



International Maritime Trade Benefits the Nation's Economy

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The Institute for Trade and Transportation Studies provides research data and expert opinions to its members concerning the effects of commercial freight movements on domestic and international activities, with reference to infrastructure and transportation needs, and safety implications.

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and its linkages to inland markets, can provide economic opportunities to U.S. firms. However, as with most infrastructure in the United States, this “highway on-ramp” to global prosperity is in need of attention, as “potholes” can disrupt our transportation system and the economy. The nation’s infrastructure requires constant and secure funding, not only for ports and their associated dredging and infrastructure needs, but also for the corridors that link ports with inland markets.

Key Points:

1. Every state in the U.S. depends upon maritime trade.
2. As trade grows, so too does the importance of ports to handle this trade, creating jobs in port areas.
3. The growth in ports also requires strong connections to inland markets to ensure that U.S. goods are competitively priced in world markets. This supports/creates jobs for many different industries and modes throughout the nation, just not in port areas.



Figure 2. Moored vessels at Port Everglades

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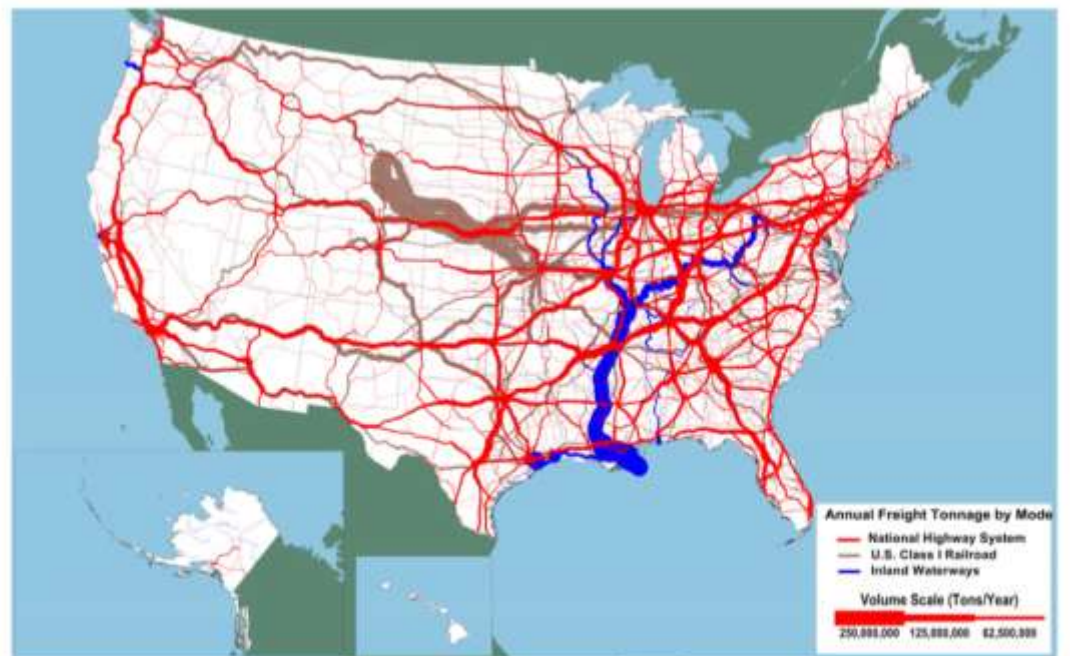
International Trade And The U.S. Economy

The Council of Supply Chain Management Professionals (CSCMP) estimates that spending on logistics represented 8.5% of the total U.S. economy in 2012 (Council of Supply Chain Management Professionals, 2013). The U.S. Department of Transportation's Freight Analysis Framework (FAF) estimates the average American generated and consumed 50 tons of freight annually, or the equivalent of two loaded 18-wheelers, while a family of four required two loaded boxcars. Such broad comparisons are illuminating when we consider how transportation, especially international trade activities, influence our daily lives.

From a morning coffee or tea (constituting almost \$7 billion in imports in 2012), to the petroleum in our car (\$315 billion in crude petroleum imports in 2012), many of your daily purchases are imported, including bananas, clothing, and even consumer electronics. However, imports are not just a consumer story. U.S. businesses also benefit from imports, often to secure key manufacturing components or for intracompany transfers. A recent study, "Imports work for the U.S. Economy," highlights how imports improve the American standard of living, supporting 16 million jobs, including many small businesses (Trade Partnership Worldwide, LLC, 2013). But trade is not a one way street, as exports are also important. Exports have been a source of growth over the past few years. In 2011, the International Trade Administration estimated there were over 302,000 U.S. exporters, roughly 98% of which were small- to medium-size companies (under 500 employees). But international trade and

transportation are also related to more sophisticated activities, such as Foreign Trade Zones, trade agreements, and other market promotion activities undertaken to support the U.S. economy.

Based on total trade in goods, the U.S. is the world's largest trading region, with over \$3.6 trillion in goods shipped into or out of the U.S. in 2012.² Part of this trade is linked to the extensive transportation network in the U.S., which ranks as



Sources: Highways: U.S. Department of Transportation, Federal Highway Administration, Freight Analysis Framework, Version 3.4, 2012. Rail: Based on Surface Transportation Board, Annual Railroad Waybill Sample and rail freight flow assignments done by Oak Ridge National Laboratory. Inland Waterways: U.S. Army Corps of Engineers (USACE), Annual Vessel Operating Activity and Lock Performance Monitoring System data, as processed for USACE by the Tennessee Valley Authority; and USACE, Institute for Water Resources, Waterborne Foreign Trade Data, Water flow assignments done by Oak Ridge National Laboratory.

Figure 3. Tonnage on highways, railroads, and inland waterways, 2007

² This excludes trade in services, such as insurance, banking, tourism, etc., which represents almost 7% of the nation's economy.

the largest single national network in the world, and to the ability of the U.S. transportation system to rank among the world's logistics leaders.

Figure 1 shows the annual U.S. freight tonnage by mode (U.S. Department of Transportation, Federal Highway Administration, Office of Freight Management and Operations, 2012). The problem with such maps lies in determining how this diverse system supports distinct elements of the U.S. economy. Some large flows dominate, such as western coal moving to the Midwest and barge shipments moving on the Ohio and Mississippi Rivers, but other flows are not as obvious, though they are just as important, such as key energy corridors, grains shipments, military shipments, or even international trade shipments through a variety of large and small ports, terminals, or ferries. (A second problem is trying to describe the dynamic nature of international trade, as markets and commodities can change based on a variety of different reasons.) Given the complexity of transportation, we tend to attempt to simplify this issue by focusing on one mode, commodity, or even geography, such as a city, state, or region.

This paper links the importance of ports to individual state economies to demonstrate that maritime transportation, while considered a "local activity," plays a critical role in supporting the U.S. economy far beyond the waterfront.



Figure 4. Truck entering a rail intermodal facility in Ohio

The Nation Benefits From Trade Through Ports

Two primary factors to consider when contemplating the importance of ports to the U.S. economy are: (1) national trends in maritime transportation and (2) the specific regional port activities. These distinctions are important but should not be treated in isolation, as they are components of the same story: Maritime trade benefits the entire nation.

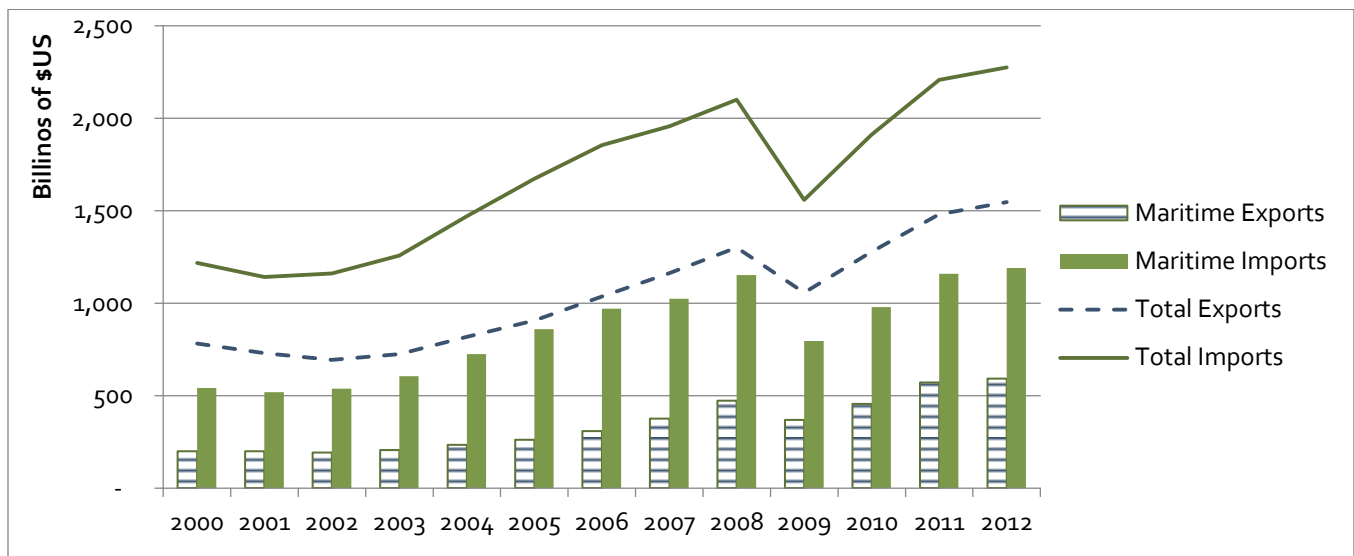


Figure 5. Trend in U.S. international and maritime trade, 2000-2012

Total trade through the nation's maritime ports has dramatically increased, because of both an increase in imports and the resurgence of U.S. exports. Figure 5 shows the growth in U.S. total trade and maritime trade, by value, from 2000-2012. Despite the downturn during the "Great Recession" in 2009, trade levels have recovered, both for overall trade and for maritime trade. For 2012, maritime trade accounted for almost half of all U.S. trade by value.³



Figure 6. Containers at the Port of Jacksonville.

³ All trade statistics, unless otherwise noted, were accessed via WISERTRADE.

Each individual port tends to promote its activities as distinct enterprises, and ports should be considered local entities, as this is where the vessels call. In 2011, 7,662 oceangoing vessels made almost 70,000 calls at U.S. ports. (US Department of Transportation, Maritime Administration, 2013) Thirty states reported international seaborne foreign trade shipments, which includes Great Lakes shipments, in 2011 (Appendix Table 3).⁴ Figure 7 shows that the top maritime states for international trade by tonnage that year (2011) were Texas, Louisiana, California, New Jersey, Washington and Virginia (Appendix Table 3). These states possess large maritime port complexes, yet other states, particularly in the Southeast and along Atlantic seaboard, are heavily engaged in international maritime trade.⁵

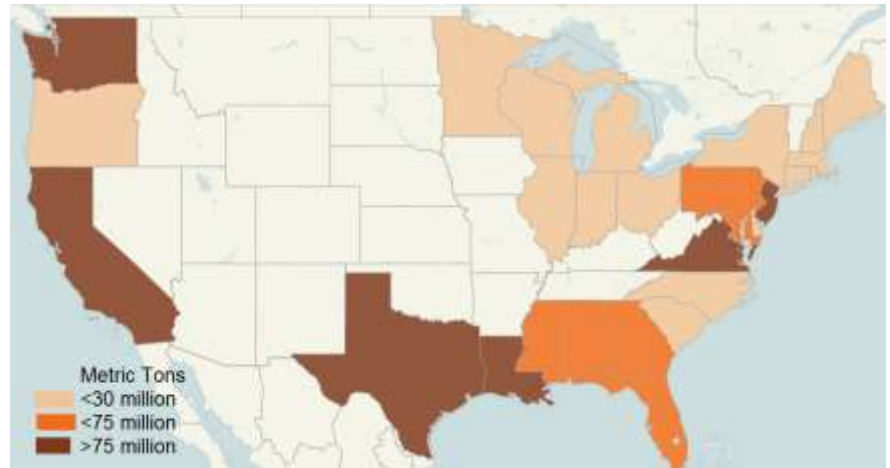


Figure 7. Total international maritime tonnage, 2011.

Hence, most direct maritime jobs are located in states that possess maritime facilities. The American Association of Port Authorities (AAPA) estimates that more than 13 million jobs are supported by maritime trade activity, generating over \$200 billion in federal, state, and local taxes and \$27.5 billion in customs duties (American Association of Port Authorities, 2013). However, many related jobs are not located in coastal areas that depend upon international transportation.

According to *The Journal of Commerce*, which ranked the top shippers (firms that route cargo) of containerized cargo in 2012, these top shippers were scattered all over the United States (*Journal of Commerce*, 2013) (Figure 8).⁶ The map shows the headquarters locations of these firms (it should be noted that if a firm was listed as both a top exporter and a top importer, they were double counted). Thirty-two states have at least one top containerized importer and/or exporter. Eight non-coastal states had a top containerized shipper (representing 12% of the listed firms). The integrated U.S. transportation system helps to make these shippers competitive in world markets.

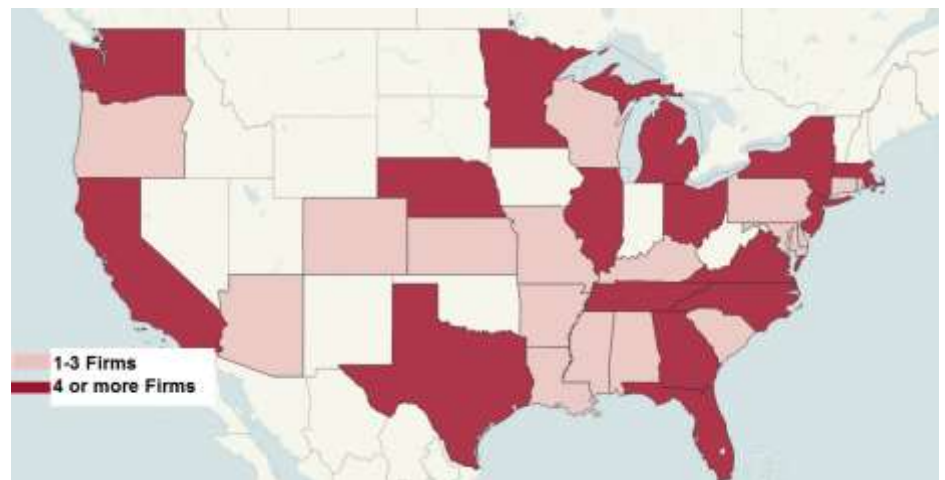


Figure 8. Top containerized shippers, 2012

⁴ Forty states reported some maritime traffic in 2011 according to the Corps of Engineers.

⁵ This study does not include Jones Act trades between U.S. markets, which are considered domestic movements.

⁶ A container is a standard box that is 8 feet high, 8 feet wide, and 40 feet long, although different sizes exist. The benefit of containerization is relative ease in moving seamlessly between different equipment types and modes.

The International Trade Administration estimates that over 300,000 firms, of which 98% were small- to medium-size businesses, were involved in exporting in 2011 (U.S. Department of Commerce, International Trade Administration, 2013). These firms are scattered throughout the United States, from the largest metropolitan areas to the smallest. Figure 9 shows the value of total U.S. exports to all destinations by metropolitan statistical area for 2012⁷. Generally, the larger exporting areas are located either near a major air hub, port, or border crossing, or in states with large populations and/or large generators of freight tonnage (manufacturing, natural resources, etc.).⁸ Such urban concentrations should not be surprising, as a recent Brookings Institution report estimated that the top 100 metropolitan areas generated 64 percent of the nation's exports (Istrate, Emilia; Rothwell, Jonathan; and Katz, Bruce, 2010). However, this also means that one-third of all U.S. exports come from smaller urban and rural areas. Transportation needs and activities tend to aggregate in the associated high economic and dense population centers, but this data indicates that smaller markets are also active.

Exports, especially for small businesses, have become a key economic development focus for many state and local governments. The problem lies in the potential disconnect between promoting trade and recognizing that trade requires the physical movement of a product. Foreign direct investment site selectors tend to rank infrastructure fairly

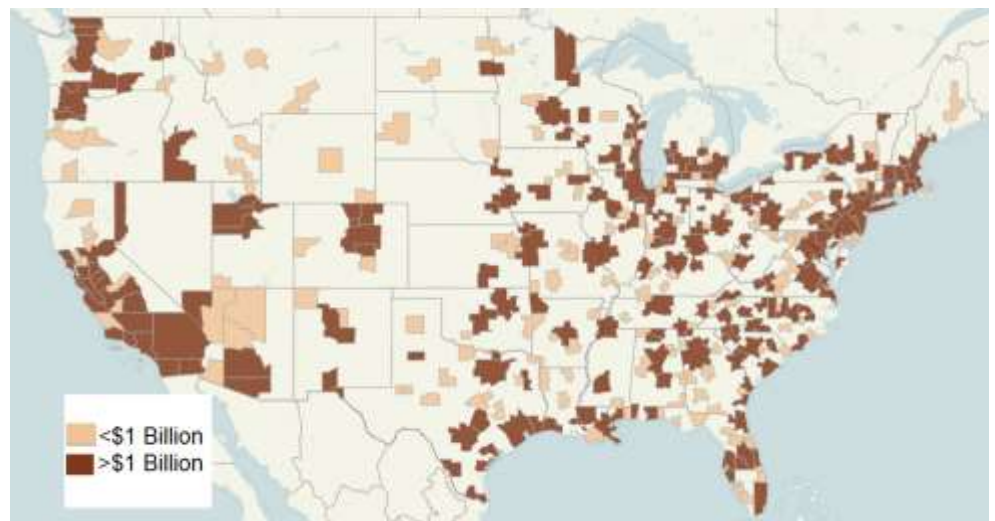


Figure 9. Exports from metropolitan statistical areas, 2012

high, but in many cases, this includes access to a port. This does not imply that international transportation is relatively free when compared to domestic transportation, as there are so many requirements one must understand to cross international borders and be paid in a timely manner.⁹ A good example of a change in linking transportation and trade is the Florida Chamber, Ports Council, and the Florida Department of Transportation, which have tried to link the need to promote trade to a Florida Trade and Logistics Plan and key strategic investments in seaports and Intermodal Logistics Centerport and transportation network (Florida Chamber Foundation, State of Florida Department of Transportation, 2010).

⁷ The figure includes all exports, as the MSA database does not separate out trade by gateway or mode.

⁸ It should be noted that the maps only show the contiguous 48 states, as Alaska and Hawaii, as well as Puerto Rico, depend heavily upon their ports but they do not necessarily service international trade movements with other states. However, their information is reported with the other states in the appendix.

⁹ The Columbus Electronic Freight Management Evaluation Final Report outlines many of the steps involved in international air shipments. In many cases, there are over 20 different notifications, reports, etc., that are filed or transmitted to bring cargo into the United States. (K. Troup (North River), D. Newton (SAIC), others, 2008)

Ports And Inland Markets Are Interdependent

The nation depends upon a system of corridors/linkages to support international trade flows. The implications of international trade are clearly seen at these facilities, but as the truck, train, or barge moves to and from inland markets, it becomes part of the background traffic on both the state's and the nation's infrastructure. Calculating these linkages is not straightforward (National Research Council, 2005). In one way, these are both local and national benefits, but the greatest "burden" seems to be where

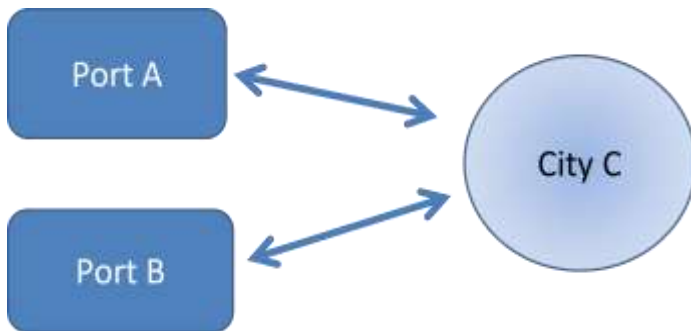


Figure 10. Comparison of local port areas to port hinterland areas

transportation activities are most concentrated and noticeable by the general public.

Local cargo is basically captive to a port; for example, a firm in Miami tends to use South Florida ports. In Figure 10, the heavy shaded areas around Port A and Port B illustrate this

trend. Often, a facility's ultimate success depends upon its relationship to other markets, whether by sea or by land. (In Figure 10 this would be City C.) The port hinterland, or the area that the port serves, normally must have one or more of these activities to generate cargo: access to a large consuming or producing area, transportation interchanges between modes, and/or warehousing/ distribution facilities. Ports often compete for service with their hinterlands, as discretionary cargo can move through any of several ports with overlapping markets. Firms in City C can choose between using Port A or Port B based upon its transportation needs, costs, and available services. Regions compete for these connections, as larger volumes will help a port attract more cargo and growth.

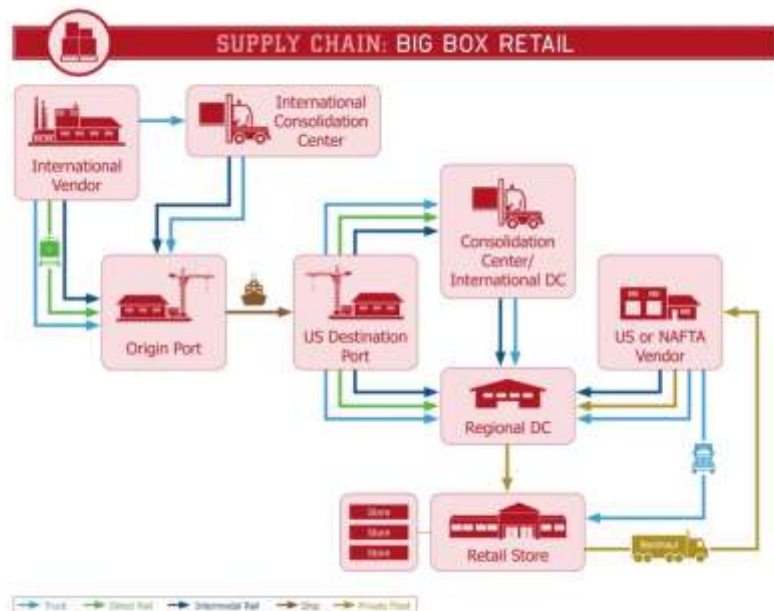


Figure 11. Potential shipment of a retail product.

Figure 11 shows a typical flow chart for a large box retailer (National Academy of Sciences, 2012). The cargo may arrive by water through a port, by air, or even be sourced domestically. The product moves through several distribution centers and warehouses before arriving at a store. In many ways, the same process could be applied to outbound shipments, as exporters often align their international trade patterns with their domestic traffic lanes. When an import clears customs at a port, the cargo becomes "domestic" and is no longer an

international shipment. An export cargo becomes "international" when it begins its move towards a port and the export documents are submitted to the U.S. government. In both cases, it is not that the cargo moved on the domestic U.S. system, but rather that the cargo is moving into or out of the U.S.

In many ways, the farm to market road is now the "farm to world" road, as USDA estimates roughly 20% of all U.S. agriculture heads to a foreign market (Jerardo). For grain shipments, U.S. exports tend to move via waterways and railroads to ports. Along the Mississippi River port complex (Baton Rouge to the mouth of the river), Illinois ranked as a leading export source (mostly soybeans), but other states, especially those with large agricultural production, utilize the Mississippi River to access global markets. Roughly 60% of all U.S. grain shipments will leave through a port located along the Mississippi River. This network of waterways and railroads helps to make U.S. soybean exports competitive in world markets. However, this is one commodity in one corridor; other commodities flow along the Mississippi River, such as fertilizers, fuels, and coal. This leads to another question: What does the Mississippi River (or any other trade corridor) contribute to the U.S. economy? The Mississippi River provides a low-cost alternative for transportation to the Midwest, not only for agriculture, but also for fuels and fertilizers. The Mississippi River thus supports the inbound movement of inputs into domestic production processes, especially crude oil, as well as the outbound movement of goods produced in the United States destined for world markets.

Global supply chains are also important to foreign-owned businesses operating in the United States. These firms are also more likely than domestic firms to be involved in both importing and exporting at the same facility (Lambert, 2010). For example, the Mercedes plant in Alabama is not completely the equivalent of one of Mercedes's production facilities in Europe. It does not produce engines, which come from Germany; and it relies heavily on modular production, which reduces some of the complexity of building finished automobiles. This means that foreign-owned plants are still very dependent upon global supply chains to move components for production.

Years ago the lack of adequate landside transportation to inland regions limited a shipper's choice in determining which ports to use. The interoperability of the U.S. transportation system allows firms to enjoy a competitive advantage when engaging in international activities. This is evidenced by the growth in maritime exports from every state over the past 12 years. Trade is a growing part of each



Figure 12. Detroit-Windsor Truck Ferry serves a critical service for hazmat shipments in U.S.-Canadian trade. Substantial international maritime trade exists on the Great Lakes.

The Mississippi River and Dredging

Navigation channels require constant dredging to maintain navigable depth for safe passage. Deeper channels also allow vessels to carry larger weights, lowering per unit costs.

When considering a dredging project, the Corps of Engineers uses Benefit Cost Analysis to analyze various navigation projects. Currently, studies are examining deepening the river to 50 feet. This would allow larger vessels to operate in the river, potentially lowering per unit costs, which would make these exports more competitive pricewise in overseas markets.

Other ports in the Southeast are also seeking to increase dredging to handle larger vessels, largely in response to the expansion of the Panama Canal.

The picture below shows dredges in the Mississippi River.



state's economy, and Figure 13 shows the change in maritime-related exports from each state from 2002-2012.¹⁰ Montana, West Virginia, and New Mexico were the leading states in terms of percentage increase in the change of exports through maritime facilities based on reported state of origin.

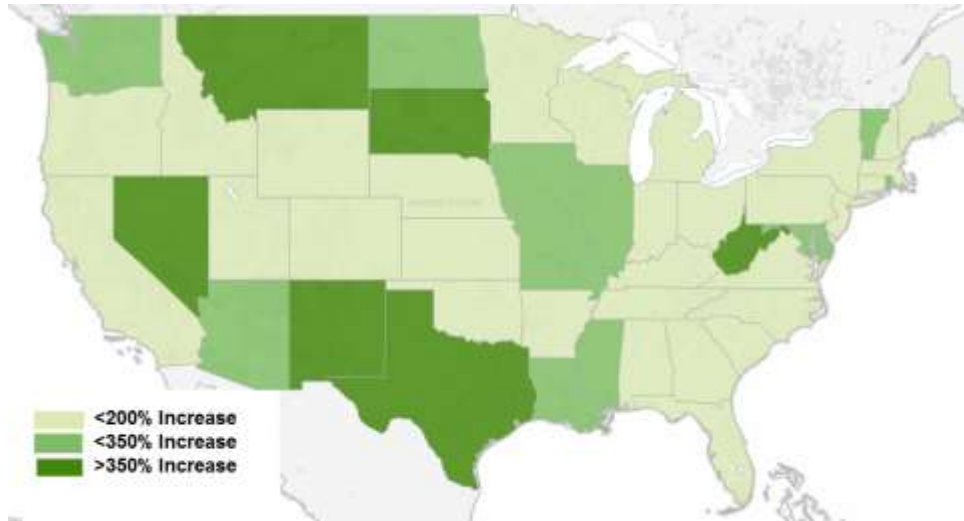


Figure 13. Percentage increase in maritime exports by state, 2000-2012.

The growth of international trade has transformed ports into interchangeable links and not a separate component of a transportation activity. While vessel operations are important, equally so are the location and ability to link to markets. The old axiom “ships go where the cargo is” is highlighted by the growth of certain ports that serve a large or captive market, but each possesses different terminal operational requirements. Ports, including their shipping lines and tenants, compete on their ability to not only provide access and space for vessels, but in ensuring that shippers are able to move their cargo to/from the docks in a timely manner. Ports must continue to invest in facilities, terminals and other activities to retain and attract cargo, which ultimately “pays the bills”. While not addressed in this paper, ports must be flexible to accommodate a variety of cargoes, as trade patterns, exchange rates, commodity prices, regulatory issues, and other events can rapidly influence a port’s traffic. Ports that are able to handle diverse cargoes may be better positioned to satisfy their customer’s needs, but such success often depends upon the port’s ability to respond to new opportunities based on its previous investment in both infrastructure and partnerships. It is this push for competition that makes the U.S. port system so dynamic. In many cases, this includes ports using Foreign Trade Zones to support companies engaged in international trade.

Normally, each port exists as an administrative arm of a city, state, or some public entity (this excludes privately owned terminals). Most ports compete as landlords, building terminals, warehouses, channels, and other physical infrastructure as needed to retain and attract port tenants and shipping lines. However, ports must possess competitive infrastructure (channels, terminals, and road access) to remain viable choices for shippers and carriers. (Abt, K., & Lambert, B., 2006)

The Heartland Corridor and Prichard Terminal

The Heartland Corridor involved upgrading an existing coal line with restricted dimensions to handle international maritime and domestic double-stack container traffic moving from the Virginia Port Authority through Virginia, West Virginia, and Ohio, continuing to Chicago and its interchanges with the western Class I railroads. The corridor, funded by both public and private sector funds, was open for business in 2010.



West Virginia is currently developing the Prichard Intermodal site outside of Huntington. The picture below shows a rendering of the terminal once it is completed.



¹⁰ Import statistics listed by state were not available for 2002, so the calculation only discusses export shipments.

Shipment Types:

Container: A standard box 40 feet long, 8 feet wide, and 8 feet high that is easy to move between ships and inland transport. Photo: Container ship at Norfolk



Bulk Cargos: Nearly identical cargo that moves in large quantities. These can be either dry cargos (such as grains or coal) or liquid bulk cargos, such as petroleum or chemicals. Photos: Grain ships working midstream in the Mississippi River and a tanker heading into heavy fog.



Breakbulk: Cargo that is divisible and can be handled in unitized loads, such as steel, fruits, or project cargo.



Figure 14 shows a simple illustration of the various partners associated with a port. There are landside challenges. For most ports, their area is defined through their operating charter, which means that ports must work on the roadways, utilities, and terminals located within their port area. However, most of the port's area of influence may lie beyond the port gate, where warehouses, distribution facilities, and

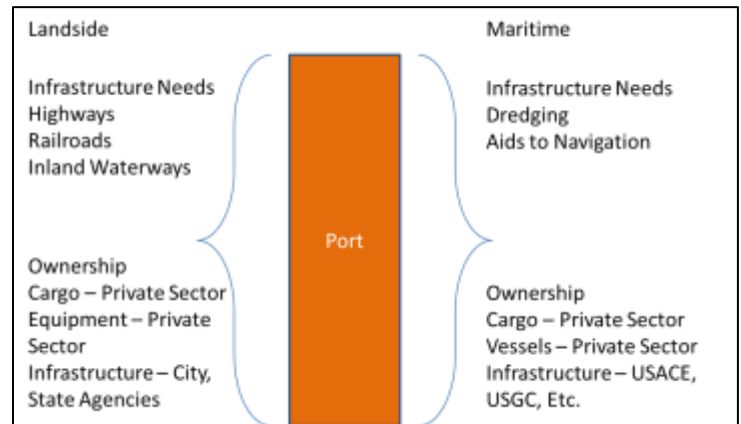


Figure 14. Ports work with many partners

other terminals exist. Intermodal connectors describe a local road that links ports (or other intermodal facilities) to the principle highway system. Oftentimes, these connectors are not necessarily maintained in the same condition as other roadways (U.S. Department of Transportation, Federal Highway Administration, 2001). So any road improvement to or from a port requires working with a state or local planning agency.

Ports develop terminals and facilities, which are either leased to others (making the port a landlord port) or are operated directly. Also, ports may have private landowners who have property in the port's jurisdiction but do not necessarily "belong" to the port.

Access to domestic markets could be through many modes. Trucking is normally provided by drayage operators, trucking companies who specialize in local port movements to and from facilities, as well as traditional, over-the-road drivers. Ports may be located along rivers or coasts, which makes barge operations important, especially along the U.S. Gulf Coast, but container-on-barge operations are also developing in Virginia and California. Railroads may operate facilities near a port's property. No one mode dominates the flows between inland markets and ports, as cargo mostly moves on barges, trucks, rails, and pipelines, both to and from port facilities. In Figure 16, the share of traffic by mode is split amongst various modes in 2007, based on the Freight Analysis Framework. As expected, trucking is the largest mode but the other modes (rail, water and pipelines) are critical in supporting international trade. (No domestic mode refers to import cargo that was either consumed at the port or an inbound destination was not estimated.)



Figure 15. Rock removal at the Pinnacles. Low water levels on the Mississippi River disrupted export shipments from the Midwest.

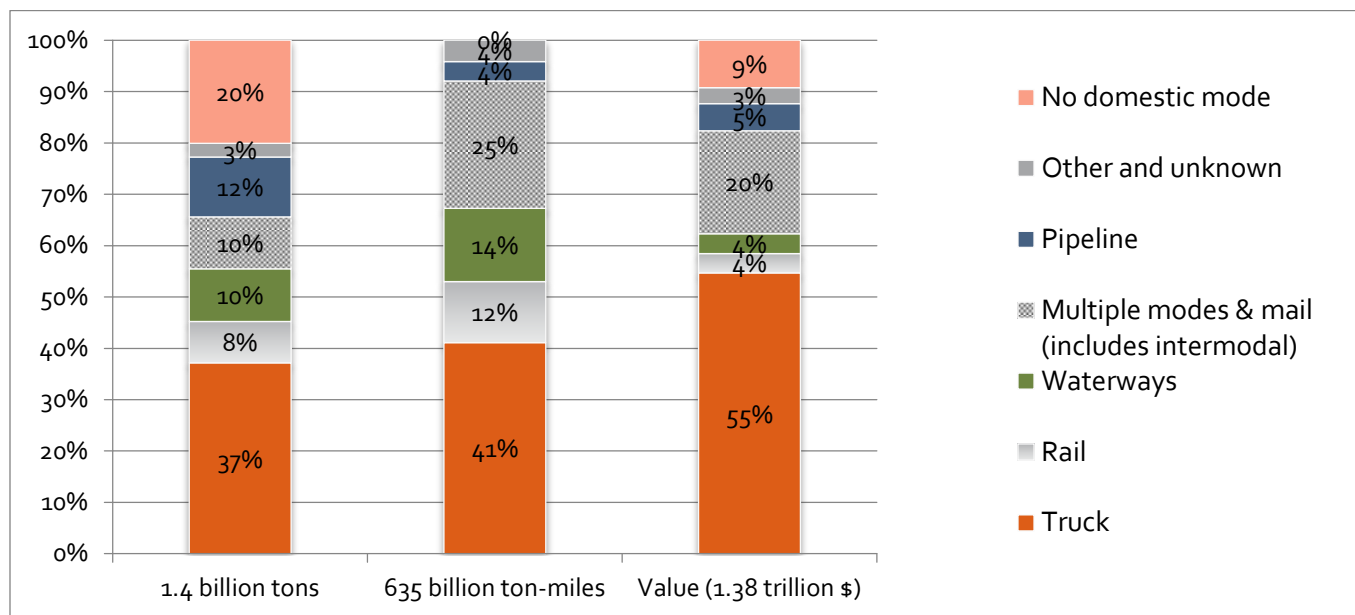


Figure 16. Estimated inland movement of maritime traffic, for both imports and exports, 2007.

Ultimately, the shipper or his agent determines how these activities occur in a port area. These modes and routing choices are based on numerous factors, but clearly a disruption in one mode may disrupt regional logistics activities, as evidenced by the recent low water conditions in the Mississippi River or hurricanes such as Katrina or Sandy.

In many ways, ports compete fiercely regarding developing and sustaining inland connectivity, although most ports do not directly control land beyond their port area. These inland connections are seen as economic drivers when they are tied to ports and inland regions, as touted by such projects as the Heartland Corridor by Norfolk Southern or the National Gateway program by CSX. Other corridor-port hinterland connections, especially for regions that are not necessarily considered to be located along the nation's major trade corridors, should not be dismissed lightly, as outlined by

a recent Appalachian Regional Commission report on global access. (Appalachian Regional Commission, 2009/2010).

The waterway side is less complicated, as the port also develops the berths. The port authority will work with the Corps of Engineers for any dredging associated with authorized federal channels and with the Coast Guard for safe operations and aids to navigation.¹¹ The vessels themselves will operate on either a liner or tramp basis. A liner service runs similar to a bus service, with dedicated weekly calls. Most container lines operate liner service and coordinate sailing times with other landside operations to expedite shipments. A tramp service operates like a taxi, sailing where the cargo owner pays the vessel to go. This is the most common method of shipping for bulk cargos, which trade their services in global markets.

Ports exist in the crossroads, as many agents on both the landside and the maritime side are responsible for building, using, and regulating traffic through the ports. It is a complicated dance, but ports continue to work with a variety of groups to ensure that international trade can continue, both from an operational standpoint and an infrastructure framework. In both cases, projects must be justified by and coordinated with a variety of sources and partners. In many ways, ports operate as the nexus, providing the infrastructure, coordinating the activities that firms need to build and operate terminals, and assisting in promoting trade.

And what are "port projects"? They can be large port projects, such as the Alameda Corridor in Southern California, which consolidate port rail operations through the development of a dedicated intermodal "highway". But smaller port projects also exist. For example, the Georgia Ports Authority expanded the Mason Intermodal Container Facility (Mayle, 2012). The project, a 6,000-foot rail yard extension, cost \$6.5 million dollars to construct but is expected to reduce Norfolk Southern's rail operations to Atlanta by six hours. This project, in conjunction with a Highway 307 overpass, made both trucking and rail operations more efficient. The overpass reduced truck backups, while the rail extension reduced rail movements through the city, reducing rail traffic at 21 rail grade crossings. In sum, the ability to handle more cargo from improved terminals or operation on both the landside and maritime facilities are important determinants of a port's success.



Figure 17. Vessel at Virginia Port Authority

¹¹ There exist many specialized jobs at ports, such as pilots that move vessels into\from ports, federal inspectors who approve cargo and documentation to facilitate trade, longshoreman who work the vessels and host of other shipping services.

Every State Benefits From International Trade Through Ports

The ability to accurately attribute maritime trade's economic contribution to specific states is complicated by both trade's dynamic nature and the available statistical data from federal sources. While firms may have internal statistics that more clearly capture the actual origins and destinations of transportation flows, especially international shipments, official government data on shipments are somewhat limited in providing an accurate snapshot of maritime flows to and from inland markets. Using the shipper's export declaration and other trade information, the U.S. Census estimates the amount of trade that originates in, or is destined to, U.S. states.¹²

Some caveats exist in using the manifest data, such as the cargo owner's location versus the cargo's physical location. For example, Chiquita imports bananas into the U.S., and when the firm was headquartered in Cincinnati, all bananas were processed as if they arrived in Cincinnati, although very few imported bananas move directly from vessel to Cincinnati. Instead, the company routes bananas through different ports for different markets to ensure the freshest fruit is available for customers (Hinson, R., D. Picha and B. Lambert, 1992). This "headquarters effect," especially due to large trading companies that process most customs information remotely, can lead to misrepresenting the actual flow from the "ownership" flow. While documents may be coded incorrectly, or may contain other "data collection/quality issues," the use of manifest information is still the best information available to specific inland markets for international shipments in the public domain.



Figure 18. Chiquita vessel operating at the Mississippi State Port Authority in Gulfport.

Figure 19 shows maritime trade as a share of total trade for a state in 2012 based on the origin of shipment export and import figures divided by total international trade flows. Vermont had the lowest share of dependence on maritime ports; for the rest of the

¹² State of origin for exports data are based on the Electronic Export Information filed through the Automatic Export System and is a mandatory filing. Import statistics are based on the Automated Commercial System and Automated Commercial Environment, which also requires disclosure related to international imports. (U.S. Department of Commerce, U.S. Census Bureau)

U.S., maritime trade amounts to at least 10% of each state's total trade, and especially along coastal areas, ports handle an even larger share of a state's trade.

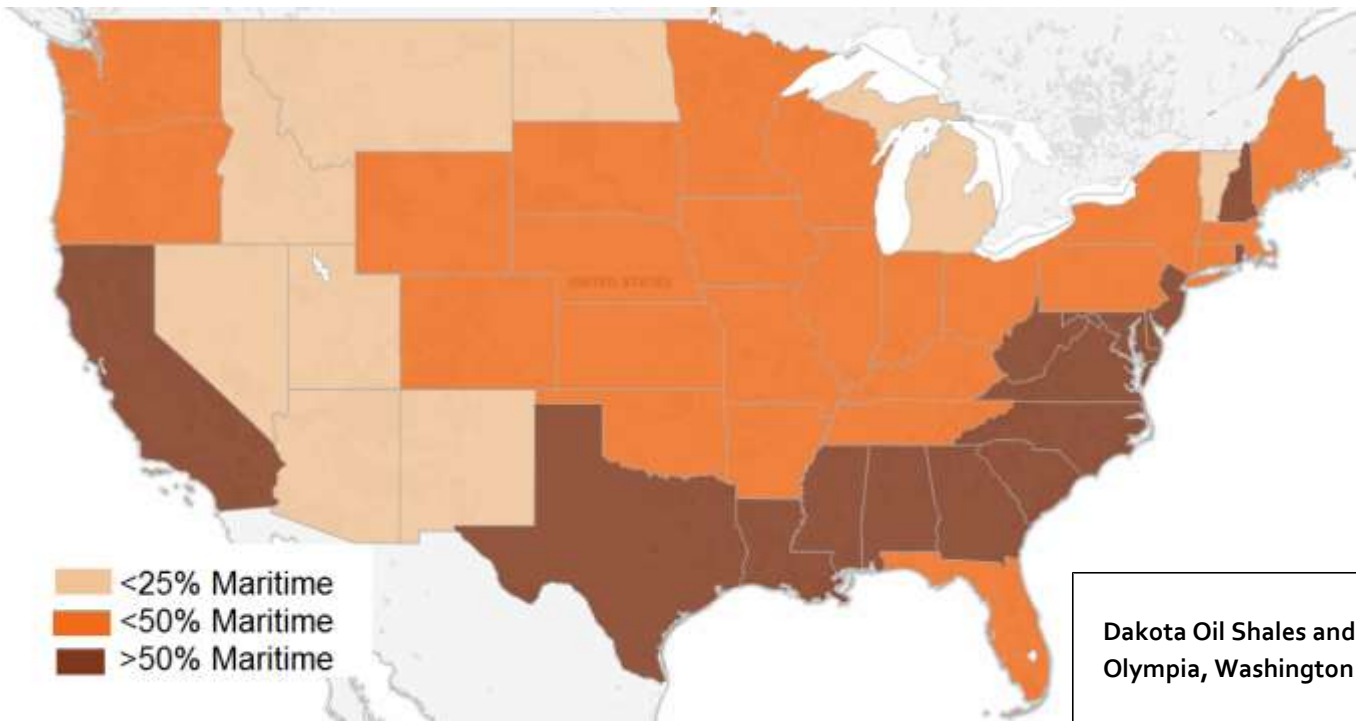


Figure 20. Share of maritime trade as percent of total international trade, 2012

Ports do contribute to the economy of most states in the U.S., although it does depend upon commodities and markets (which can change rapidly!). Using the Bureau of Economic Analysis Gross Domestic Product for each state, maritime and total trade activity, based on value, was divided by the state GDP to get a percentage equivalency based on current dollars. Given the nature of GDP calculations, the estimates here reflect international trade as an equivalent of a state's GDP. Such comparisons are useful indicators of economic importance. For an inland destination, this may actually under-report the true linkage to international markets, as these shipments could have been transferred into "domestic" shipments prior to moving to or from an inland state, as mentioned previously. For other states, it may reflect a very diverse economy, such as Virginia, Florida, and New York, which have large maritime flows, but also large service sectors.¹³

The connection to international trade exists for all states as maritime-related activities support some level of economic growth (Figure 1 in the executive summary). As expected, the lowest rates of dependence upon ports for maritime trade lie along the western Rockies, but even those states still depend upon maritime trade for between 1-

¹³ Other studies attempted similar analysis and have come up with similar problems of market estimation. For example, the Freight Analysis Framework used many different databases to estimate domestic movements of international cargos but did not link these estimates to economic activities. Private sector databases, also dependent on customs documents, have similar problems with "headquarters effects" and estimating actual routing patterns.

Dakota Oil Shales and the Port of Olympia, Washington

Olympia is the number one port in the U.S. in the importation of breakbulk ceramic proppant otherwise known as fracking sand, largely to supply the oil & gas industry boom in the Bakken Formation. Much of this North Dakota oil goes to domestic refineries.

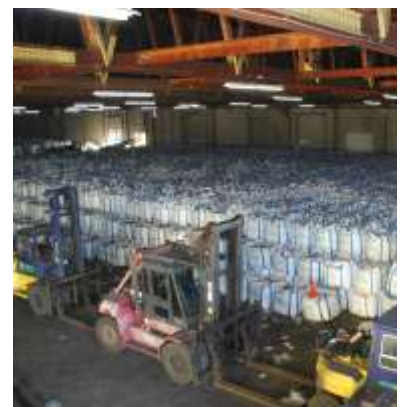


Figure 19. Bags stored in port warehouse.

4% of their economy as a Gross Domestic Product equivalent.¹⁴ In many ways, the actual economic contribution to non-coastal port states may be higher by a few points, given the growth of “port centric” activities (transloading, distribution, and other cross dock operations), although such estimates would be hard to make on a national level.

In 2011, it was estimated that roughly 12% of all tonnage moved on the U.S. transportation system was international cargo, but that figure is expected to rise to 20% by 2040 (U.S. Department of Transportation, Federal Highway Administration, Office of Freight Management and Operations , 2012.) States have enjoyed success through maritime ports, and if forecasts of growing demand prove true, the contribution of ports throughout the nation will remain important. It should also be noted that maritime trade depends upon all modes, such as truck, rail intermodal (show in figure 21), waterways, and pipelines. As such, the linkages to inland markets are not clearly marked “international,” but the traffic still flows to and from the ports.



Figure 21. International trade is closer than one realizes. Double stack trains carrying international cargo moving through a Mississippi grade crossing.

¹⁴ Appendix Tables 4-7 list top commodities and countries traded by state through the nation's ports.

Conclusion

International maritime trade will remain a critical component of the nation's economic future for a number of reasons:

- The U.S. is considering expanding trade blocks with other regions. Trade agreements generally experience fairly high growth rates after they are signed. Expanding trade should encourage job creation.
- Energy (coal, natural gas, and petroleum) and agriculture continue to be large users of port services.
- The growing middle class in other markets makes international trade more attractive to firms.
- Trade allows for broader consumer and business choices, especially as telecommunications and business transactional barriers decline.

While being away from coastal ports can add costs, such as those related to container availability, chassis pools, etc., to shippers that are engaged in international trade, the U.S. system's efficiency (despite its aging infrastructure) makes international trade a viable option for even these inland merchants. There is room for improvement in making the nation's transportation more efficient, especially given the dynamic nature of international trade. According to the World Bank's 2012 Logistics Performance Index, the U.S. ranks as the ninth most logistics friendly country in the world, based on a number of factors related to transportation services, infrastructure, documentation, etc. (World Bank, 2012). However, the system's efficiency and reliability does not come without the costs associated with building, operating, and maintaining transportation networks. According to a recent AAPA survey, ports and their private sector partners are projected to invest \$46 billion in new terminals, channels, and other related improvements over the next five years alone.¹⁵ This does not include the investment by railroads, inland ports, and other transportation providers, including highway investment needs on connectors and main routes.

More attention needs to be paid to supporting these policy goals, but the system remains fragmented concerning a national port/goods movement strategy. As outlined by the American Association of State Highway Transportation Officials' "Waterborne Freight Transportation Bottom Line Report," the system succeeds, despite the myriad funding options, regulatory approvals, and institutional frameworks. Ports always struggle with many different things to facilitate growth, such as positioning to be able to accommodate larger vessels after the expansion of the Panama Canal or to create opportunities for local and national



Figure 22. Tanker steaming northbound under the Crescent City Connection in New Orleans.



Figure 23. Container vessel at the Port of Miami.

¹⁵ Several groups, such as the American Association of State Highway Transportation Officials, the American Association of Port Authorities, the U.S. Chamber of Commerce, the US Army Corps of Engineers, and the American Society of Civil Engineers have written exclusively on the policy and funding reforms to assist in port and maritime related infrastructure.

transportation services. All of these and other factors may influence a port's future competitive position; however no metrics exist within the public sector to evaluate the linkages between ports and the economic activity of specific national corridors. The discussion on performance measures, especially as outlined by the Department of Commerce's Advisory Committee on Supply Chain Competitiveness, suggest that such considerations are important in examining improvements to facilitate international trade. Other legislative pieces may provide additional guidance in examining ways to improve port productivity. For example, the "Moving Ahead for Progress in the 21st Century Act" (MAP-21), calls for the identification of a primary Freight National Network and Projects of Regional and National Significance. While largely a highway bill, MAP-21 does suggest the nation should to consider freight from a strategic/systems perspective, and U.S.DOT is actively considering multimodal planning and operations research that may benefit trade corridors, and especially ports, in the future. On the water side, the periodic bills to revise the Water Resource Development Act (WRDA) are important in authorizing construction of coastal and inland navigation projects and project modifications as well as in setting policy that can determine what port channel improvements will be undertaken and funded by the Federal government.

Many states are actively supporting ports within their state through funding programs for improving port access and facilities, building inland intermodal terminals, seeking dredging approvals and integrating port traffic into the State's planning activities. While ports and port communities bear the direct and indirect costs of keeping ports competitive, including localized freight traffic, the benefits of those ports are not limited to the port vicinity. Some states play an active role in port related infrastructure improvements but every state depends upon international trade for some portion of its economy and benefits by the commerce that happens at the water's edge. In many ways, discussing ports is not a "local issue," or even a "funding question," but a discussion on investing in the future of transportation to ensure that all Americans can continue to compete in global markets and benefit from trade through the nation's ports



Appendix Tables

Appendix Table 1. Total and Maritime Trade for U.S. by State for 2012, in Millions of U.S. Dollars

Description	Exports Maritime	Export Total	Imports Maritime	Imports Total	Total Maritime	Total Trade
Total	586,355	1,526,175	1,177,460	2,248,291	1,763,815	3,774,466
Alabama	12,234	19,572	14,004	18,338	26,238	37,910
Alaska	4,150	4,543	1,386	2,105	5,536	6,648
Arizona	2,444	18,405	3,777	18,950	6,221	37,355
Arkansas	2,960	7,620	3,315	7,414	6,275	15,034
California	51,034	161,880	223,307	376,424	274,341	538,304
Colorado	2,250	8,167	3,677	12,649	5,927	20,816
Connecticut	2,943	15,961	8,896	21,497	11,839	37,458
Delaware	1,505	5,113	8,576	13,557	10,081	18,670
District Of Columbia	1,143	2,015	164	447	1,307	2,462
Florida	28,132	66,202	38,752	71,216	66,884	137,418
Georgia	17,724	36,067	53,191	72,452	70,915	108,519
Hawaii	264	732	5,767	6,771	6,031	7,503
Idaho	996	6,119	505	5,148	1,501	11,267
Illinois	29,080	68,127	39,269	126,414	68,349	194,541
Indiana	7,189	34,431	14,122	43,271	21,311	77,702
Iowa	6,177	14,636	3,318	9,433	9,495	24,069
Kansas	4,628	11,696	4,620	10,879	9,248	22,575
Kentucky	6,304	22,126	13,346	34,723	19,650	56,849
Louisiana	58,580	62,893	78,062	80,812	136,642	143,705
Maine	775	3,048	1,021	3,793	1,796	6,841
Maryland	6,239	11,741	18,988	25,074	25,227	36,815
Massachusetts	4,351	25,613	12,062	32,975	16,413	58,588
Michigan	15,139	56,993	17,344	116,216	32,483	173,209
Minnesota	5,287	20,827	12,196	32,884	17,483	53,711
Mississippi	8,094	11,787	16,759	20,666	24,853	32,453
Missouri	5,300	13,928	8,262	16,131	13,562	30,059
Montana	507	1,577	270	5,593	777	7,170
Nebraska	3,091	7,459	1,926	3,576	5,017	11,035
Nevada	1,139	10,261	2,866	8,330	4,005	18,591
New Hampshire	841	3,489	8,876	12,225	9,717	15,714
New Jersey	16,904	37,278	88,633	120,850	105,537	158,128
New Mexico	321	2,968	678	2,325	999	5,293
New York	18,196	81,359	45,439	124,453	63,635	205,812
North Carolina	13,150	28,833	28,193	49,562	41,343	78,395
North Dakota	612	4,309	611	3,907	1,223	8,216

Appendix Table 1. Total and Maritime Trade for U.S. by State for 2012, in Millions of U.S. Dollars

Description	Exports Maritime	Export Total	Imports Maritime	Imports Total	Total Maritime	Total Trade
Ohio	11,735	48,648	27,498	63,620	39,233	112,268
Oklahoma	2,280	6,578	3,652	11,415	5,932	17,993
Oregon	6,692	18,386	8,890	16,570	15,582	34,956
Pennsylvania	14,550	38,829	45,053	80,753	59,603	119,582
Rhode Island	889	2,370	7,705	9,459	8,594	11,829
South Carolina	16,622	25,110	24,625	35,567	41,247	60,677
South Dakota	356	1,556	294	954	650	2,510
Tennessee	10,775	31,140	28,935	61,482	39,710	92,622
Texas	128,564	264,709	192,645	330,281	321,209	594,990
Unknown State	0	47,903	14	13,168	14	61,071
Utah	2,065	19,256	2,354	11,154	4,419	30,410
Vermont	187	4,140	346	4,351	533	8,491
Virginia	9,452	18,281	15,331	21,863	24,783	40,144
Washington	25,090	75,619	25,380	47,604	50,470	123,223
West Virginia	9,019	11,337	1,683	3,804	10,702	15,141
Wisconsin	7,396	23,117	10,703	23,181	18,099	46,298
Wyoming	1,000	1,421	174	2,005	1,174	3,426

Appendix Table 2. Total Gross Domestic Product, Maritime Trade and Total Trade for the U.S. by State

Description	Value of Trade (Current Dollars, Millions)			Share of GDP Equivalent – Total GDP	
	Total GDP	Total Maritime	Total Trade	Maritime	Trade
Total U.S.	15,566,076	1,763,815	3,774,466	11%	24%
Alabama	183,547	26,238	37,910	14%	21%
Alaska	51,859	5,536	6,648	11%	13%
Arizona	266,891	6,221	37,355	2%	14%
Arkansas	109,557	6,275	15,034	6%	14%
California	2,003,479	274,341	538,304	14%	27%
Colorado	274,048	5,927	20,816	2%	8%
Connecticut	229,317	11,839	37,458	5%	16%
Delaware	65,984	10,081	18,670	15%	28%
District Of Columbia	109,793	1,307	2,462	1%	2%
Florida	777,164	66,884	137,418	9%	18%
Georgia	433,569	70,915	108,519	16%	25%
Hawaii	72,424	6,031	7,503	8%	10%
Idaho	58,243	1,501	11,267	3%	19%
Illinois	695,238	68,349	194,541	10%	28%
Indiana	298,625	21,311	77,702	7%	26%
Iowa	152,436	9,495	24,069	6%	16%
Kansas	138,953	9,248	22,575	7%	16%
Kentucky	173,466	19,650	56,849	11%	33%
Louisiana	243,264	136,642	143,705	56%	59%
Maine	53,656	1,796	6,841	3%	13%
Maryland	317,678	25,227	36,815	8%	12%
Massachusetts	403,823	16,413	58,588	4%	15%
Michigan	400,504	32,483	173,209	8%	43%
Minnesota	294,729	17,483	53,711	6%	18%
Mississippi	101,490	24,853	32,453	24%	32%
Missouri	258,832	13,562	30,059	5%	12%
Montana	40,422	777	7,170	2%	18%
Nebraska	99,557	5,017	11,035	5%	11%
Nevada	133,584	4,005	18,591	3%	14%
New Hampshire	64,697	9,717	15,714	15%	24%
New Jersey	508,003	105,537	158,128	21%	31%
New Mexico	80,600	999	5,293	1%	7%
New York	1,205,930	63,635	205,812	5%	17%
North Carolina	455,973	41,343	78,395	9%	17%
North Dakota	46,016	1,223	8,216	3%	18%

Appendix Table 2. Total Gross Domestic Product, Maritime Trade and Total Trade for the U.S. by State

Description	Value of Trade (Current Dollars, Millions)			Share of GDP Equivalent – Total GDP	
	Total GDP	Total Maritime	Total Trade	Maritime	Trade
Ohio	509,393	39,233	112,268	8%	22%
Oklahoma	160,953	5,932	17,993	4%	11%
Oregon	198,702	15,582	34,956	8%	18%
Pennsylvania	600,897	59,603	119,582	10%	20%
Rhode Island	50,956	8,594	11,829	17%	23%
South Carolina	176,217	41,247	60,677	23%	34%
South Dakota	42,464	650	2,510	2%	6%
Tennessee	277,036	39,710	92,622	14%	33%
Texas	1,397,369	321,209	594,990	23%	43%
Unknown State		14	61,071		
Utah	130,486	4,419	30,410	3%	23%
Vermont	27,296	533	8,491	2%	31%
Virginia	445,876	24,783	40,144	6%	9%
Washington	375,730	50,470	123,223	13%	33%
West Virginia	69,380	10,702	15,141	15%	22%
Wisconsin	261,548	18,099	46,298	7%	18%
Wyoming	38,422	1,174	3,426	3%	9%

Appendix Table 3. CY 2011 Waterborne Tonnage by State (1000 Tons)

State	Totals*	Shipping		Receiving		Intrastate
		Domestic	Foreign	*Domestic	*Foreign	
Total	2,367,484	610,799	610,417	610,799	869,137	277,131
Alabama	70,560	10,442	14,937	14,863	14,710	15,609
Alaska	43,017	29,751	4,430	2,892	1,449	4,494
Arizona	-	-	-	-	-	-
Arkansas	14,561	6,298	-	6,212	-	2,051
California	224,088	5,721	66,855	16,457	122,071	12,984
Colorado	-	-	-	-	-	-
Connecticut	12,977	704	524	8,222	2,527	999
Delaware	13,232	2,012	1,014	4,542	5,588	75
District of Columbia	110	-	-	110	-	-
Florida	96,769	5,824	19,647	42,922	27,616	761
Georgia	37,511	347	17,369	726	17,774	1,296
Guam	508	56	-	452	-	-
Hawaii	22,972	1,149	619	3,840	8,536	8,828
Idaho	619	619	-	-	-	-
Illinois	109,663	79,432	1,109	16,241	2,428	10,453
Indiana	67,442	17,325	449	45,782	1,519	2,367
Iowa	9,740	6,111	-	3,290	-	339
Kansas	227	210	-	16	-	-
Kentucky	92,548	48,668	-	24,870	-	19,010
Louisiana	500,885	86,843	133,426	130,784	102,704	47,128
Maine	15,411	172	555	1,579	13,062	43
Maryland	49,251	3,978	23,879	6,282	13,635	1,477
Massachusetts	20,646	134	1,611	7,172	11,433	295
Michigan	61,851	20,958	6,307	20,825	4,056	9,705
Minnesota	43,109	31,793	2,578	7,237	387	1,115
Mississippi	50,763	12,234	7,980	8,156	22,134	260
Missouri	33,111	23,054	-	5,486	-	4,571
Montana	-	-	-	-	-	-
Nebraska	21	8	-	13	-	-
Nevada	-	-	-	-	-	-
New Hampshire	3,347	73	220	441	2,613	-
New Jersey	158,698	34,887	24,335	12,484	76,747	10,245
New Mexico	-	-	-	-	-	-
New York	42,923	8,054	3,452	14,658	11,687	5,072
North Carolina	11,622	119	2,857	2,102	4,818	1,727
North Dakota	-	-	-	-	-	-
Ohio	95,518	19,051	4,472	54,176	6,505	11,313
Oklahoma	5,349	2,794	-	2,555	-	-

Appendix Table 3. CY 2011 Waterborne Tonnage by State (1000 Tons)

State	Totals*	Shipping		Receiving		Intrastate
		Domestic	Foreign	*Domestic	*Foreign	
Oregon	31,142	2,101	16,893	5,697	3,470	2,982
Other	58,015	3,123	-	4,630	50,263	-
Pacific Islands	202	160	-	42	-	-
Pennsylvania	82,297	12,539	2,229	26,413	31,314	9,801
Puerto Rico	19,444	699	516	6,343	10,757	1,129
Rhode Island	8,378	449	984	2,877	3,920	149
South Carolina	18,396	481	6,016	1,930	9,515	454
South Dakota	-	-	-	-	-	-
Tennessee	33,675	6,310	-	25,842	-	1,523
Texas	490,426	35,472	130,734	25,490	233,319	65,410
Trans-shipment Area**	-	-	-	-	-	-
Utah	-	-	-	-	-	-
Vermont	-	-	-	-	-	-
Virgin Islands	34,314	12,994	3,352	-	17,605	364
Virginia	75,945	6,311	53,353	3,201	9,859	3,220
Washington	115,780	10,363	53,543	19,910	23,183	8,781
West Virginia	69,177	41,341	-	16,822	-	11,014
Wisconsin	32,042	19,637	4,173	6,213	1,931	88
Wyoming	-	-	-	-	-	-

* Excludes duplication.

** Ports and offshore anchorages where cargo is moved from one vessel to another: These are St. Lucia, Virgin Islands, Heald Bank off LA-TX coast, Cherique Grande, Panama, Puerto Amuelles, Panama, and Hondo Platform-Pacific Ocean.

Source: <http://www.navigatordatacenter.us/wcsc/statetnm11.htm>

Appendix Table 4. Top Maritime Export Commodities by State, Commodity (2 Digit Harmonized Code) ranked by Vessel Value, in Millions of U.S. Dollars, 2012.

State	#1	#2	#3	#4	#5
Alaska	Fish, Crustaceans & Aquatic Invertebrates (\$2,132)	Ores, Slag And Ash (\$1,502)	Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax (\$281)	Wood And Articles Of Wood; Wood Charcoal (\$152)	Food Industry Residues & Waste; Prep Animal Feed (\$44)
Alabama	Vehicles, Except Railway Or Tramway, And Parts Etc (\$4,006)	Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax (\$1,899)	Plastics And Articles (\$798)	Organic Chemicals (\$741)	Miscellaneous Chemical Products (\$614)
Arizona	Industrial Machinery, Including Computers (\$459)	Organic Chemicals (\$454)	Meat And Edible Meat Offal (\$346)	Cotton, Including Yarn And Woven Fabric (\$276)	Cereals (\$189)
Arkansas	Ores, Slag And Ash (\$340)	Cotton, Including Yarn And Woven Fabric (\$324)	Industrial Machinery, Including Computers (\$275)	Arms And Ammunition; Parts And Accessories (\$208)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$157)
California	Edible Fruit & Nuts; Citrus Fruit Or Melon Peel (\$6,858)	Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax (\$5,826)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$4,702)	Industrial Machinery, Including Computers (\$4,398)	Iron And Steel (\$2,589)
Colorado	Industrial Machinery, Including Computers (\$442)	Meat And Edible Meat Offal (\$422)	Raw Hides And Skins (No Furskins) And Leather (\$205)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$184)	Photographic Or Cinematographic Goods (\$163)
Connecticut	Industrial Machinery, Including Computers (\$394)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$374)	Copper And Articles (\$293)	Iron And Steel (\$244)	Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax (\$236)
District of Columbia	Arms And Ammunition; Parts And Accessories (\$403)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$381)	Aircraft, Spacecraft, And Parts (\$246)	Articles Of Iron Or Steel (\$63)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$18)
Delaware	Vehicles, Except Railway Or Tramway, And Parts Etc (\$377)	Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax (\$207)	Plastics And Articles (\$194)	Meat And Edible Meat Offal (\$143)	Tanning & Dye Ext Etc; Dye, Paint, Putty Etc; Inks (\$89)
Florida	Industrial Machinery, Including Computers (\$5,717)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$3,356)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$2,536)	Fertilizers (\$2,278)	Plastics And Articles (\$1,272)
Georgia	Industrial Machinery, Including Computers (\$2,561)	Wood Pulp Etc; Recovd (Waste & Scrap) Ppr & Pprbd (\$1,874)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$1,635)	Paper & Paperboard & Articles (Inc Papr Pulp Artl) (\$1,089)	Meat And Edible Meat Offal (\$1,089)
Hawaii	Iron And Steel (\$66)	Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax (\$65)	Beverages, Spirits And Vinegar (\$25)	Wood Pulp Etc; Recovd (Waste & Scrap) Ppr & Pprbd (\$18)	Aluminum And Articles (\$15)
Iowa	Industrial Machinery, Including Computers (\$1,418)	Meat And Edible Meat Offal (\$1,244)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$1,097)	Oil Seeds Etc.; Misc Grain, Seed, Fruit, Plant Etc (\$334)	Cereals (\$279)
Idaho	Dairy Prods; Birds Eggs; Honey; Ed Animal Pr Nesoi (\$237)	Paper & Paperboard & Articles (Inc Papr Pulp Artl) (\$117)	Edible Vegetables & Certain Roots & Tubers (\$93)	Railway Or Tramway Stock Etc; Traffic Signal Equip (\$62)	Sugars And Sugar Confectionary (\$57)
Illinois	Vehicles, Except Railway Or Tramway, And Parts Etc (\$7,841)	Industrial Machinery, Including Computers (\$6,885)	Oil Seeds Etc.; Misc Grain, Seed, Fruit, Plant Etc (\$1,435)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$1,156)	Food Industry Residues & Waste; Prep Animal Feed (\$1,116)
Indiana	Industrial Machinery, Including Computers (\$1,686)	Pharmaceutical Products (\$1,038)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$786)	Organic Chemicals (\$547)	Plastics And Articles (\$502)
Kansas	Cereals (\$847)	Meat And Edible Meat Offal (\$731)	Industrial Machinery, Including Computers (\$644)	Oil Seeds Etc.; Misc Grain, Seed, Fruit, Plant Etc (\$498)	Raw Hides And Skins (No Furskins) And Leather (\$416)
Kentucky	Plastics And Articles (\$908)	Pharmaceutical Products (\$728)	Industrial Machinery, Including Computers (\$637)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$491)	Inorg Chem; Prec & Rare-Earth Met & Radioact Compd (\$365)

Appendix Table 4. Top Maritime Export Commodities by State, Commodity (2 Digit Harmonized Code) ranked by Vessel Value, in Millions of U.S. Dollars, 2012.

State	#1	#2	#3	#4	#5
Louisiana	Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax (\$24,260)	Oil Seeds Etc.; Misc Grain, Seed, Fruit, Plant Etc (\$13,217)	Cereals (\$6,844)	Food Industry Residues & Waste; Prep Animal Feed (\$2,628)	Organic Chemicals (\$2,432)
Massachusetts	Industrial Machinery, Including Computers (\$646)	Plastics And Articles (\$491)	Iron And Steel (\$387)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$311)	Optic, Photo Etc, Medic Or Surgical Instrments Etc (\$285)
Maryland	Vehicles, Except Railway Or Tramway, And Parts Etc (\$2,395)	Industrial Machinery, Including Computers (\$665)	Miscellaneous Chemical Products (\$455)	Iron And Steel (\$369)	Aircraft, Spacecraft, And Parts (\$274)
Maine	Wood Pulp Etc; Recovd (Waste & Scrap) Ppr & Pprbd (\$213)	Paper & Paperboard & Articles (Inc Papr Pulp Artl) (\$171)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$97)	Industrial Machinery, Including Computers (\$50)	Fish, Crustaceans & Aquatic Invertebrates (\$41)
Michigan	Vehicles, Except Railway Or Tramway, And Parts Etc (\$8,678)	Industrial Machinery, Including Computers (\$1,430)	Inorg Chem; Prec & Rare-Earth Met & Radioact Compd (\$822)	Plastics And Articles (\$579)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$419)
Minnesota	Industrial Machinery, Including Computers (\$1,073)	Ores, Slag And Ash (\$665)	Plastics And Articles (\$500)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$384)	Optic, Photo Etc, Medic Or Surgical Instrments Etc (\$315)
Missouri	Vehicles, Except Railway Or Tramway, And Parts Etc (\$687)	Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax (\$681)	Industrial Machinery, Including Computers (\$640)	Meat And Edible Meat Offal (\$457)	Organic Chemicals (\$322)
Mississippi	Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax (\$3,932)	Tanning & Dye Ext Etc; Dye, Paint, Putty Etc; Inks (\$793)	Cotton, Including Yarn And Woven Fabric (\$696)	Wood Pulp Etc; Recovd (Waste & Scrap) Ppr & Pprbd (\$425)	Paper & Paperboard & Articles (Inc Papr Pulp Artl) (\$253)
Montana	Inorg Chem; Prec & Rare-Earth Met & Radioact Compd (\$224)	Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax (\$76)	Edible Vegetables & Certain Roots & Tubers (\$57)	Industrial Machinery, Including Computers (\$36)	Live Animals (\$21)
North Carolina	Industrial Machinery, Including Computers (\$2,155)	Tobacco And Manufactured Tobacco Substitutes (\$989)	Cotton, Including Yarn And Woven Fabric (\$847)	Plastics And Articles (\$698)	Meat And Edible Meat Offal (\$651)
North Dakota	Industrial Machinery, Including Computers (\$245)	Cereals (\$125)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$117)	Edible Vegetables & Certain Roots & Tubers (\$59)	Oil Seeds Etc.; Misc Grain, Seed, Fruit, Plant Etc (\$17)
Nebraska	Meat And Edible Meat Offal (\$996)	Industrial Machinery, Including Computers (\$639)	Raw Hides And Skins (No Furskins) And Leather (\$471)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$139)	Organic Chemicals (\$78)
New Hampshire	Industrial Machinery, Including Computers (\$167)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$153)	Iron And Steel (\$75)	Copper And Articles (\$65)	Plastics And Articles (\$39)
New Mexico	Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax (\$6,002)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$1,333)	Iron And Steel (\$1,023)	Essential Oils Etc; Perfumery, Cosmetic Etc Preps (\$953)	Industrial Machinery, Including Computers (\$905)
New Mexico	Industrial Machinery, Including Computers (\$60)	Dairy Prods; Birds Eggs; Honey; Ed Animal Pr Nesoi (\$54)	Arms And Ammunition; Parts And Accessories (\$39)	Nat Etc Pearls, Prec Etc Stones, Pr Met Etc; Coin (\$18)	Cotton, Including Yarn And Woven Fabric (\$14)
Nevada	Ores, Slag And Ash (\$465)	Industrial Machinery, Including Computers (\$134)	Toys, Games & Sport Equipment; Parts & Accessories (\$126)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$79)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$42)
New York	Industrial Machinery, Including Computers (\$2,962)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$2,583)	Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax (\$1,775)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$848)	Nat Etc Pearls, Prec Etc Stones, Pr Met Etc; Coin (\$794)
Ohio	Industrial Machinery, Including Computers (\$2,618)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$1,028)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$780)	Plastics And Articles (\$765)	Oil Seeds Etc.; Misc Grain, Seed, Fruit, Plant Etc (\$714)

Appendix Table 4. Top Maritime Export Commodities by State, Commodity (2 Digit Harmonized Code) ranked by Vessel Value, in Millions of U.S. Dollars, 2012.

State	#1	#2	#3	#4	#5
Oklahoma	Industrial Machinery, Including Computers (\$874)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$322)	Meat And Edible Meat Offal (\$205)	Articles Of Iron Or Steel (\$86)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$83)
Oregon	Cereals (\$1,471)	Oil Seeds Etc.; Misc Grain, Seed, Fruit, Plant Etc (\$796)	Fertilizers (\$772)	Industrial Machinery, Including Computers (\$482)	Wood And Articles Of Wood; Wood Charcoal (\$366)
Pennsylvania	Industrial Machinery, Including Computers (\$2,616)	Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax (\$2,080)	Iron And Steel (\$985)	Plastics And Articles (\$835)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$805)
Rhode Island	Iron And Steel (\$249)	Nat Etc Pearls, Prec Etc Stones, Pr Met Etc; Coin (\$151)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$89)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$54)	Industrial Machinery, Including Computers (\$50)
South Carolina	Vehicles, Except Railway Or Tramway, And Parts Etc (\$7,229)	Industrial Machinery, Including Computers (\$2,439)	Rubber And Articles (\$980)	Plastics And Articles (\$859)	Paper & Paperboard & Articles (Inc Papr Pulp Artl) (\$629)
South Dakota	Meat And Edible Meat Offal (\$105)	Industrial Machinery, Including Computers (\$98)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$39)	Salt; Sulfur; Earth & Stone; Lime & Cement Plaster (\$17)	Toys, Games & Sport Equipment; Parts & Accessories (\$16)
Tennessee	Industrial Machinery, Including Computers (\$1,253)	Plastics And Articles (\$1,246)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$1,184)	Cotton, Including Yarn And Woven Fabric (\$784)	Manmade Staple Fibers, Incl Yarns & Woven Fabrics (\$704)
Texas	Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax (\$56,127)	Organic Chemicals (\$19,005)	Industrial Machinery, Including Computers (\$12,176)	Plastics And Articles (\$8,446)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$4,224)
Utah	Miscellaneous Edible Preparations (\$260)	Nat Etc Pearls, Prec Etc Stones, Pr Met Etc; Coin (\$210)	Industrial Machinery, Including Computers (\$192)	Ores, Slag And Ash (\$178)	Essential Oils Etc; Perfumery, Cosmetic Etc Preps (\$131)
Virginia	Industrial Machinery, Including Computers (\$1,227)	Plastics And Articles (\$729)	Oil Seeds Etc.; Misc Grain, Seed, Fruit, Plant Etc (\$716)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$652)	Paper & Paperboard & Articles (Inc Papr Pulp Artl) (\$476)
Vermont	Dairy Prods; Birds Eggs; Honey; Ed Animal Pr Nesoi (\$22)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$20)	Industrial Machinery, Including Computers (\$17)	Rubber And Articles (\$15)	Wood And Articles Of Wood; Wood Charcoal (\$11)
Washington	Oil Seeds Etc.; Misc Grain, Seed, Fruit, Plant Etc (\$6,507)	Cereals (\$4,211)	Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax (\$3,413)	Wood And Articles Of Wood; Wood Charcoal (\$1,086)	Inorg Chem; Prec & Rare-Earth Met & Radioact Compd (\$891)
Wisconsin	Industrial Machinery, Including Computers (\$3,299)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$783)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$433)	Optic, Photo Etc, Medic Or Surgical Instrments Etc (\$362)	Plastics And Articles (\$213)
West Virginia	Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax (\$7,363)	Plastics And Articles (\$762)	Organic Chemicals (\$164)	Industrial Machinery, Including Computers (\$138)	Soap Etc; Waxes, Polish Etc; Candles; Dental Preps (\$98)
Wyoming	Inorg Chem; Prec & Rare-Earth Met & Radioact Compd (\$833)	Industrial Machinery, Including Computers (\$119)	Salt; Sulfur; Earth & Stone; Lime & Cement Plaster (\$21)	Miscellaneous Chemical Products (\$8)	Edible Vegetables & Certain Roots & Tubers (\$4)

Appendix Table 5. Top Maritime Import Commodities By State, Commodity (2 Digit Harmonized Code) ranked by Vessel Value, in Millions of U.S. dollars, 2012.

State	#1	#2	#3	#4	#5
Alaska	Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax (\$1,113)	Ships, Boats And Floating Structures (\$108)	Articles Of Iron Or Steel (\$43)	Industrial Machinery, Including Computers (\$15)	Inorg Chem; Prec & Rare-Earth Met & Radioact Compd (\$14)
Alabama	Industrial Machinery, Including Computers (\$3,053)	Iron And Steel (\$2,437)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$2,383)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$1,173)	Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax (\$581)
Arizona	Industrial Machinery, Including Computers (\$459)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$377)	Toys, Games & Sport Equipment; Parts & Accessories (\$341)	Iron And Steel (\$304)	Furniture; Bedding Etc; Lamps Nesoi Etc; Prefab Bd (\$256)
Arkansas	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$1,467)	Industrial Machinery, Including Computers (\$645)	Furniture; Bedding Etc; Lamps Nesoi Etc; Prefab Bd (\$153)	Organic Chemicals (\$145)	Apparel Articles And Accessories, Not Knit Etc. (\$111)
California	Vehicles, Except Railway Or Tramway, And Parts Etc (\$36,789)	Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax (\$36,370)	Industrial Machinery, Including Computers (\$28,408)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$27,824)	Apparel Articles And Accessories, Knit Or Crochet (\$8,467)
Colorado	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$792)	Industrial Machinery, Including Computers (\$396)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$263)	Furniture; Bedding Etc; Lamps Nesoi Etc; Prefab Bd (\$240)	Footwear, Gaiters Etc. And Parts (\$173)
Connecticut	Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax (\$1,503)	Industrial Machinery, Including Computers (\$922)	Copper And Articles (\$775)	Footwear, Gaiters Etc. And Parts (\$554)	Aluminum And Articles (\$464)
District of Columbia	Beverages, Spirits And Vinegar (\$53)	Industrial Machinery, Including Computers (\$16)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$12)	Prep Vegetables, Fruit, Nuts Or Other Plant Parts (\$11)	Miscellaneous Chemical Products (\$10)
Delaware	Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax (\$6,027)	Edible Fruit & Nuts; Citrus Fruit Or Melon Peel (\$672)	Pharmaceutical Products (\$664)	Ores, Slag And Ash (\$136)	Prep Vegetables, Fruit, Nuts Or Other Plant Parts (\$112)
Florida	Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax (\$6,771)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$3,428)	Industrial Machinery, Including Computers (\$2,759)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$2,290)	Beverages, Spirits And Vinegar (\$2,159)
Georgia	Vehicles, Except Railway Or Tramway, And Parts Etc (\$13,347)	Industrial Machinery, Including Computers (\$7,318)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$3,845)	Pharmaceutical Products (\$2,370)	Furniture; Bedding Etc; Lamps Nesoi Etc; Prefab Bd (\$2,314)
Hawaii	Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax (\$4,870)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$247)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$88)	Beverages, Spirits And Vinegar (\$72)	Furniture; Bedding Etc; Lamps Nesoi Etc; Prefab Bd (\$51)
Iowa	Industrial Machinery, Including Computers (\$1,091)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$320)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$258)	Organic Chemicals (\$190)	Furniture; Bedding Etc; Lamps Nesoi Etc; Prefab Bd (\$145)
Idaho	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$87)	Industrial Machinery, Including Computers (\$79)	Articles Of Iron Or Steel (\$59)	Wood And Articles Of Wood; Wood Charcoal (\$33)	Meat And Edible Meat Offal (\$29)
Illinois	Industrial Machinery, Including Computers (\$9,645)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$5,514)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$2,003)	Iron And Steel (\$1,954)	Articles Of Iron Or Steel (\$1,607)
Indiana	Industrial Machinery, Including Computers (\$3,337)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$2,319)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$2,110)	Iron And Steel (\$787)	Furniture; Bedding Etc; Lamps Nesoi Etc; Prefab Bd (\$528)
Kansas	Footwear, Gaiters Etc. And Parts (\$867)	Industrial Machinery, Including Computers (\$649)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$389)	Aircraft, Spacecraft, And Parts (\$254)	Inorg Chem; Prec & Rare-Earth Met & Radioact Compd (\$246)

Appendix Table 5. Top Maritime Import Commodities By State, Commodity (2 Digit Harmonized Code) ranked by Vessel Value, in Millions of U.S. dollars, 2012.

State	#1	#2	#3	#4	#5
Kentucky	Industrial Machinery, Including Computers (\$3,323)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$1,920)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$1,279)	Inorg Chem; Prec & Rare-Earth Met & Radioact Compd (\$973)	Apparel Articles And Accessories, Knit Or Crochet (\$912)
Louisiana	Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax (\$68,592)	Organic Chemicals (\$1,166)	Fertilizers (\$989)	Animal Or Vegetable Fats, Oils Etc. & Waxes (\$805)	Coffee, Tea, Mate & Spices (\$769)
Massachusetts	Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax (\$3,337)	Footwear, Gaiters Etc. And Parts (\$926)	Industrial Machinery, Including Computers (\$846)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$727)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$629)
Maryland	Vehicles, Except Railway Or Tramway, And Parts Etc (\$6,591)	Industrial Machinery, Including Computers (\$1,869)	Iron And Steel (\$718)	Furniture; Bedding Etc; Lamps Nesoi Etc; Prefab Bd (\$693)	Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax (\$645)
Maine	Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax (\$4,03)	Apparel Articles And Accessories, Not Knit Etc. (\$140)	Industrial Machinery, Including Computers (\$85)	Apparel Articles And Accessories, Knit Or Crochet (\$66)	Footwear, Gaiters Etc. And Parts (\$41)
Michigan	Industrial Machinery, Including Computers (\$4,428)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$3,438)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$3,404)	Plastics And Articles (\$479)	Iron And Steel (\$442)
Minnesota	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$2,322)	Industrial Machinery, Including Computers (\$1,420)	Toys, Games & Sport Equipment; Parts & Accessories (\$1,389)	Furniture; Bedding Etc; Lamps Nesoi Etc; Prefab Bd (\$978)	Footwear, Gaiters Etc. And Parts (\$620)
Missouri	Organic Chemicals (\$976)	Industrial Machinery, Including Computers (\$942)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$734)	Aluminum And Articles (\$508)	Toys, Games & Sport Equipment; Parts & Accessories (\$506)
Mississippi	Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax (\$11,564)	Industrial Machinery, Including Computers (\$1,235)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$776)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$549)	Furniture; Bedding Etc; Lamps Nesoi Etc; Prefab Bd (\$485)
Montana	Nat Etc Pearls, Prec Etc Stones, Pr Met Etc; Coin (\$100)	Industrial Machinery, Including Computers (\$44)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$14)	Organic Chemicals (\$13)	Textile Art Nesoi; Needlecraft Sets; Worn Text Art (\$12)
North Carolina	Industrial Machinery, Including Computers (\$5,652)	Apparel Articles And Accessories, Knit Or Crochet (\$3,778)	Organic Chemicals (\$1,823)	Apparel Articles And Accessories, Not Knit Etc. (\$1,676)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$1,521)
North Dakota	Industrial Machinery, Including Computers (\$172)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$115)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$67)	Edible Fruit & Nuts; Citrus Fruit Or Melon Peel (\$57)	Ceramic Products (\$56)
Nebraska	Industrial Machinery, Including Computers (\$508)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$129)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$96)	Albuminoidal Subst; Modified Starch; Glue; Enzymes (\$89)	Toys, Games & Sport Equipment; Parts & Accessories (\$81)
New Hampshire	Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax (\$7,492)	Footwear, Gaiters Etc. And Parts (\$304)	Industrial Machinery, Including Computers (\$203)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$129)	Fish, Crustaceans & Aquatic Invertebrates (\$95)
New Mexico	Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax (\$31,091)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$14,027)	Industrial Machinery, Including Computers (\$4,325)	Organic Chemicals (\$2,924)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$2,556)
New Mexico	Industrial Machinery, Including Computers (\$445)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$66)	Optic, Photo Etc, Medic Or Surgical Instrments Etc (\$28)	Impregnated Etc Text Fabrics; Tex Art For Industry (\$17)	Beverages, Spirits And Vinegar (\$14)
Nevada	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$487)	Coffee, Tea, Mate & Spices (\$345)	Industrial Machinery, Including Computers (\$327)	Toys, Games & Sport Equipment; Parts & Accessories (\$284)	Furniture; Bedding Etc; Lamps Nesoi Etc; Prefab Bd (\$127)

Appendix Table 5. Top Maritime Import Commodities By State, Commodity (2 Digit Harmonized Code) ranked by Vessel Value, in Millions of U.S. dollars, 2012.

State	#1	#2	#3	#4	#5
New York	Apparel Articles And Accessories, Not Knit Etc. (\$4,710)	Apparel Articles And Accessories, Knit Or Crochet (\$4,483)	Industrial Machinery, Including Computers (\$2,513)	Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax (\$2,439)	Beverages, Spirits And Vinegar (\$2,386)
Ohio	Industrial Machinery, Including Computers (\$5,190)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$2,866)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$2,701)	Iron And Steel (\$1,998)	Apparel Articles And Accessories, Knit Or Crochet (\$1,778)
Oklahoma	Industrial Machinery, Including Computers (\$815)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$353)	Ores, Slag And Ash (\$343)	Rubber And Articles (\$209)	Furniture; Bedding Etc; Lamps Nesoi Etc; Prefab Bd (\$190)
Oregon	Vehicles, Except Railway Or Tramway, And Parts Etc (\$3,057)	Industrial Machinery, Including Computers (\$1,129)	Iron And Steel (\$672)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$594)	Articles Of Iron Or Steel (\$386)
Pennsylvania	Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax (\$13,406)	Industrial Machinery, Including Computers (\$3,903)	Pharmaceutical Products (\$3,803)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$3,245)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$2,660)
Rhode Island	Vehicles, Except Railway Or Tramway, And Parts Etc (\$4,424)	Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax (\$1,431)	Optic, Photo Etc, Medic Or Surgical Instrments Etc (\$263)	Toys, Games & Sport Equipment; Parts & Accessories (\$251)	Industrial Machinery, Including Computers (\$160)
South Carolina	Industrial Machinery, Including Computers (\$6,162)	Rubber And Articles (\$2,327)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$2,098)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$1,821)	Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax (\$1,167)
South Dakota	Edible Preparations Of Meat, Fish, Crustaceans Etc (\$105)	Industrial Machinery, Including Computers (\$48)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$24)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$18)	Miscellaneous Articles Of Base Metal (\$15)
Tennessee	Industrial Machinery, Including Computers (\$6,798)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$6,212)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$3,437)	Pharmaceutical Products (\$1,902)	Rubber And Articles (\$1,301)
Texas	Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax (\$124,015)	Industrial Machinery, Including Computers (\$10,582)	Articles Of Iron Or Steel (\$9,076)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$7,175)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$6,085)
Utah	Toys, Games & Sport Equipment; Parts & Accessories (\$382)	Industrial Machinery, Including Computers (\$292)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$274)	Furniture; Bedding Etc; Lamps Nesoi Etc; Prefab Bd (\$222)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$177)
Virginia	Industrial Machinery, Including Computers (\$3,622)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$1,632)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$902)	Furniture; Bedding Etc; Lamps Nesoi Etc; Prefab Bd (\$860)	Rubber And Articles (\$679)
Vermont	Industrial Machinery, Including Computers (\$66)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$63)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$38)	Apparel Articles And Accessories, Not Knit Etc. (\$36)	Plastics And Articles (\$12)
Washington	Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax (\$4,669)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$3,038)	Aircraft, Spacecraft, And Parts (\$2,787)	Toys, Games & Sport Equipment; Parts & Accessories (\$2,700)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$2,655)
Wisconsin	Industrial Machinery, Including Computers (\$2,004)	Apparel Articles And Accessories, Knit Or Crochet (\$1,667)	Apparel Articles And Accessories, Not Knit Etc. (\$934)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$874)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$586)
West Virginia	Industrial Machinery, Including Computers (\$296)	Vehicles, Except Railway Or Tramway, And Parts Etc (\$277)	Optic, Photo Etc, Medic Or Surgical Instrments Etc (\$204)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$135)	Apparel Articles And Accessories, Knit Or Crochet (\$106)
Wyoming	Industrial Machinery, Including Computers (\$53)	Articles Of Iron Or Steel (\$18)	Furniture; Bedding Etc; Lamps Nesoi Etc; Prefab Bd (\$15)	Plastics And Articles (\$14)	Electric Machinery Etc; Sound Equip; Tv Equip; Pts (\$12)

**Appendix Table 6. Top Maritime Export Markets By State, 2012, in
Millions of U.S. Dollars**

State	#1	#2	#3	#4	#5
Alaska	China (\$1,351)	Japan (\$765)	Korea, Republic Of (\$637)	Germany (\$270)	Canada (\$256)
Alabama	Germany (\$2,313)	China (\$2,304)	Japan (\$750)	Brazil (\$603)	United Kingdom (\$442)
Arkansas	China (\$395)	Belgium (\$196)	Korea, Republic Of (\$188)	Japan (\$172)	Australia (\$151)
Arizona	China (\$445)	Japan (\$243)	Netherlands (\$189)	United Kingdom (\$172)	Australia (\$106)
California	China (\$7,910)	Japan (\$5,297)	Korea, Republic Of (\$3,842)	Hong Kong (\$2,852)	Taiwan (\$2,643)
Colorado	China (\$424)	Japan (\$242)	Korea, Republic Of (\$170)	Netherlands (\$141)	Brazil (\$103)
Connecticut	China (\$506)	Algeria (\$161)	Germany (\$145)	Turkey (\$138)	Saudi Arabia (\$115)
Washington, DC	United Arab Emirates (\$1,013)	Morocco (\$72)	Bahrain (\$16)	India (\$10)	Colombia (\$3)
Delaware	Saudi Arabia (\$188)	China (\$142)	Belgium (\$129)	Netherlands (\$108)	Singapore (\$77)
Florida	Venezuela (\$3,112)	Brazil (\$1,898)	Dominican Republic (\$1,373)	Colombia (\$1,220)	Panama (\$1,105)
Georgia	China (\$2,589)	Australia (\$753)	Japan (\$710)	Brazil (\$668)	United Kingdom (\$611)
Hawaii	Japan (\$79)	China (\$62)	Korea, Republic Of (\$39)	Taiwan (\$21)	Malaysia (\$11)
Iowa	Japan (\$801)	China (\$661)	Brazil (\$590)	Australia (\$462)	Korea, Republic Of (\$307)
Idaho	Japan (\$155)	China (\$151)	Australia (\$87)	Korea, Republic Of (\$59)	Brazil (\$49)
Illinois	Australia (\$4,787)	China (\$3,048)	Brazil (\$1,832)	Japan (\$1,375)	Chile (\$1,278)
Indiana	Germany (\$1,060)	China (\$833)	Japan (\$541)	Netherlands (\$502)	United Kingdom (\$447)
Kansas	China (\$990)	Japan (\$679)	Nigeria (\$543)	Korea, Republic Of (\$215)	Australia (\$163)
Kentucky	Japan (\$691)	China (\$555)	Korea, Republic Of (\$492)	Austria (\$384)	Belgium (\$368)
Louisiana	China (\$9,277)	Mexico (\$5,216)	Japan (\$3,799)	Netherlands (\$3,383)	Singapore (\$2,217)
Massachusetts	China (\$640)	Belgium (\$396)	United Kingdom (\$294)	Germany (\$251)	Turkey (\$222)
Maryland	Saudi Arabia (\$804)	China (\$426)	Egypt (\$345)	United Kingdom (\$256)	Kuwait (\$225)
Maine	China (\$211)	Canada (\$164)	Turkey (\$57)	Australia (\$35)	Japan (\$34)
Michigan	China (\$2,649)	Saudi Arabia (\$1,755)	Japan (\$929)	Germany (\$876)	Korea, Republic Of (\$802)
Minnesota	China (\$1,195)	Japan (\$523)	Canada (\$382)	Korea, Republic Of (\$342)	Australia (\$286)
Missouri	China (\$924)	Japan (\$488)	Belgium (\$357)	Saudi Arabia (\$277)	Netherlands (\$247)
Mississippi	Panama (\$2,158)	China (\$780)	Honduras (\$412)	Peru (\$364)	Belgium (\$328)
Montana	China (\$72)	Switzerland (\$71)	Korea, Republic Of	Taiwan (\$34)	Japan (\$33)

**Appendix Table 6. Top Maritime Export Markets By State, 2012, in
Millions of U.S. Dollars**

State	#1	#2	#3	#4	#5
			(\$40)		
North Carolina	China (\$1,628)	Japan (\$1,263)	Honduras (\$750)	Saudi Arabia (\$667)	United Kingdom (\$604)
North Dakota	Australia (\$117)	Venezuela (\$54)	Dominican Republic (\$34)	Brazil (\$29)	Russia (\$27)
Nebraska	Japan (\$435)	China (\$418)	Korea, Republic Of (\$300)	Australia (\$252)	Russia (\$158)
New Hampshire	Germany (\$103)	Turkey (\$77)	China (\$60)	Netherlands (\$52)	Panama (\$37)
New Jersey	Netherlands (\$1,857)	Gibraltar (\$1,451)	United Kingdom (\$1,011)	Brazil (\$934)	Turkey (\$751)
New Mexico	Saudi Arabia (\$33)	China (\$31)	United Kingdom (\$25)	Japan (\$23)	Chile (\$17)
Nevada	China (\$364)	Japan (\$124)	Australia (\$118)	India (\$72)	Korea, Republic Of (\$66)
New York	China (\$3,291)	United Kingdom (\$1,005)	Israel (\$856)	Netherlands (\$714)	Germany (\$675)
Ohio	China (\$1,927)	Brazil (\$735)	Germany (\$674)	Australia (\$571)	Japan (\$534)
Oklahoma	Japan (\$237)	China (\$170)	United Arab Emirates (\$112)	Colombia (\$101)	Singapore (\$100)
Oregon	China (\$1,438)	Japan (\$1,274)	Korea, Republic Of (\$874)	Taiwan (\$323)	Australia (\$308)
Pennsylvania	China (\$1,917)	Netherlands (\$918)	Brazil (\$897)	Japan (\$824)	Belgium (\$725)
Rhode Island	Turkey (\$196)	Germany (\$121)	Italy (\$78)	Benin (\$57)	China (\$36)
South Carolina	Germany (\$3,494)	China (\$2,851)	United Kingdom (\$1,225)	Australia (\$699)	Japan (\$603)
South Dakota	China (\$68)	Japan (\$52)	Belgium (\$37)	Saudi Arabia (\$26)	Australia (\$17)
Tennessee	China (\$1,600)	Japan (\$758)	United Kingdom (\$551)	Netherlands (\$485)	Korea, Republic Of (\$467)
Texas	Mexico (\$17,338)	China (\$8,173)	Brazil (\$8,050)	Netherlands (\$7,299)	Venezuela (\$6,639)
Utah	China (\$229)	Belgium (\$180)	Japan (\$171)	Korea, Republic Of (\$145)	Hong Kong (\$134)
Virginia	China (\$1,737)	Brazil (\$456)	Germany (\$455)	Belgium (\$335)	Australia (\$318)
Vermont	China (\$33)	United Kingdom (\$13)	Korea, Republic Of (\$10)	Republic Of South Africa (\$10)	Australia (\$9)
Washington	China (\$8,415)	Japan (\$3,866)	Korea, Republic Of (\$1,618)	Canada (\$1,230)	Taiwan (\$1,133)
Wisconsin	China (\$852)	Australia (\$669)	Chile (\$466)	Brazil (\$367)	India (\$298)
West Virginia	Netherlands (\$949)	China (\$819)	India (\$724)	Italy (\$722)	Brazil (\$671)
Wyoming	Australia (\$132)	Brazil (\$117)	Indonesia (\$101)	Chile (\$70)	Japan (\$59)

Appendix Table 7. Top Maritime Import Markets By State, 2012, in Millions of U.S. Dollars

State	#1	#2	#3	#4	#5
Alaska	Korea, Republic Of (\$429)	Canada (\$285)	Japan (\$267)	Russia (\$167)	United Kingdom (\$101)
Alabama	Korea, Republic Of (\$3,679)	Germany (\$2,659)	Brazil (\$1,691)	China (\$1,671)	Japan (\$919)
Arkansas	China (\$1,679)	Germany (\$294)	India (\$227)	Korea, Republic Of (\$143)	Taiwan (\$113)
Arizona	China (\$1,438)	Malaysia (\$515)	Japan (\$436)	Germany (\$230)	Taiwan (\$152)
California	China (\$85,085)	Japan (\$33,511)	Korea, Republic Of (\$9,401)	Saudi Arabia (\$8,441)	Germany (\$7,859)
Colorado	China (\$1,337)	Germany (\$253)	Italy (\$230)	India (\$198)	Australia (\$140)
Connecticut	China (\$2,183)	Germany (\$683)	Chile (\$601)	United Kingdom (\$567)	Netherlands (\$483)
Washington, DC	Germany (\$31)	France (\$24)	Argentina (\$17)	China (\$13)	United Kingdom (\$11)
Delaware	Russia (\$1,745)	Iraq (\$1,010)	Norway (\$528)	France (\$506)	United Kingdom (\$440)
Florida	China (\$8,010)	Japan (\$3,477)	Brazil (\$2,412)	Korea, Republic Of (\$1,181)	Italy (\$1,112)
Georgia	China (\$13,326)	Germany (\$9,509)	Korea, Republic Of (\$5,951)	Japan (\$3,777)	Chile (\$1,559)
Hawaii	Saudi Arabia (\$890)	Russia (\$855)	Thailand (\$832)	Argentina (\$542)	Libya (\$509)
Iowa	China (\$994)	Germany (\$431)	Japan (\$354)	Italy (\$205)	India (\$180)
Idaho	China (\$183)	New Zealand (\$41)	Korea, Republic Of (\$32)	Germany (\$26)	Vietnam (\$21)
Illinois	China (\$13,964)	Japan (\$6,076)	Germany (\$2,058)	Taiwan (\$1,663)	Mexico (\$1,191)
Indiana	Japan (\$4,647)	China (\$3,838)	Germany (\$721)	Thailand (\$466)	Italy (\$384)
Kansas	China (\$1,956)	Germany (\$298)	Vietnam (\$221)	United Kingdom (\$211)	Korea, Republic Of (\$179)
Kentucky	Japan (\$3,545)	China (\$2,804)	Russia (\$719)	Germany (\$677)	United Kingdom (\$555)
Louisiana	Saudi Arabia (\$20,735)	Venezuela (\$11,448)	Kuwait (\$7,798)	Russia (\$5,259)	Mexico (\$4,704)
Massachusetts	China (\$3,411)	United Kingdom (\$1,886)	Canada (\$1,033)	France (\$504)	Japan (\$494)
Maryland	Germany (\$4,594)	China (\$2,377)	United Kingdom (\$1,071)	Japan (\$1,031)	Brazil (\$885)
Maine	China (\$173)	Canada (\$142)	Netherlands (\$75)	United Kingdom (\$57)	Portugal (\$57)
Michigan	China (\$4,339)	Japan (\$4,116)	Korea, Republic Of (\$1,323)	Germany (\$1,175)	Turkey (\$599)
Minnesota	China (\$9,072)	Taiwan (\$382)	Japan (\$330)	Brazil (\$330)	Germany (\$219)
Missouri	China (\$3,781)	Germany (\$575)	United Arab Emirates (\$461)	India (\$314)	Taiwan (\$278)
Mississippi	Mexico (\$3,653)	Venezuela (\$2,596)	China (\$2,391)	Brazil (\$1,834)	Colombia (\$974)
Montana	Germany (\$110)	China (\$89)	Spain (\$12)	Brazil (\$8)	United Kingdom (\$8)
North Carolina	China (\$7,151)	Japan (\$2,399)	Germany (\$1,855)	United Kingdom (\$1,069)	Honduras (\$944)
North Dakota	Denmark (\$124)	China (\$105)	Japan (\$60)	France (\$57)	Germany (\$45)
Nebraska	China (\$853)	Germany (\$229)	Japan (\$227)	Italy (\$89)	France (\$80)
New Hampshire	Canada (\$6,968)	China (\$612)	Netherlands (\$225)	Germany (\$196)	United Kingdom

Appendix Table 7. Top Maritime Import Markets By State, 2012, in Millions of U.S. Dollars

State	#1	#2	#3	#4	#5
					(\$121)
New Jersey	China (\$13,726)	Japan (\$7,754)	Germany (\$4,873)	Canada (\$4,612)	United Kingdom (\$4,513)
New Mexico	China (\$311)	Netherlands (\$139)	Germany (\$52)	United Kingdom (\$41)	Japan (\$30)
Nevada	China (\$1,283)	Malaysia (\$205)	Korea, Republic Of (\$119)	Taiwan (\$118)	Brazil (\$113)
New York	China (\$16,324)	India (\$1,996)	France (\$1,891)	Italy (\$1,692)	Germany (\$1,602)
Ohio	China (\$8,909)	Japan (\$5,440)	Germany (\$1,765)	Taiwan (\$916)	Vietnam (\$800)
Oklahoma	China (\$1,896)	Taiwan (\$202)	India (\$154)	Republic Of South Africa (\$149)	Germany (\$148)
Oregon	Japan (\$2,826)	China (\$1,900)	Korea, Republic Of (\$1,537)	Russia (\$422)	Germany (\$264)
Pennsylvania	China (\$7,875)	Nigeria (\$5,800)	Germany (\$2,723)	Korea, Republic Of (\$2,668)	Israel (\$2,153)
Rhode Island	Germany (\$3,253)	China (\$965)	Mexico (\$881)	United Kingdom (\$607)	Canada (\$285)
South Carolina	Germany (\$5,533)	China (\$4,933)	Japan (\$1,065)	Austria (\$865)	Indonesia (\$799)
South Dakota	Brazil (\$105)	China (\$90)	Italy (\$19)	France (\$11)	Germany (\$10)
Tennessee	Japan (\$9,522)	China (\$8,765)	Germany (\$1,552)	Indonesia (\$920)	India (\$853)
Texas	Mexico (\$29,867)	Saudi Arabia (\$20,089)	China (\$19,600)	Venezuela (\$19,136)	Iraq (\$8,803)
Utah	China (\$1,420)	Taiwan (\$199)	Germany (\$61)	France (\$49)	India (\$48)
Virginia	China (\$3,586)	Japan (\$1,968)	Singapore (\$1,288)	Germany (\$1,279)	India (\$858)
Vermont	China (\$61)	Denmark (\$36)	Germany (\$33)	Japan (\$27)	Vietnam (\$22)
Washington	China (\$7,555)	Japan (\$4,510)	Korea, Republic Of (\$2,108)	Taiwan (\$1,367)	Russia (\$1,348)
Wisconsin	China (\$4,420)	Japan (\$583)	Vietnam (\$555)	India (\$491)	Germany (\$439)
West Virginia	Japan (\$882)	China (\$194)	Germany (\$95)	India (\$73)	Malaysia (\$56)
Wyoming	China (\$94)	Germany (\$10)	United Kingdom (\$9)	India (\$7)	Korea, Republic Of (\$6)

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