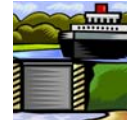


NAVIGABLE WATERWAYS



D-

2006 Report Card for Pennsylvania's Infrastructure

A typical Ohio River tow of 15 barges can move the same amount of cargo as 225 rail cars or 900 semi-trucks—reducing highway congestion and saving money. Commercial shipping is big business along the Allegheny, Ohio and Monongahela Rivers and the navigation channel that connects Philadelphia to the Delaware Bay. However, future viability of the state's waterway infrastructure has been threatened due to an unreliable lock and dam system, less than optimal funding and delays to the Delaware River Deepening Project.

BACKGROUND

Inland waterway transportation is generally the least costly transportation mode. The average cost of moving cargo by barge in the Port of Pittsburgh district ranges between \$.005 and \$.01 per ton mile of cargo moved, compared to \$.05 for rail and \$.10 for trucking. Barge transportation is also more energy efficient and environmentally friendly than rail or truck, and reduces overland congestion, accidents and noxious pollutant emissions.

A typical Ohio River 15 barge tow has a 22,500 ton load capacity, which is the equivalent of 225 rail cars or 900 tractor trailer trucks. To move these 22,500 tons one mile would require 44 gallons of diesel fuel by barge, 111 gallons by rail and 381 gallons by truck.

Western Pennsylvania

The U.S. Army Corps of Engineers owns, operates and maintains approximately 200 miles of navigable waterways and 17 navigation locks and dams on the Ohio, Allegheny and Monongahela Rivers in western Pennsylvania.

The Port of Pittsburgh is the second busiest inland port in the nation and the 13th busiest port of any kind. At 52 million tons of cargo per year, it is larger in tonnage than Baltimore, Philadelphia and St. Louis. The port district encompasses an eleven county area in southwestern Pennsylvania and supports more than 200 river terminals and barge industry service suppliers. On an annual basis, the port moves approximately \$8 billion worth of goods, which equates to 53,000 jobs and more than \$2 billion in income to the region. While its contributions to our economy are undeniable, the port's life and success is directly dependent on the efficient operation of the navigable waterway transportation system.

In 2005, waterway traffic increased by 13 percent on the Ohio River and 16 percent on the Monongahela River, and this upward trend is expected to continue.

Eastern Pennsylvania

The U.S. Army Corps of Engineers also maintains a 40-foot deep navigation channel that extends from Allegheny Avenue in Philadelphia, 96.5 miles in a southerly direction to deep water in the Delaware Bay. This channel is part of the “Philadelphia-to-the-Sea” navigation project, which serves three states – Pennsylvania, New Jersey and Delaware – and ties into other navigable waterways such as the Chesapeake and Delaware Canal (DE, MD), Christina River (Port of Wilmington, DE) and the Schuylkill River (Philadelphia, PA). The channel width varies from 400 feet in the harbor to 1200 feet in some of the bends.

The ports of Philadelphia, Pennsylvania; Camden, New Jersey; and Wilmington, Delaware are the second largest deep water ports on the U.S. East Coast, in terms of international waterborne cargo tonnage (82.4 million tons of cargo in 2004, 29.9% of North Atlantic Ports’ market share). The cargo is generally petroleum, with a mix of container and bulk products.

CONDITIONS

Western Pennsylvania

The Corps of Engineers has developed a rating system to measure reliability for the navigation system structures, as unscheduled maintenance closures of the locks are most detrimental to the shipping industry and economic success of the port. Of the 17 locks in western Pennsylvania, only 29 percent (five) meet the Corps’ Acceptable Level of Performance Reliability. The overall system is at 61 percent of the reliability goal, and 50 percent of the most critical locks, in terms of economic value, operate at only 20 percent of the reliability goal. Constrained funding for maintenance of navigation projects over several decades has caused this decline in the reliability of older locks in the system, some of which are 85 years old.

The Corps’ Ohio River & Tributaries Navigation System Five Year Development Perspective details the maintenance, construction and planning optimum actions in the 2006-2011 fiscal years, which will contribute to reducing risk, improving reliability and increasing efficiency. This paper defines specific projects and funding levels for General Investigations and Assessments, which include studies and engineering design (GI), Construction General (CG) and Operations and Maintenance (O&M). For the entire Ohio River system, FY06 O&M actual funding is at 95 percent of optimum; however FY06 actual funding for GI and CG is at 43 percent and 87 percent of optimum funding levels, respectively. While the O&M funding level has improved and is close to optimum, funding remains below optimum levels especially for GI.

The D- reflects:

- 29% acceptable reliability of locks
- Aging infrastructure
- Increased demand
- Inadequate funding
- Possibility of missed revenue opportunities due to delays in dredging
- Impact of failure on the local economy – millions per day

Eastern Pennsylvania

The Delaware River was last deepened to its present depth of 40 feet in 1942, a project which was authorized by Congress in 1938. Maintenance dredging in the project is performed through the use of dredging contracts and the Philadelphia District-owned Dredge McFarland. Approximately 3 million cubic yards of material are removed annually and placed into confined disposal facilities, most of which are located in New Jersey.

In 1981, a group of maritime representatives – including refineries, terminal operators, port authorities, railroads, the Pilot's Association and the Maritime Exchange, initiated a project to deepen the navigation channel to 45 feet. The Delaware River Port Authority (DRPA) expressed support of the Federal Feasibility Study to deepen the channel in 1983 and, by 1989, had agreed to act as the local sponsor. Congress authorized the project in the Water Resource Development Act of 1992, at which time the Corps completed its Feasibility Report.

In 1998, Congress approved \$1.5 million for due diligence and construction for FY 1999 and has continued to provide funding for its eventual construction. This project supports shipping traffic, carrying more than 120 million tons of products per year. The economic impact on the Port of Philadelphia and Camden, New Jersey region would include 54,000 jobs (80% of the jobs are non-refinery related), \$1.2 billion in business revenue, \$90 million in state and local taxes, and 75 percent of U.S. East Coast oil refining capacity, processing 1.1 million barrels of oil per day.

In addition to the increase in jobs and revenue, the deepening of the channel would have a positive environmental impact. It would reduce the lightering operations in Delaware Bay, improve security by reducing the amount of time that tankers are in the Delaware Bay, and would provide a more efficient movement of crude oil, container petroleum product, steel and slag.

Most East Coast ports have deepened or are in the process of deepening their channels to more than 40 feet, which will make the Delaware River Channel the shallowest channel among competitive ports — a major competitive disadvantage.

The Delaware River Deepening Project has been delayed for a variety of environmental, economic and political issues. While numerous and exhaustive studies have been conducted by the Corps, environmental groups fear that the dredging to the native river bottom will re-suspend contaminants into the water column and that it will puncture an aquifer contaminating the groundwater in Pennsylvania and New Jersey. There is also concern that a majority of the 33 million cubic yards of material to be dredged would be deposited in upland disposal areas in New Jersey.

Based on the current poor condition of the system and lack of reliability, actual funding levels less than optimum in FY06 as defined by the Corps of Engineers, and the prediction of increased traffic and demand on the system, the Navigable Waterways in Pennsylvania are assigned the grade of **D-**.

POLICY OPTIONS

The current federal budget process does not differentiate between expenditures for current operations/maintenance and long-term capital investment. This causes major inefficiencies in the planning, design and construction process for long-term investments. Funding for capital projects needs to be budgeted and predictable, as opposed to the current system of constrained funding which is determined on a yearly basis.

The American Society of Civil Engineers (ASCE) supports the creation of a federal capital budget, which would serve as a funding mechanism to help reduce the constant conflict between short-term and long-term maintenance needs. This would help to increase public awareness of the problems and needs facing this country's physical infrastructure, and would help Congress to focus on specific programs devoted to long-term growth and productivity.

In the interim, Congress must appropriate the full amount in the Inland Waterway Trust Fund to improve the reliability of the most critical projects to acceptable performance levels and begin reducing the maintenance backlog.

RECOMMENDATIONS

- **Amend the Inland Waterways Trust Fund Act.** Congress should amend the Inland Waterways Trust Fund Act of 1978 to allow all funds collected to be used for repair and construction of dams and locks. Congress should then appropriate the full fund balance each year to pay for the cost of rehabilitating the nation's oldest locks.
- **Revisit the Delaware River Dredging Project.** ASCE encourages the State of New Jersey to revisit all of the investigations and legislative policies performed on the Delaware River Dredging Project. ASCE's Pennsylvania Sections strongly support the proposed agreement between the States of New Jersey and Delaware and the Commonwealth of Pennsylvania concerning the Delaware River Dredging Project, and recommend that all states strive for a speedy approval.

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