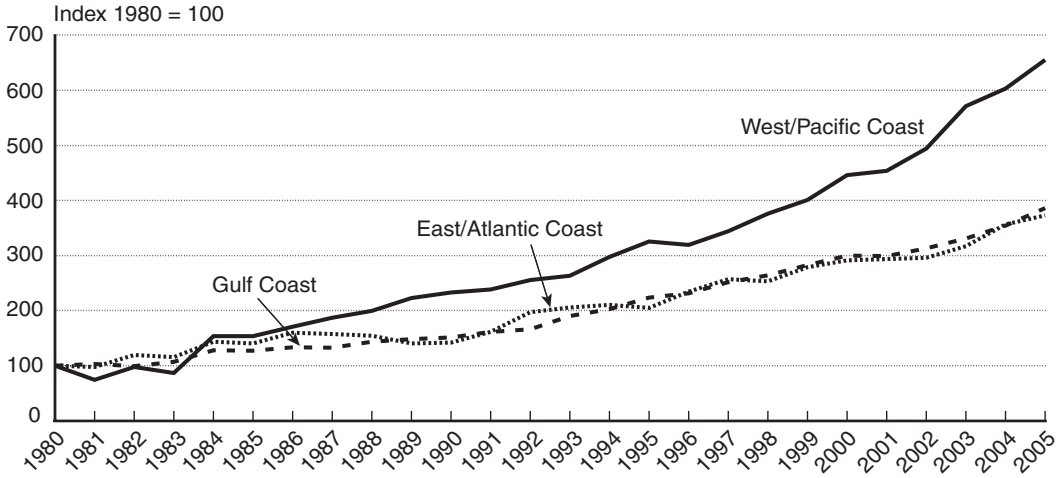
Container trade also affects the pattern of freight movement within the United States. Nearly all U.S. oceanborne container trade is transported by rail carriers, long-haul truck carriers, or local truck carriers to and from origins and destinations throughout the country. The growth in U.S.-international merchandise trade, particularly U.S. containerized trade, is placing pressure on the nation's transportation network and influences traffic congestion in the areas surrounding the major U.S.-international gateways.

VESSEL CALLS AND CAPACITY

Over the past two decades, the concentration of container vessel calls at U.S. ports has shifted, reflecting changes in containerized traffic trends. In 2005, the top five U.S. container ports handled over half (55 percent) of containership calls to and from the United States and 61 percent of the container cargo capacity (table 3).

U.S. maritime ports also handled larger container vessels, measured by the average vessel size per call. The average size (per call) of container vessels calling at U.S. ports was nearly 45,000 deadweight tons (dwt) in 2005, up from 38,000 dwt in 2000 (table 3). By contrast, the average size of container vessels calling at ports worldwide was 34,000 dwt

FIGURE 3
Growth of U.S. Maritime Containerized Exports and Imports TEUs by Coastal Port Region: 1980–2005



NOTE: TEUs = twenty-foot equivalent units. One twenty-foot container equals one TEU while one forty-foot container equals two TEUs. Total includes ports for all container ports in all 50 states and Puerto Rico.The data in this figure include both loaded and unloaded containers in U.S. international maritime activity. It includes U.S. imports, exports, plus transshipments.
SOURCE: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from the American Association of Port Authorities, available at www.aapa.org, as of November 2006.

(MARAD 2006). Increases in vessel calls and containership capacity impact port operation, port productivity, and the infrastructure requirements needed to accommodate these mega postpanamax vessels[2] as well as the environment and surrounding community.

In 2004, the U.S. ports of Los Angeles, Long Beach, and New York-New Jersey (combined) ranked among the world's top 20 container ports when measured in TEUs, placing 8th, 12th, and 15th, respectively (table 4).

TRADING PARTNERS

The top five overall U.S. containerized cargo trading partners in 2005 were all Asian countries: China (mainland), [3] Japan, Hong Kong (categorized as a special administrative region of mainland China), Taiwan, and South Korea. China was the leading containerized merchandise trade partner, accounting for 43 percent of U.S. maritime import TEUs, up from 25 percent just five years ago in 2000. China (mainland) accounted for 19 percent of the export TEUs in 2005, up from 9 percent in 2000 (figure 4a and 4b). During this period, while China's share grew, the other top five trading partners saw declines in their maritime containerized cargo with the United States. Japan is the second largest trading partner for U.S. oceanborne containerized exports, having been overtaken by China in 2003.

U.S. imports and exports with its major trading partners vary by types of goods, and this affects the types of vessels (e.g. container, dry bulk, general cargo, or tanker) number of port calls, and the seaports used. For example, while most U.S.-Canada maritime trade involves agricultural products, lumber, and petroleum products, most U.S.-German maritime trade involves manufactured products, such as automobiles and machinery. Also, while U.S. maritime imports from Japan were valued at about $7,000 per ton, U.S. exports to Japan were valued at $500 per ton, reflecting differences in the types of goods and the growth in high-value containerized imports to U.S. ports. For example, major U.S. waterborne imports from Japan include passenger cars and parts, and electronic equip-

[2] Postpanamax ships are too wide to transit the Panama Canal locks. They typically have widths exceeding 32.2 meters (105.6 feet). Recent designs of these vessels are able to carry more than 9,000 TEUs.

[3] For the analysis in this report, U.S. merchandise trade with mainland China and Hong Kong are presented separately.

TABLE 3:
Top 25 U.S. Port of Calls and Capacity by Vessel Type: 2005

Ranked by container capacity	Port/State	All vessel types: Calls (total vessels)	All vessel types: Capacity (dwt, thousands)	Container ship: Calls (total vessels)	Container ship: Capacity (dwt, thousands)	Container ships as percent of port's total vessels: Calls	Container ships as percent of port's total vessels: Capacity	Average vessel size per call (dwt): Total - all vessel types	Average vessel size per call (dwt): Container ships
1	Los Angeles/Long Beach, CA	5,178	289,015	2,812	150,299	54.3	52.0	55,816	53,449
2	New York and New Jersey	4,902	221,033	2,370	108,547	48.3	49.1	45,090	45,800
3	San Francisco, CA	3,871	202,746	1,930	101,208	49.9	49.9	52,376	52,439
4	Virginia Ports, VA	2,547	119,456	1,731	77,241	68.0	64.7	46,901	44,622
5	Savannah, GA	2,333	101,036	1,386	67,581	59.4	66.9	43,307	48,760
6	Charleston, SC	2,046	87,739	1,464	67,307	71.6	76.7	42,883	45,975
7	Seattle, WA	1,186	64,054	808	44,315	68.1	69.2	54,008	54,845
8	Miami, FL	1,299	45,829	907	39,985	69.8	87.2	35,280	44,085
9	Houston, TX	5,891	250,824	874	30,285	14.8	12.1	42,577	34,651
10	Tacoma, WA	1,270	56,751	618	28,224	48.7	49.7	44,686	45,670
11	Baltimore, MD	1,825	61,557	376	14,858	20.6	24.1	33,730	39,516
12	Port Everglades, FL	1,182	41,893	460	14,653	38.9	35.0	35,443	31,855
13	Philadelphia, PA	2,998	177,614	390	12,391	13.0	7.0	59,244	31,772
14	New Orleans, LA	3,749	177,678	310	11,208	8.3	6.3	47,394	36,156
15	Honolulu, HI	586	16,199	362	10,331	61.8	63.8	27,643	28,539
16	San Juan, PR	1,086	23,494	485	10,071	44.7	42.9	21,634	20,766
17	Jacksonville, FL	1,237	37,179	244	6,971	19.7	18.8	30,056	28,571
18	Boston, MA	332	14,912	149	6,548	44.9	43.9	44,916	43,948
19	Dutch Habor, AK	157	6,582	152	6,485	96.8	98.5	41,924	42,663
20	Columbia River, OR	2,189	84,709	85	4,306	3.9	5.1	38,698	50,659
21	Wilmington, DE	600	21,889	96	4,271	16.0	19.5	36,481	44,494
22	Anchorage, AK	244	6,111	121	2,615	49.6	42.8	25,044	21,613
23	Kodiak, AK	97	2,067	97	2,067	100.0	100.0	21,309	21,309
24	Freeport, TX	760	43,824	87	1,270	11.4	2.9	57,663	14,598
25	San Diego, CA	319	6,838	52	849	16.3	12.4	21,437	16,323
	Total top 5 ports	18,831	933,286	10,229	504,876	54.3	54.1	49,561	49,357
	Total top 10 ports	30,523	1,438,483	14,900	714,993	48.8	49.7	47,128	47,986
	Total top 25 ports	47,884	2,161,029	18,366	823,888	38.4	38.1	45,131	44,859
	Total all U.S. ports[1]	**61,047**	**3,057,391**	**18,542**	**826,795**	**30.4**	**27.0**	**50,083**	**44,590**
	Top 5, percent of U.S. total	30.8	30.5	55.2	61.1				
	Top 10, percent of U.S. total	50.0	47.0	80.4	86.5				
	Top 25, percent of U.S. total	78.4	70.7	99.1	99.6				

KEY: dwt = deadweight tons.

NOTE: Data include oceangoing vessels 10,000 deadweight tons and above. Capacity = DWT multiplied by calls.
San Francisco includes Oakland, San Francisco, and other ports. Virginia Ports includes all Hampton Roads area ports (Norfolk, Newport News, etc.). Los Angeles and Long Beach are counted as one port in this table.

[1] Total includes ports for all container ports in all 50 states and Puerto Rico.

The data in this table include only loaded containers in U.S. international maritime activity. It includes U.S. imports, exports, plus transshipments, therefore the trade levels will be greater than those reported from U.S. international trade statistics, which excludes transshipments. The data also excludes military shipments.

SOURCE: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from U.S. Department of Transportation, Maritime Administration, which are drawn from the Lloyd's Maritime Intelligence Unit, Vessel Movement Data File and are available at www.marad.dot.gov, as of November 2006.

TABLE 4
Top 20 World Container Ports: 2000 and 2004

(Thousands of loaded and unloaded TEUs)

Rank in 2000	Rank in 2004	2004	Country	TEUs
1	1	Hong Kong	China	21,984
2	2	Singapore	Singapore	21,329
6	3	Shanghai	China	14,557
23	4	Shenzhen	China	13,615
3	5	Busan	South Korea	11,430
4	6	Kaohsiung	Taiwan	9,714
5	7	Rotterdam	Netherlands	8,281
7	8	Los Angeles	United States	7,321
9	9	Hamburg	Germany	7,003
13	10	Dubai	United Arab Emirates	6,429
10	11	Antwerp	Belgium	6,064
8	12	Long Beach	United States	5,780
12	13	Port Kalang	Malaysia	5,244
24	14	Quingdao	China	5,140
14	15	New York/New Jersey	United States	4,478
108	16	Tanjung Pelepas	Malaysia	4,020
**	17	Ningbo	China	4,006
31	18	Tianjin	China	3,814
11	19	Tanjug Priok	Indonesia	3,597
25	20	Laem Chabang	Thailand	3,529

** Ningbo was unranked among the world's major ports in 2000. In that year, it handled only 902,000 TEUs (www.nbport.com.cn).

NOTES: TEUs = 20-foot equivalent units. One 20-foot container equals one TEU.

SOURCE: 2004—American Association of Port Authorities (AAPA), World Port Rankings:2004 (Container Traffic), available at http://www.aapa-ports.org/, as of September 2006. 2000—Data obtained through personal communication with AAPA, October 2006.

ment; major U.S. waterborne exports to Japan include agricultural products, machinery and equipment, and chemicals. The major U.S. merchandise imports from Latin America include textile and apparel, machinery, and agricultural products. The major exports include machinery, motor vehicles and parts, and chemicals.

ENTRIES OF OCEANBORNE CONTAINER UNITS

The containers entries data represented in the next two sections and in figures 5 and 6 are different from the TEUs data presented earlier in the report. The entries data, from the Customs and Border Protection Service, count individual container units, while the TEUs data refer to twenty-foot equivalent units (i.e., one 20-foot equivalent container equals one TEU and one 40-foot container equals two TEUs). The challenge of handling large volumes of containerized imports from our trading partners can also be seen in the number of individual container entries processed by the U.S. Customs and Border Protection. In 2005, there were over 11.4 million oceanborne container entries into the United States, up 91 percent from nearly 5.9 million in 2000 (figure 5).

After a slight decline in the number of oceanborne containers entering the United States in the aftermath of the September 11, 2001 attacks, the nation's seaports have handled an increasing number of container units.

CONTAINER ENTRIES BY ALL MODES FROM ALL COUNTRIES

Overall, there were nearly 26 million container entries into the United States by all modes of transportation in 2005, up 37 percent from 19 million in 2000. In addition to the nearly 11 million ocean-

FIGURE 4A
Imports—Top 10 U.S. Partners for Waterborne Containerized Trade, 2005

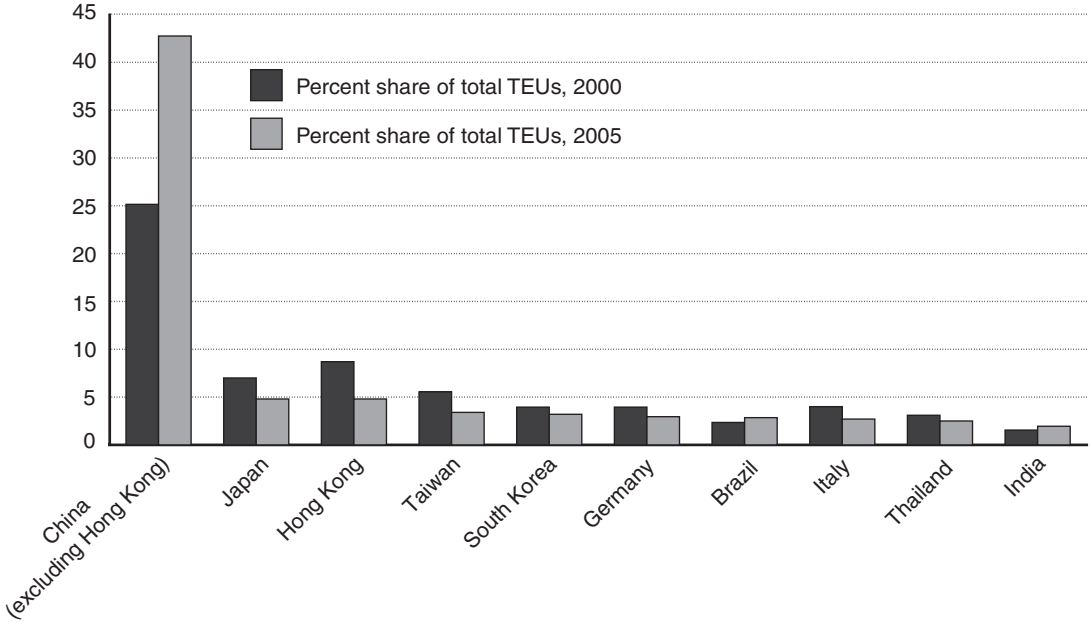
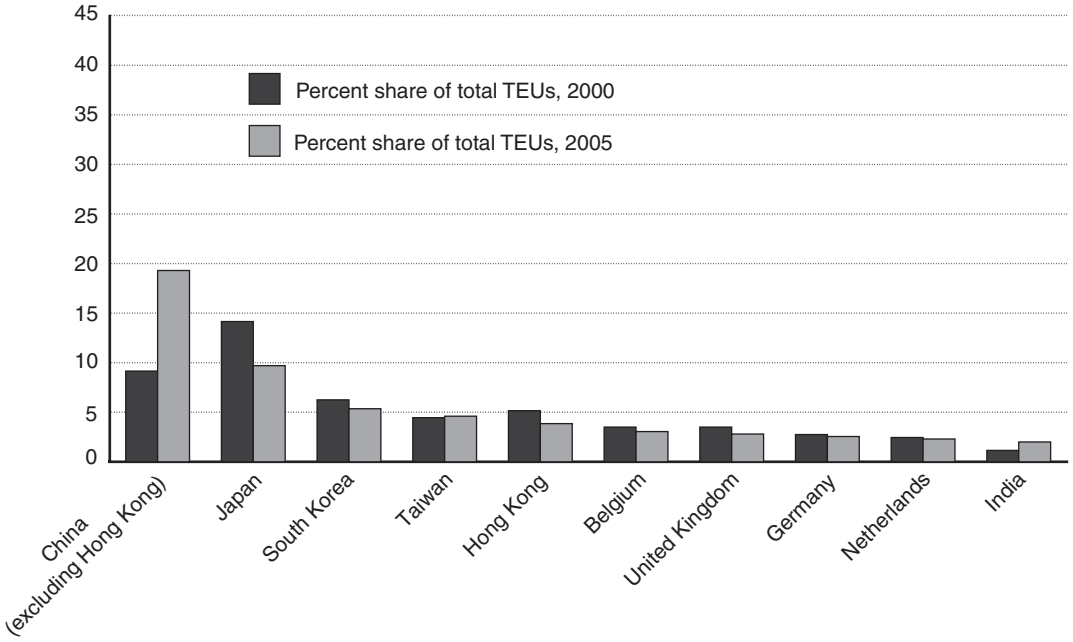
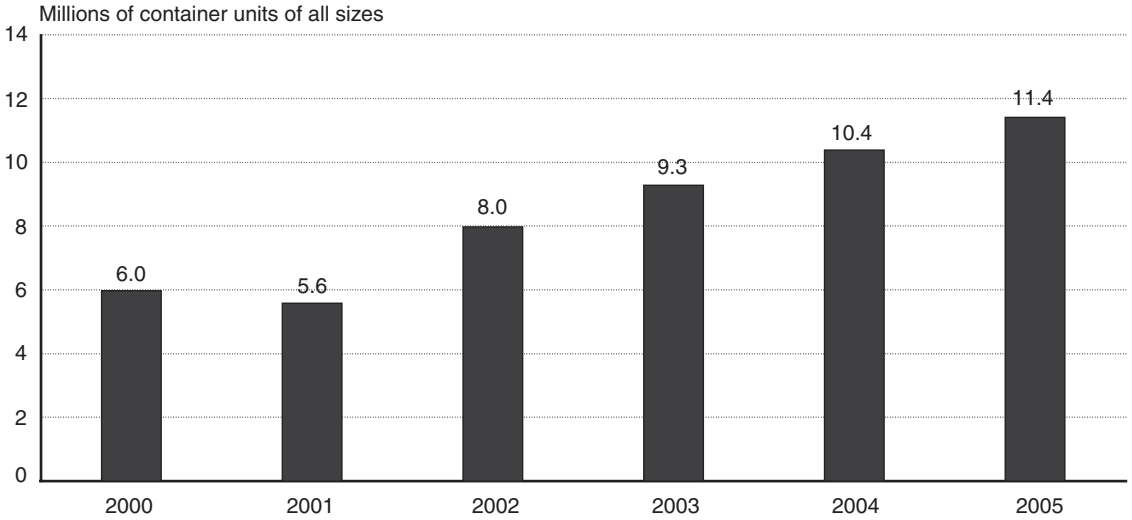


FIGURE 4B
Exports—Top 10 U.S. Partners for Waterborne Containerized Trade, 2005



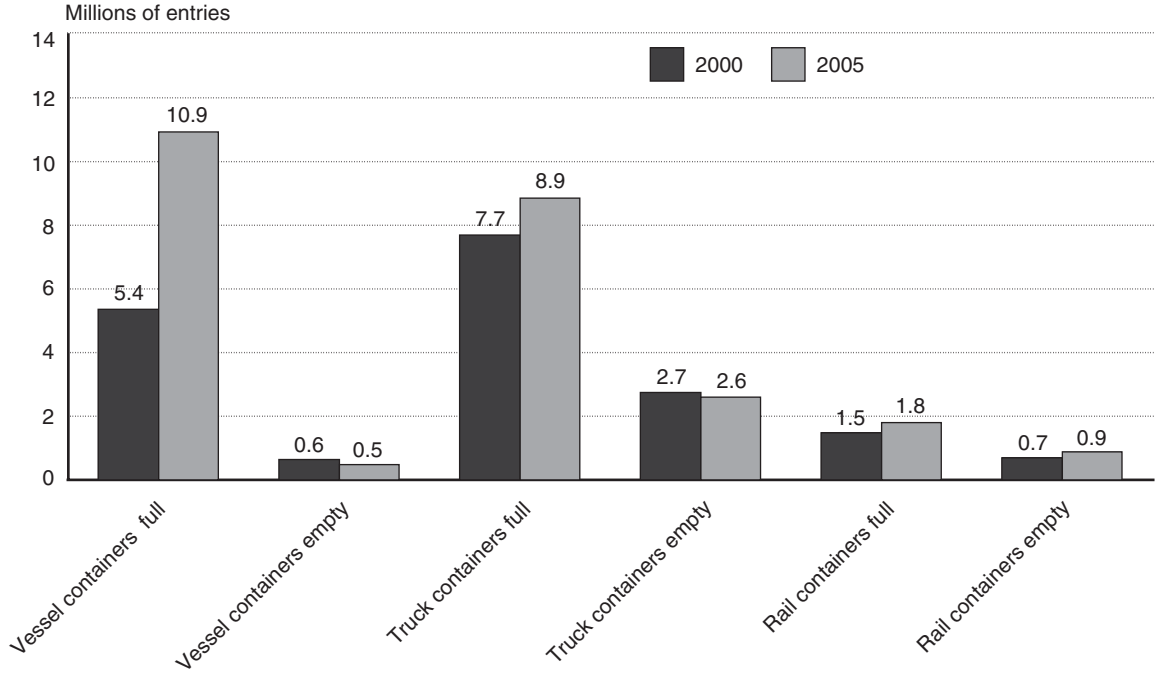
SOURCE: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from U.S. Department of Transportation, Maritime Administration which are drawn from the *Journal of Commerce*, Port Import/Export Reporting Service (PIERS) data system, and available at www.marad.dot.gov, as of November 2006.

FIGURE 5
Maritime Container Entries into the United States



SOURCE: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from U.S. Department of Homeland Security, Customs and Border Protection, Mission Support Services, Operations Management Database CD, various years.

FIGURE 6
Container Entries into the United States from All Countries and by All Modes: 2000 and 2005



SOURCE: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from U.S. Department of Homeland Security, Customs and Border Protection, Mission Support Services, Operations Management Database CD, various years.

borne containers used to bring imports into the United States, over 15 million containers entered the nation by truck and rail from Canada and Mexico in 2005 (figure 6). The large number of containers crossing by land border into the United States by surface modes reflects the continued importance of overall U.S. trade with its top two trading partners, Canada and Mexico. From 2000 to 2005, the number of truck, rail, and maritime containers (full and empty) crossing into the United States rose by 10, 23, and 91 percent respectively.

CONTAINER PORTS AND DATA NEEDS

Comprehensive and comparable data for all modes of transportation, including intermodal transfer points, are necessary to present a complete picture of containerized cargo movements to, from, through, and within the United States. No single data source currently provides all the data needed for true multimodal and intermodal containerization research and analysis for all modes. The lack of data on commodity details for all containers and the lack of U.S. outbound border crossing information for container traffic by truck and rail pose a problem for analyzing the use and performance of the nation's ports and border infrastructure.

> Today, China accounts for 43 percent of U.S. import container TEUs, a share that's rapidly growing.

Also, with regards to analyzing container transportation trends, there is the lack of information on true origins and destinations of container shipments within the United States. This data gap limits analysis of major freight corridors to and from U.S. seaports and border gateways and affects our understanding of freight capacity, highway congestion, and traffic delays related to U.S.-international freight transportation.

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