

Strategic investments in US inland waterways should focus on maintaining locks and facilities

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While the U.S. inland waterways system covers a vast geographic area, its freight traffic is highly concentrated, and the system needs a sustainable and well-executed plan for maintaining system reliability and performance to ensure that its limited resources are directed where they are most essential, says a new report from the National Research Council's Transportation Research Board. More targeted operations and maintenance (O&M) investments informed by an asset management approach would prioritize locks and facilities that are most in need of maintenance and for which the economic impacts of disruption would be highest.

The federal inland waterways infrastructure is managed by the U.S. Army Corps of Engineers (USACE) and funded through USACE's navigation budget. The system moves nearly 7 percent of all ton-miles of domestic cargo, primarily coal, petroleum, food and farm products, chemicals, and crude materials. It consists of more than 36,000 miles of commercially navigable channels and about 240 working lock sites. The chief and most expensive component is the installation and maintenance of lock and dam infrastructure to enable the upstream and downstream movement of cargo.

While many locks are more than 50 years old, lock [performance](#) correlates poorly with age since many locks have been rehabilitated. Navigation could be improved by directing O&M resources toward

major facilities with high volumes of traffic, and where the time lost to shipping delays is significantly higher than the river average, the report says.

About 50 percent of barge cargo moves on six major corridors—such as the Mississippi River, Illinois River, and the Ohio River—which represent 16 percent of the total waterway miles, while many inland waterway segments have minimal or no freight traffic. The distribution of funding toward more essential facilities is already occurring in USACE's budgeting process, but a standard asset management approach to O&M spending is not fully developed or deployed across all USACE districts.

Commercial navigation users pay a share of the system's construction costs through a fuel tax, but pay none of the roughly \$650 million annual cost of O&M, which is funded through general tax revenues. A system more reliant on user payments would provide needed revenue for maintenance and promote economic efficiency while being more consistent with the federal posture toward other freight transportation modes that are more dependent on user fees, the report says.

"Debates about funding for the inland waterways system and the roles of the federal government and users in paying for the system deserve renewed attention in light of shrinking federal budgets, declining appropriations, and increasing maintenance needs for its infrastructure," said committee chair Chris Hendrickson, Hamerschlag University Professor of Civil and Environmental Engineering at Carnegie Mellon University in Pittsburgh. "Without a funding strategy that emphasizes system preservation, maintenance projects may continue to be deferred, which would result in further deterioration and in a less cost-effective and less reliable system."

Provided by National Academy of Sciences

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