

U.S. Ports and Inland Waterways Modernization QUESTIONS & ANSWERS

What does this report address?

The report addresses the need for modernization of U.S. ports and inland waterways to accommodate *post-Panamax* vessels.

What is a post-Panamax vessel?

A *post-Panamax* vessel is a ship that is too large to fit through the existing locks on the Panama Canal – hence larger than 965 ft x 33.5 ft x 42 ft. *Post-Panamax* vessels typically exceed 80,000 dead weight tons in size, can carry more than 5,200 TEUs (Twenty-Foot Equivalent Units). By 2030 *post-Panamax* vessels are forecast to comprise 30 percent of the container vessel fleet and represent 62 percent of the fleet’s total capacity.

Why does the study include information on financing options?

Addressing “the critical need for additional port and inland waterway modernization to accommodate *post-Panamax* vessels” requires an examination of the current delivery mechanisms, the identification of issues and the offering of options for the future. Securing funding sources to take advantage of modernization opportunities in a timely manner, given the constrained fiscal environment, was judged among the most critical issues.

What financing options were considered?

The report considered multiple options for financing port and inland waterways modernization including “business as usual”, modifying authorities or appropriations, changing cost-share requirements, and implementing user fees or public-private partnerships.

Does the report include priorities for deepening?

No, the report identifies potential need for port modernization, which is likely to be greatest along the South Atlantic and Gulf coasts, but does not prioritize individual ports. Seventeen studies are currently underway that will identify the opportunities that warrant federal participation at specific ports.

When describing U.S. Ports, what does “post-Panamax ready” mean?

The term “*post-Panamax* ready” means that a port is capable of accommodating *post-Panamax* vessels. It must be defined on a port-by-port basis. Even as the *post-Panamax* fleet varies in length, width and sailing draft, so too will the required land-side facilities, turning basins, channel depths and widths vary at each port to accommodate the characteristics of the specific fleet calling at that port. It is not necessary to be able to accommodate the larger classes of *post-Panamax* vessels to be considered *post-Panamax* ready.

What is the Cascade Effect?

The Cascade effect is the general increase in average vessel size on a trade route caused by the deployment of new, larger vessels. When new larger vessels are deployed they displace less efficient vessels. Those displaced vessels redeploy to the next most efficient trade route, setting

off another round of displacement. This cascading generally results in ports seeing larger vessels over time.

How are the Inland Waterways affected by post-Panamax vessels?

With the deployment of *post-Panamax* vessels, economies of scale of these larger vessels may provide transportation cost savings when shipping grain from the U.S. Gulf Coast to Asia. Inland waterways deliver the grain to the exporting Gulf Coast ports.

How much are imports and exports predicted to grow?

IHS Global Insight forecasts U.S. imports to grow from \$2.7 billion in 2011 to \$12.4 billion in 2042 and U.S. exports to increase from \$2.1 billion to \$14.8 billion over the same time period.

What are trends in the population growth in regions of the United States?

The South and West are expected to have the highest growth rates between 2010 and 2030 with total growth of approximately 26% and 28% respectively. The Northeast and Midwest are expected to grow a total of 3.4% and 4.6%, respectively, over the same time period.

Is there a relationship between population growth and the need for deepening?

The link between population growth and deepening is through the increase in trade that comes with population growth. Population growth will be greatest in the South and West. The South Atlantic and Gulf Coast ports also have limited capability to service *post-Panamax* vessels, therefore the expected opportunities for deepening would be in that region.

What is the competitive strength of the West Coast ports?

The larger West Coast ports that already service *post-Panamax* vessels have a relative advantage in a faster delivery time via the land bridge, in partnership with western rail transportation.

What is the current number of post-Panamax vessels and what are the growth projections? Why?

Post-Panamax vessels are expected to account for 62% of the capacity of the container fleet by 2030. For detailed information on the current numbers and forecast growth, please see table 1 and figure 16 in the report. Larger vessels are designed and built because they generally reduce shipping costs.

Does this report focus on expansion of the Panama Canal?

No, the report addresses the capacity of U.S. ports to accommodate *post-Panamax* vessels. The expansion of the Panama Canal is a significant event in this analysis but is not the focus.

What is the typical cost of port deepening?

There is no typical cost for port deepening. Each port deepening is influenced by the individual characteristics of the port, the length of channel, the amount and nature of the material dredged, and environmental mitigation requirements. Another important consideration in port modernization is the associated landside costs. For example, larger cranes and marshaling areas are required to service larger vessels and accommodate increased TEUs.

Do our ports have adequate landside capacity to accommodate post-Panamax vessels?

The Nation’s major container ports have adequate capacity on the land side to accommodate larger vessels and increased trade.

What are the depths of other major ports in the world?

Depths of selected ports are shown below:

<u>Port</u>	<u>Depth</u>
Freeport, BS	51 feet
Antwerp, BG	49 feet
Hamburg, GR	54 feet
Le Havre, FR	48 feet
Bremerhaven, GR	48 feet
Busan, KO	52.5 feet
Shanghai, CH,	52.5 feet
Hong Kong, CH	51 feet
Yantian, CH	52.5 feet

What is the depth of the new Panama Canal? The Suez Canal?

The new Panama Canal will have a 60-foot depth and can handle ships drafting up to 50 feet. The Suez Canal has a depth of up to 76 feet and can handle ships drafting up to 66 feet.

What are the potential environmental effects of port and waterway modernization?

- Potential infrastructural development along coasts and waterways is a concern because coastal ports and inland waterway infrastructure are closely associated with two of the scarcest types of ecosystems—free-flowing rivers and estuarine wetlands.
- In general, dredging of nontoxic bottoms impacts coastal and riverine benthic organisms temporarily and bottoms typically recolonize quickly following disturbance.
- Today about 20 to 30 percent of port and waterway dredged material is used for habitat creation and other beneficial use. Dredging also has had some persistent effects, including some unavoidable take of imperiled species and damage to shallow-water estuarine ecosystems. Deepening coastal navigation channels can also favor destructive saltwater intrusion into freshwater ecosystems and domestic water supplies.
- Future emissions of potentially harmful materials into air and water, including greenhouse gases, also are a significant environmental concern. Because harbors concentrate transportation system operations in densely populated areas, they remain a significant source of air quality degradation and inequitable impact on low income and minority groups.

What actions will USACE take to address the needs identified in this study?

USACE will continue to execute the navigation program as directed. USACE looks forward to continuing the dialogue with federal and non-federal partners to address the Nation’s maritime challenges and opportunities.

How much of U.S. trade goes through the Nation’s ports?

95% of our international trade moves through the Nation’s ports.

What opportunities were there to comment during the development of the report?

USACE hosted multiple in-person and web-based listening sessions to hear concerns from the interested public. USACE also released a working draft of the study and received comments on the draft. USACE presented the study and collected comments at numerous professional venues. The study team broadly advertised its website and dedicated email address.