

The Marine Transportation System and the Federal Role

Measuring Performance, Targeting Improvement

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Much of the freight transported within the United States and almost all the nation's international commerce relies on the marine transportation system (MTS). The system is varied and immense, comprising thousands of miles of navigable channels, hundreds of port complexes, and thousands of terminals along lakes, rivers, and coastal waterways. Tens of thousands of U.S. and international shippers and carriers operate a range of vessels—from barges to cargo ships—on these waterways.

Commodities essential to the economy and the daily lives of Americans—from minerals and building supplies to energy and farm products—are moved in bulk vessels across the country and to and from other regions of the world via waterways. Finished goods are brought into and shipped out of the country in containers transported by the thousands in ocean-crossing vessels. Interconnected with other modes of transportation, the MTS is a crucial component in a vast freight system.



Joint Enterprise

The MTS is as much a joint private- and public-sector enterprise as other parts of the nation's transportation system. The private sector owns and operates the vessels and most of the terminals and is responsible for the commerce that flows through the system. The public sector provides much of the infrastructure at ports and on the waterways and is responsible for keeping the system functioning for commerce in a safe, secure, and environmentally sound manner.

The federal government's roles in the MTS include

- ◆ Constructing, operating, and maintaining the navigable channels;
- ◆ Managing the traffic on the waterways;
- ◆ Providing mariners with aids to navigation, charts, and information on water and weather conditions;
- ◆ Regulating the safety and environmental compatibility of vessels;
- ◆ Responding to marine accidents that threaten public safety and the environment;
- ◆ Helping to finance the highways that connect marine ports and terminals to the larger transportation system; and
- ◆ Ensuring the security of the MTS and its many components.

Improving Coordination

These federal responsibilities are substantial, but widely dispersed and not easily coordinated. They are fulfilled through many federal programs administered by various federal agencies and governed by many statutory requirements—sometimes reflecting historical interests and institutional arrangements. These agencies often lack good information and analyses to support and coordinate their decision making.

The federal agencies and Congress need to know how well the MTS is meeting the demands of com-

merce, safety, environmental protection, and national security. They need ways to identify shared goals, to assess progress, and to plan actions that meet these goals.

Several federal agencies—including the U.S. Coast Guard, National Oceanic and Atmospheric Administration, U.S. Department of Homeland Security, U.S. Maritime Administration, U.S. Department of Transportation (DOT), U.S. Department of Agriculture, and U.S. Army Corps of Engineers—therefore asked the Transportation Research Board (TRB) to advise them on ways to improve coordination of federal government planning and decision making on the MTS. Under the auspices of the National Academies, TRB convened a 14-member committee with expertise in economics, marine transportation, environmental protection, port management and planning, waterways management, and transportation policy and finance, to conduct the study (see box, page 20).

Information and Analysis

In its report, *The Marine Transportation System and the Federal Role: Measuring Performance, Targeting Improvement* (TRB Special Report 279), the committee identifies an urgent need to strengthen the information and analyses for federal decision making about the MTS. Safety, environmental protection, commerce, and security are concerns that require coordinated decisions across federal programs. Federal policy makers must understand how well the system is performing in each of these areas. Moreover, policy makers must know how the MTS is used and how it functions within the broader transportation system and the economy.

With so many responsibilities spread among so many programs, federal policy makers need to know how the programs are working collectively to further national interests and need to determine where the programs may be working at cross-purposes. Policy makers must be able to identify emerging problems and to take timely actions in response.

Demands on the MTS are growing and changing continuously. Growth in international trade is propelling traffic demand. In addition, environmental, safety, and security issues are changing. An expanding and increasingly integrated system requires more information of better quality to support decision making.

The committee finds that information on system performance is mostly program- and project-specific. For example, much information is collected on the incidence and length of delays at individual locks on the inland waterways, yet the data are not applied in assessing congestion and delays on the system as a whole or in determining the impacts on national freight transportation patterns and costs.

The available data can and should be used to assess the performance of the nation's navigation infrastructure in facilitating commerce, as well as to guide investments and policies to improve performance. For example, information collected on vessel groundings, collisions, and oil spills in U.S. waters is helpful in assessing the safety of vessel operations and design, but the information also could guide federal investments in hydrographic data and in channel dredging to improve the safety and efficiency of the marine operating environment.

Galvanizing Role

Expecting individual agencies to collect and analyze system-level performance information is not realistic—each agency defines its information needs by specific program objectives, budgets, and statutory obligations. Nevertheless, U.S. DOT is the one federal entity that has a clear and unambiguous responsibility to ensure that national and system-level performance information is made available and used for federal transportation policy making.

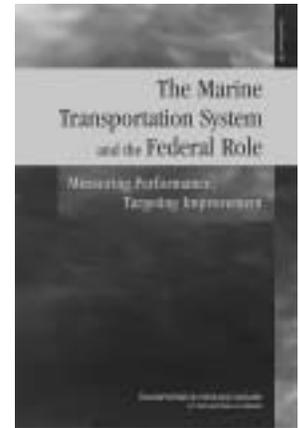
U.S. DOT has the expertise and capability to develop the information by drawing on data collected by other federal agencies and by nonfederal entities. U.S. DOT also is responsible for viewing the operations and performance of the MTS within the context of the nation's transportation system and the national interests. No other federal agency involved in the MTS has this overarching perspective and charge. U.S. DOT can communicate this information to Congress and to the Office of Management and Budget, which connects federal agency budgets with policies.

In its report, the committee urges the Secretary of Transportation to seek a mandate from Congress for U.S. DOT to take the lead in measuring, monitoring, and assessing options to strengthen the contribution of the MTS to key national interests, including commerce, environmental protection, safety, and security. In assuming this leadership role, U.S. DOT should consult with the other federal agencies and users of the system to establish performance goals for the MTS that relate to national interests and should seek a formal endorsement of these goals from Congress.

A better-informed Congress would be able to support these goals by committing resources and by making appropriate changes in the responsibilities, organization, and expectations of the federal programs and agencies. This would ensure that federal policies and programs can be developed in the context of the MTS's role in the national freight system.

Conditions and Performance

Good information on system performance is not enough to bring about more rational and coordinated



TRB Special Report 279, *The Marine Transportation System and the Federal Role: Measuring Performance, Targeting Improvement*, is available from TRB; to view the book online, www.TRB.org/publications/sr/sr279.pdf.

Committee for a Study of the Federal Role in the Marine Transportation System

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federal decision making, but it is a start, with precedents in other federal transportation programs. For example, Congress has demanded regular reports on the performance and needs of the nation's aviation and surface transportation systems.

The committee proposes as a model for a report on the MTS the long-standing, biennial *Report to Congress on the Status of the Nation's Highways, Bridges, and Transit: Conditions and Performance* (C&P report).¹ U.S. DOT develops the C&P report with the help of the Federal Highway Administration and the Federal Transit Administration, under a mandate from Congress to provide regular national-level information on system performance—not only measuring conditions and performance, but also assessing future demands, expectations, and policy options.

The committee recommends that U.S. DOT begin immediately to develop reports on the use, condition, performance, and demands of the MTS, modeled after the biennial C&P reports on highways and transit, and that the department seek a mandate from Congress to produce the reports regularly. In the committee's view, these reports also should assess the funding levels and investments needed to improve system conditions and performance.

A range of metrics, data, and analyses are necessary to measure and monitor MTS performance relating to national interests. The focus should be on metrics that translate into performance—such as trends in safety and transportation costs—instead of on measures of program output, such as miles of channel dredged or number of vessels inspected.

¹ www.fhwa.dot.gov/policy/2002cpr/es.htm.

Gathering, synthesizing, and analyzing performance-related information should prompt explicit and critical thinking about the scope and effect of federal involvement in the MTS. Many insights should be gained into system performance patterns and trends that are not now apparent because of the scattering of information across the system.

With credible, objective, and accessible information provided on a regular basis on MTS conditions and performance, decision makers can prioritize investments and establish policy in the national interest. Federal policy makers will be in a better position to ensure that programs are well devised and resources well placed.

The C&P reports for highway and transit provide important intangibles, drawing notice to national needs in these modes. The experience suggests that analyses and regular performance reporting also will draw the attention of the public and Congress to the needs of the MTS.

Related Considerations

Regular system condition and performance analysis and reporting will help Congress in decision making. The committee recommends that Congress pay close attention to the following topics:

- ◆ Reinvesting user-generated revenues into the MTS;
- ◆ Developing a more balanced set of tools to make national transportation investment and policy decisions, recognizing the increased integration of the transportation modes;
- ◆ Undertaking applied research to further the capacity, safety, environmental protection, and security of the nation's ports, intermodal connections, and other marine facilities and services; and
- ◆ Developing a more thorough understanding of the operations, capacity, and use of the MTS—and of the freight system in general—to identify ways to improve the integration of security, environmental protection, and safety features and capabilities into the system as it facilitates the nation's commerce.

The integration of the nation's transportation modes, particularly for the movement of freight, may compel changes in federal responsibilities and institutions. Meanwhile, much can be done to ensure that the federal government remains responsive to the needs of commerce and the public. The committee's recommendations represent first steps in ensuring that the MTS—and recognition of intermodalism in general—has a meaningful influence on federal policies and decision making.