U.S. Port Infrastructure Investment Survey
2012 – 2016
Completed May 31, 2012

During the first five months of 2012, AAPA circulated an infrastructure investment questionnaire to its 82 U.S. member ports, seeking answers the following questions:

1. What are your port's total projected capital expenditures for the next five fiscal years (2012-2016)? This should include: - New construction and/or modernization/rehabilitation. - Expenditures for piers, wharves, handling equipment, open and closed storage facilities. - Road, rail, pipeline and utility improvements. - Local expenditures for dredging (maintenance and improvements) both federal and connecting channels, berths, disposal sites, and mitigation. - Local share of all security-related capital expenditure projects (not operational costs). - Other expenditures for any structures, land, and fixtures not related to cargo movement, such as maintenance or administrative facilities.

2. If available, what are the total projected capital expenditures by your private sector partners for the next five fiscal years (2012-2016)?

The results of AAPA's port infrastructure spending survey showed that U.S. ports and their private sector marine terminal partners are planning to spend at least a combined $46 billion in port-related improvements through 2016.

The survey also asked respondents to indicate how much their port spent on non-reimbursed security-related operational and personnel costs since 9/11 and what percentage of their operating budget is dedicated to port security. However, the answers to these two questions aren't relevant to this infrastructure spending report, so they are not included here.

Below are a few specifics from AAPA's 2012 U.S. infrastructure spending survey:

- This survey was administered during first five months of 2012, encompassing the period from January 2012 through December 2016 (five years).
- Out of 82 U.S. ports surveyed, 63 responded in time for this report, for a 77% response rate. This is much higher than the 41% response rate AAPA experienced in its FY2006 port infrastructure survey, where respondents were asked to list specific details regarding their planned infrastructure expenditures.
- To simplify the survey-taking process and to increase the response rate, AAPA's 2012 survey asked respondents to aggregate expected capital expenditures

rather than list them separately. The FY2006 survey asked respondents to separate expected spending amounts for each type of facility; on- and off-terminal infrastructure; dredging and security projects; new construction and modernization/rehabilitation; and the funding sources used to finance those expenditures.

- Most responding ports said they either did not know the extent that their private-sector business partners planned to spend on port infrastructure in the next five years, or could not provide a complete assessment is answering this question.
- Previous AAPA port infrastructure investment surveys did not ask member ports to list investment amounts for their private-sector partners. The 2012 survey did, which is a key reason for the significant increase ($1.9 billion to $46 billion) in expected infrastructure spending between 2012 and 2016 compared to between 2006 and 2011.
- The 2012 survey found that U.S. port authorities are planning on investing $18,334,777,057 through 2016 on marine terminal-related infrastructure improvements, while their private sector terminal partners plan on spending $27,635,700,008, for a combined total of nearly $46 billion.
- This total works out to be over $9 billion average per year, of which approximately one-third is spending by port authorities and two-thirds by their private sector partners.

In filling out the survey, AAPA told respondents that their specific port's information would not be published, but rather aggregated with information from other respondents. However, AAPA did break down the responses by U.S. geographic region.

The totals by geographic region are:

Port Region	Ports' Projected Capital Expenditures For 2012-2016	Projected Private Sector Capital Expenditures For 2012-2016	TOTAL Projected Port & Private Capital Expenditures For 2012-2016
NORTH ATLANTIC	**2,122,375,000**	**1,206,500,000**	**3,328,875,000**
SOUTH ATLANTIC	**4,080,678,910**	**261,602,000**	**4,342,280,910**
GULF	**4,340,061,518**	**17,782,298,008**	**22,122,359,526**
GREAT LAKES	**224,650,000**	**135,000,000**	**359,650,000**
NORTH PACIFIC	**1,765,715,068**	**5,914,300,000**	**7,680,015,068**
SOUTH PACIFIC	**5,801,296,561**	**2,336,000,000**	**8,137,296,561**
TOTALS:	**18,334,777,057**	**27,635,700,008**	**45,970,477,065**

Landside Infrastructure Assessment

While port authorities and their business partners are making major investments into port facilities, studies show the intermodal links to and from these facilities—such as roads, bridges, tunnels and federal navigation channels—get scant attention by state and federal agencies responsible for their upkeep, resulting in traffic bottlenecks that increase product costs and hamper job growth.

To help remedy these problems, AAPA continues to advocate for a national freight infrastructure strategy and for the U.S. Congress to quickly pass a reauthorized multi-year transportation bill that targets federal dollars toward economically strategic freight transportation infrastructure of national and regional significance.

Reliable, uncongested roads, rails, bridges and tunnels that connect with seaports give a country's businesses a competitive advantage in the global economy by providing them with the ability to deliver products at lower costs while reaching larger markets. And the role of international trade is only projected to increase.

As recently as 2005, the World Economic Forum ranked the U.S. number one in infrastructure economic competitiveness. Today, the U.S. is ranked 16th, while neighboring Canada is ranked 11th and fast-developing China has risen to 44th. This isn't surprising, considering that the U.S. spends only 1.7 percent of its gross domestic product on transportation infrastructure while Canada spends 4 percent and China spends 9 percent. Even as the global recession has forced cutbacks in government spending, other countries continue to invest significantly more than the U.S. to expand and update their transportation networks.

China has invested US$3.3 trillion since 2000 and recently announced another US$105.2 billion for 23 new infrastructure projects. Brazil has invested US$240 billion since 2008, with another US$340 billion committed for the next three years. Consequently, China is now home to six of the world's 10 busiest ports – while the U.S. is not home to one. Brazil's Açu Superport is larger than the island of Manhattan, with state-of-the-art highway, pipeline and conveyor-belt capacity to ease the transfer of raw materials onto ships heading to China.

To provide some comparison to what the U.S. government is spending on intermodal connections with America's seaports, the Transportation Equity Act for the 21st Century (TEA-21) directed the Secretary to conduct a review of the National Highway System (NHS) freight connectors that serve seaports, airports, and major intermodal terminals and report to Congress by June 9, 2000. The Federal Highway Administration (FHWA) conducted this study with the following objectives: (1) evaluate the condition of NHS

connectors to major intermodal freight terminals; (2) review improvements and investments made or programmed for these connectors; and (3) identify impediments and options to making improvements to the intermodal freight connectors.

That study noted there are 517 freight-only terminals on the NHS which include 253 ports (ocean and river), 203 truck/rail terminals, and 61 pipeline/truck terminals. In addition to these freight-only terminals, 99 major freight airports, which handle both passenger and freight, were included in the list of NHS connectors that were inventoried. These 616 intermodal freight terminals represent 1,222 miles of NHS connectors.

The study results concluded:

- Connectors to ports were found to have twice the percent of mileage with pavement deficiencies when compared to non-Interstate NHS routes. Connectors to rail terminals had 50 percent more mileage in the deficient category. Connectors to airport and pipeline terminals appeared to be in better condition with about the same percent of mileage with pavement deficiencies as those on non-Interstate NHS. This may be due to the higher priority given to airport access because of the high volume of passenger travel on these roads.
- Problems with shoulders, inadequate turning radii, and inadequate travel way width were most often cited as geometric and physical deficiencies with connectors. Data were not available to directly compare connectors and other NHS routes with regard to rail crossings, lane width, and geometrics. A general comparison of functional class attributes suggests that lane width, cross section, and geometrics of the connectors would be significantly lower than on non-Interstate NHS main routes. This is consistent with the differences to be expected between NHS mainline routes, generally principal and minor arterials, and connectors, which are often functionally classified as collectors or local roads.
- The reported investment levels on all connectors were comparable with investment levels on the non-Interstate NHS (average/mile). However, most of the investment was concentrated on a small group of high-profile terminal projects such as the Alameda Corridor or the San Francisco Airport. When the top five terminals with the largest reported investment were eliminated from the database for each of the terminal types, average investment levels, on a per mile basis, were significantly lower than the non-Interstate mainline NHS.
- While the analysis showed that the intermodal connectors have significantly lower physical and operational characteristics, and appear to be underfunded when compared with all NHS mileage, it is difficult to determine the magnitude of the problem. There are currently no national, regional, or terminal activity

level based design standards for intermodal access upon which to base a conclusive statement on the adequacy of investment. This lack of design standards is a significant finding in and of itself.

In the final analysis, the level of investment for intermodal connections to ports appeared to be very low ($40,600/mile), less than 40 percent of the average for all the NHS ($102,100/mile), while port connectors exhibited the most deficiencies overall. AAPA believes that the relatively low investment for connections to ports, while assessed a dozen years ago with no apparent updates since then, remains pretty much the same situation today.

Additional FHWA Field Study Findings

The FHWA field survey also asked what factors contributed to needed improvements not being done. Responses from the survey form as to why this is occurring (in order of frequency of response) are: 1) low priority in State/MPO plans; 2) lack of local match or sponsorship; 3) lack of private sector participation; 4) neighborhood-community opposition; 5) environmental concerns; and 6) physical or other constraints.

After the initial analysis of the field inventory data was conducted, a series of outreach meetings were held to further refine and validate the results and conclusions of the analysis. Those attending these outreach meetings and in other forums, where the results of the study were presented, voiced agreement with the results and provided additional input on their perceptions of the results of the study.

As with all freight initiatives, the challenge for the NHS freight connectors focuses on increasing their priority for transportation funding. The lack of a constituency to champion connector initiatives, combined with the lack of public understanding on the role these connectors play in the economic health of local communities and the country, as well as complex community and environmental situations surrounding these facilities, make successful intermodal development a challenging task.

Waterside Infrastructure Assessment

In the U.S., federal funding for new navigation channel improvements that connect with deep-draft ports has nearly evaporated as lawmakers focus on reducing the deficit and eliminating “earmarks” that have traditionally funded federal navigation deepening projects. At the same time, funding for projects already approved and underway is slow, incremental and insufficient.

Insufficient funding also makes it impossible to maintain most federal navigation channels at their authorized and required dimensions. Today, the busiest 59 U.S.

seaports are dredged to their authorized channel depths only 35 percent of the time, and far fewer channels are dredged to their authorized widths, which is necessary because ships are being built wider as well as deeper.

The U.S. Army Corps of Engineers is charged with improving and maintaining the nation's water access to ports. Nevertheless, the federal government annually provides the Corps of Engineers only about half of the tax that is collected specifically for deep-draft channel maintenance. The rest – nearly $7 billion since 1986 – has essentially 'disappeared' into the U.S. Treasury, while serious dredging needs have been neglected.

Projects to maintain America's critical waterways would create jobs immediately and would provide transportation savings to benefit U.S. businesses. With decreases in the cost of freight transportation, these sectors can enhance their global competitiveness and can create more jobs.

AAPA continues to strongly urge Congress to take action to ensure 100 percent of the annual amount collected from the Harbor Maintenance Tax (HMT) is utilized to maintain federal navigation channels. Additionally, AAPA strongly supports the creation of a National Freight Policy with supporting programs and funding for projects of regional and national economic significance along the freight network. The language included in Title I Section 1115 of MAP-21 establishes a National Freight Program which sets goals, designates a primary freight network, and provides $2 billion per year in funding by formula to states in order to address freight connectivity issues. In addition, the legislation allows states to obligate up to 10 percent of their freight apportionment to maritime and freight rail projects that demonstrate greater public benefits than a highway project on a segment of the primary freight network.

While United States' federal investment in its deep-draft waterways infrastructure is trending downward, countries like India, Brazil and even the UK are committing the equivalent of billions of dollars to modernize their ports and channels. The first major expansion of the Panama Canal in more than a century is slated for completion at the end of 2014, and the factors driving this project are also driving ports around the world to deepen their navigation channels and improve harbor facilities.

India plans to invest US$60 billion, including both public and private funds, in creating seven new major ports by 2020 to handle a rapid expansion in exports of merchandise, which is forecast to triple by 2017. Brazil expects tonnage at its coastal ports to more than double, to 1.7 billion tons, by 2022 and has committed US$17 billion, including US$14 billion from the private sector, for port improvements. In the U.K., the world's fourth largest marine terminals operator, DP World, plans to spend US$2.5 billion on London's Deep-Water Gateway, the country's first such development in the last 20 years.

# # #