



More Effective Use of Tennessee Waterways to Account for Competing Uses and Address Freight Congestion

Problem Description

The United States inland waterways system (IWS) directly connects 28 states and plays a crucial role in our nation's competitiveness and economic growth supporting efficient, safe, and sustainable transport for multiple commodities including agriculture, chemicals, and building materials. The state of Tennessee (TN) is one of the 12 states with the largest movements of freight via the inland waterways. Considering the economic impact and other benefits (e.g., safety, reduced environmental externalities and truck traffic) to our state and local communities, a closer look at our current IWS conditions, connectivity, operations, and redundancies is warranted. As a state, we need the tools and data to identify opportunities for federal funding and areas to invest (capital and operational) to take full advantage of the available capacity, increase efficiency, safety, and resiliency, and reduce externalities from freight movements in TN.

Research Objectives

The goal of the project is to develop a set of recommended strategies for TDOT that support efficient, safe, reliable, and resilient use of TNs IWS that maximize economic impact, support investment decisions, and foster workforce preservation and development. To achieve this goal, this research has the following objectives:

- Perform in-house analysis of TNs IWS commodity flows through its ports, terminals, and other facilities,
- Identify stressors of TNs IWS and its assets,
- Identify and prioritize investments to accommodate current and projected growth of critical commodities favorable for waterway transport and modal shift,
- Support the development of a waterway program in TN and leverage federal funding opportunities, and
- Identify and foster partnership opportunities.

Potential Implementation and Expected Benefits

Additional benefits from the information and data collected, analyzed, and synthesized, and the tools developed include the ability for TDOT to analyze critical inland waterway infrastructure and dependencies, then select and prioritize inland waterway investments to improve freight movements in TN to minimize externalities from truck and rail while benefiting economic and equitable growth. TDOT will be able to quantify the impacts of disruptive events at specific inland waterway assets that affect specific commodities and identify/evaluate enhancement alternatives for inland waterway assets. TDOT can better plan for mitigation to minimize disruptions from stressors of TNs IWS. Finally, TDOT will be able to quantify research data through practical experience with river and system operators, as well as improve representation of inland waterway modes in their multimodal freight travel demand model.

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PROJECT SCHEDULE:

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