

Introduction and Industry Overview

As an agency of the U.S. Department of Transportation, the mission of the Maritime Administration (MARAD) is to promote the development and maintenance of an adequate, well-balanced United States merchant marine, sufficient to carry the Nation's domestic waterborne commerce and a substantial portion of its waterborne foreign commerce, and capable of serving as a naval and military auxiliary in time of war or national emergency.

The United States was founded as a maritime nation. Marine transportation is vital for our economic and national security. U.S. public policy and private enterprises have long been shaped by a keen appreciation of the strategic importance of the oceans, lakes, and inland waterways. Our Nation's waterways, ports, and their intermodal connections are critical components of America's transportation system, as are the vessels moving people and cargo. Our marine infrastructure and commercial carriers support our domestic trade and markets; our global outreach into overseas markets; and our engagement in world affairs, including protection of U.S. national security interests.

Marine transportation is one of the most flexible, cost effective, and environmentally safest mode of domestic and international freight transportation. However, the maritime issues and challenges facing the Nation are significant and complex. Changes in world political trends and economies, domestic and international priorities, and technological advancement occur constantly. The United States depends overwhelmingly on oceanborne shipments for its international trade, and yet has a comparatively small fleet of ships engaged in international commerce under the U.S. flag. Ninety-five percent of the Nation's overseas trade moves by water, but only about three percent is carried by the U.S.-flag fleet. This has disturbing implications

for America's national security and economic vigor. Without a U.S.-flag fleet, the Nation's foreign commerce and auxiliary sealift capability would depend entirely on foreign-flag ships.



MARAD administers Federal laws and guidelines designed to meet the Nation's shipping needs for both domestic and international waterborne commerce and for national security. Its responsibilities include the following:

- Primary responsibility for ensuring the availability of efficient water transportation service to shippers and consumers.
- Ensuring that the United States has adequate shipbuilding and repair service, efficient ports, effective intermodal water and land transportation connections.
- Ensuring that the United States has sufficient commercial intermodal shipping capacity for use by the Department of Defense (DOD) in times of emergency.
- Training and educating officers who graduate from the U.S. Merchant Marine Academy and the six statemaritime schools. These officers crew commercial ships as well as reserve sealift vessels in support of DOD military operations.

Major Segments of U.S. Marine Transportation Industry

Vessels of all Flags Engaged in U.S. International Trade ¹

Segment	Number of Vessels ²	DWT (Mil.)	Primary Service(s)
Container & RO/RO ³	1,136	39.0	Manufactured/semi-manufactured product shipments
Tankers ³	1,360	117.0	Crude oil and petroleum product shipments
Dry Bulk Carriers ³	2,020	91.8	Grain, coal and ore shipments
Other Specialized Vessels ³	531	18.1	Refrigerated product, lumber, & over-sized shipments

U.S.-Flag Vessels Engaged in Domestic Trade

Segment	Number of Vessels ²	DWT (Mil.)	Primary Service(s)
Inland Tank Barges	3,400	7.1	Inland petroleum product shipments
Coastal & Inland Deck Barges	5,000	4.0	Construction, bulk materials, manufactured products
Crude Carriers	18	2.5	Alaska/West Coast crude oil shipments
Product Tankers & Coastal Tank Barges ³	162	4.2	Coastwise petroleum product shipments
Container & RO/RO ³	38	0.9	Noncontiguous manufactured/semi-manufactured product shipments
Dry Bulk Carriers ³	50	1.9	shipments
Coastal Dry Cargo Barges	700	2.3	Great Lakes ore, coal, and limestone shipments
Inland Dry Cargo Barges	22,000	32.5	Coal and crude material shipments
Offshore Support Vessels	800	N/A	Inland grain (exports) and coal shipments
Tugs & Towboats	5,500	N/A	Development & maintenance of Gulf offshore oil leases
Passenger/Ferries	1,700	N/A	Barge propulsion, vessel assist
			Vehicle and passenger transportation

¹Excludes U.S. Jones Act vessels

²Approximate

³10,000 DWT or greater.

U.S. Marine Transportation Industry

The U.S. marine transportation industry serves the needs of both domestic and international commerce. It comprises companies that carry freight or passengers on the open seas or inland waterways, offer towing services, charter vessels, operate canals and terminals, and develop offshore oil resources.

In 2001, U.S. waterborne commerce amounted to 2.2 billion metric tons. International commerce accounted for 56 percent of the total, up from 48 percent 10 years ago. The increase is due largely to a 79 percent increase in crude oil imports, and a 51 percent decline in domestic (Alaska/U.S. West Coast) crude oil shipments. Oil and other primary commodities (coal, chemicals, crude materials and farm products) accounted for 90 percent of U.S. waterborne commerce (Exhibit 1). Manufactures trades accounted for only 10 percent of U.S. waterborne commerce in 2001, but have doubled over the last 10 years.

Economic Growth

In 2001, payments for marine transportation services (GDP) amounted to \$15.7 billion. For the period 1991 to 2001, the average annual growth of these payments was four percent, lower than the six percent for non-water transportation services (Exhibit 2). Much of the slower growth during the last ten years may be attributed to the decline in Alaska crude oil production, which has reduced domestic crude oil shipments.

The recent volatility in marine transportation payments can be traced largely to the impact of changes in oil prices on the demand for tank vessel services. As spot petroleum prices increased in 1999, oil companies drew down inventories. That reduced demand for tank-vessel services. Oil companies rebuilt stocks in 2000 and 2001, contributing to a surge in petroleum trades and tank-vessel earnings.

The supply of tanker services does not react rapidly to trade surges due to delays in repositioning tankers from one trade to another, terminal bottlenecks and normal voyage times. As a result, spot earnings tend to rise sharply as trades surge but fall sharply as trades return to trend levels. For example, average spot earnings for international product tankers increased from \$16,300 per day in June 2000 to \$43,500, per day in January 2001. By December 2001, average earnings for these tankers had fallen to \$13,100 per day.

In 2001, marine transportation services accounted for only five percent of GDP from all transportation services. The low percentage can be attributed to two factors:

- Freight rates per ton-mile for marine transportation tend to be substantially lower than rates for overland shipments. For example, the Bureau of Transportation Statistics estimates that the average freight rate for rail transportation is three times that for marine transportation.
- \$20 billion was paid by U.S. citizens to foreign companies for international marine transportation services. These payments are not included in gross domestic product.

U.S. Waterborne Commerce, 2001 (Million Metric Tons)

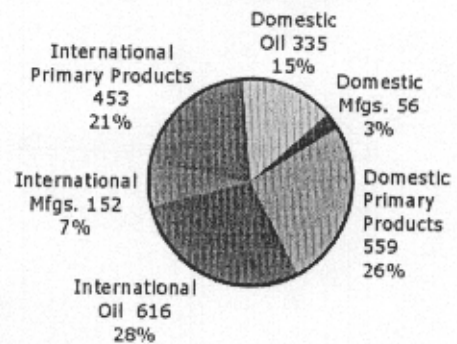


Exhibit 1. Source: U.S. Army Corps of Engineers.

Gross Domestic Product (GDP), Marine Transportation Services

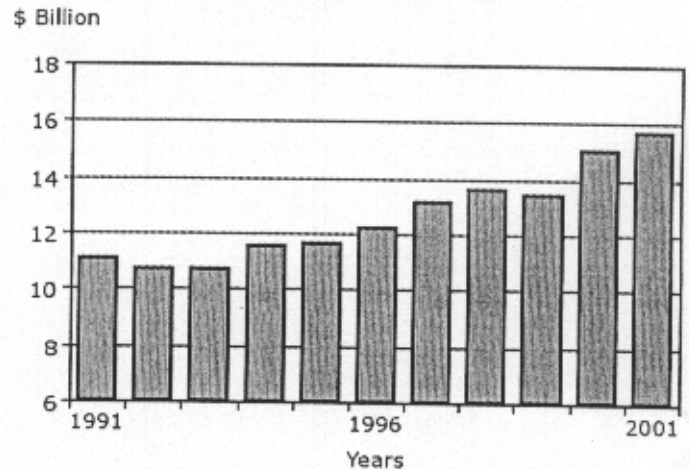


Exhibit 2. Source: Bureau of Economic Analysis.

U.S. citizens own or control about five percent of the world merchant fleet. In spite of this small percentage, the United States ranks fourth among shipowning nations. However, about 75 percent of U.S.-owned ships are registered in foreign countries. The 25 percent operated under U.S. flag are operated primarily in U.S. domestic trades (22 percent) or Maritime Security Program/cargo preference trades (three percent). Information on world fleet statistics can be found at www.marad.dot.gov/maritime_statistics.

Domestic Fleet

The surge in vessel building in the late 1970's and early 1980's resulted in low charter rates and heavy reliance on spot market transactions. For carriers, the result was two decades of low and erratic spot earnings, and limited investment in new domestic vessels. As of CY-end 2001, the average age of U.S.-owned vessels was 17 years, compared to ten at CY-end 1981.

There are, however, a significant number of new vessels on order for the domestic trades. The orders include:

- Three 140,000 DWT and four 185,000 DWT double-hull tankers, which will move Alaska crude oil to Northern California and the Pacific Northwest refineries. (Two 140,000 DWT tankers were delivered in 2001 and 2002).
- Thirty-four (200+ foot long) offshore supply vessels (OSV's), which will move supplies to offshore drill rigs and oil production platforms. Large OSV's are replacing smaller vessels in servicing the development of U.S. deepwater leases.
- Eight double-hull articulated tank-barge units (ATB's), which will move petroleum products in the coastwise trades. In the 1990's, the average length of haul for coastwise tank-vessel shipments fell sharply as imports and pipeline shipments supplanted long haul (1,500+ mile) coastwise product tanker shipments.
- Twelve high-speed ferries. With higher speeds (25+knots), new ferries can offer increased frequencies and faster transit times on existing routes and can make longer routes feasible.
- Two roll-on/roll-off (RO/RO) vessels and two containerships for domestic common-carrier trades. The new vessels will be larger, faster, and more reliable than the vessels they replace.

Inland barges are being added to the fleet in significant numbers. Over the last five years, 5,093 new dry cargo barges and 339 new tank barges have been added to the fleet.

These new vessels will help integrate marine transportation into production and distribution processes, improve service to the customers, and stabilize carriers' earnings.

International Fleet

At the end of CY 2001, the international commercial fleet was comprised of 20,895 vessels of 753 million DWT; 107 million DWT of new vessel capacity was on order.

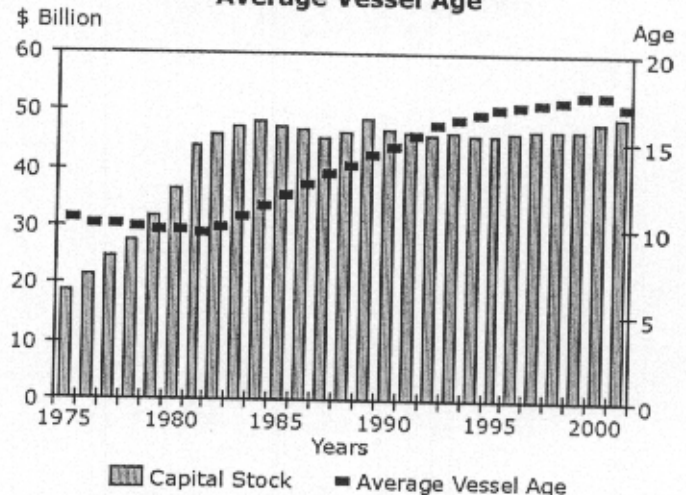
In CY 2001, about 40 percent of the international fleet called at U.S. ports. Fifty-two percent of the international calls were by vessels less than ten years old in up from 48 percent in 1999. The largest upgrades have been for tankers with 54 percent of the calls by vessels less than ten years old, up from 37 percent two years before. The youngest fleet serving U.S. ports was containerships with 65 percent of the calls by vessels less than ten years old.

The largest of the new containerships in U.S. mainstream trades are about 25 percent faster, and at least twice as large as those generally serving the trades ten years ago. The largest containerships tend to concentrate their calls at major U.S. container ports. In CY 2001, the top ten U.S. container ports accounted for 85 percent of the container-ship capacity calling at U.S. ports. To accommodate the larger vessels and cargo volumes, the major U.S. container ports have lengthened berths, expanded terminals, upgraded container cranes, and improved road and rail access. The Oil Pollution Act of 1990 requires that all vessels carrying oil to U.S. ports must have double hulls by 2015. In recent years, there has been significant progress in replacing non-double-hull tankers in U.S. trades. For

example, in CY 2001, 54 percent of the tanker calls at U.S. ports were by double-hull tankers, up from 40 percent two years earlier.

Given the large number of international vessels on order, fleet upgrades will continue to be substantial for the next three years. The capacity on order represents about 14 percent of the existing international fleet capacity. The most significant upgrades will be in the containership and tanker fleets, where orders represent 24 percent and 22 percent of the respective fleet capacities.

U.S. Marine Transportation, Capital Stock of Vessels and Average Vessel Age



Source: Bureau of Economic Analysis.

International Commercial Vessel Fleets and Orders Year-end 2001

Vessel Type	Fleet		Orders	
	Number (Mil.)	DWT	Number (Mil.)	DWT
Container	2,895	77.5	449	18.6
Ro/Ro	1,512	15.1	159	2.3
Tankers	6,334	318.8	782	68.6
Dry Bulk	5,475	286.2	378	24.5
Other	4,679	55.5	183	2.3
Total	20,895	753.2	1,951	107.2

Source: Clarkson Research Studies.

International Vessel Calls At U.S. Ports By Year Built, 2001* (Thousands of Calls)

Vessel Type	Year Built			Total
	Before 1981	1981-1990	After 1990	
Container	1.6	4.1	10.4	6.1
Ro/Ro	1.1	2.5	1.5	5.1
Tanker	1.9	5.2	8.2	15.3
Dry Bulk	2.3	4.6	5.1	12.1
Other	1.2	1.7	1.8	4.7
Total	8.1	18.2	27.0	53.3

Source: Maritime Administration, *Vessel Calls at U.S. Ports, 2001*.

*Excludes U.S. Jones Act Vessels.