The American Waterways Operators

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March 19, 2026

Mr. Michael A. Halem
Acting Assistant Secretary for Research and Technology
Department of Transportation
Office of the Assistant Secretary for Research and Technology
1200 New Jersey Ave., SE
Washington, DC 20590

Re: Request for Information - Research to Support Establishing a National Strategy for Transportation Digital Infrastructure (Docket No. DOT-OST-2026-0430)

Dear Mr. Halem:

The American Waterways Operators (AWO) is the tugboat, towboat, and barge industry's advocate, resource, and united voice for safe, sustainable, and efficient transportation on America's waterways, oceans, and coasts. Our industry is the largest segment of the nation's 40,000-vessel domestic maritime fleet and moves 665 million tons of cargo each year safely and efficiently. On behalf of our more than 300 member companies, we appreciate the opportunity to comment on this request for information to inform the establishment of a transportation digital infrastructure (TDI) national strategy.

In developing a TDI national strategy, both the importance and the specific needs of the maritime mode must be considered. Maritime transportation is foundational to America's economic security, supply chain reliability, and national security readiness. Although a smaller share of overall domestic freight moves by water compared to other surface modes, maritime is unmatched in terms of safety, efficiency, and environmental performance, making its inclusion in the TDI strategy critical. At the same time, maritime has major differences from other surface modes; in particular, the operation of maritime vessels and waterways infrastructure is much more exposed to changes in the natural environment than other modes and therefore has a greater reliance on environmental monitoring and forecasting to operate safely and efficiently. By addressing the unique needs of maritime, the TDI strategy can help to enhance maritime operations, ensure thorough operational coordination and systems-level integration with other modes, and deliver greater efficiency gains.

Today's maritime operations are increasingly dependent on secure, interoperable digital systems to manage vessel traffic, cargo flows, perimeter security, and intermodal connectivity. A coherent national TDI strategy would provide the architectural standards, cybersecurity

principles, and interoperability guidance necessary to modernize maritime and intermodal operations while reducing fragmentation and vulnerability across jurisdictions.

The Trump Administration's Maritime Action Plan to restore America's maritime dominance highlights the importance of maritime domain awareness and infrastructure protection. Integrated sensing, secure data exchange, and federated data architectures under a TDI strategy would strengthen real-time situational awareness across port complexes, inland waterways, and coastal approaches. Establishing clear governance standards, cybersecurity baselines, and secure system design principles will also enhance maritime operational security. Such capabilities are foundational to both economic continuity and national security.

With this in mind, we make the following recommendations for consideration when developing the TDI national strategy:

1. TDI systems for maritime should include vessel traffic systems, electronic charting and navigation software, ship-to-ship communications, cargo tracking platforms, digital twin environments, port communication systems, and other vessel/cargo/terminal data platforms.

2. The TDI strategy should aim to develop an accurate and timely map of freight flows on the waterways. Data from the U.S. Army Corps of Engineers' Waterborne Commerce Statistics Center is at best two years out of date, leaving businesses and policymakers unable to evaluate trends and make decisions based on the current state of play. Tracking and mapping commodity flows will allow businesses to increase the efficiency of their operations and investments and will better inform policymakers' decisions on support for maritime transportation operations and infrastructure.

3. The TDI strategy should aim to unlock information transparency and break down silos of information, particularly those between federal agencies. For instance, the Coast Guard collects vessel, waterways traffic, and waterways safety data; the Corps of Engineers collects vessel, commercial, hydrographic, cartographic, and channel condition data; the National Oceanic and Atmospheric Administration collects meteorological, hydrographic, and cartographic data; the Department of Energy collects data on fuels and energy cargoes; the Environmental Protection Agency collects emissions and environmental data; and other agencies and sub-agencies collect a wide variety of other data that is important to the safety, efficiency, and reliability of maritime transportation. Most of that data is siloed and used for a narrow purpose instead of integrated into a broader system that tells a more complete story of the maritime transportation system.

4. In prioritizing transportation corridors, the TDI strategy should ensure that waterways are given due consideration. There is a robust network of ports, rivers, canals, and coastal routes that is an integral part of the overall transportation supply chain and should be included alongside highways, rail, and pipelines. Further, America's system of navigable inland waterways is unique. While the Mississippi River is the largest and most trafficked waterway, the many other rivers and canals that connect to it together make an interdependent system with built-in redundancies. It is impossible to completely understand

the full capacity of a major inland waterway like the Mississippi River without knowledge of the smaller waterways it is connected to. Prioritizing only the major inland waterways as transportation corridors could paint a misleading picture of the capacity of the inland waterway system as a whole.

5. The development and deployment of the TDI strategy should be harmonized with the National Institute of Standards and Technology (NIST) Cybersecurity Framework. The NIST framework has been widely adopted as the basis of cybersecurity programs by federal, state, and local governments and across industries. Alignment with the NIST framework will provide the most seamless integration across public and private sector entities.

6. In addition to the integration of economic and security data, the TDI strategy should also consider greater integration of environmental information. The marine transportation system is incredibly complex, and, more so than other modes, is greatly impacted by environmental conditions. For instance, precipitation is the primary driver of river and lake levels, determining to what level barges can load; silting and shoaling in navigation channels directs dredging and aids-to-navigation needs; some waterways are impacted seasonally by ice; and extreme weather like hurricanes can have an outsized impact on vessel traffic and waterways infrastructure. Integrated environmental monitoring and forecasting can support government and industry stakeholders in decision-making to increase efficiency and resiliency.

A TDI national strategy that modernizes, harmonizes, and increases the data shared among and between all of the modes of transportation will improve the efficiency and capacity of the modes and the transportation network as a whole.

Thank you again for the opportunity to comment. I would be pleased to provide additional comments or further information as you see fit.

Sincerely,

Caitlyn E. Stewart
Vice President – Regulatory Affairs