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**Tennessee Waterways  
Assessment Study –  
Phase II**

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## 1.0 Introduction and Purpose

The United States has one of the most extensive and modern water transportation systems in the world. Forty states are served by deepwater ports, coastal shipping and nearly 12,000 miles of federally maintained navigable waterways. Recognizing the importance of ports and waterways to future growth in global trade and economic development, many of these states have made this mode an integral function of their transportation agency's mission. Like other modes, ports and waterways are an important part of these states' intermodal and multimodal freight planning, investment strategies, and other associated transportation programs.

With its central location on the inland river system, Tennessee is home to three major navigable arteries, the Cumberland, Mississippi, and Tennessee Rivers, four public riverports, and over 170 private river terminals. Ranking 11<sup>th</sup> out of 40 for most navigable waterways in the US, Tennessee's rivers play an integral role in the nation's freight system.



Completed in 2007, Phase I of this study provided an overview of the vast network of rivers, terminals, and waterborne commerce that compose the inland waterways freight transportation industry in Tennessee.

Phase II is a continuation of that study. Funded jointly by the Tennessee Department of Transportation (TDOT) and the Nashville District US Army Corps of Engineers (USACE), this study's intent is to deliver recommendations for the role of TDOT in support of the state's ports and waterways.

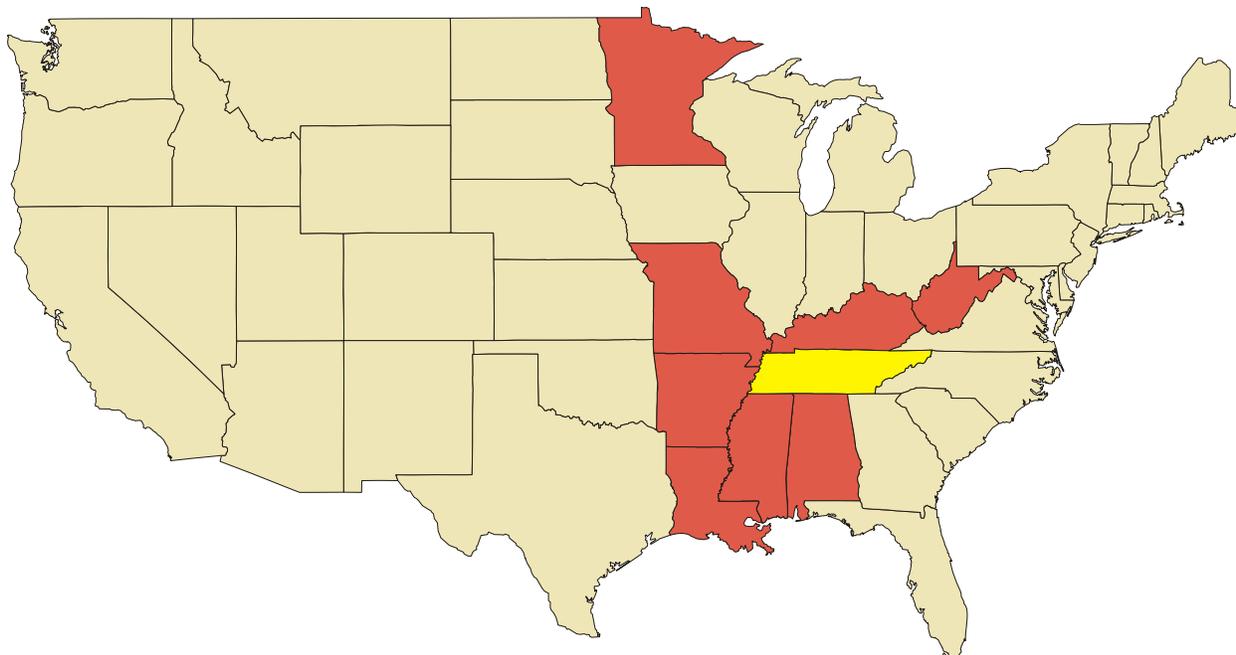
## **2.0 Methodology**

Major objectives of this study were to provide comparative information regarding ports assistance programs in other states, seek the input of stakeholders in the Tennessee waterways community to ascertain their desires for types of state-level assistance and/or programs, and provide program recommendations that will ultimately aid the state in future freight transportation planning.

The recommendations contained in this report are the result of an investigation into the roles and responsibilities of other states served by water transportation to support their ports and waterways, and a series of collaborative stakeholder meetings.

### 3.0 Roles and Responsibilities of Other States

Nine states were investigated, including Tennessee, to learn more about how those states support water transportation and their ports. The states surveyed include Alabama, Arkansas, Kentucky, Louisiana, Minnesota, Mississippi, Missouri, and West Virginia. These states were chosen because of the diverse nature of their approach to support their representative ports and waterways industry. Tennessee is presented for comparison purposes.



**States Studied (Identified in Red)**

This section describes the various ways these states have provided support for their riverports. Included is data pertaining to the governmental body responsible for ports and waterways, the organizational placement of the waterways individual or department in the governmental entity, if applicable; number of navigable waterway miles; most recent annual waterborne freight tonnage; and the number of public port facilities (public ownership only).

This investigation provided a comparative analysis of possible roles for Tennessee. Information obtained from researching these policies, programs, and functions was considered in formulating similar recommended initiatives for Tennessee.

The involvement of these states in their ports and their jurisdiction over this transportation mode is described in the following sections. Though the approach of each state to support its waterway industry varies greatly, roles of each state can be summarized into the following categories:

***Organizational Structure***                      The organization responsible for the administration of the state’s water transportation and that organization’s influence over its public ports.

***Financial Assistance***                         Programs established by state statute and specifically formulated to help public ports better serve the state’s commerce and industry. Most state funding is either grants or loans with varied eligibility and repayment stipulations, depending on the needs and the purpose of the program.

***Technical Assistance***                         State-funded programs that provide both technical assistance and advice to the ports and waterways industry, as well as conduct studies and research to address both near-term and long-range needs and opportunities pertaining to water transportation.

***Marketing Assistance***                         Promotion and marketing of these unique resources can take many forms ranging from direct marketing campaigns to providing grants or other ways to help the individual ports increase their market share.

***Policy***    Plans of action to guide decisions and achieve outcomes to positively impact programs and spending priorities to benefit the waterway industry.

***Other***     Miscellaneous support that states enforce to benefit their waterway industry that do not necessarily fit into the categories above.

### **3.1 Port Programs in Other States**

When discussing public port facilities, it is important to understand the terminology used to distinguish between a port authority, a port, and a terminal as well as the difference between a public port and terminal versus a private facility.

#### **Facility Definitions**

The definitions of a riverport, river terminal, and port authority are important within the context of this Study.

- **Riverport:** “Riverport” is typically designated as an area contiguous with a navigable river delineated by river miles, and may encompass not only the river frontage but also the “hinterlands” or area of market penetration. The riverport may include industries, an industrial park (or parks), railroad lines, roads and utilities as well as one or more river terminals.
- **River Terminal:** A river terminal is defined as a facility at which goods or commodities are loaded or unloaded to/from a barge. Typically, a terminal is also where cargo is received, stored, and later distributed to sites outside the port. Different kinds of cargo are handled at different kinds of terminals. For example, bulk cargoes such as coal, grain, and petroleum require highly specialized facilities for their handling, while general cargo (including containerized cargo) requires adequate crane service and appropriate storage areas.
- **Public Port Authority:** Most major port facilities are publicly owned and maintained by multi-state, state, county, district or other public or quasi-public organizations that are commonly referred to as “public port authorities”. These are the agencies responsible for the overall administration of the property, terminals and other facilities at a public port.

### **River Terminal Ownership**

River terminal ownership falls into two broad categories - public and private. Public ownership is where the terminal is owned by a public entity such as a port authority, unit of local government, or a state. Private ownership is where a terminal is owned by a private corporation.

### **River Terminal Operation**

Public port authorities may develop and construct facilities, retain ownership of the facilities, but contract or lease the facility to a private company that provides day-to-day operations, marketing and management (private operation). In Tennessee, all of the publicly owned terminals are operated by private entities.

When a terminal facility is operated by its owner, control of the strategic direction and pricing of services is retained by the owner. The public entity also has the responsibility for staffing, purchasing and maintaining equipment, marketing and the myriad of other duties associated with operating a river terminal.

In the following state sections, any reference to port authority, Riverport, or terminal will be as defined in Section 3.1. Additionally, any reference to Riverport refers to a Riverport facility that is publicly owned as also defined in Section 3.1 above.

### 3.1.1 *Alabama*

Alabama’s waterway system consists of five commercially navigable inland waterways and the gulf intracoastal system. The Alabama River, Chattahoochee-Apalachicola river system, Tennessee River, Black Warrior-Tombigbee river system, and the Tennessee-Tombigbee Waterway provide nearly 1,300 miles of navigable waterways that moved 80.7<sup>1</sup> million tons of waterborne commerce in 2006. These waterways link Alabama to markets in 23 states along the inland river system<sup>2</sup>.

#### Organizational Structure

The Alabama Department of Transportation (ALDOT) currently has no responsibility for ports. The Alabama State Port Authority (ASPA) controls the deepwater port facilities in Mobile and eleven inland river port facilities. The ASPA, which is governed by a nine-member board, is the only state-level commissioned port authority in Alabama and operates as a free enterprise, funded primarily through operating income and the issuance of bonds. Other localities have also established local port authorities. The Florence-Lauderdale County Port Authority and the Decatur/Morgan County Port Authority, for example, have ports on the Tennessee River. These local port authorities own terminals and related facilities, are responsible for the operations at the port, and provide the necessary improvements needed to meet customer needs.



The State is however, undergoing change to further capitalize on its waterways. 2008 legislation is pending to authorize ALDOT to coordinate and plan for the development of transportation on Alabama’s inland waterways, create an Inland Waterway Transportation Fund within ALDOT to finance inland waterway infrastructure development projects, and to establish a 9-member advisory board of ports and waterways interest for further promotion and utilization of the state’s waterways<sup>3</sup>.

#### Financial Assistance

There is currently no state-level financial assistance available to the local public ports in Alabama. The Alabama State Docks finances the Port of Mobile and its 11 inland ports primarily from revenues generated by users. Other publicly owned docks such as those of local development authorities, counties, or municipalities are generally funded through local authority

<sup>1</sup> Research and Innovative Technology Administration, Bureau of Transportation Statistics, 2006 Waterborne Shipments

<sup>2</sup> The Tennessee-Tombigbee Waterway Development Authority

<sup>3</sup> House Bill 55, Alabama State Legislature, 2008

revenue bonds or economic development funds. As indicated in the previous section, part of the legislation pending is the establishment of the Inland Waterway Transportation Fund that would assist in funding infrastructure needs for industrial and transportation development of inland riverports.

### Technical Assistance

ALDOT has established relationships with the agencies overseeing the state’s ports and waterways and coordinates with these agencies about traffic concerns, access needs, and providing adequate intermodal connections to the ports. Should the pending legislation be enacted, ALDOT would be charged with a much broader role in supporting and advocating the state’s waterways industry.

### Marketing Assistance

The State does not offer any formal marketing assistance to the ports. However, in the Statewide Transportation Plan, updated January 2008, water transportation and its industry received noteworthy attention as an integral part of the state’s freight industry. The Plan not only describes the state’s ports and waterways, but also discusses the economic impact of the Port of Mobile and a needs assessment of the State’s ports and waterways. Readily accessible on ALDOT’s website, the Plan is a form of marketing for the state’s transportation industry, including waterways.

<b>Alabama navigable waterway miles</b>	<b>1,270<sup>4</sup></b>
<b>Organizational structure</b>	<b>1 state port authority (controls 1 coastal and 11 inland public ports)</b> <hr/> <b>7 county/local port authorities</b>
<b>Number of public ports</b>	<b>19</b>
<b>State-level capital funding/finance assistance to ports</b>	<b>Legislative initiatives enacted</b>
<b>State-level operations funding assistance to ports</b>	<b>No</b>
<b>State-level marketing assistance to ports</b>	<b>No</b>

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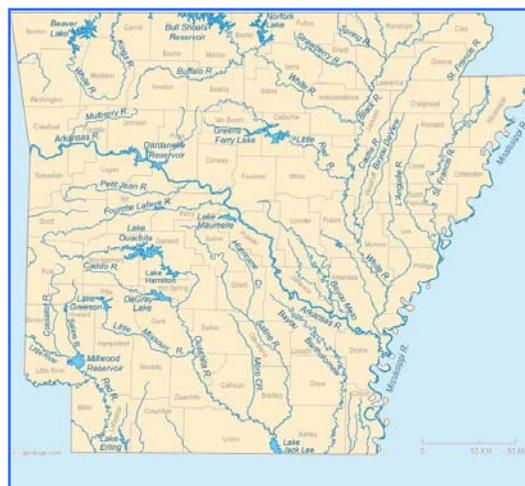
<sup>4</sup> US Department of Transportation, Bureau of Transportation Statistics

## **Subjective Comments**

Since ALDOT has no responsibility for the state's waterways at this time, there are no comments from DOT personnel pertaining to this mode. Conversations with key personnel at a local county port authority and the Coalition for Alabama Waterways, indicates overwhelming success of the ASPA regarding the Port of Mobile. The ASPA has not benefited other local public ports in the State, but those local public ports are encouraged with attempts to get the 2008 pending legislation enacted.

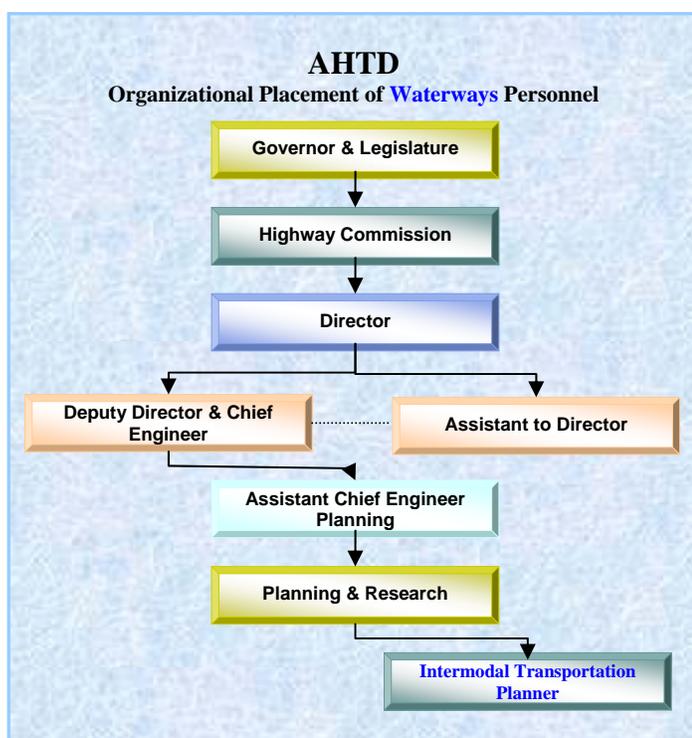
### 3.1.2 Arkansas

With nearly 1,900 miles of navigable waterways, Arkansas’ waterway system is an important component in the state’s freight transportation system. Its five commercially navigable rivers, the Mississippi, Arkansas, Red, White, and Ouachita as well as the ports and harbors located along them, provide a cost-effective method for shipping bulk commodities and oversized cargo. In 2006, Arkansas’ waterways moved 15<sup>1</sup> million tons of commodities.



#### Organizational Structure

In recognition of the rivers’ importance, the Arkansas Waterways Commission was established in 1967 to develop, promote, and protect the commercially navigable waterways of Arkansas for waterborne transportation and economic development for the welfare of the people of Arkansas. In addition, the Intermodal Transportation Planning Division of the Arkansas State Highway and Transportation Department (AHTD) is responsible for working towards the most efficient use of all of the states transportation systems, including waterways. AHTD’s planning staff consists of an Intermodal Transportation Planner and an assistant.



The Arkansas Waterways Commission is comprised of seven members appointed by the Governor, with the advice and consent of the Senate, who serve seven-year, staggered terms. Five of the members represent five navigable stream basin areas of the state and two members serve “at large”. The five representing the river basin areas are chosen from lists of three, recommended through organized associations as qualified persons of demonstrated experience and interest in river development. The Commission is supported by a two-person staff and funded by the State’s general fund.

## Financial Assistance

A Port Development Fund is set up for capital improvements only, but has never received any funds from the state. The Fund was to provide funding for infrastructure improvements at the ports. Because of the sluggish economy and school funding priorities, no tax dollars have been available for public port improvement<sup>5</sup>.

## Technical Assistance

In March 2005, the Arkansas Highway Commission in cooperation with the Arkansas Waterways Commission prepared a comprehensive study of the State’s public Riverports and slack water harbors. Entitled “Arkansas State Public Riverport Study and Needs Assessment”, the report identified needs and strategies for improving the waterway facilities in the state. The Planning and Research Division of AHTD continually studies and publishes information and recommendations related to transportation issues.

## Marketing Assistance

Though no formal marketing assistance program exists, the Arkansas Waterways Commission continually promotes the waterways through multi-media communications.

## Subjective Comments

The program in place works well as long as there is adequate funding. Sources of funding for the waterways are Arkansas’ biggest challenge. Consideration is now being given to outsourcing a study to identify funding options.

<b>Arkansas navigable waterway miles</b>	<b>1,860</b>
<b>Organizational structure</b>	<b>Arkansas Waterways Commission (2 person staff)</b> <hr/> <b>9 county/local port authorities</b>
<b>Number of public ports</b>	<b>9</b>
<b>State-level capital funding/finance assistance to ports</b>	<b>Program in place/no current funding</b>
<b>State-level operations funding assistance to ports</b>	<b>No</b>
<b>State-level marketing assistance to ports</b>	<b>No</b>

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<sup>5</sup> [www.arkansasbusiness.com](http://www.arkansasbusiness.com)

### 3.1.3 Kentucky

Kentucky is currently undergoing change to effectively capitalize on its waterways and provide support to its public Riverports. Recognizing the importance of the state’s 1,591 miles of navigable waterways and 109<sup>1</sup> million tons of waterborne commerce, the Kentucky Transportation Cabinet (KYTC) has initiated a course of action for the state to provide funding and marketing assistance to its 11 public Riverports. Enabling legislation to support the Commonwealth’s waterway industry has been drafted and introduced to the Commonwealth’s legislature.



#### Organizational Structure

The responsibility for waterways currently lies within the Division of Planning section of the KYTC as shown in the organization chart. The Division of Planning works to collect, maintain, analyze, and report accurate data for making recommendations regarding the maintenance, operation and improvement of the state’s transportation network including Riverports. The Transportation Engineering Branch Manager in the Division of Planning acts as the state’s Riverport Coordinator and is assisted by a Freight Coordinator.

In 2008, a house bill was introduced to Kentucky Legislature to establish a Water Transportation Advisory Board that will act as an advisory body to the Executive and Legislative Branches of Kentucky’s government on behalf of the state’s water transportation industry. The Advisory Board will be comprised of members representing the state’s public ports, members from the private sector associated with the waterways industry, members from the public at large who have technical experience in economic analyses, feasibility studies, port design and operations, or other similar knowledge of the maritime industry, and representatives from the Kentucky Transportation and Economic Development Cabinets.



## Financial Assistance

There is currently no state-level financial assistance available for Kentucky’s Riverports. Legislation has been submitted however, to enact a \$4M grant program to assist the state’s public riverports with those capital investments needed for port improvements that cannot be readily financed locally.

## Technical Assistance

As indicated previously, the KYTC has funded studies of the state’s Riverports that led to the described enabling legislation. The proposed Water Transportation Advisory Board will also advise the Transportation Cabinet, the Governor’s Office, and the General Assembly on matters pertaining to water transportation and recommend any public and private actions that may be needed to enable the commonwealth to utilize its ports and waterways for future economic growth.

## Marketing

A proposed \$400,000 marketing grant program is also part of the proposed legislation submitted to the house. To be administered by the Cabinet for Economic Development, its purpose would be to help public riverports promote and market their facilities to industrial, business, commerce, and trade prospects.

## Subjective Comments

Programs to support Kentucky’s waterways are in legislation and expected to pass.

<b>Kentucky navigable waterway miles</b>	<b>1,591</b>
<b>Organizational structure</b>	<b>KYTC (Transportation Engineering Branch                      Manager acts as River Coordinator and                      assisted by Freight Coordinator)</b> <hr/> <b>Water Transportation Advisory Board                      (pending legislation)</b> <hr/> <b>11 county/local port authorities</b>
<b>Number of public ports</b>	<b>11</b>
<b>State-level capital funding/finance assistance to ports</b>	<b>None at present, but program in development stage</b>
<b>State-level operations funding assistance to ports</b>	<b>No</b>
<b>State-level marketing assistance to ports</b>	<b>None at present, but program in development stage</b>

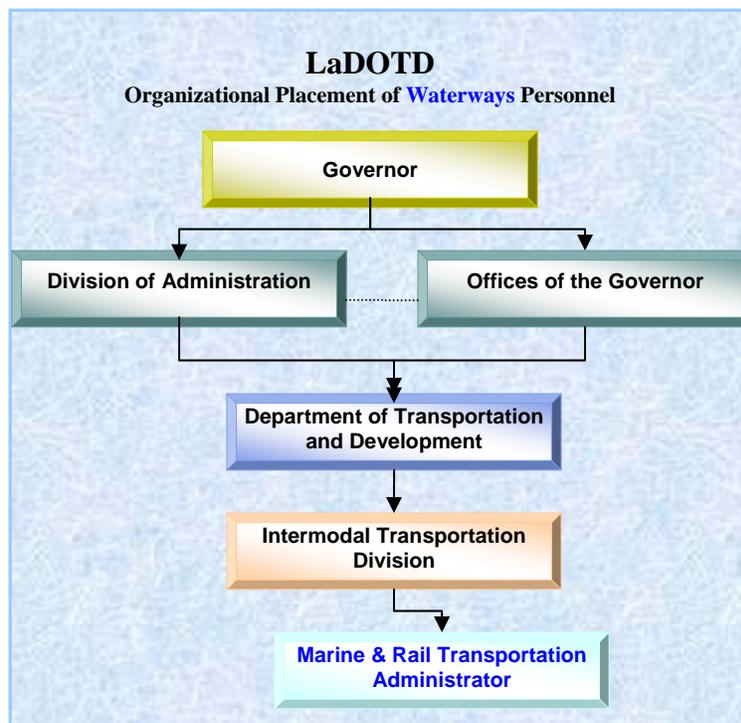
### 3.1.4 Louisiana

With 2,823 miles of inland waterways and 490 million tons of waterborne commerce, Louisiana is consistently ranked as one of the top two states in the nation with regard to total tonnage of waterborne commerce. Five of the top thirteen deep draft ports in the nation, in terms of tonnage handled, are located in this state. Its ports play a major role in Louisiana’s economy by helping to generate nearly one-fourth of the total dollar value of the state’s goods and services. Given its worth to the state, water transportation and its needs receive much attention from state government.



#### Organizational Structure

Ports and waterways are a part of the Louisiana Department of Transportation and Development (LaDOTD) Intermodal Transportation Division, comprised of marine, rail, and aviation. Headed by a Marine & Rail Transportation Administrator, the department consists of two waterway and two rail managers. There is also a Ports & Flood Control Unit that administers the state’s grant program for ports that is detailed below.



## **Financial Assistance**

LaDOTD administers a grant program to fund capital improvements at publicly owned ports, including intermodal facilities, maritime-related industrial development infrastructure, cargo handling equipment, railroads, utilities, and warehousing. The program is funded at \$25 million annually from the state's Transportation Trust Fund. The local port is required to pay 10 percent of the project's cost. Grant applications are reviewed, evaluated, and prioritized within LaDOTD. Criteria used to establish which projects receive priority include the technical feasibility of the project; its economic feasibility and impacts; environmental impacts; and port management considerations. The program also emphasizes the need to equitably distribute the funds and avoid duplication of port infrastructure. In 2007, a one-time only additional \$47M of funding was secured for the 2007-2008 program making \$67M available for port construction and development. Initiatives are developing that could possibly increase the normal state funding level of \$25M annually to \$100M annually for its port industry.

The state has also authorized a Louisiana Waterways Infrastructure Bank, a loan program for ports, but the state legislature has never funded the bank. The bank's intent was to help fund large capital improvements that are bonded. The Bank's funding level would be set annually to provide adequate financing.

In 2005, Louisiana took an aggressive approach to the growth and development of maritime commerce by creating the Governor's Maritime Advisory Task Force and the Louisiana Waterways Infrastructure and Development Fund managed through a Waterways Infrastructure Bank. The goal was to expand trade by financing waterside infrastructure and development projects. Implemented just prior to the hurricane disaster, the program has yet to be funded by Louisiana legislature. Recommendations are now surfacing to revive the fund with possibly \$50M of available financing.

## **Technical Assistance**

LaDOTD recently completed a Marine Transportation System Plan geared solely to the waterways. This report provided a broad profile of the Louisiana maritime transportation system to determine the impact of Louisiana's extensive navigable waterway system on the state's economy and to identify infrastructure improvements to optimize the system's operational efficiency for future economic growth and congestion mitigation.

## **Marketing Assistance**

There is no formal state-level marketing assistance program as of the date of this report; however, there is initiative to implement a marketing program by the Economic Development Cabinet to promote the state's waterway industry.

## Subjective Comments

The ports appreciate the state-level grant program because it is justified by need and recipients are chosen by the need’s priority. The familiar challenge is that the needs outweigh the available money. However, the Ports Association of Louisiana, a private not-for-profit trade organization, is advocating increased funding to the port grant program and it appears they are making some headway.

<b>Louisiana navigable waterway miles</b>	<b>2,823</b>
<b>Organizational Structure</b>	<p><b>LaDOTD (Marine &amp; Rail Transportation Administrator supported by 2 waterway &amp; 2 rail managers; Ports &amp; Flood Control Unit)</b></p> <hr/> <p><b>Governor’s Maritime Advisory Task Force</b></p> <hr/> <p><b>39 county/local port authorities</b></p>
<b>Number of public ports</b>	<b>39</b>
<b>State-level capital funding/finance assistance to ports</b>	<b>\$25M</b>
<b>State-level operations funding assistance to ports</b>	<b>No</b>
<b>State-level marketing assistance to ports</b>	<b>No</b>

### 3.1.5 Minnesota

The state is served by two waterway systems, the Upper Mississippi River and the Great Lakes/St. Lawrence Seaway system accounting for its 258 miles of inland navigable rivers and 272 miles of shoreline on Lake Superior. It has four ports on Lake Superior and five on the Mississippi River. Of these nine public ports, five are publicly owned with the remaining four owned by private interests. In 2006, 43 million tons of commerce moved on the state’s waterways.

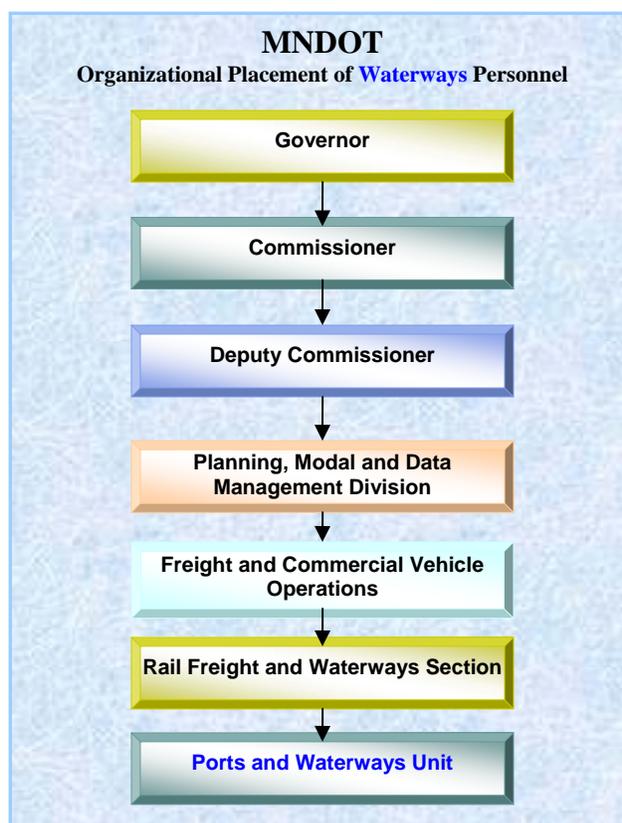


#### Organizational Structure

Ports and waterways have had representation at Minnesota’s Department of Transportation (MNDOT) for nearly 30 years. Located within the Office of Freight and Commercial Vehicle Operations, which is comprised of Rail, Freight, and Waterways Section; Air; and Commercial Vehicle Operations Section, it is one of six offices that make up the Planning, Modal, and Data Management Division. This Division reports to the transportation commissioner through the deputy commissioner. The commissioner of transportation is also the lieutenant governor of the state. The Director of Ports & Waterways is the only individual within MNDOT dedicated to Minnesota’s waterway industry; however, the resources of the entire Division are at this individual’s disposal.

#### Financial Assistance

In 1991, the State Legislature established a Port Development Assistance Program. This program funds up to 80 percent of the costs for a specific project, with the affected port providing the remaining 20 percent of the needed funds. Most of the funding has been allocated to facility repairs and improvement. Currently, only public ports are funded, although there is interest in seeking approval of an amendment to the State Constitution that



would permit the grant program to be expanded to include privately owned port facilities.

The program provides grants for projects that may not produce immediate returns and loans for those that generate direct revenues. Projects funded are prioritized based on five factors: (1) movement or volume of cargo; (2) enhancement of boat construction and repairs; (3) economic development benefits; (4) local and regional benefits; and (5) ability to repay the loan.

The fund has received a total of \$17.5 million from 1996 to 2007. The Program includes such projects as dredging in the dock area, dock wall reconstruction, building rehabilitation and bringing facilities up to safety code.

In addition, ports are eligible for loans from the State's Transportation Infrastructure Finance and Innovation Act. This program is used to fund large intermodal transportation projects and is available to fund port projects, especially road or rail improvements that serve ports or intermodal port terminals.

### **Technical Assistance**

The Minnesota Department of Transportation's (MNDOT) Ports and Waterways Section has set the standard for measuring a state's role in water transportation planning, by conducting meaningful modal research, and providing technical assistance to the waterway industry. This agency has had the resources and staff capabilities to produce some of the most important studies and research in water transportation during the past 25 years. Examples are its studies on the impacts of increased user fees (Monetary Cost of a Modal Shift) and the consequences of modal shifts on environmental quality (Environmental Impacts of a Modal Shift). Both reports stimulated interest into ongoing research by others into the advantages of waterborne transportation. More recent concerns have focused on the supply and demand for barges and its impacts on freight prices and changing transportation patterns as they may relate to the upper Mississippi River region. The Section also provides an annual needs analysis for each of the public ports.

### **Marketing Assistance**

There is no formal state-level marketing assistance program, but MNDOT does promote their ports and waterways with front-page access on their website to all modal information (highways, air, rail, and water). The reports produced through their technical assistance as indicated above have aided their efforts to create a strong position in supporting and marketing the importance of this mode to the state.

### **Subjective Comments**

With the ports in Minnesota being the last stop, so to speak, on the inland waterway system, awareness of their importance has presented a unique challenge. MNDOT recognized the need to promote their waterways nearly 30 years ago and continually strives to improve its marketing

efforts to promote the value of their waterways. The technical reports that have been produced over the years have aided their efforts in providing financial assistance to meet the ports’ needs. A key component to the success of MNDOT’s efforts was the formation of the Minnesota Ports Association (MPA) in 1994. With a formal advocacy group in place, MPA hired a lobbyist to support legislation for the ports. To date, the efforts of MPA have provided the State Port Development Assistance Program with over \$10.5 million that have been used on projects to rehabilitate and improve terminal efficiency and safety.

<b>Minnesota navigable waterway miles</b>	<b>258 (Channels in the Great Lakes are not included, but waterways connecting lakes and the St. Lawrence Seaway inside the US are included)</b>
<b>Organizational structure</b>	<b>MnDOT (Director of Ports &amp; Waterways)</b> <hr/> <b>5 county/local port authorities</b>
<b>Number of public ports</b>	<b>9 public Riverports (5 on the Mississippi River and 4 on Lake Superior)</b>
<b>State-level capital funding/finance assistance to ports</b>	<b>Yes</b>
<b>State-level operations funding assistance to ports</b>	<b>No</b>
<b>State-level marketing assistance to ports</b>	<b>No</b>

### 3.1.6 Mississippi

Mississippi is surrounded by three navigable waterways: the Mississippi River to the west, the Tennessee-Tombigbee Waterway to the east, and the Gulf of Mexico to the south comprising its 873 miles of navigable waterways. The state has sixteen public ports, two of which are governed by the state port authority. The remaining 14 ports are locally owned and operated. In 2006 Mississippi’s waterways moved 51 million tons of commerce.

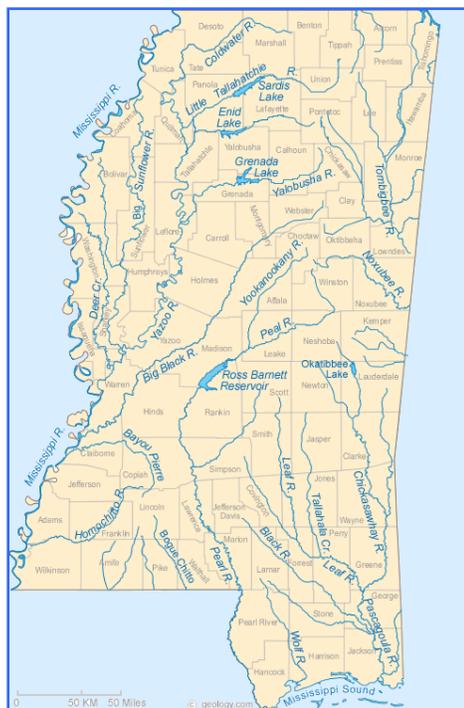
#### Organizational Structure

Mississippi is the only state with an elected Transportation Commission that does not report to the Governor. The Commission appoints an Executive Director of the Mississippi Department of Transportation (MDOT) who reports to the Commission.

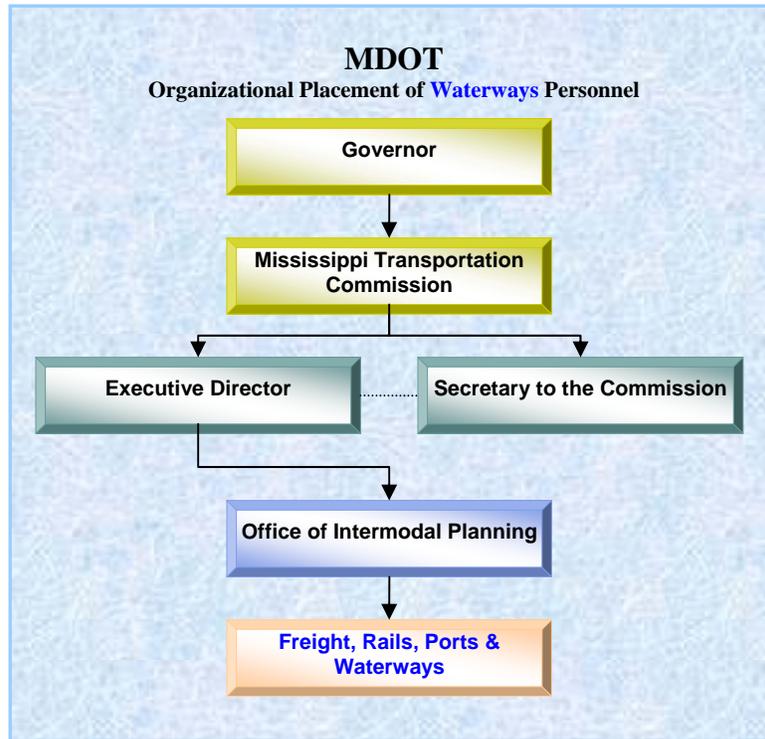
The Freight, Rails, Ports & Waterway Division of MDOT is a unique branch of the department and is one of only a handful of state departments of transportation that operate a true multimodal program in the country<sup>6</sup>. The Division is part of the Office of Intermodal Planning and employs fifteen personnel, two of whom work directly with the ports.

This branch was created by joining two separate divisions - the Rails and the Ports Waterways section, combined with the creation of a new Freight section to act as a new division. Its mission is to create a comprehensive and coordinated state multimodal program to facilitate freight between and among local, national, and international markets. The division was formed to address the growing demand for freight transportation and the capacity of the states rail and water transportation systems.

The Ports and Waterways Section of the division is charged with the responsibility of planning, promoting, and serving as an advocate for the ports, collecting data, and providing technical assistance.



<sup>6</sup> Mississippi Department of Transportation



## Financial Assistance

In 2000, the Legislature enacted a Multimodal Transportation Capital Improvement Program Fund. Initially, the Mississippi Water Resources Association (MWRA), a trade association that represents ports and waterway interests, tried to have a bill passed to establish a grant program solely to fund the 16 public ports. However, it quickly learned that there was not enough political support for passage of such legislation. The following year a multimodal bill was introduced that included short line railroads, public airports, and mass transit, as well as ports. It passed overwhelmingly.

Currently the program awards approximately \$10 million annually of which the ports receive 38% or \$3.8 million for capital improvements.

The fund is unique since no local match is required. Another novel part of the program is the actual participation of the ports in the review, evaluation, and prioritization of the applications received for funding. A Multimodal Fund Committee was created for each of the four modes receiving grants from the fund. The Port Committee consists of:

1. Seven port directors, appointed by the President of MWRA (to include three from coastal ports and four from inland ports);
2. The Executive Director of the Mississippi Development Authority, or designee;

3. The Executive Director of MDOT, or designee; and
4. The Executive Director of MWRA, or designee

There were some who felt this arrangement with the ports controlling seven or possibly eight of the ten seats on the committee could make the review and evaluation process contentious and dysfunctional. To the contrary, the review and evaluation process has worked exceedingly well and the funds have been allocated in an equitable manner, with few if any complaints from the 16 ports or from MDOT. Like other similar programs, funding requests from the ports each year always exceed available funds. The committee makes its recommendations to the executive director of MDOT with the final decision made on the use of the grant funds by the three elected transportation commissioners. Generally speaking, the committee's recommendations prevail.

MDOT also administers an Intermodal Connector Improvement Program that has been very beneficial to the ports. This grant program is included in the Mississippi Statewide Transportation Improvement Program (STIP). It lists transportation projects in which federal funds are to be spent that generally reflects MDOT's multi-year construction schedule. For ports, the program is dedicated to roadways, access roads, marshalling areas, etc. So far, the ports have received approximately \$14 million of these federal funds.

The state's Mississippi Development Authority (MDA) also administers a Port Revitalization Revolving Loan Program that provides low-interest loans to public port authorities for improvement of port facilities to promote commerce and economic growth in the state. The terms include a maximum loan amount of \$750,000 for any one project with an interest rate of three percent with a pay out period not to exceed 10 years.

## **Technical Assistance**

MDOT has made a concerted effort to understand and recognize the importance of the state's port system to the state's economy. In 2000, the state commissioned a Comprehensive Assessment of the Ports of Mississippi. The final report addressed the physical attributes of each port, the needs of each, the domestic and international markets available at each, and identified specific capital budget projects to be funded and brought to completion<sup>7</sup>. The completed report provided a thorough economic analysis of the impact of the ports on the state's economy and was a catalyst in enacting the previously mentioned Multimodal Transportation Capital Improvement Program Fund.

## **Marketing Assistance**

MDA also administers a very successful marketing grant program that can benefit ports, chambers of commerce and other economic development groups. Grants can be awarded for up to \$15,000 on a per project basis and require an equal match by the applying entity.

MDOT also provides comprehensive coverage of the 16 public ports on their website including location maps, contact information, satellite images and detailed facility data.

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<sup>7</sup> MDOT Multiplan

## Subjective Comments

The program is very effective. MDOT has put a great deal of effort into becoming a transportation department and not just a department of highways. Since 2001, their efforts have not only increased capital funding to the ports and waterways from \$5M to \$10M, but have also placed them ahead of the curve in becoming a true transportation department; treating each mode equitably in its value to the state. Their program has worked so well that personnel from the Division have been asked to guide other DOTs in their efforts to emphasize multimodal planning.

<b>Mississippi navigable waterway miles</b>	<b>873</b>
<b>Organizational structure</b>	<b>1 state port authority (controls 2 public ports)</b> <hr/> <b>14 county/local port authorities</b>
<b>Number of public ports</b>	<b>16</b>
<b>State-level capital funding/finance assistance to ports</b>	<b>Yes</b>
<b>State-level operations funding assistance to ports</b>	<b>No</b>
<b>State-level marketing assistance to ports</b>	<b>Yes</b>

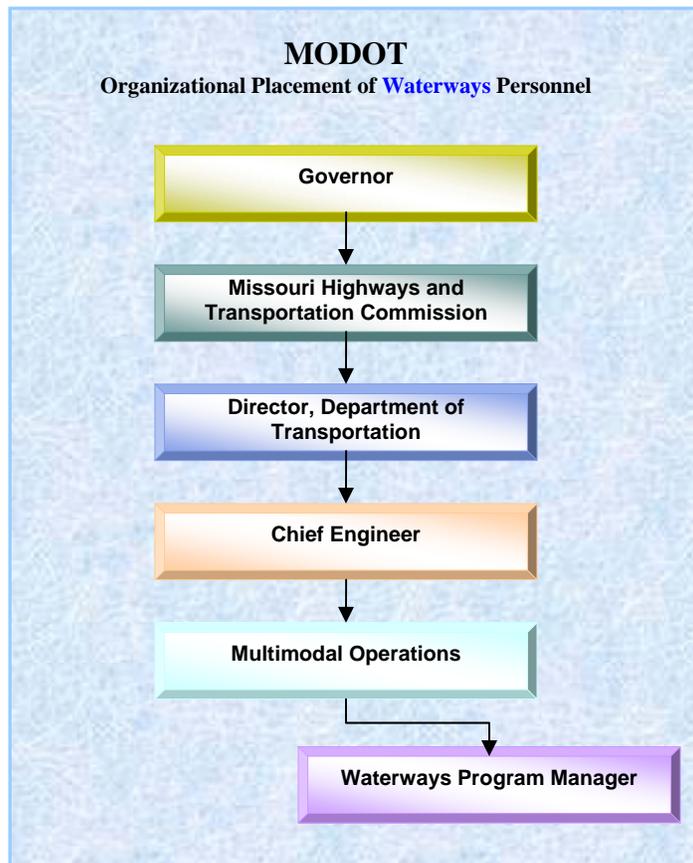
### 3.1.7 Missouri

Missouri has one of the more comprehensive programs for water transportation in the nation. According to the USACE, the Mississippi and Missouri Rivers comprise the 1,033 miles of navigable waterways for the state. Its 11 active ports handle an average of about \$4.1 billion<sup>8</sup> of commerce annually. In 2006, 31 million tons of commerce moved on the state’s waterways.



#### Organizational Structure

The water transportation mode consists of a Waterways Program Manager who is part of the Multimodal Operations Division of the Missouri Department of Transportation (MODOT). The division head reports to the chief engineer who is accountable to the director of transportation. The transportation director reports to a six-member commission that is appointed by the governor.



<sup>8</sup> [www.missouriports.org](http://www.missouriports.org)

## **Financial Assistance**

MODOT administers three funding programs to assist its ports, including a program to assist ports with operational costs. The grant program can cover expenses such as salaries, travel, utilities, and other operating costs. The administrative grants require no local match and are funded from state sales taxes on new vehicles. The annual budget is about \$450,000 annually.

Its Port Capital Improvement Program has been budgeted at \$2 million for FY 2008, which is higher than the \$1 million appropriated in FY 2006 from the Capital Improvement Budget. Beginning with FY 2009, state legislators recently approved a \$6.65 million allocation from the state's general fund marked for port improvements. A 20 percent local match and a five-year development plan are required from the port seeking a grant.

The state also has a Transportation Assistance Revolving Fund that was established in 1997 to assist non-highway-related transportation facilities, including ports and waterways. However, the fund has been used mainly to fund local public airport projects and loan requests typically exceed available funding.

## **Technical Assistance**

MODOT's waterways unit assists authorized cities and counties in forming port authorities to foster local economic development. The staff promotes the use of Missouri's navigable rivers to make low-cost waterborne transportation benefits available to business. It also assists in capital and administrative funding, acts as an informational clearinghouse, provides technical assistance and represents port interests within industrial and governmental circles<sup>9</sup>. In 2006, the waterways unit completed a comprehensive in-house study on its riverports and their needs.

## **Marketing Assistance**

There is no formal marketing assistance program, however MODOT has created an informative website section on the waterways with detailed information on each of the ports including location, contact information, facility capacity, multimodal connections, market access, and industrial development.

## **Subjective Comments**

The financial assistance offered by the state to the ports has led to new industry locating near the ports as service roads and rail connections are improved. However, infrastructure needs at the ports still outweigh the available funding.

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<sup>9</sup> Missouri Department of Transportation

<b>Missouri navigable waterway miles</b>	<b>1,033</b>
<b>Organizational structure</b>	<b>MODOT (Waterways Program Manager)</b> <b>15<sup>10</sup> county/local port authorities</b>
<b>Number of public ports</b>	<b>11</b>
<b>State-level capital funding/finance assistance to ports</b>	<b>Yes</b>
<b>State-level operations funding assistance to ports</b>	<b>Yes</b>
<b>State-level marketing assistance to ports</b>	<b>No</b>

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<sup>10</sup> Some county/local port authorities are governing bodies with no port facility. Others have private port tenants with exclusive use of the port facilities.

### 3.1.8 Tennessee

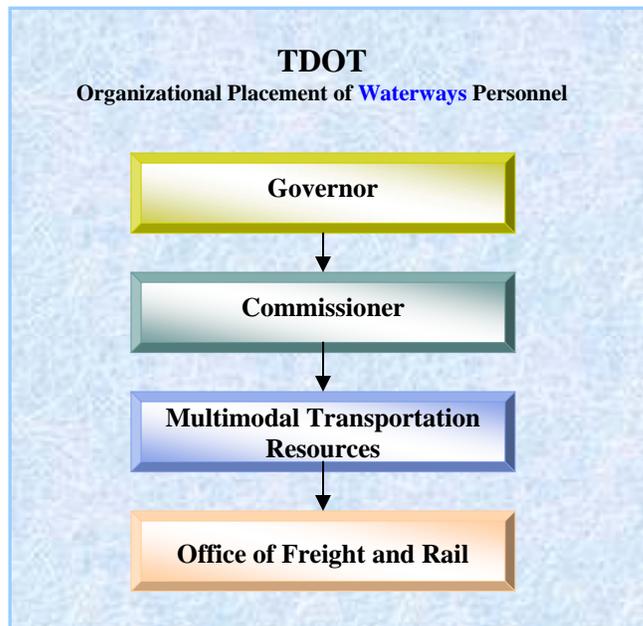
The State of Tennessee is centrally located on the nation’s inland waterway system with 946 miles of navigable waterways and 51 million tons of waterborne commerce in 2006. The state’s waterways connect terminals on the Tennessee, Cumberland, and Mississippi Rivers, and their tributaries, with riverports in 21 states and ocean ports in Houston, New Orleans, and Mobile.



Tennessee has three operating and one developing publicly owned riverports.

#### Organizational Structure

Waterways are a function of the Office of Freight & Rail, which falls under the Multimodal Transportation Resources division, one of six divisions of the Tennessee Department of Transportation (TDOT) that report to the commissioner of TDOT. There is no designated staff responsible solely for waterways.



## Financial Assistance

Tennessee has no grant or loan programs to assist its public ports. TDOT collects about \$100,000 annually from barge fuel taxes and uses some of these funds to help finance port feasibility studies and other waterway-related investigations. It is currently cooperating with the US Army Corps of Engineers to conduct a reconnaissance study on the importance of the state’s ports and waterways and possible expanded roles for the state to support and promote water transportation.

## Technical Assistance

Technical assistance has been provided in the form of research studies, such as the Tennessee Waterways Assessment Study Phase I and Phase II.

## Marketing Assistance

The state does not have any marketing assistance available at this time for the waterway industry.

## Subjective Comments

The State has taken an active role in investigating options that could support its waterway industry.

<b>Navigable waterway miles</b>	<b>946</b>
<b>Governance of public ports</b>	<b><u>TDOT (no dedicated staff)</u> 4 county/local port authorities</b>
<b>Number of public ports</b>	<b>3 plus 1 developmental port</b>
<b>State-level capital funding/finance assistance to ports</b>	<b>No</b>
<b>State-level operations funding assistance to ports</b>	<b>No</b>
<b>State-level marketing assistance to ports</b>	<b>No</b>

### **3.1.9 West Virginia**

West Virginia has 682 miles of navigable waterways that move 71 million tons of commerce. Portions of the Ohio River, Kanawha River, Monongahela River, Little Kanawha River, and the Big Sandy River West Virginia comprise the segments of West Virginia’s inland river system that is open to navigation. The State has taken an aggressive role in support of this industry by formulating the West Virginia Public Port Authority (WVPPA).

#### **Organizational Structure**

Water transportation is governed in this state by an amalgamation of empowerments and program responsibilities that are vested in the WVPPA. The Authority is governed by an 11-member board, including the state’s transportation secretary, who serves as chairperson. The agency is staffed with four employees; a director, a development coordinator, a contract coordinator, and an executive assistant, and has broad sweeping powers to acquire, construct, operate, use, or control ports and related facilities including rail, airports, roadway, terminals, marine facilities, and wayports. It also can act on behalf of the state in matters concerning the location of new public ports. Similar to other state port authorities, it can develop, lease, or operate public ports and issue revenue bonds to finance these projects. The bonds may be issued with or without the consent of any other agency of the state. The authority can also exercise the right of eminent domain and the powers of a corporate body. Among its activities are studies to determine the feasibility of building inland container ports at Martinsburg and Prichard, south of Huntington, similar to the one built by the Virginia Port Authority in Front Royal, VA.



#### **Financial Assistance**

The WVPPA administers the State Rail and Intermodal Enhancement Development Fund that benefits both the rail and waterways industry. This loan program is anticipated to fund approximately \$45 million in improvements over the next ten years.

#### **Technical Assistance**

When the WVPPA was established in 1989, one of its primary goals was to study the feasibility of and possible locations for inland river ports. Since its establishment, the Authority has worked to develop intermodalism by combining highway, rail, and water transportation infrastructure to maximize overall economic advantages to business, industry, and the citizens of West Virginia<sup>11</sup>.

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<sup>11</sup> West Virginia Department of Transportation

## Marketing Assistance

The West Virginia Department of Transportation has front-page access to the WVPPA on its website. Access to both public and private terminal information is available including location, contact information, and commodities handled. Conversations with WVPPA personnel indicate that a new website is in the development stage. When complete, the virtual site will provide scroll-over capability on all of the ports listed, both public and private, providing detailed information on each facility.

WVPPA personnel also indicated they are currently developing a formal marketing assistance program that will benefit both public and private ports in the state.

## Subjective Comments

Private involvement in public port facilities appears to work well. Under private participation, ports have typically significantly improved their performance. Smaller port operations need joint marketing efforts from the state. Inland ports need to be prepared for container-on-barge service with the new facilities at the Port of Mobile.

<b>West Virginia navigable waterway miles</b>	<b>682</b>
<b>Organizational structure</b>	<b>1 state port authority (staffed with 4 employees)</b> <hr/> <b>7 county/local port authorities</b>
<b>Number of public ports</b>	<b>1</b>
<b>State-level capital funding/finance assistance to ports</b>	<b>Yes</b>
<b>State-level operations funding assistance to ports</b>	<b>No</b>
<b>State-level marketing assistance to ports</b>	<b>No, but a program is in development</b>

## 3.2 Summary

The table on page 33 summarizes the state’s roles in support of their ports and waterways and provides comparative information on the number of navigable waterway miles per state, number of public river ports, and total waterborne commerce per state. Of particular interest in this table is the amount of waterborne commerce. It does not necessarily correlate to the number of public ports or the number of navigable waterway miles in each state. In most cases, it does appear to correlate to the amount of assistance provided by the state to support its waterways. To further exemplify this, Louisiana with its high volume of waterborne commerce provides a higher degree of financial and technical assistance to its waterways industry. Arkansas with its lower volume of waterborne commerce provides less assistance. The anomaly in this analysis is Tennessee. With 90 of the 95 counties in Tennessee within 50 miles of a navigable waterway, Tennessee’s waterborne commerce accounted for over 51 million tons of freight in 2006. Of the 40 states with navigable waterways, Tennessee places nineteenth for total overall tonnage moved on its waterways, yet the state provides the least amount of assistance to this mode amongst the states surveyed. Other significant discrepancies noted between Tennessee and the other states surveyed are:

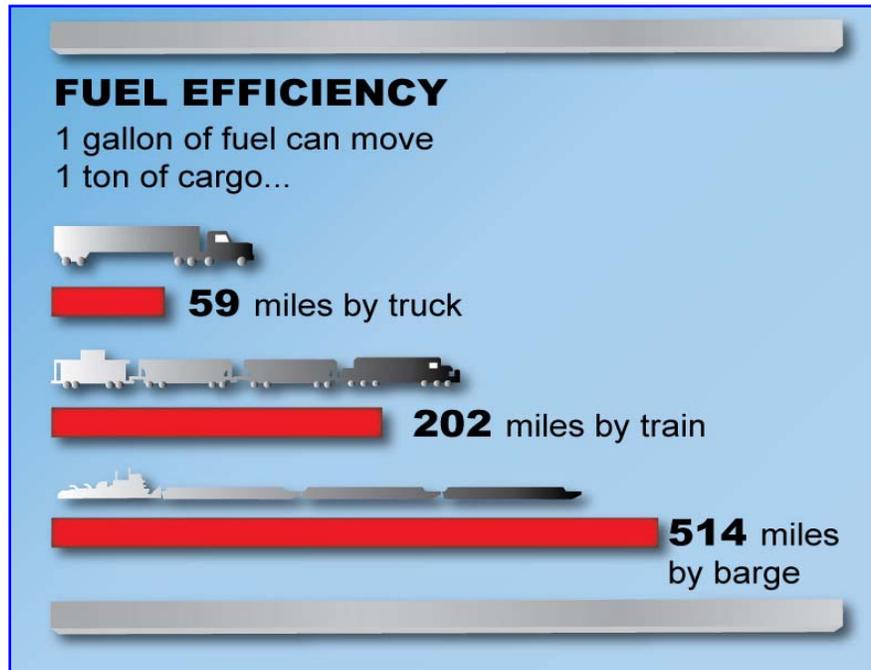
- Tennessee is the only state that does not have some form of financial program (grants and loans) either in place or pending legislation.
- Tennessee is the only state that does not have some form of dedicated waterways staff or individual, whether in a DOT, a state port authority, or a water transportation advisory board.
- Other than Alabama and Arkansas, TDOT is the only state department of transportation that does not provide a comprehensive website marketing its ports and waterways. However, the websites for the Alabama State Port Authority and the Arkansas Waterway Commission offers comprehensive coverage.

This is likely due to the traditional thought process of many state departments of transportation whereby their philosophy has been one to emphasize their role as a “department of highways”. States however are recognizing the importance of all modes of transportation and have already, or are in the process of, transitioning their state department of transportation to a true functioning multimodal transportation department with emphasis not only on highways, but also on air, rail and waterways as an integral part of a viable transportation system.

With 17% of the nation’s freight being transported on the inland navigation system for the lowest unit cost while providing the most efficient and environmentally friendly means for transporting goods, the advantages to barge transportation are numerous to the states that benefit from the inland river system as described below.

**Fuel efficiency**

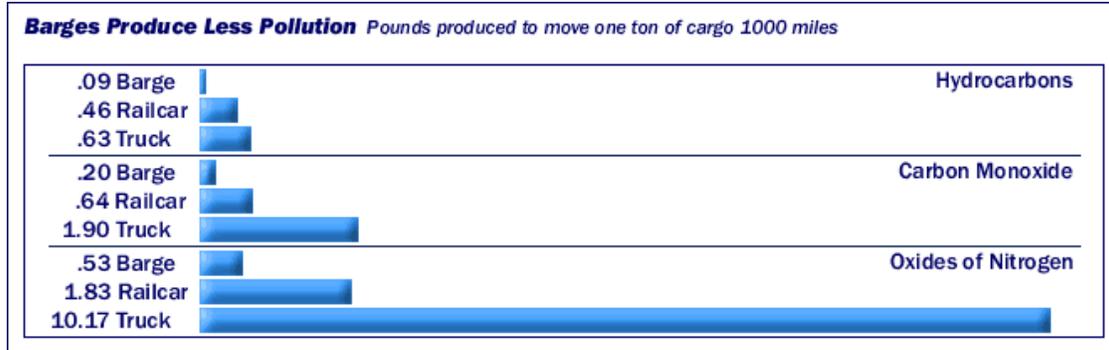
- Barges can carry large volumes of commodities over long distances. A typical barge tow may consist of four or six barges on smaller waterways and up to over 40 barges on the Mississippi River below its confluence with the Ohio River. A 15-barge tow is common on rivers such as the Tennessee River. Such tows are an extremely efficient mode of transportation, moving about 22,500 tons of cargo as a single unit. A single 15-barge tow is equivalent to about 225 railroad cars or 870 tractor-trailer trucks. If the cargo transported on the inland waterways each year had to be moved by another mode, it would take an additional 6.3 million rail cars or 25.2 million trucks to carry the load.
- On average, a gallon of fuel allows one ton of cargo to be shipped 59 miles by truck, 202 miles by railway, and 514 miles by barge as shown in Exhibit 3.1.
- Reduces roadway congestion and highway maintenance costs as illustrated further in Section 7.0.



**Exhibit 3.1 – Fuel Efficiency of Barge Transportation**

**Reduces pollution**

Barges create a fraction of the noise and air pollution produced by railcars and trucks as shown in the chart below.



Source: Gulf Intracoastal Canal Association

**Reduces accidents**

Barge transportation is statistically the safest mode for moving goods. After adjusting for the differences in quantity of cargo moved by each mode, for each member of the public injured in a barge accident, 125.2 are injured in rail accidents and 2,171.5 are injured in truck accidents. For fatalities, the rates are 155 trucking fatalities and 22.7 rail fatalities for every barge related fatality<sup>12</sup>.

As stated earlier, the approach of each state to support its waterway industry varies greatly, however most have recognized that barge transportation and the inland waterways are extremely important to the US distribution system. Whether in place or waiting legislative approval, these states are advocating the development of their ports and waterways.

<sup>12</sup> Texas Transportation Institute, “A Modal Comparison of Domestic Freight Transportation Effects on the General Public,” 2007

	AL	AR	KY	LA	MN	MS	MO	TN	WV
<b>Navigable Waterway Miles</b>	1,270	1,860	1,591	2,823	258	873	1,033	946	682
<b>Number of Public Ports</b>	14	9	11	39	9	16	11	4	1
<b>2006 Waterborne Commerce (millions of tons)</b>	80.6	14.8	108.7	489.9	43.0	50.7	30.7	51.1	71.4
<b>State Port Authority</b>	X					X			X
<b>Waterways Transportation Advisory Board</b>	P	X	P	X					
<b>Dedicated Waterways Staff in DOT</b>				X	X	X	X		
<b>Grants – Operations</b>							X		
<b>Grants – Infrastructure</b>	P	X <sup>(1)</sup>	P	X	X	X	X		
<b>Loans</b>				X <sup>(2)</sup>	X				X
<b>Technical Assistance</b>	P	X	X	X	X	X	X	X <sup>(3)</sup>	X
<b>Marketing – Grants</b>			P			X	X		
<b>Marketing – DOT Website<sup>(4)</sup></b>			X	X	X	X	X		X

State level organizational structure dedicated to waterways

Financial Assistance

P – Pending legislation

(1) Implemented, not funded

(2) Alabama State Port Authority owns and operates the Port of Mobile only

(3) Less than \$100,000/year available

(4) DOT Website contains detailed information on the ports and waterways in that state

## 4.0 Stakeholder Collaboration

Another major objective of this study was to identify stakeholders in each of the three stakeholder groups categorized in Phase I of the study:

- General Purpose Terminals – This group generates significant local and regional economic growth, including job creation. They serve existing business users, may provide services to attract new industry and create and expand opportunities for port services.
- Shippers & Carriers - This stakeholder group includes major shippers with potential to use waterborne transportation. These shippers own and move the cargo. For example, shippers may include owners of steel, cement and chemical companies. Carriers include the barge lines. They play an integral role in providing valuable input on future transportation needs.
- Government - This group includes local, state, and federal government agencies as well as development districts, economic development entities, and metropolitan planning organizations (MPOs) located along Tennessee’s waterways. This group has an intrinsic stake in the impact of waterborne commerce on bringing jobs and additional tax base into their area.

Collaborative meetings were held to seek the stakeholders’ participation to determine a general framework for types of state-level assistance and/or programs that are desired by the stakeholder groups. Three series of stakeholder meetings were held as follows:

- Initial Meetings – to describe the project and seek stakeholder input
- Secondary Meeting – present options for program recommendations and seek stakeholder input
- Final Meeting – present final program recommendations and seek stakeholder comments

### 4.1 Initial Meetings

Initial meetings were conducted in Chattanooga, Memphis, and Nashville to attract stakeholders from East, West, and Middle Tennessee to describe the project and its major objectives. During the meetings, stakeholders had the opportunity to describe what types of assistance they envisioned as most beneficial from the state in the categories of organizational structure, financial assistance, technical assistance, marketing assistance, policy considerations, and other miscellaneous comments.

In total, 65 stakeholders attended these meetings and over 160 comments were received. The comments were grouped by commonality and ratios were applied to determine the frequency of each comment group within each of the three stakeholder groups. The following sections reflect

the position of the stakeholders as it pertains to the categories previously mentioned. (See Appendix A for a list of specific comments).

## Organizational Structure

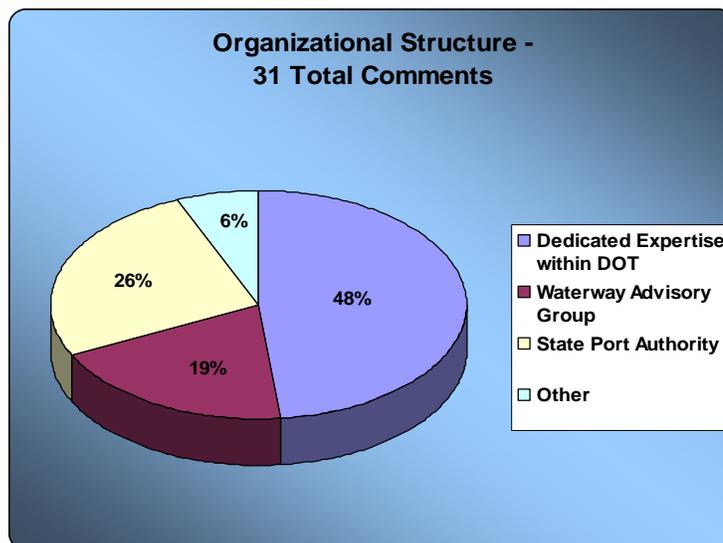
31 comments were received pertaining to state level organization responsible for ports and waterways. The ratio of comments is broken down as follows:

**48%** of respondents indicated the need for a full-time dedicated waterways expert within TDOT.

**26%** suggested forming a state port authority to guide local governments, own and operate the ports, promote, support and evaluate the waterway system, integrate it into the state transportation system, and have income producing potential.

**19%** want a state advisory group to develop policy for TDOT implementation and oversee waterway transportation programs.

**6%** had other miscellaneous remarks.



Most states that have legislatively directed authorities for ports and waterways have assigned these responsibilities to their transportation departments. In some states, ports and waterways are organized within a separate office or bureau that is part of a planning or intermodal division within DOT. In the case of the nine states surveyed during the course of this study, Tennessee is the only state that does not have some form of dedicated waterways staff or individual, whether in a DOT, a state port authority, or a water transportation advisory board.

Ideally, for the benefit of the mode and its interests, the higher the ports and waterways office is within the hierarchy of an agency's organization and with closer access to the principal decision makers within the agency, the more effective is the program. The more successful programs have at least one person whose time and responsibilities are totally devoted to water transportation.

Without some formal program advocacy or representation, water transportation, with its untapped capabilities for efficiently moving freight, is likely given little consideration in statewide multimodal transportation planning and investment decisions.

## Financial Assistance

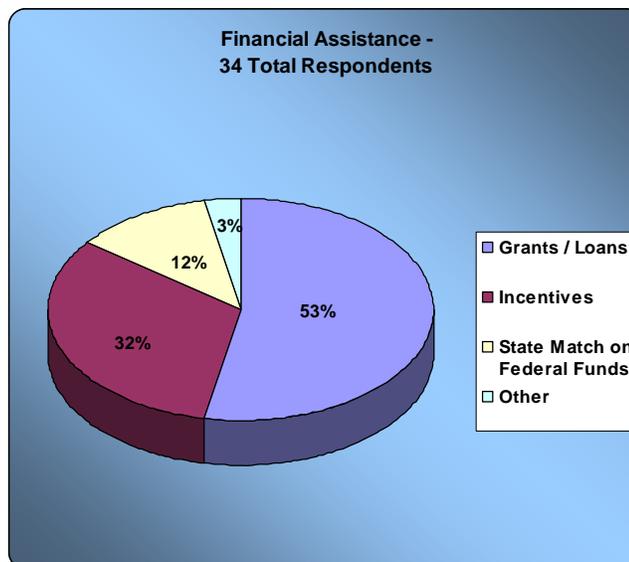
34 comments were received pertaining to types of financial assistance the state might be able to provide the waterways industry.

**53%** of respondents indicated a need for a state-level grant program to assist the ports with start-up costs, capital improvements and infrastructure needs.

**32%** favored financial incentives to encourage a modal shift to the waterways or to provide relief in infrastructure investment.

**12%** felt the state should provide matching funds for planning studies, dredging, and similar activities where federal funds might be available.

**3%** pertained to other miscellaneous comments.



Programs established by the states to help their ports finance needed improvements vary from one state to another. Some states provide grants, while others administer loans for port development and improvements. It is likely that states with established port programs based the program on what the perceived needs of its ports were at the time the program was authorized. Most state grant and loan programs for ports are for infrastructure improvements. As the cost of construction for infrastructure improvements continues to rise, it is important to attempt to adjust capital funding programs accordingly.

Administrative or operational expenses are generally not eligible for state assistance. However, Missouri does provide grants to assist with the operational expenses of its ports, with most of these funds directed to helping the ports prepare marketing, business, and financial plans. This program is in addition to a grant program administered by this state for port improvements.

In most cases, the availability of state funds is far less than that requested by its ports. Most states have adopted evaluation criteria to help judge the relative worth or priority of each application. These include:

- Economic impact of proposed project (ratio of benefits to costs)
- Impact on employment (both direct and indirect)
- Urgency of project
- Impact on waterborne commerce (tonnage)
- Submission of a 3-5 year development plan prepared by the port

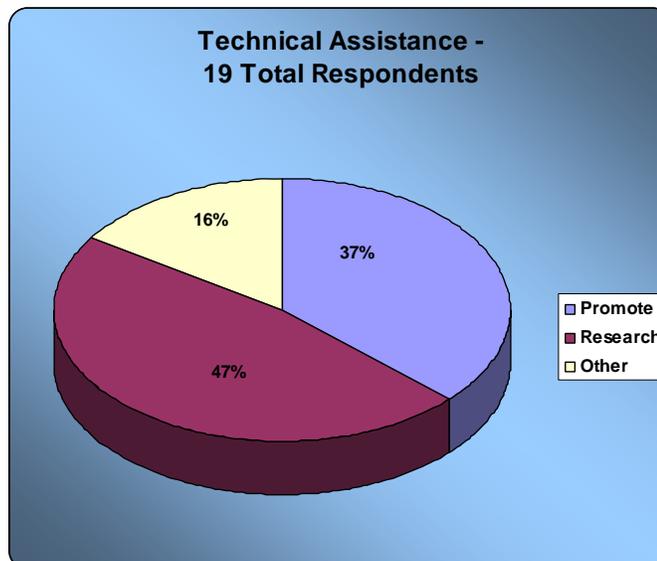
Some programs recognize the difference between a mature, fully operational service facility and a developing port that has not been in operation long enough to generate enough revenues to help

finance improvements. For example, Minnesota provides grants to projects that may not produce immediate sufficient revenue stream, but which will provide economic impact benefits, and loans to those projects that have a better likelihood of repaying the loan.

The inability of some state funds to finance the needs of its ports through its applications for assistance has led the states to permit the ports to participate in the review and prioritization of the state funds. In some cases, such as in Mississippi, representatives of the ports actually serve as members of a peer committee or as participants of the committee that reviews the funding requests from the ports and recommends awards. Other states have advisory boards and councils that are comprised of port representatives and waterway interests to provide advice and recommendations to state agencies concerning the administration of these programs, including funding priorities.

## Technical Assistance

19 comments were received pertaining to forms of technical assistance desired by the stakeholders. Technical assistance can be provided in many forms as was indicated by the variety of comments made. Stakeholders indicated a specific need to promote the waterways through advocacy at the government level, educating government and industries to the benefits of this mode, shifting views from truck traffic to waterborne commerce, and exploring opportunities to make a modal shift. With **47%** of the respondents, these types of comments along with others pointed to a need to promote the waterway industry in Tennessee.



To support that promotion, **37%** of the respondents indicated the need for the state to take a proactive approach in monitoring market conditions, economic development opportunities, shipping data, trends, etc. to research and report on the data needed to foster increasing waterway usage.

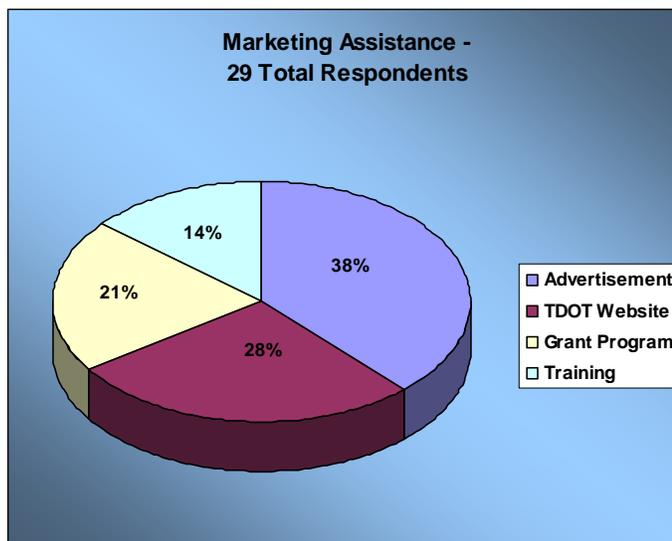
**13%** were in the nature of other or miscellaneous comments.

Technical assistance provided by state waterway agencies varies greatly. Different methodologies are used to deliver this form of assistance, all resulting in providing expertise to the ports and waterways industry. As indicated previously, The Ports and Waterways unit of the MNDOT, for example, has developed a national reputation for its work in water transportation. Its research and studies addressing water transport needs and opportunities have contributed much to an increased appreciation of the importance of this mode for moving freight. MODOT and ARDOT have also both produced comprehensive needs assessment studies on their State's public Riverports providing further justification for financial assistance programs.

West Virginia Public Port Authority has assumed the leadership role for planning, assisting, and advocating the development of new freight transport facilities as well as improvements to existing ports in that state. As a result, it has helped facilitate the creation and expansion of several port districts.

## Marketing Assistance

Marketing assistance can also take various forms, from grant programs to marketing plans to outright advertising. **38%** of the 29 comments received on marketing assistance pertained directly to advertising the waterways industry in Tennessee through promoting the state’s central role in the nation’s inland waterway system and finding ways to encourage use of the waterways through effective marketing.



**28%** of the comments had to do with revising the TDOT website to properly reflect the waterways industry. Comments were directed at using the website to market the ports and provide comprehensive information to shippers on multimodal opportunities within the state.

**21%** would like to see a marketing grants program implemented at the state level to help the industry with printed materials and website development.

**13%** thought marketing assistance could be provided to the waterways industry through training programs on effective marketing for local governments and port facilities.

Water transportation, like any other asset or tool for stimulating commerce and economic development, must be aggressively marketed to capitalize on its use.

The Internet has become an effective and affordable medium to market a state’s programs and resources for attracting new businesses and other economic growth opportunities. MODOT’s website (<http://www.modot.org>) is a good example of how ports and waterways can be promoted on the web in an informative and user-friendly manner. This website describes all the transportation modes that serve the state, including waterways. Included are maps that show the location of the waterways as well as the state’s 14 public ports. Information about these riverports, including available services, can also be accessed from their website. Although it is a transportation agency, the MODOT site also provides information of interest to industrial prospects, including a brief description of state incentives.

Missouri also administers a grant program to assist ports with operational expenses, but a high priority use of these funds is to help finance marketing projects. Kentucky has legislative initiatives currently in process to implement a marketing program through the state’s Economic Development Cabinet for a \$400,000 per annum marketing assistance program. Passed unanimously in the House, but still awaiting approval by the senate committee, this program will

provide for matching grant funds of up to \$30,000 per applicant annually for specified marketing activities.

The Mississippi Development Authority also administers a marketing grant program to local governmental entities and non-profit organizations to help attract new businesses and industrial development to the state. The program is funded at about \$300,000 to \$400,000 annually and requires a cash match equal to one-half the cost of the projects.

Projects are ranked according to the merits of the project with preference to regional projects and those that will influence interests and people outside of the state. Eligible projects include almost all forms of promotion and marketing, including advertising in mass media, billboard, websites, trade shows, and familiarization tours. Airport and port marketing projects are not eligible unless the project is designed to market an available building or facility and to help recruit industrial development.

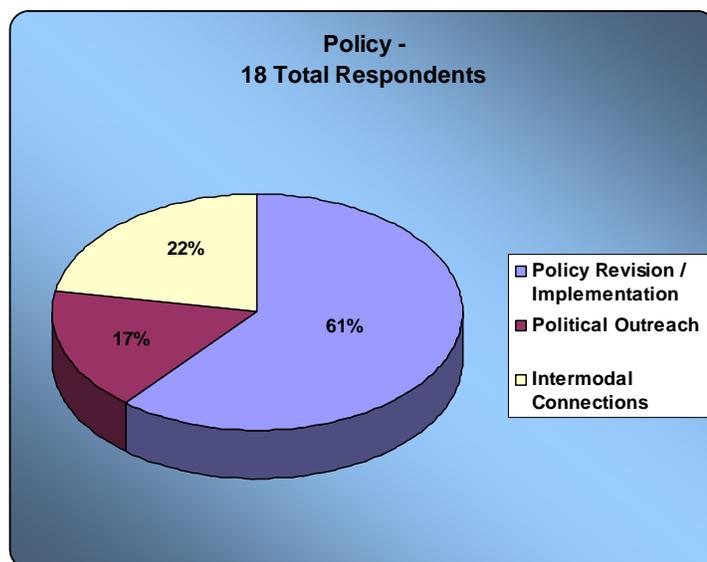
## Policy

18 comments were received pertaining to state policies that in some way alters or influences the waterway industry.

**61%** of respondents indicated a need to review current policies and revise or implement ones that could encourage use of the waterways.

**22%** were in favor of implementing policies that pertained to intermodal connections at ports such as maintaining, expanding, and supporting shortline rail connections.

**17%** felt that regular and aggressive outreach to congress and the Tennessee General Assembly should be undertaken to educate policymakers on waterway issues currently facing this mode.



Policies can guide actions to achieve a desired outcome. In the case of the riverports, a dedicated waterways staff at the state level can investigate current policies that may negatively affect the waterways industry in Tennessee and assist policymakers in implementing ones that will promote the industry. For example, one of the key drivers for successful port operations is to ensure that port land and infrastructure are available to meet forecast trade growth through the port. Land use policies are essential in reaching this goal to obtain a stronger, interconnected, statewide transportation system. A dedicated waterways staff, who would also work with policymakers to create incentives that encourage shippers to use the waterways, typically handles review of such policies. Mississippi has been successful in implementing an incentive-based

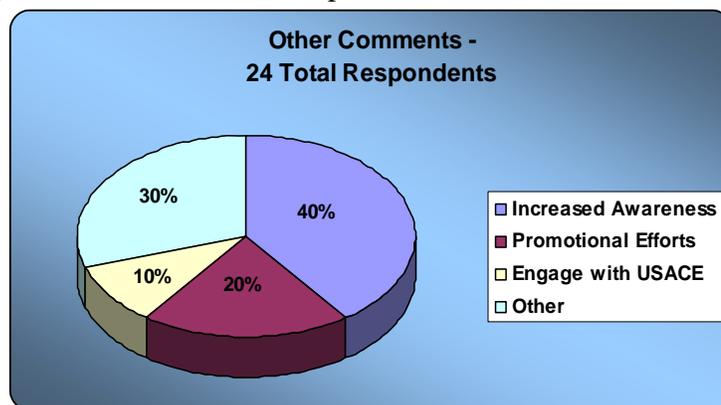
policy. The state’s export tax credit allows an exporter in the state to exempt 50% of his state income tax up to certain limits allowed by law if that shipper uses the state’s public ports to export their goods. This incentive has been received well and has been a catalyst in the increased use of the ports and related facilities in the state, particularly to those who would not normally use the ports.

## Other

The Other category was included to allow participants to make any additional miscellaneous comments. 24 comments were received, mostly pertaining to the perceived lack of awareness at the state level to the importance of the State’s waterway industry.

### 45% - Increased Awareness

- Is TDOT aware of pending investments towboat operators must make to meet compliance and regulation issues? Or the issues with the Waterways Trust Fund, issues at Chickamauga Lock & Dam and Kentucky Lock? Is anybody at TDOT a member of the various Waterways Organizations?



### 25% - Promotional Efforts

- Can TDOT do more to encourage waterways; i.e., use construction materials that are shipped by water
- Importance of multimodal transportation system
- TN needs to move in this direction - relieve truck traffic, improve air quality, reduce traffic accidents

### 15% - Engage with USACE

- Assist Corps to improve timeframe of construction projects
- Engage with Corps to understand waterway needs

### 10% - Collaborate with Local Govt.

- Partner with local gov., MPOs, RPOs, etc. to plan future use of ports and waterways in context of overall freight transport systems

A modern, efficient surface transportation system is essential for economic success in a global economy and is also a key determinant of the quality of life enjoyed by citizens throughout

America. With growing congestion and pollution emanating from our interstate highways, state DOTs need to embrace all surface modes of transportation, reducing their dependence on highway development to produce an effective freight mobility system throughout their jurisdictions. Waterways are an integral part of Tennessee's, as well as the nation's, transportation system. States will continue to need highways, rail, and air transport, but need to evolve from a concentration on highways to one that encompasses all modes of travel and focuses on the efficient transfer of people and goods between modes. This cannot be accomplished without the promotion and recognition, at the state level, of the significance of Tennessee's waterway industry.

## 4.2 Second Meeting

The second stakeholder meeting was held in Nashville to describe the results received from the initial meetings, present preliminary program recommendations, and seek stakeholder feedback. 27 stakeholders attended.

Preliminary recommendations presented to the stakeholders were as follows:

- Authorize a full-time dedicated Waterways Transportation Manager position within TDOT
- Authorize a full-time dedicated Waterways Transportation Assistant position within TDOT
- Support and approve legislation to implement a Tennessee Water Transportation Advisory Group
- Enact a port-specific capital improvement grant program
- Enact a port-specific capital improvement loan program
- Provide incentives for shippers to use waterborne transportation
- Revamp TDOT website to prominently display Tennessee's waterway industry
- Implement marketing grant program to assist waterway industry

Upon review of the preliminary recommendations, breakout sessions were held whereby each stakeholder group (government, shipper/carrier, general purpose terminal) convened to discuss specific details related to the recommendations. Each group had the task of collectively answering the following:

- What does dedicated waterways expertise mean to you?
  - Identify and describe the three most useful functions this person could perform.
- How should a Waterways Transportation Advisory Group be structured?
- How should a Capital Improvement Program be funded?
- Identify and describe incentives that would be practical and beneficial.

During this exercise, it became apparent that the stakeholders perceive a lack of multimodal expertise in TDOT, evident by the absence of any waterway industry representation. Stakeholders indicated a lack of understanding at the DOT level to the interconnectivity of the freight transportation system, the integration of all modes within that system, and the lack of

understanding of the significance of the waterway system to the state evident by low funding levels (less than \$100,000 annually) for this mode.

This absence of a true multimodal function in TDOT where all modes receive equal billing so to speak, was a recurring theme in the group discussions. Typically, state DOTs conduct their planning at a modal level, producing plans that are often merely a compilation of modal plans rather than a series of multimodal and intermodal solutions to identified needs. Planning occurs in this manner because the responsibility for planning, programming, design, implementation, and operations is fragmented at the modal levels among different departments with emphasis placed primarily on highways. Other modes are given less priority with minimal significance given to waterways. This stems from the lack of mode-specific expertise within DOT.

This perception by the stakeholders of no state-level support and the lack of recognition for the waterways as an integral function within the entire transportation system becomes more evident when considering some of the comments received from the group discussions. The following comment received summarizes the stakeholders' sentiments regarding the need for a dedicated waterways expert in TDOT:

“Whomever goes into the position is going to have to be able to manage a "cultural" change within the department ... to help the department move from an organization entrenched in the highway mode to one that fully embraces all modes of transportation. So, the first person who goes into this position should be someone quite qualified to lead organizational change ... certainly the individual should have some waterways experience, etc., but all that experience will be for naught if they can't lead/influence TDOT in a new direction. So, it goes without saying that the TDOT director needs to be onboard with a new direction, or possibility thereof, and that the new position is right up there at the top of the organization chart with some influence ... otherwise if the position is buried there will be no power to make change. No one mentioned "strategic planning" when talking about someone going into the proposed TDOT position ... DOT has a plan, states have plans & directions, and I'm sure TDOT has a plan ... everything flows from these plans, including budgeting. The new director would have to have experience, understanding, and ability to develop & influence changes (both up & down ... to the federal level and at the state level) to insert strategic initiatives in the states plan supporting the state transportation system (ALL modes) so that resources (time, people, money, etc.) would be dedicated to achieving these new goals related to transitioning to a transportation system embracing the waterways.”

Each stakeholder group also had the opportunity to rank the importance of the preliminary recommendations. Votes were cast to: 1) identify which of the preliminary recommendations were most beneficial to the waterways in Tennessee; and 2) if TDOT could only implement one of the proposed recommendations, which one would be the most important to implement and have the greatest impact. The stakeholders overwhelmingly voted for authorizing a new position in TDOT for a dedicated waterways transportation expert as well as coordinating a water

transportation advisory group. Their posture clearly correlates with the perceptions indicated earlier of having no state-level support for their industry. The results, which were shown at a subsequent and final stakeholder meeting, are shown in Exhibit 4.1.

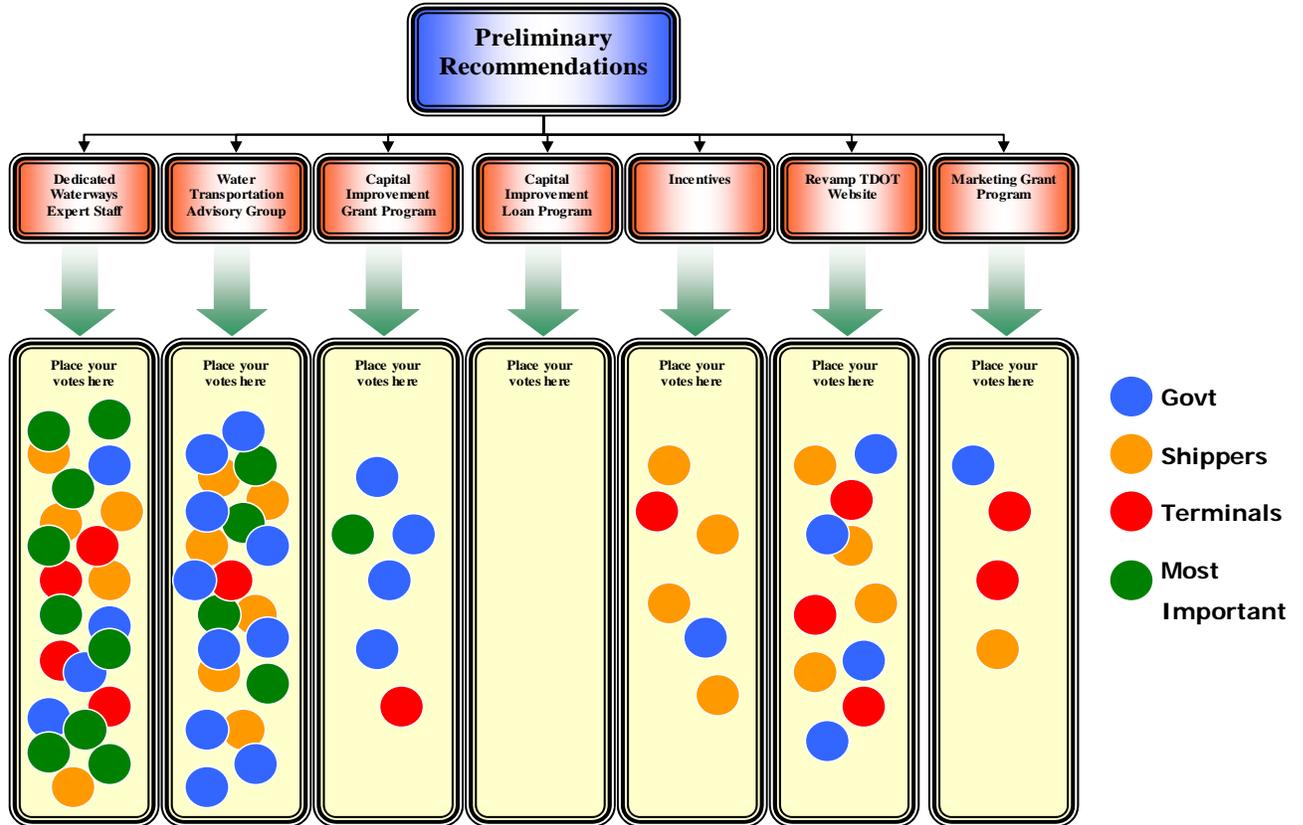
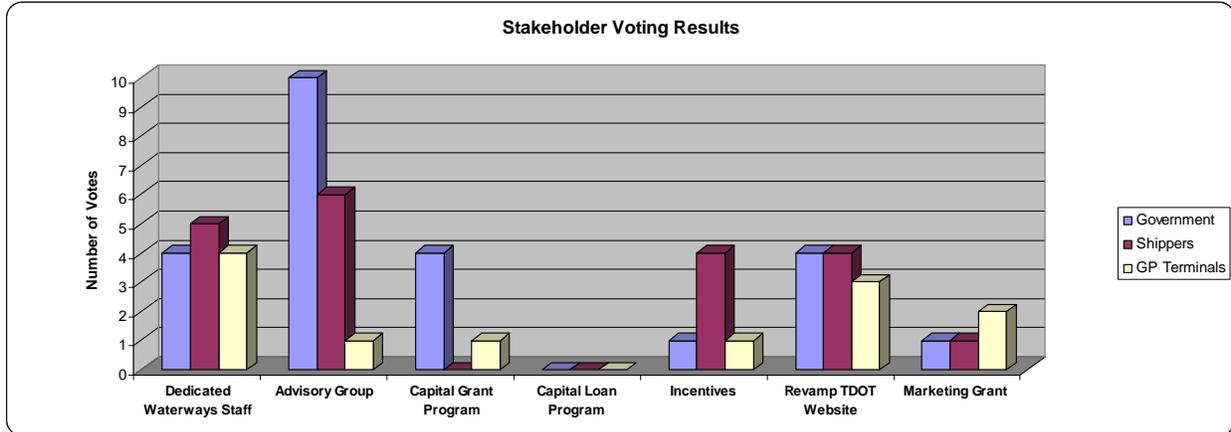
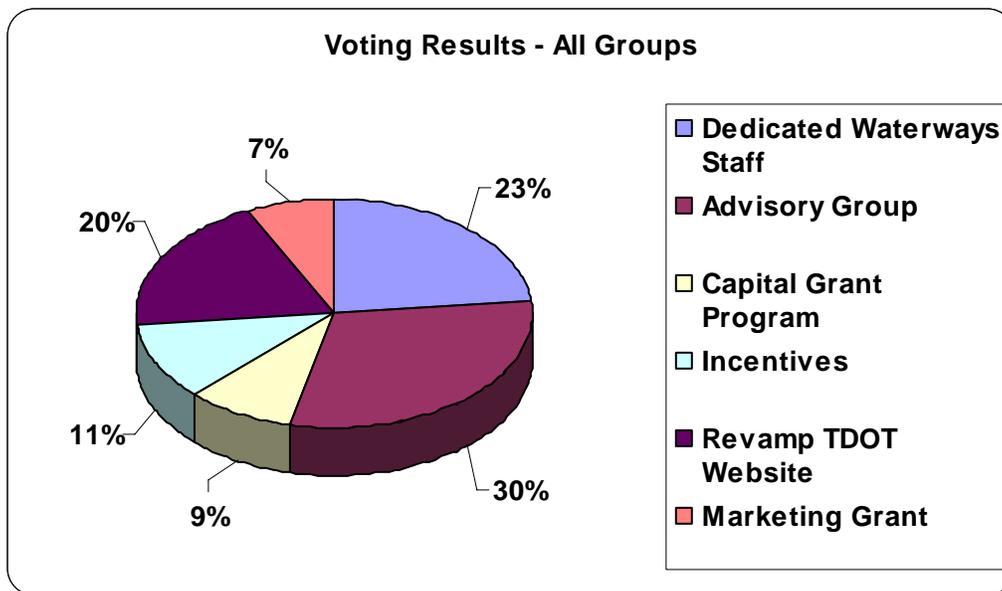


Exhibit 4.1 – Stakeholder Voting Results on Preliminary Recommendations

Further analysis of the above voting results revealed that the shippers and governmental stakeholders favored the Waterway Advisory Group recommendation while the general purpose terminal representatives favored having a Waterways Transportation expertise in DOT. Exhibits 4.2 and 4.3 display these results.

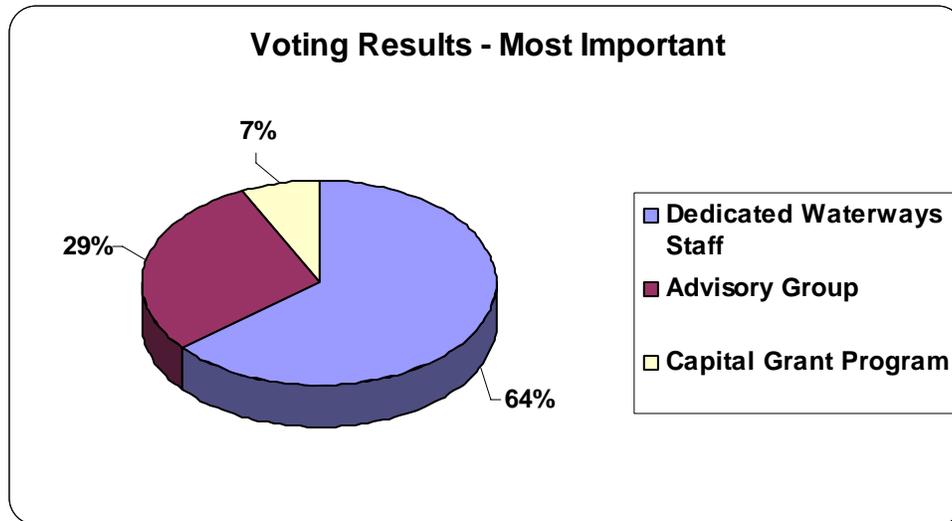


**Exhibit 4.2 – Stakeholder Voting Results by Stakeholder Group**



**Exhibit 4.3 – Stakeholder Voting Results – All Stakeholder Groups**

However, the tally of votes for most important recommendation produced a different outcome. As shown in Exhibit 4.4, all three stakeholder groups indicated by a significant majority that having a dedicated waterways staff in TDOT would be the most valuable recommendation to implement which correlates to the comments received in the group discussions.



**Exhibit 4.4 - Stakeholder Voting Results – Most Important Recommendation**

### **4.3 Third Meeting**

The final stakeholder meeting was also held in Nashville to present final program recommendations. Details on final recommendations can be found in Section 6.0. A group discussion followed giving stakeholders another opportunity to make any final comments. Discussions again centered on the need for TDOT to recognize the importance of its waterways, provide technical assistance through a dedicated waterways staff, and assist with funding for infrastructure improvements. Stakeholders indicated that the mindset of Tennessee’s budget is all about schools, services, and road. “It seems to be all about highways” stated several stakeholders. “No one at the local government level is educating others about the waterways....no one is making them aware of the importance of the waterways. We need to prove that Tennessee has a great asset in its waterways.”

## 5.0 Capital Needs of Tennessee’s Public Riverports

Individual port visits were conducted to the four public ports in Tennessee. Visits focused on touring the facilities and identifying short- and long-term capital needs that are essential for continued success.

The riverports of Tennessee play an important role in facilitating access to the state’s natural freight transportation system. The future vitality of these riverports revolves around the ability to maximize the ports’ potential. The following encapsulates the results of these visits.

### Port of Cates Landing, Dyersburg, TN

Located in Northwest Tennessee, on the Mississippi River, the Port of Cates Landing is a developing Riverport. Touted to be the biggest economic development project in northwest Tennessee with a projected economic impact of 5,600 newly created jobs<sup>13</sup>, the port is far from completion. \$8 million in funding has been raised with another \$49.4 million needed to complete the project. Capital needs identified are:



Capital Improvements Needed	Amount <sup>14</sup>	Timeframe	
		0 - 5 Years	6 - 10 Years
Land Acquisition	\$ 1,500,000	X	
Port Facility Roads	912,000	X	
Port/Dock Facilities	12,500,000	X	
Port Railroad	3,500,000	X	
TennKenn Railroad Improvements	4,500,000	X	
Gas Line Extension	26,000,000	X	
Design, Geotech, Construction Mgmt., Legal	500,000	X	
<b>Total</b>	<b>\$ 49,412,000</b>		

Additionally, limited funds are available for marketing the port. Some brochures and advertising have been done at a local level only. Advertising at a national level is needed.

<sup>13</sup> US Army Corps Engineers

<sup>14</sup> The capital needs identified are based primarily on conversations during visits to existing and developing port facilities. The opinions of cost were provided by the ports with assistance from Hanson and are not based on data developed by Hanson.

## Port of Memphis

Memphis, TN

The International Port of Memphis is the second largest inland port on the shallow draft portion of the Mississippi River, and the 4th largest inland Port in the United States. With an economic impact of \$6.7 billion dollars to the area, the port generates approximately 15,400 jobs in the community.



Revenues generally cover the Port’s expenses, however capital needs identified that will need other sources of funding assistance are listed below:

	Amount	Timeframe	
		0 - 5 Years	6 - 10 Years
<b>Capital Improvements Needed</b>			
Expansion of Paul R. Lowry Rd. in Pidgeon Industrial Park	\$ 3,000,000	X	
Extension of Paul R. Lowry Rd. in Pidgeon Industrial Park	8,000,000	X	
Annual Dredging Funds for Pidgeon Harbor	1,000,000	X	
Expansion of Shelby Drive from Weaver into Pidgeon Park	15,000,000		X
Pidgeon Harbor Access Road with Utilities	4,000,000	X	
<b>Total</b>	<b>\$31,000,000</b>		

## Port of Nickajack

South Pittsburg, TN

The Port of Nickajack is located in southeast Tennessee on the Tennessee River. Activity at the port is currently down to levels where revenues do not cover operating expenses, however current market assessments indicate there is potential for future growth. Capital needs identified to maximize the port’s growth potential are:



	Amount	Timeframe	
		0 - 5 Years	6 - 10 Years
<b>Capital Improvements Needed</b>			
Dredging	\$ 350,000	X	
Crane replacement	750,000		X
Improvements to existing access road	1,000,000	X	
Improve storage areas	250,000		X
Study of widening and straightening State Rte. 156	200,000	X	
Preliminary engineering studies	250,000	X	
Master planning	175,000	X	
<b>Total</b>	<b>\$ 2,975,000</b>		

Marketing efforts have included brochures and advertisements as well as interaction with local and regional industrial development agencies. A comprehensive website is needed.

## Centre South Riverport

Chattanooga, TN

Centre South Riverport is located in southeast Tennessee on the Tennessee River. Revenues cover current operating expenses and recent market assessments show the site is well situated for future growth. Funding assistance is needed for any future expansion. Capital needs identified are:



	Amount	Timeframe	
		0 - 5 Years	6 - 10 Years
<b>Capital Improvements Needed</b>			
Construction of 2 <sup>nd</sup> dock	\$ 3,500,000		X
Construction of storage area for 2 <sup>nd</sup> dock	600,000		X
Construction of access road for 2 <sup>nd</sup> dock and storage area	1,100,000		X
Extension of railroad siding to serve 2 <sup>nd</sup> dock and storage area	300,000		X
Construction of warehouse for storage of weather sensitive cargo	4,750,000		X
Mobile operating equipment for 2 <sup>nd</sup> dock	1,000,000		X
Market assessment and master planning	275,000	X	
Engineered compact fill for ground buildup	1,500,000	X	
<b>Total</b>	<b>\$ 13,025,000</b>		

Current marketing efforts consist of brochures, advertisements, and personal sales calls. A comprehensive website is needed.

Overall, the ports identified \$96.4 million in major rehabilitation and infrastructure improvements needed to remain competitive and sustain continued growth. Port districts are uniquely capable of creating economic growth and increasing the number of family-wage jobs in a community. Nevertheless, without financial assistance, very few, if any of these capital needs will be realized.

Using this information along with results from the stakeholder meetings and analysis of other states' program provides context for the Project's recommendations.

## 6.0 Program Recommendations

### 6.1 Organizational Structure – Multimodal Division Change

TDOT’s current organizational structure consists of a Multimodal Transportation Resources Division (Exhibit 6.1) that consists of two offices: Office of Contract Management, Waterways, Rail Freight, and Compliance and the Office of Passenger Transportation (Exhibit 6.2).

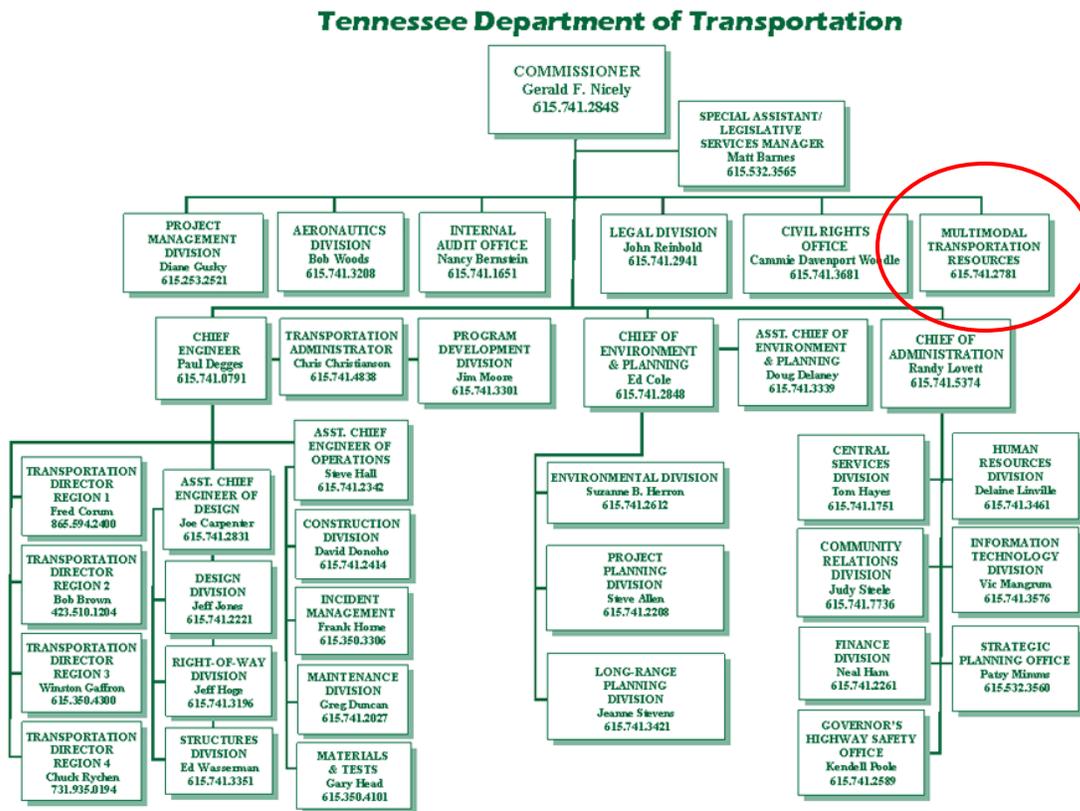
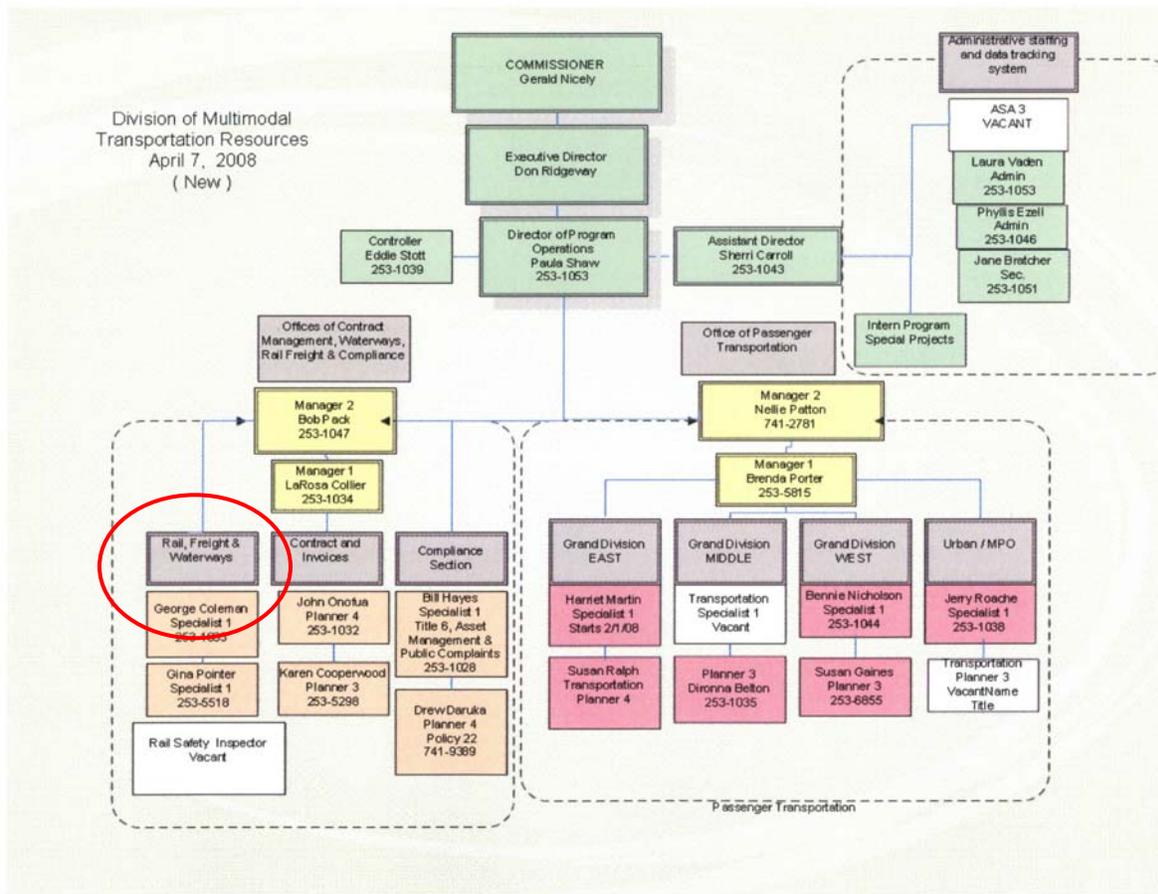


Exhibit 6.1 – TDOT Organization Chart



**Exhibit 6.2 – TDOT Division of Multimodal Transportation Services Organization Chart**

Under this current structure, the waterways function is diluted with a myriad of other functions. Other state DOTs have elevated their waterways function to a dedicated waterways unit, such as Minnesota, or to a dedicated ports and waterways division within an office of intermodal planning, such as Mississippi. Of the eight states surveyed in this study, as illustrated in the following table, six states have some form of dedicated waterways expertise working to promote and assist in the development of this mode. The other two states have specific intermodal or dedicated freight planning functions that include the waterways.

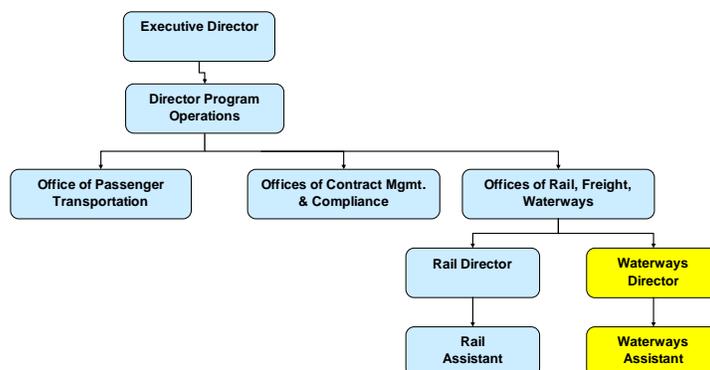
	<b>Dedicated Waterways Staff</b>	<b>Freight Planning Function</b>
<b>Alabama</b>	<b>X</b>	
<b>Arkansas</b>		<b>X</b>
<b>Kentucky</b>		<b>X</b>
<b>Louisiana</b>	<b>X</b>	
<b>Minnesota</b>	<b>X</b>	
<b>Mississippi</b>	<b>X</b>	
<b>Missouri</b>	<b>X</b>	
<b>West Virginia</b>	<b>X</b>	
<b>Tennessee</b>		

With Tennessee’s waterways carrying over 51 million tons of goods each year, it is recommended that TDOT redefine the state’s primary role in transportation to focus on a multimodal approach to planning in order to increase the state’s mobility of freight. Freight statistics indicate that freight shipments to, from, and within Tennessee will increase by 54% across all surface transportation modes from years 2002 to 2035<sup>15</sup>. Rail and waterborne shipments will increase by 53% and 40%, respectively within that same timeframe. To position TDOT to proactively plan for these future transportation needs, the Multimodal Division in TDOT should be restructured to place emphasis on rail, freight, and waterways through a dedicated office structured with the appropriate expertise as shown in Exhibit 6.3.

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<sup>15</sup> Federal Highway Administration Freight Management and Operations

**Option 1 – Multimodal Transportation Resources  
Division Change. Separate Rail & Waterways into  
dedicated offices.**



**Exhibit 6.3 - Multimodal Transportation Resources Division Change**

## 6.2 Waterways Transportation Director

Within the reorganization discussed above, TDOT should authorize a full-time position within its Division of Multimodal Transportation Resources and newly restructured Office of Rail, Freight, Waterways to work exclusively on behalf of ports and other water transportation needs. This staff person would not only serve as a state liaison for the public ports, but would also be responsible for other matters related to ports and waterways, some of which are noted as follows:

- Promoting waterborne transportation system at a regional and national level.
- Active participation in national organizations such as AASHTO Standing Committee on Water Transportation; Inland Rivers Ports and Terminals, Inc.; and the National Waterways Conference.
- Determine needs for research projects to provide primary benefits to Tennessee, with secondary benefits to the nation.
- Study and coordinate those activities needed to promote the development of the state’s ports and waterways.
- Ensure that water transportation is properly reflected in any state intermodal and freight transportation plans, including the Long-Range Statewide Transportation Plan.
- Encourage and coordinate the development of the state’s riverports, both existing and new facilities.
- Represent commercial users in matters pertaining to governmental policies and regulations that may affect the waterway industry.
- Actively liaison with the Cabinet for Economic Development.
- Assist other state, regional, and local agencies on matters pertaining to or concerning ports and waterways that may affect recruitment of new industries and businesses,

increased markets for the state’s products and commodities, and waterway-related tourism opportunities.

- Serve as the repository of data and information concerning the capabilities of the state’s waterway industry.
- Maintain current information about the state’s riverports, including their economic impacts and projected capital investments needed to meet current and future commerce and shipping needs.
- Provide, either from in-house capability or through contractual arrangements, guidance and technical assistance that may be requested by the public ports concerning planning, engineering, marketing research, or other needs, including potential funding sources.
- Perform those functions necessary to administer the proposed Riverport Improvement Grant Program.
- Assist in the formulation and presentation of legislation needed to foster the development and growth of the state’s waterway industry, including its riverports.
- Seek and receive any federal funds, state appropriations, or private donations and grants that may be available to foster the development, use and expansion of the state’s ports and waterways and help carry out these duties as described herein.

The Water Transportation Director should have 10 or more years experience in the waterways industry in order to offer immediate expertise on the opportunities and challenges that face this mode. A minimum classification of Manager 2 is warranted for such expertise. It would be preferable, however, to designate this individual in a higher classification, such as an Executive Director. This position should be of equal importance as any equivalent authoritative personnel in Project Management or Aeronautics. Possible venues for recruiting an individual with such expertise could be a former or retired port director, USACE employee or other management individual from the barge shipping industry, terminal operations, or similar entity. Because of the complexity of the waterways industry, it is imperative to staff this position with an experienced, knowledgeable individual.

## 6.3 Assistant Waterways Transportation Staff

Succession planning is a critical business strategy with any position that requires a significant amount of expertise. In order to elevate the importance of the waterways within TDOT, it is vital to guarantee the continuation of any implemented program. Therefore, it is also recommended that an Assistant Waterways Transportation Staff position be authorized. This individual would operate as an apprentice to the Waterways Transportation Director person and should be classified as a Specialist 1.

## 6.4 Water Transportation Advisory Group

Several states, such as Arkansas, Kentucky, and Mississippi, have established institutional arrangements that enable its water transportation interests to advise and make recommendations to transportation officials and other governmental policymakers concerning matters affecting this mode. Such arrangements are especially important where expertise and knowledge about this mode are limited within state government unlike the other transportation programs. For example, the Alabama Commission on Infrastructure has recommended that an advisory board of ports and waterways interests be authorized by the State Legislature. As part of the authorization, the commission is seeking to incorporate the responsibility for water transportation as a program within the Alabama Department of Transportation for the first time since that agency was established some 30 years ago.

It is recommended that TDOT support similar legislation to approve such an advisory panel for its needs. The Water Transportation Advisory Group would be authorized to:

- Advise the Governor’s Office and the General Assembly on matters pertaining to water transportation;
- Recommend any public and private actions that may be needed to better enable the state to utilize its ports and waterways for future economic growth;
- Assist in defining the duties and functions of those state entities responsible for water transportation;
- Recommend criteria for setting priorities for funding port improvements by the proposed Riverport Improvement Grant Program; and,
- Evaluate applications submitted by the riverports requesting financial assistance from the proposed grant program or other state assistance and make recommendations to the appropriate decision makers on disbursement of these funds.
- The Advisory Group could be comprised of the following members appointed by the Commissioner of TDOT:
  - Two members representing the state’s public ports;
  - Two members appointed at large from the private sector associated with the waterways industry;

- One member from the public at large who has technical experience in economic analyses, feasibility studies, port design and operations, or other similar knowledge of the maritime industry;
- One member from the Department of Economic and Community Development
- One member from other governmental agency (e.g. USACE).

The seven members of the group shall elect a chairperson, a vice-chairperson, and a secretary. Once appointed, each member shall continue to serve in office until replaced. The members shall receive no compensation but if funds are available could be reimbursed for expenses incurred while on official business for the group.

The group shall meet twice each year or when called by the chairperson. The elected secretary would carry out the administrative functions of the group, including timely notices to the members of called meetings and the preparation of the minutes of the group's meetings.

## **6.5 Financial Assistance Program Recommendation**

It is recommended the governor support, and the General Assembly enact, a grant program to assist the state's public port authorities with those capital investments needed for port improvements that cannot be readily financed locally. TDOT's Multimodal Transportation Resources Division should administer the program. These intermodal facilities are crucial to the continued economic growth of the state. Unlike the private terminals, the public facilities are available to any shipper or producer that can benefit from water transportation. The public riverports help attract new businesses to the state and serve other companies that need access to water transportation but not to the extent to justify constructing and operating its own barge terminal. Some of these ports also provide other needed transportation services such as warehousing and drayage.

Estimates made during the course of this study indicate that Tennessee's four public ports would need more than \$96 million of major rehabilitation and infrastructure improvements to remain competitive and sustain continued growth. Based on such needs, it is reasonable for the state to provide as much as \$4-5 million of assistance annually to these port authorities through this proposed grant program. Unlike airport and highway projects, there is no specifically designated federal funding program for public ports other than Section 107 of the 1960 Rivers and Harbor Act that provides authority for the Corps of Engineers to improve navigation including dredging of channels, widening of turning basins, and construction of navigation aids.

The state's public riverports, including emerging ports, must continue to make improvements to sustain competitiveness with marine terminals in other states within the region. As described in Section 3.1, most of the states investigated have very progressive port programs. Three of these states (Alabama, Mississippi, and West Virginia) have state authorities to own and operate certain port facilities that enjoy the full backing of state government, including the funding of improvements that may be needed for those ports to remain competitive and for future growth.

Ports in Louisiana, Minnesota, Mississippi, Missouri, and West Virginia are supported by grant or loan programs authorized and funded by those states.

Tennessee must play a more aggressive role in supporting its ports and waterways industry if it is to capture the full economic and trade potential offered by water transportation. Eight states that have water transportation programs, including financial assistance to ports, were reviewed and studied to determine which may have some application to Tennessee's needs. Based on that research, the following financial assistance program is recommended for adoption by the State of Tennessee.

A two-step process is recommended – Legislation to enact a grant program as described in the report should be drafted and approved by the Administration and submitted to the General Assembly when it convenes in 2009. This legislation would not identify a dedicated source of funding but would assume, if approved by the Assembly, the grant funding would come from appropriations from the General Fund.

Concurrently, TDOT and the waterway industry, working with the Governor's office, and legislative leaders, should study in detail alternative dedicated sources of revenues to fund the program. This research should include the political ramifications of each alternative. Based on experience of other states, an economic impact study of the waterway industry as well as a detailed capital needs assessment of the ports may be essential information to garner the political support to establish a permanent source of funds for the grant program. This information would also help justify increased funding anticipated for TDOT's water transportation program.

### **6.5.1 Program Eligibility**

The proposed grant program would fund port requests for capital improvements, both on-site as well as land-side access. Major repairs and rehabilitation of existing facilities would be eligible as well as dredging of access channels and turning basins, including those measures needed for disposal of dredged materials.

Funding for operational expenses, including routine maintenance and repairs, would not be permitted but expenses associated with master planning, site layout, engineering, and construction management of projects would be eligible for grants. To encourage the ports to develop strategic, marketing, business, and financial plans, these activities would also be eligible for financial assistance.

The grant program would require a 20 percent local match per applicant. Part of this local match could include in-kind costs. Those grant applications that included a larger share of local financing would be given higher priority for funding. The ports would also be encouraged to use the grant funds to help leverage additional funds, such as other state and federal grants and loans that would help lead to more capital-intensive projects.

To qualify for funding, the port should provide an analysis that would demonstrate that the proposed project is a sound investment and that its economic benefits would exceed its costs.

Only those projects that benefit the transfer or handling of freight would be funded, and a five-year plan would be prepared and submitted by the port that would indicate how the proposed project has been incorporated into the port's development plan. Any needed federal and state permits should be obtained for the proposed project prior to any request for funding to help prevent any undue delays in the use of the grant by the port.

Most states that have grant programs report that requests from ports typically exceed the availability of funding. That would likely be the experience for the Tennessee program. To ensure that these funds generate the most return for the state, it is recommend that the proposed Water Transportation Advisory Group establish guidelines for setting funding priorities for the grant program and provide that information to prospective applicants. The group should also review those requests received from the ports to ensure the proposed projects comply with the approved funding guidelines. It should also make appropriate recommendations on the merits of the grant applications from the ports to the Commissioner's Office for consideration. Final approval of the disbursements of the state funds should rest with the Commissioner.

## 6.6 Incentives

Providing incentives typically provides a motive for a particular course of action or provides a reason for preferring one choice to the alternatives. Some states provide specific incentives to encourage shippers' use of their ports and waterways. In Mississippi, for example, an exporter (any shipment made out of state, not necessarily out of the country) can exempt 50% of their state income tax up to the limits allowed by law, as an incentive to use the state's publicly owned ports. According to sources at MDOT, this program has been successful in motivating shippers to use the state's ports. A similar strategy could be applied to Tennessee with reductions in franchise and excise tax or other taxes such as payroll or property taxes to encourage the use of the waterways.

Investment tax credits can also provide an incentive to reward and encourage economic growth. Legislation currently being considered by Congress will increase investment in freight rail-related infrastructure through investment tax credits and accelerated depreciation treatment for investments by railroads and some others<sup>16</sup>. This creates an incentive to shift traffic to publicly maintained transportation modes. The proposed bills are aimed at encouraging more private investment in rail infrastructure. The first incentive is a tax credit targeted at capacity expenditures. Taxpayers making expenditures for new freight infrastructure where such property currently does not exist would be eligible for a 25 percent tax credit. Qualifying expenditures for this credit would include:

- adding of a new second or third main line to an existing right-of-way to allow traffic to move in both directions at the same time;
- adding new and extending existing siding to improve traffic flow and speed
- constructing new intermodal facilities; and
- installing new, technology-based systems.

The second investment incentive would permit the expensing of all qualifying rail infrastructure capital expenditures. This will allow the deduction of the cost of capital investment in the year the investment is made, rather than depreciating it over many years. This will accelerate the availability of capital necessary to expand capacity.

Both incentives would be available to any taxpayer, not just railroads, making a qualified expenditure. Consequently, its sponsors say it would provide a stimulus for truckers, ports and airports to invest in the construction of intermodal facilities, thereby reducing back-ups and delays throughout the freight transportation system. This could potentially benefit grain elevators, feed manufacturers, soybean processors and biofuels producers as well if the rules governing the credits are targeted to support the types of investment grain and oilseed customers make to take advantage of economies in shipping. For example, an elevator that builds a spur onto an existing rail line would qualify for the tax credit. These types of investment tax credits can be applied at the state level as well.

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<sup>16</sup> Market Solutions LLC

Whether offering a tax reduction through some form of business paid tax or offering tax credits to reduce federal income taxes, incentive programs can be structured in various ways. It is recommended that extensive research and analysis be conducted by the proposed Waterways Transportation Director with the assistance of TDOT's legal staff into Tennessee tax code and legislative options that would provide maximum benefit to encourage economic development and an increased use of the state's waterborne transportation.

## **6.7 Marketing Program**

Missouri is the only state surveyed that has a grant program to assist public ports with administrative or operational expenses, including marketing. The program considers marketing and promotion to be of higher priority than other administrative functions.

A similar grant program that addresses the administrative expenses of a port is not recommended for Tennessee. Instead, a state-wide marketing grant program is recommended that is patterned after the one administered by the State of Mississippi, as described in Section 3.1.6.

The proposed program would provide grants to public riverports and to other non-profit economic development organizations, including industrial development authorities and chambers of commerce, to help promote and market the state to industrial, business, commerce, and trade prospects.

It is recommended that the fund be administered by the Department of Economic and Community Development and funded at a level of about \$100,000 annually from the General Fund. The program would provide a fifty percent matching grant for a wide range of marketing activities. Eligible projects include: preparation of brochures; participation in trade shows; advertising in trade publications, billboards, and other media outlets; website preparation; marketing research; media kits; and other promotional materials. The intent of the program is to attract new economic development activities for the state, including new commerce and trade, and the local marketing projects that receive a state grant should be designed with that objective of reaching these audiences or prospective businesses.

Salaries and other administrative expenses, including staff travel, equipment purchases, or capital improvements would not be eligible for funding. Other marketing activities such as membership newsletters would not qualify for funding. A public port or other qualified organization could submit applications once each year for projects not to exceed \$15,000 for a total of \$30,000 annually. All projects that are funded should be completed within one year and the local match should be cash and not include in-kind services.

This program will likely be very popular with the riverports and economic development organizations throughout the state and should be strongly supported by these interests. The program can effectively double a participant's marketing budget and permit those participants that have limited resources to conduct a more effective marketing and promotion campaign. This would be money well spent by the state.

There are other marketing activities the ports, individually or collectively, need to consider to more effectively promote port services and water transportation benefits. Some details follow.

## **6.8 Websites**

The Internet is one of the most effective and affordable marketing tools. The website for TDOT provides very little information about ports and waterways. And accessing this information is relatively difficult. It would be much easier and useful if a menu of programs and topics on the TDOT homepage included direct links to water transportation data as well as the other modes. At a minimum, a reference to intermodal programs could be featured on the menu that would link an inquirer to details on the rail and water modes. To find these programs now, one must conduct a search on the home page's menu. Highways are the only transportation mode currently featured on the homepage.

The Tennessee Economic and Community Development website also provides no details on waterborne transportation services available in the state, including ports and waterways. It is recommended that this website also feature industrial sites available at the Riverports and provide search characteristics that allow the seeker to request water access in the search criteria. Currently if searching for available industrial sites in Tennessee, rail access is the only searchable request an inquirer can make. The MODOT website is an excellent example how a state agency can help showcase ports and waterways in an easily accessible and user-friendly manner.

It is also recommended that all four port authorities, including the one emerging port, develop websites and periodically revise and update the sites as warranted.

## **6.9 Other Activities**

There are other affordable marketing projects the ports can undertake that will promote its services and improve public relations. It is very important that the ports continually strive to improve public relations and promote the importance of a port and its activities to the local and regional economies. There are some promotional projects that a port director can undertake even on a meager budget that are very effective for accomplishing that goal. These include familiarization tours and similar events at the port for the general public, prospective businesses, and elected officials, and a concerted effort to expand coverage of port activities by the local media.

## **6.10 Other Recommendations**

### ***Comprehensive Studies***

Authorization of the proposed recommendations and a designated source for its funding will require the endorsement and strong support of the Commissioner, the Governor, and the leaders of the General Assembly. It will be imperative to demonstrate how important these ports and the waterways industry are to the state's economy. A detailed, comprehensive study of the economic impacts of water transportation is needed to understand the importance of the state's ports and waterways to its economy and quality of life. This study should include both public and private ports and the waterways industry. It should be formulated in a manner that would provide sufficient details on the impacts of the individual public ports.

Other items to consider are some port-related issues identified during the course of this study that were outside the scope-of-work that may be of critical importance to the success of implementing this study's recommendations. A more thorough assessment of the capital needs of the four public ports is needed to demonstrate the need for state financial assistance. This assessment should include master planning and cost estimates for those improvements needed by each port to meet current customer demands as well as anticipated growth in commerce or requirements for new services. Based on the individual port's present debt service and its ability to finance these capital improvements, a determination could then be made concerning how much financial assistance may be needed from the state to enable these ports to compete and continue to grow. In addition, careful consideration should also be given before proposing a dedicated source of the grant funds to avoid any political backlash caused by those who may believe the port's program will come at their expense and will oppose it. Therefore, it is recommended that water transportation interests convene an ad hoc group to explore the various sources of state revenues that may provide a more permanent or dedicated source of funding for the new water transportation programs, including the port grants. Proposed legislation to enact the committee's recommendations on the most viable source of funding should be submitted to the General Assembly for its consideration.

This research study should be initiated as soon as funds can be secured to ensure this information is available to the Administration and the General Assembly as part of its deliberations on funding the grant program and to help justify appropriations for the water transportation program.

## **6.11 Program Funding**

Finding sources to fund new programs can be an entire study in itself. One of the responsibilities of the proposed new Waterways Transportation Director should be to locate and secure dedicated sources of funding for waterways projects. If this position is approved, this individual would have the expertise to seek and receive any federal funds, state appropriations, or private donations and grants that may be available to foster the development, use and expansion of the state's ports and waterways in Tennessee.

Possible sources of funding could include:

**Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) and Future Transportation Bills.** SAFETEA-LU provides funding totaling over \$2.8 billion to fund transportation projects of national interest to improve transportation at international borders, ports of entry, and in trade corridors. The **Freight Intermodal Distribution Pilot Program** provides \$30 million through 2009 for grants to facilitate intermodal freight transportation initiatives at the State and local level to relieve congestion and improve safety, and to provide capital funding to address infrastructure and freight distribution needs at *inland ports* and intermodal freight facilities. The Act names 6 projects, funded at \$5 million each. For each year through 2009, each of the 6 designated projects is to receive 20% of its funding (\$1 million each). Also new in SAFETEA-LU is a program to fund transportation infrastructure projects that have relevance and produce benefits on a national or regional level. Benefits could include improving economic productivity, facilitating international trade, relieving congestion, and improving safety. Approximately \$1.8 billion from the Highway Trust Fund is provided through 2009 for designated projects.<sup>17</sup>

Monitoring of proposed funding and requirements to obtain funding for years beyond 2009 is another responsibility warranted for the recommended Waterways Transportation Director position.

**Re-appropriation of state funds** – invest tax revenue from general fund. Funding to support the services provided by the Department of Transportation comes almost totally from user fees collected by the state and federal government. These include vehicle registration fees, gasoline and diesel fuel taxes, airline ticket taxes and other fees and taxes paid by individuals as well as private companies that use the transportation system<sup>18</sup>. In some states, such as Mississippi, a percentage of gas tax revenue is dedicated for funding of ports and waterways. Increased economic activity generated by the state’s waterway industry ultimately pays back the general fund as does the decrease in road maintenance costs to a state that maximizes the use of its waterways thus alleviating some of the freight congestion issues discussed later in this report.

**Ton-Mile Tax** – Tennessee’s Ton Mile Tax is an ad valorem tax imposed on property that operates in the public transportation (utility companies, air and surface transportation). It is based on that property’s assessed value times the number of ton miles that vehicle travels within the state whether on road, rail, water, pipeline, etc. Over \$146 million in ton-mile tax was collected in 2007, all of which is allocated to local governments for schools, services, and roads. In other states such as Kentucky, a portion of ton-mile tax is diverted to the state’s general fund to be used for transportation related expenses.

**CMAQ** – The Congestion Mitigation and Air Quality Improvement (CMAQ) program provides funding for transportation projects that reduce mobile source air emissions in areas that do not meet federal air quality health standards for ozone, microscopic particles or carbon monoxide.

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<sup>17</sup> USDOT

<sup>18</sup> Tennessee Department of Transportation

According to the TDOT Environmental Policy Office, the Environmental Protection Agency (EPA) changed the standards for ground-level ozone in 2008 to 0.075 parts/million. This standard will be a challenge for Tennessee with 13-15 counties likely to be nonattainment. 2008-2009 monitoring will be critically important. Truck traffic in Tennessee is steadily increasing (described in more detail in Section 7.0.) As shown in the chart below, towboats produce the least amount of pollutants compared to the other surface modes of freight transportation. If several Tennessee counties are nonattainment by EPA standards, an argument might be made to reduce the number of trucks on the state's highways by effectively using the inland waterway system to obtain CMAQ funds. The new Water Transportation Director as recommended would have the expertise to research options such as this and present the appropriate quantitative data.

Pounds of Emission per Ton-mile EPA, Emission Control Lab			
Mode	Hydrocarbons	Carbon Monoxide	Nitrogen Oxide
Towboat	0.0009	0.0020	0.0053
Train	0.0046	0.0064	0.0183
Truck	0.0063	0.0190	.1017

**Highway Maintenance Savings** – Though not a direct source of funding, it is also noteworthy to mention that an 80,000-pound truck, historically the maximum allowed in many states, is reported to possibly do 10,000 times or more as much damage as a single passenger auto<sup>19</sup>. Studies repeatedly show that the fuel taxes paid by heavy trucks barely cover half the wear these trucks impose on public highways. A few very overweight trucks impose even more inordinate costs on bridges. In FY 2007-2008, TDOT's expenditures for highway maintenance were over \$287 million. According to the Federal Highway Administration, combination trucks, which are defined as tractor semi trailers weighing over 50,000 lbs., accounted for 58% of the cost responsibility for pavement preservation on the nation's highways. Using 58% as the national average, if Tennessee's combination truck traffic is average by the national standards, then \$166.5 million of the \$287 million spent on highway maintenance in FY 2007-2008 could be attributed to the number of tractor semi trailers traveling through the state. This is a hypothetical analysis based on national figures. Additional research outside the scope of this study would be required to determine a more accurate assessment of highway maintenance dollars saved through a modal shift to waterways.

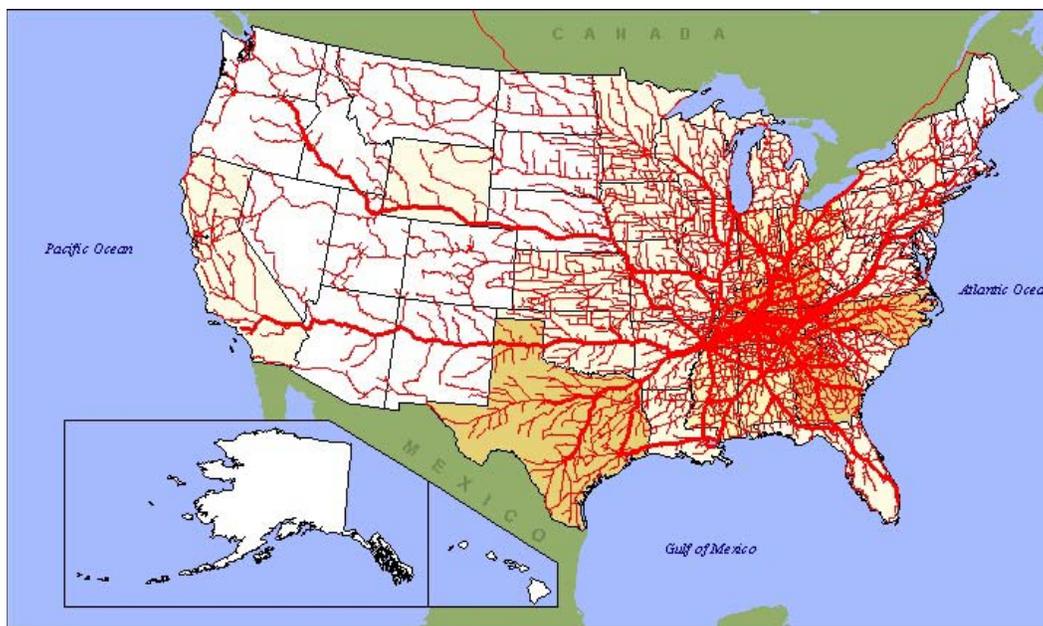
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<sup>19</sup> Minnesota Regional Railroads Association

## 7.0 Congestion Concerns

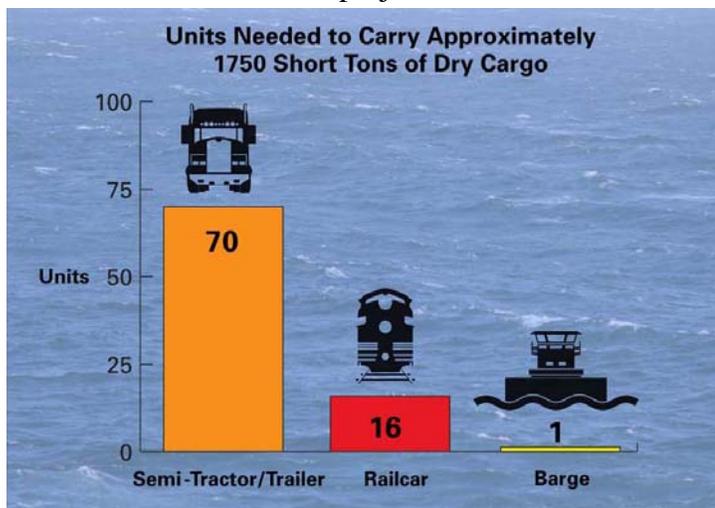
When considering this study's recommendations, consideration must also be given to the impending congestion issues. Road congestion and the nation's failing transportation infrastructure are receiving escalating attention at the national and state level. Road congestion in Tennessee already exists and forecasts indicate this looming problem will only multiply. In 1998, nearly 838 million tons of freight traveled by truck on Tennessee's roadways. Of that amount, 55.8% of that freight, or approximately 467 million tons traveled solely through the state with no origin or destination in Tennessee. The state receives no benefit from this through-freight, but does suffer the consequences of increased road congestion and road maintenance costs associated with the increased usage. To complicate matters, forecasts by the Federal Highway Administration (FHWA) indicate that by the year 2020, truck freight traffic in Tennessee will increase to over 1.3 billion tons, a 55% increase over the 1998 figures. 82% of the 2020 forecast, or nearly 1.1 billion tons, will be through-freight with no origin or destination in Tennessee.

**1998 Freight Flows To, From, and Within Tennessee by Truck**



*Source: Federal Highway Administration*

Tennessee has grown rapidly in recent years and with this growth comes impending transportation concerns. As of 2006, 42% of Tennessee’s urban highways and 10% of rural highways were already congested. Without near-term solutions, projected travel time between cities in Tennessee will increase by 15-33% by the year 2030.<sup>20</sup> If the waterways cannot maintain their current share of national freight, then some waterway freight will be shed to trucks on an already congested highway system. This will impose greater costs on the state and local highway agencies, which must maintain roads; on highway users, who will experience increasingly congested roads; and on shippers, who will pay higher rates for truck service. As shown in the graphic, one barge can move 1,750 short tons of dry cargo. It would take 16 railcars or 70 semi-trucks to move the same amount of cargo.



Source: Texas Transportation Institute

In 1998, 49 million tons of cargo moved on Tennessee’s inland river system. Using the illustration shown above, to place that same cargo on rail would require 448,000 additional railcars. To place that same cargo on truck would require nearly 2 million more trucks on Tennessee’s highways. In 2020, the FHWA predicts 72 million tons of cargo will move on Tennessee’s inland river system. The following table illustrates the impact this freight will have on Tennessee’s transportation infrastructure. 47% more trucks, railcars, and barges will be required to accommodate this freight.

	Units Needed to Carry Dry Cargo	
	1998 (49M Tons)	2020 (72M Tons)
Truck	1,960,000	2,880,000
Railcar	448,000	658,286
Barge	28,000	41,143

**47% Increase in Each Mode’s Units**

Over the years, many state DOTs sought solutions to their congestion issues in terms of building more and better roads. Road improvement projects took years to complete and required a great deal of funds that were not always available. Other options had to be considered. As indicated in the state survey section, many state DOTs have taken a proactive approach to their transportation needs and have moved away from being a highway department to a true

<sup>20</sup> Tennessee Department of Transportation

transportation department. These states have adopted a true multimodal approach to their transportation planning by placing equal emphasis on all their surface transportation modes. These states recognize that there will be a continual need to build and use roads, however waterways can be an important, cost effective, environmentally friendly option to their freight needs.

Traffic congestion affects people in nearly every aspect of their daily lives – where they live, where they work, where they shop, and how much they pay for goods and services. According to 2005 figures, in certain metropolitan areas the average rush hour driver loses as many as 60 hours per year to travel delay – the equivalent of one and a half full work weeks, amounting annually to a “congestion tax” of approximately \$1,200 per rush hour traveler in wasted time and fuel. Nationwide, congestion imposes delays and wasted fuel costs on the economy of at least \$78 billion per year. The true costs of congestion are much higher, however, after taking into account the significant cost of unreliability to drivers and businesses, the environmental impacts of idle-related auto emissions, increased gasoline prices and the immobility of labor markets that result from congestion, all of which substantially affect interstate commerce.<sup>21</sup>

With reduced federal funding now available to states for transportation projects, Tennessee faces two enormous and simultaneous challenges; an aging and inefficient infrastructure and a growing population that will put greater demands on it. Adding more lanes to existing highways and/or building new ones has typically been the traditional response to congestion. In some metropolitan areas, however, it is becoming increasingly difficult to undertake major highway expansions because of funding constraints, increased right-of-way and construction costs, and opposition from local and national groups.

Without near-term solutions, the state’s transportation network will continue to deteriorate, existing and prospective industries and jobs will be lost, and the safety and convenience of highway travel will be severely impacted. Tennessee needs to consider its alternatives to create not only more, but also cheaper and better ways of moving freight.

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<sup>21</sup> Toward a New Surface Transportation Economic Model, by Secretary Mary Peters, U.S. Department of Transportation, March 2008

## 8.0 Conclusion

The federal government’s involvement in navigation projects dates to the early days when rivers and coastal harbors were the primary paths of commerce. Today inland navigation is a key element of state and local government economic development and job creation efforts and is essential in maintaining economic competitiveness.<sup>22</sup>

According to the US Census Bureau, Tennessee’s population grew 26% from 1990-2007. This trend is expected to continue. With the growing population and subsequent economic growth, heavy demands have been and will continue to be placed on the state’s transportation system. Intensifying roadway congestion and increasing transportation-related pollution are by-products of a growing economy. Transportation planning with emphasis on freight mobility will be critical to addressing these issues. Many states have already acknowledged the importance of the inland waterway system and have programs in place to champion the development of ports and waterways. Other states are conducting extensive studies in order to implement their own state-level programs. The importance of integrating waterways into the national freight transportation system has reached national recognition through studies funded by the US Department of Transportation such as the Alabama Freight Mobility Study (USDOT Federal Award ID DT0S5905G00017). Whether currently in place or in the development process, what these states have in common is the recognition that port and waterway development will benefit their economy through the attraction of new industries, high paying jobs, and enhancement of the tax base resulting from these new industries, strengthening their current economic position.

In February 2007, Frederick Smith, Chairman, President and CEO of FedEx Corporation, presented “Facing the Crisis of US Infrastructure.” His plea:

“We cannot ignore the supply chain issues we face. Our current infrastructure is not sufficient for our needs today, much less tomorrow. In 2006, approximately 69 percent of the total freight transported moved on a truck. That amounted to 10.7 billion tons of freight, **a new national record** (emphasis added). Demand for freight services will continue to remain strong. Forecasts for domestic freight tons moved will increase 65 to 70 percent by 2020. Reliability in the trucking industry is paramount. However, for the trucking industry to continue moving goods smoothly, we need an efficient highway system. For example, the Federal Motor Carrier Safety Administration reports that from 1998 through 2018, there will be 70% more vehicle miles driven by commercial vehicles alone. (That doesn’t count an increase in passenger vehicles.) From 1994-2004, the increase in highway lanes was only 3.4%. If this trend continues, we will be growing at 10 times the rate of capacity.”

According to USDOT, in the state of Tennessee alone, freight shipments moving to, from, and within the state will increase by 73% from 1998 to 2020. Of that increase, 76% is forecasted to be moved by truck, primarily on the Interstate Highway System through urban areas. Can the

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<sup>22</sup> US Army Corps of Engineers

state's current highway system handle this growth? Can expansion of the current highway system be enough to accommodate this increase? It will become increasingly more difficult to accomplish this. Good multimodal planning will be imperative. The inland waterway system in Tennessee is already in place and provides a transportation infrastructure that not only guarantees fuel efficient and environmentally advantageous transport of goods, but also reduces highway congestion and the related maintenance costs, and stimulates the economy.

With its central location and extensive navigable river system, the state of Tennessee can, by instituting the recommendations contained in this report, be a leader in promoting waterborne commerce and facilitating a more efficient transportation system that enables economic growth and development.

The Maritime Administration put it best in their statement “The strength of a transportation system lies in its diversity, with each mode having its own system-specific advantages. The public's good is best served by the most efficient use of transport resources, regardless of modes. This efficiency and competitiveness of different transportation systems is essential to both economic growth and productivity, and ensures that the United States will be competitive in the world market.”

## **9.0 ADDENDUM – IMPACT OF TENNESSEE WATERWAYS ON THE SUCCESS OF TENNESSEE VALLEY AUTHORITY (TVA) MEGASITES**

This addendum contains information relative to a requested addition to the original scope of the study. TDOT and the USACE Nashville District asked Hanson to address how the waterways could impact the success of the TVA Megsites. This work is a logical extension of the Tennessee Waterways Assessment Study as it pertains to practical ways in which the waterways can affect economic and industrial development in the State.

Megasites are essentially large parcels of land prepared and then marketed for heavy industrial development. The land is normally 1,000 or more acres and is shovel-ready. Shovel-ready typically means the site is available for sale as a single parcel, fully served by utilities, and free of all easements and right of way issues guaranteeing its readiness for immediate development. Being shovel-ready typically attracts a project that represents a large investment by a single user, such as an automotive assembly plant, steel plant, or other large operation.

### **9.1 TVA Certification Program**

Working with site selection consultants to establish criteria for certification, TVA launched their megasite certification program in 2004 to address the needs of potential automotive manufacturing or assembly plants.

To be certified as a megasite within TVA’s service area, the site must encompass the following characteristics:

- Minimum 1,000 acres
- Immediately available
- Environmental and geotechnical testing complete
- Close proximity to interstate highways, railways, and auto supplier
- Plentiful labor

### **9.2 Certified Megasites in the Tennessee Valley**

Since the program’s inception, eight sites have been officially certified in Tennessee, Alabama, and Mississippi. Of these, four have sold and four are currently available for purchase (see Exhibit 9.1). The following provides a brief description of these sites:

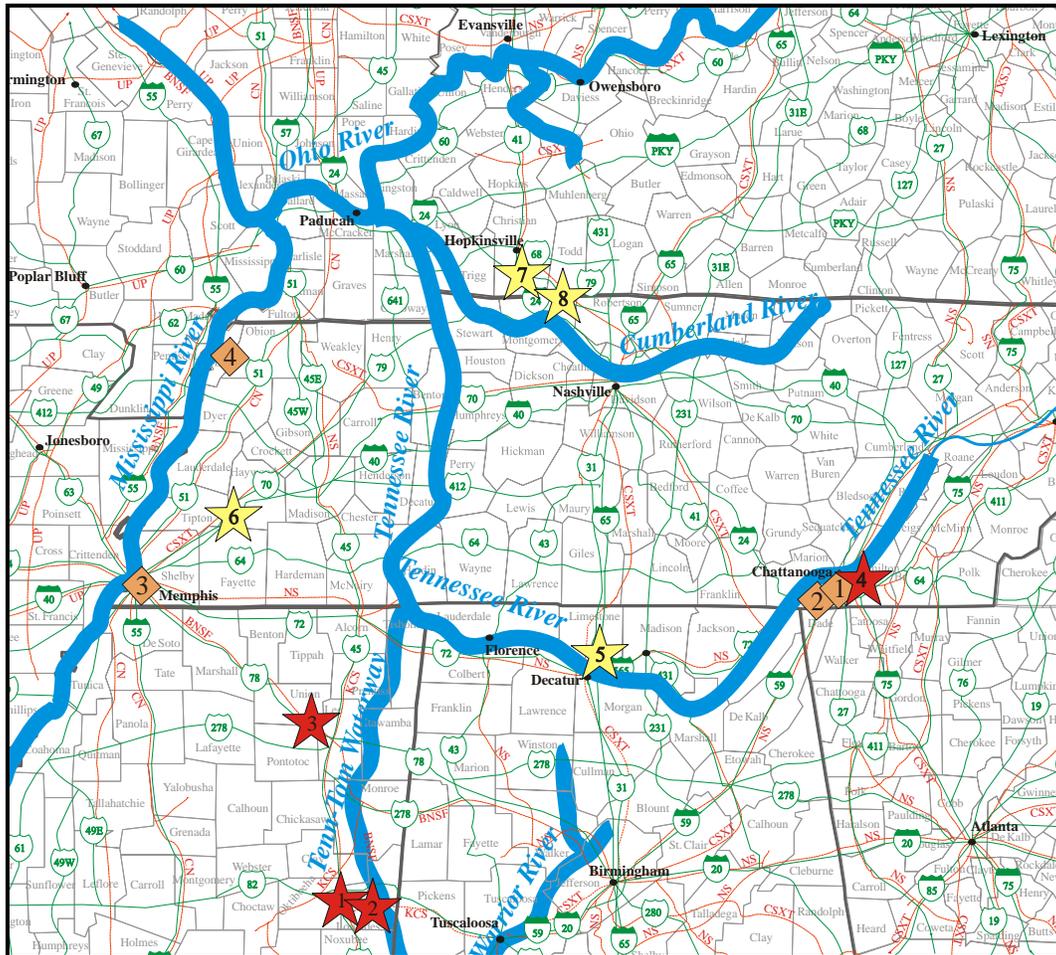


Exhibit 9.1 - TVA Megasites



**Sold**



**Available**

- 1 - Columbus, MS (Golden Triangle)**
- 2 - Columbus, MS (Crossroads)**
- 3 - Tupelo, MS**
- 4 - Chattanooga, TN**

- 5 - Limestone County, AL**
- 6 - Haywood County, TN**
- 7 - Hopkinsville, KY**
- 8 - Clarksville-Montgomery County, TN**



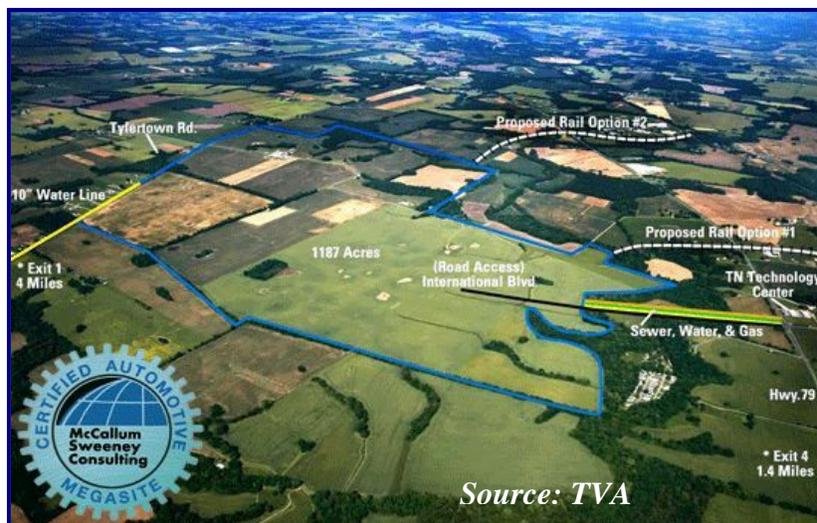
**TN Public Riverports**

- 1 - Centre South Riverport**
- 2 - Port of Nickajack**
- 3 - Port of Memphis**
- 4 - Port of Cates Landing**

## 9.2.1 Available Megasites (as of 12/5/08)

### Commerce Park - Clarksville-Montgomery County, Tennessee

Commerce Park, Central Tennessee's Megasite, is located in Clarksville, TN, about 1.5 miles from Interstate 24. Situated just north of the Clarksville-Montgomery County Corporate Business Park, the site contains 1,187 acres. It meets all the criteria established by McCallum Sweeney Consulting for megasite certification, including size, land availability, transportation access, and labor capacity.



<b>Clarksville/Montgomery County, TN - Site Characteristics<sup>23</sup></b>	
<b>Site/Building Name</b>	Commerce Park, Central Tennessee's Megasite
<b>Acreage Available</b>	1,187.00 Acres
<b>Infrastructure Information</b>	
<b>Zoning</b>	Industrial
<b>Foreign Trade Zone</b>	no
<b>Industrial Park</b>	yes
<b>Flood Plain</b>	0%
<b>Distance to Major Interstate</b>	4 miles
<b>Distance to Major Highway</b>	Adjacent
<b>Distance to Major Commercial Airport</b>	45 miles
<b>Distance to Port</b>	5 miles
<b>Rail Access</b>	feasible
<b>Rail Line</b>	R.J.Corman RR
<b>Utilities</b>	
<b>Electric Service</b>	yes
<b>Natural Gas Service</b>	no
<b>Sewer Service</b>	no
<b>Water Service</b>	no
<b>Additional Information</b>	
<b>All utilities are less than 1 mile away. Property is in direct vicinity of existing industrial area. Single Property owner.</b>	

<sup>23</sup> TVA

## **I-40 Advantage Auto Park – Haywood County, Tennessee**

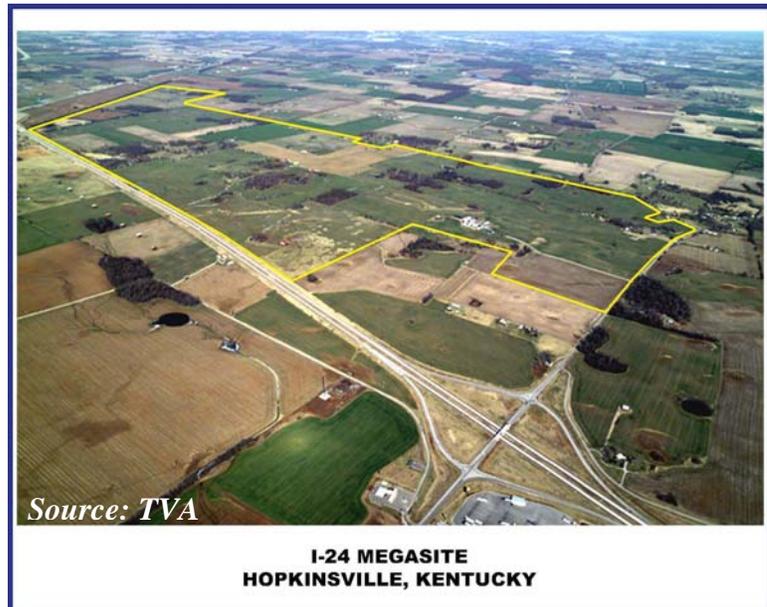
The I-40 Advantage Auto Park is located in Stanton, TN, north of Interstate 40, 20 minutes east of Memphis, near exit 42 in Haywood County. The core site contains 1,720 acres, and there are more than 5,000 acres under option, providing tremendous flexibility. The site is easily accessible from Memphis, Bartlett, Collierville, Germantown, Jackson, and other West Tennessee cities. It is bounded on the north by U.S. Highway 70/79 and the CSX Railroad and on the south by Interstate 40.



<b>Haywood County, TN - Site Characteristics</b>	
<b>Site/Building Name</b>	I-40 Advantage Auto Park
<b>Acreage Available</b>	1,720.00 Acres
<b>Infrastructure Information</b>	
<b>Foreign Trade Zone</b>	no
<b>Distance to Major Interstate</b>	Adjacent to I-40
<b>Distance to Major Highway</b>	Adjacent to US Highway 70/79
<b>Distance to Major Commercial Airport</b>	50 miles Memphis International Airport
<b>Distance to Port</b>	50 miles
<b>Rail Access</b>	yes
<b>Rail Line</b>	CSX Mainline
<b>Utilities</b>	
<b>Electric Service</b>	yes
<b>Natural Gas Service</b>	yes
<b>Sewer Service</b>	yes
<b>Water Service</b>	yes
<b>Additional Information</b>	
<p><b>Site has completed the McCallum Sweeney Automotive Mega Site Certification process. This site is adjacent to I-40 and CSX Mainline Railroad. Site is within 45 minutes of the Memphis International Airport, home to FedEx World Headquarters. The site is within 60 minutes of a population of over 1.7 million people (30 minutes east of Memphis, TN). Preliminary environmental and geotechnical work have been completed.</b></p>	

## **Hopkinsville, Kentucky**

The Hopkinsville-Christian County Megasite in Kentucky contains 2,100 acres of prime property in Hopkinsville, KY, along Interstate I-24. The site is located in the center of the U. S. automotive marketplace, which makes it ideally suited for automotive assembly plant operations.



<b>Hopkinsville, KY - Site Characteristics</b>	
<b>Site/Building Name</b>	Hopkinsville, KY
<b>Acreage Available</b>	2,100.00 Acres
<b>Infrastructure Information</b>	
<b>Foreign Trade Zone</b>	no
<b>Distance to Major Interstate</b>	Adjacent to I-24
<b>Distance to Major Highway</b>	Adjacent to 41A
<b>Distance to Major Commercial Airport</b>	55 miles Nashville International Airport
<b>Distance to Port</b>	10 miles
<b>Rail Access</b>	yes
<b>Rail Line</b>	CSX Railroad
<b>Utilities</b>	
<b>Electric Service</b>	yes
<b>Natural Gas Service</b>	yes
<b>Sewer Service</b>	yes
<b>Water Service</b>	yes
<b>Additional Information</b>	
The site is within 60 minutes of a population of nearly 1.0 million people. Preliminary environmental and geotechnical work have been completed.	

## **Limestone County, Alabama**

The Limestone County, Alabama, I-65 Megasite, is located in Athens, AL, on Interstate 65 at mile marker 346 near Athens in North Alabama. The property has 2,010 acres and meets all the criteria established by McCallum Sweeney Consulting for megasite certification, including size, land availability, transportation access, and labor capacity.



<b>Limestone County, AL - Site Characteristics</b>	
<b>Site/Building Name</b>	Limestone County I-65 Site
<b>Acreage Available</b>	2,010.00 Acres
<b>Telecommunications</b>	
<b>Distance to Major Interstate</b>	I-65, 6 miles
<b>Distance to Major Highway</b>	Hwy 72, 7 miles, Hwy 31 adjacent
<b>Distance to Major Commercial Airport</b>	14 miles
<b>Distance to Port</b>	6-10 miles
<b>Rail Access</b>	yes
<b>Rail Line</b>	Norfolk Southern
<b>Utilities</b>	
<b>Electric Service</b>	yes
<b>Natural Gas Service</b>	yes
<b>Natural Gas Line Size</b>	8
<b>Sewer Service</b>	yes
<b>Water Service</b>	yes
<b>Additional Information</b>	
<b>Possible dual serve rail site - CSX &amp; Norfolk Southern.</b>	

## 9.2.2 TVA Megsites Sold (as of 12/5/08)

### Golden Triangle – Columbus, MS

In 2004, TVA designated the Golden Triangle site in Columbus, MS as a certified megasite. The certification meant Columbus had its due diligence in hand regarding site soil analysis, environmental conditions, transportation and infrastructure development, and access to reliable sources of power<sup>24</sup>, all of which were specific criteria for SeverCorr, a steel manufacturer looking for sites to locate a new \$880 million steel mini-mill. The deal was finalized in 2005 upon approval by the Mississippi Governor of an incentive package that included \$85 million in state support, \$60 million in loans, and a \$25 million grant for infrastructure projects. Other contributing factors to the sale of the megasite included:



SeverCorr Steel Mill at Golden Triangle Megasite

- Sufficient available acreage
- Sufficient infrastructure including road upgrades and a four-lane connection to US Highway 82
- Contracts between the main-line railroad and the short-line railroad
- Easy access to both rail and Interstate truck routes for fast delivery to the southern US and northern Mexico
- ***Easy access to navigable waterway for inbound shipment of scrap metal and outbound shipment of finished product***
- Sufficient available workforce
- A location in the middle of the company's customer base

The 1.2 million square foot plant will produce 1.5 million tons of steel annually as it becomes fully operational, employ 450 workers at full production, provided for 2,000 jobs during its construction, and projections indicate an additional 1,000 jobs will come to the area in related industries.

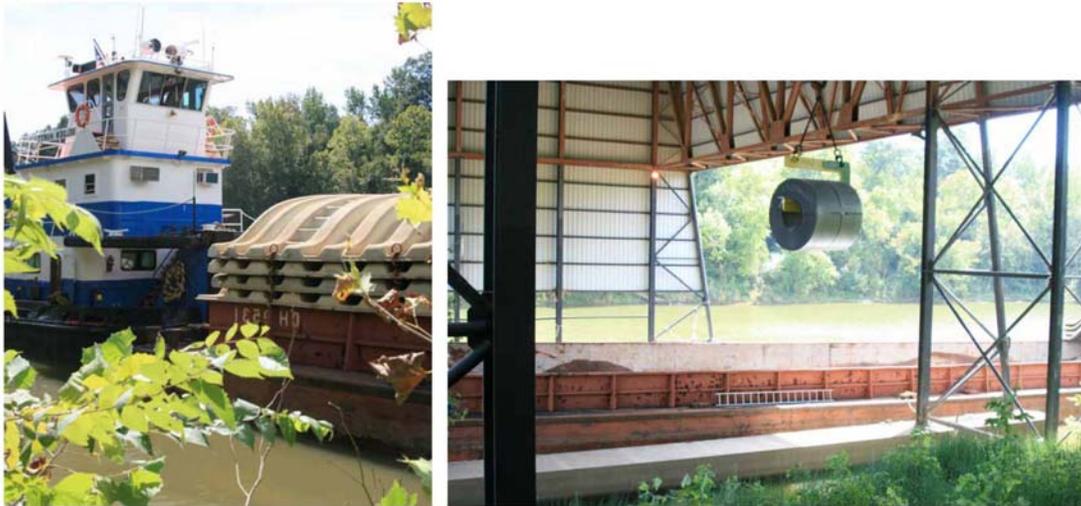
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<sup>24</sup> Trade & Industry Development

## **Waterway Impact to Sale**

One of the determining factors for the Golden Triangle Megasite sale to Severcorr was the *proximity to the Tennessee-Tombigbee Waterway*. As a steel manufacturer, Severcorr uses the waterway for inbound shipments of raw materials and for outbound shipments of its finished products (e.g., steel coils). The waterway was an important enough determining factor, that the Columbus Lowndes Development Link assisted with the development of a second barge terminal on the west bank of the Tenn-Tom Waterway to serve SeverCorr’s steel operation. SeverCorr currently has two terminals on contract, operated by Kinder Morgan. One of which was undergoing a \$12.8 million expansion during the summer of 2008, including construction of two 400-ton storage silos, 400 feet of railroad track and a 100,000-pound truck scale<sup>25</sup>. Once the expansion is complete, Kinder Morgan’s Amory port will receive carbon products necessary to produce steel by barge, rail and truck for use in SeverCorr’s Columbus mill. The manufacturer plans on producing automotive grade steel and becoming a prime supplier to the 19 auto plants that are located within a 450-mile radius around its northeast Mississippi location<sup>26</sup>.

**SeverCorr Ships First Coils by Barge**



SeverCorr shipped its first coils of steel via the Columbus Port and the Tenn-Tom Waterway recently. Seventeen rail cars transported 50 30-ton coils to the Lowndes County port where Logistic Services, the port’s cargo contractor, transferred the coils to a single barge operated by Parker Towing Company of Tuscaloosa, AL for the trip to customers in Houston, TX.

*Source: Tennessee-Tombigbee Waterway Development Council Newsletter, December 2007*

<sup>25</sup> Commercial Dispatch, “National Company Making Big Local Impact”, 2008

<sup>26</sup> SeverCorr Media Center, 2007

<b>Golden Triangle Columbus, MS – Site Characteristics</b>	
<b>Site/Building Name</b>	Lowndes County-Golden Triangle Megasite
<b>Acreage Available</b>	1,400.00 Acres
<b>Infrastructure Information</b>	
<b>Zoning</b>	Industrial
<b>Telecommunications</b>	
<b>Telecommunications</b>	Optic Fiber
<b>Distance to Major Interstate</b>	74 miles
<b>Distance to Major Highway</b>	5 miles
<b>Distance to Major Commercial Airport</b>	170 miles
<b>Distance to Port</b>	8 miles
<b>Rail Access</b>	yes
<b>Rail Line</b>	Kansas City Southern Railroad
<b>Utilities</b>	
<b>Electric Service</b>	yes
<b>Natural Gas Service</b>	yes
<b>Sewer Service</b>	yes
<b>Water Service</b>	yes

## **Crossroads – Columbus, MS**

When certification of the Crossroads site was announced in 2006, it became the second property in Lowndes County, MS to achieve that distinction (the first being the Golden Triangle Megasite). According to the Columbus-Lowndes Development Link (CLDL) in Columbus, MS, the Crossroads site was a strong candidate for certification from the start. The site had actually been marketed for years as a megasite by the State of Mississippi. It met all the minimum certification criteria, which included available acreage, close proximity to transportation-rail, highway and water-and close proximity to water, sewer, gas, and telecommunication lines.



Coordinated efforts by the CLDL along with a team of engineers, utility providers, the Mississippi and Alabama Departments of Transportation, the community college, rail service providers, and the Lowndes County Port Authority fulfilled the formalities of certification that included:

- Engineering work and cost estimates for all infrastructure improvements (e.g. execution and funding plans in place for utilities; cost estimates for system expansions, line extensions, water and sewer infrastructure)
- Environmental studies (e.g., completion of wetlands delineation)
- Determination of air permit requirements
- Completion of cultural survey
- Completion of geotechnical study

In addition, based on lessons-learned from the Golden Triangle Megasite certification process, Lowndes County approved the sale of bonds for economic development ventures to provide a vehicle to purchase the property in a matter of days.

Paccar, a heavy-duty truck design and manufacturing company, purchased the Crossroads Megasite in 2007 for development of a \$300 million engine manufacturing and assembly plant.

Other contributing factors to the sale of Crossroads to Paccar were:

- Sufficient available acreage
- Sufficient available infrastructure
- Proximity to company’s dealers, customers, and *strategic supplier partners*
- Availability of skilled, regional labor force
- Proximity to Center for Automotive Vehicular Systems program at Mississippi State University

The State of Mississippi also provided a state bond package totaling \$48.4 million, including \$23.9 million for on-site improvements such as roads, site preparation, fire service and water and wastewater extensions; and \$24.5 million for off-site infrastructure and training, including road improvements and a training center to complete the deal.

The facility will begin production in 2010 and create 500 new jobs.

**Waterway Impact to Sale**

Even though waterway access was not a direct requirement for Paccar in the site selection process, it proved to be an added bonus to the final sale. Located in close proximity to the Tennessee-Tombigbee Waterway, the waterway links with the Tennessee River in northeast Mississippi and connects to the Tombigbee River in west-central Alabama providing a direct route from Northern Mississippi to the major seaport in Mobile, Alabama providing a cost effective alternative for the company’s shipments of engine blocks and pistons from South America.

<b>Crossroads, Columbus, MS – Site Characteristics</b>	
<b>Site/Building Name</b>	Crossroads Mega Site
<b>Acreage Available</b>	1,800.00 Acres
<b>Infrastructure Information</b>	
<b>Zoning</b>	Industrial
<b>Industrial Park</b>	yes
<b>Distance to Major Interstate</b>	65 miles to I-22
<b>Distance to Major Highway</b>	2 miles to Hwy 82 - interstate quality
<b>Distance to Major Commercial Airport</b>	Adjacent to site - Golden Triangle Regional Airport
<b>Distance to Port</b>	8 miles to Columbus Port, direct access to Port of Mobile
<b>Rail Access</b>	yes
<b>Rail Line</b>	KCSR
<b>Utilities</b>	
<b>Electric Service</b>	yes
<b>Natural Gas Service</b>	yes
<b>Sewer Service</b>	yes
<b>Water Service</b>	yes

## **Blue Springs - Tupelo, Mississippi**

Efforts led by the Pontotoc Union Lee (PUL) Alliance, Mississippi Development Authority (MDA) and the TVA resulted in the 2005 certification of Blue Springs in Tupelo, Mississippi as the third certified TVA megasite. With 1,700 acres and full clearance of environmental, geological, wetland, and archaeological impediments to reinforce the site's ready to go characteristics, the site was purchased in 2007 by Toyota to build a \$1.3 billion, 2,000-employee Prius factory.



Other contributing factors to the sale of Blue Springs to Toyota were:

- Sufficient available acreage including securing land options with the site's original 21 landowners
- Sufficient available infrastructure
- Facilitation of dual rail service capability
- Availability of skilled, regional labor force
- PUL Alliance provided assurance of regional support eliminating worries of community rivalry

Special legislation was also passed to enable an incentive package totaling over \$293 million including state funds of \$136.6 million for public infrastructure, \$80 million for educational enhancement and \$67 million for site preparation.

In addition to numbers that showed a high manufacturing employment density in the Tupelo region, seeing the area's workers perform in other plants was a true turning point for the Toyota purchase.<sup>27</sup>

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<sup>27</sup> Site Selection Magazine, 2007

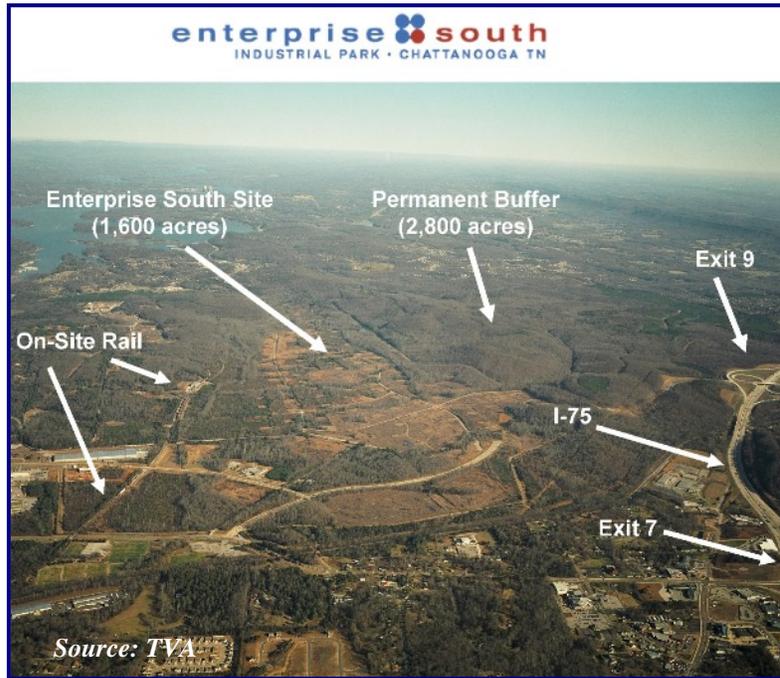
**Waterways Impact to Sale**

The auto industry is one of the manufacturing segments that have extensively integrated just-in-time inventory techniques. Aimed at improving efficiency, just-in-time manufacturing reduces the need for extensive warehousing of manufacturing components because parts and components are delivered to the production line just hours before assembly. Toyota’s suppliers rely almost exclusively on rail or truck transport, but barge shipments on the Tenn-Tom have become more important for auto-related industry manufacturers needing to move heavy, bulky tonnage like scrap metal, ores, and basic materials such as steel and aluminum. The final delivery to the auto plant may be by truck from a local warehouse or distribution center, but items such as steel have likely incorporated waterway transportation into their logistics supply chain to lower transportation costs associated with production and delivery to the “just-in-time” materials staging location. Thus, waterways are a factor in contributing to the overall economic environment that makes an area attractive for auto manufacturers.

<b>Tupelo, MS Site Characteristics</b>	
<b>Site Name</b>	Blue Springs
<b>Acreage Available</b>	1,700.00 Acres
<b>Infrastructure Information</b>	
<b>Foreign Trade Zone</b>	yes
<b>Industrial Park</b>	yes
<b>Telecommunications</b>	
<b>Distance to Major Interstate</b>	Adjacent to I-22 (US 78)
<b>Distance to Major Highway</b>	Adjacent to I-22 (US 78)
<b>Distance to Major Commercial Airport</b>	76 Miles to Memphis International Airport
<b>Distance to Port</b>	25 Miles to Port Itawamba
<b>Rail Access</b>	yes
<b>Rail Line</b>	Burlington Northern Santa Fe, Mississippi Tennessee Railroad
<b>Utilities</b>	
<b>Electric Service</b>	yes
<b>Natural Gas Service</b>	yes
<b>Sewer Service</b>	yes
<b>Water Service</b>	yes

## **Enterprise South Industrial Park - Chattanooga, Tennessee**

The Enterprise South megasite is located 12 miles north of downtown Chattanooga and is adjacent to I-75. Purchased in 2008 by Volkswagen Group of America, Inc., the megasite is the fourth to sell since the inception of TVA's program. Volkswagen plans to build a \$1 billion automotive production facility and begin operations in 2011. The new plant will bring about 2,000 direct jobs to the area and will add a significant number of jobs in related sectors.



### **Waterway Impact to Sale**

According to the Chattanooga Chamber of Commerce, Volkswagen's focus is on environmentally responsible manufacturing and sustainable mobility that is highly conducive to waterborne transportation. While not directly on the river, the site is accessible to barge transportation through nearby ports on the Tennessee River. Studies published by TVA have shown that where waterways transportation is available, transportation costs for rail and truck are comparably lower as well. "Water-compelled freight rates" result in lower costs for raw materials such as steel and aluminum. This creates an economic environment that is attractive to automakers. Even though the auto manufacturer itself does not use water transportation, the steel delivered to the auto plant by truck from a local storage or distribution center may have made its longer journey from the steel mill to the local area by waterborne transportation.

<b>Chattanooga, TN - Site Characteristics</b>	
<b>Site/Building Name</b>	Enterprise South Industrial Park
<b>Acreage Available</b>	1,600 Acres
<b>Infrastructure Information</b>	
<b>Zoning</b>	M-1
<b>Industrial Park</b>	yes
<b>Distance to Major Interstate</b>	1 mile to I-75
<b>Distance to Major Highway</b>	1 mile to US11
<b>Distance to Major Commercial Airport</b>	3.4 miles to Chattanooga Metropolitan
<b>Distance to Port</b>	369 miles
<b>Rail Access</b>	yes
<b>Rail Line</b>	Norfolk Southern Corporation
<b>Utilities</b>	
<b>Electric Service</b>	yes
<b>Natural Gas Service</b>	yes
<b>Sewer Service</b>	yes
<b>Water Service</b>	yes

### **9.3 How the Waterways Could Impact the Sale or Success of Megasites**

With the automobile sector continuing to be America’s largest manufacturing industry<sup>28</sup>, TVA megasites were conceived primarily to attract large automotive manufacturers that historically enhanced local economic factors. Since automotive plants employ the Just-in-Time System--whereby every component in the manufacturing system arrives just in time for it to be used--automotive manufacturers rely mainly on truck transportation and an excellent highway system to reduce order cycle times and inventory costs and to keep materials and components arriving only when needed. Because of this system and the reliance on truck transportation, auto manufacturers do not necessarily seek location sites located on or near a navigable waterway.

The availability of barge transportation, however, lowers the cost of steel, aluminum, fuels and other raw materials, as well as electrical power. Much of the coal delivered to TVA power plants arrives by barge, and that which arrives by rail takes advantage of the water-compelled freight rates described earlier. Waterways transportation is a quiet, but very important, contributor to the attractiveness of a region.

#### **Other Industrial Prospects**

Waterways could also enhance the salability of the megasites to other large industrial prospects that prefer cost-effective waterborne transportation. The SeverCorr purchase of the Golden Triangle Megasite provides an example of a large non-automotive company that required waterway access for its operations in addition to the standard megasite criterion. SeverCorr plans to supply automotive grade steel to auto plants located within a 400 to 450 mile radius of the new plant. 19 of the South’s 25 auto plants reside within that radius providing SeverCorr with the ability to be a prime supplier to these carmakers. Utilizing a private and public terminal facility on the Tenn-Tom to import its raw materials provides the steel manufacturer a low cost transportation alternative. Other large industrial facilities such as chemical companies, paper and pulp, steel processors, and heavy manufacturers have chosen locations along waterways to take full advantage of these cost savings. The megasites still available for purchase in Hopkinsville, KY, Clarksville, TN, and Limestone County, AL all have barge access within ten miles of their locations. The Haywood, TN megasite is also within 50 miles of the International Port of Memphis. Each of these sites have access to river ports in 21 states and ocean ports in Houston, New Orleans, and Mobile through an inland waterway connection via the Tennessee, Cumberland, and Mississippi Rivers. This waterway accessibility enhances the marketability of these sites to industries that might seek the amenities megasites offer, but only if barge transportation is readily accessible. These other industrial prospects might provide a new market opportunity for the megasites.

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<sup>28</sup> “The Meaning of Megasites”, Donna Clapp, 2007

## **The Auto Industry**

Even though the auto industry does not typically require access to water transportation at their manufacturing facilities, often the raw materials to produce the auto will initially move by barge. In order for steel manufacturers to provide competitive pricing, locations near water transportation are sought to provide lower pricing structures. Ideally, these suppliers also prefer to locate their operations near the auto plants to provide for just-in-time delivery. Providing a megasite location with nearby waterway access can attract the auto manufacturer's suppliers to locate their operations near the auto plants to provide for just-in-time delivery. This attraction of related industries establishes a new business cluster that diversifies the region's economy with industries that favor the waterways for their transportation means.

Another factor that could aide in the success of the auto industry locating near the waterways is the practice of steel manufacturers pooling their customers for their delivery needs. Since the auto industry uses the just-in-time system, a plant may purchase smaller quantities from a Tier 1 supplier who delivers directly to the auto plant; e.g., the purchase of one steel coil at a time, delivered typically by truck to the auto manufacturer. Depending on where this Tier 1 supplier is located, the cost to purchase that steel coil will obviously increase with the distance it has to be trucked. It is not uncommon for steel used in an auto plant to be manufactured in, for example, Ohio. This long haul shipment would prove to be very costly for trucking individual coils because of the shipping costs. To lower this cost, the steel company can pool its customer's orders, transport a barge load of steel coils to a warehousing/steel processing facility located on a navigable river near this cluster of customers. The coils are then shipped short distances by truck from the warehouse as the customer needs them. Even with the added cost of warehousing, the cost savings realized by the initial barge transportation still provides a far less expensive alternative to having that one steel coil transported solely by truck. This method benefits companies, such as auto manufacturers, that don't utilize enough steel for a barge shipment, but can still enjoy the transportation savings this mode offers. It does however also require a port facility that has these capabilities located near a megasite location.

The new Volkswagen facility in Chattanooga, once operational, could benefit from this type of customer pooling. Located on the Tennessee River near the Volkswagen site, is JIT Steel Service (JIT) who is a full service warehouse, processing and distribution facility for flat rolled steel. Non-local steel manufacturers, with customers in the Chattanooga vicinity, could ship a barge load of steel coils to JIT. JIT, and other area steel processors, then have the ability to store these large steel coils, customize orders through steel processing and provide smaller quantity orders to customers such as Volkswagen. This type of operation caters to end users such as the auto industry who use the just-in-time delivery system. All parties involved in this type of transaction benefit from the cost savings that barge transportation offers.

## **9.4 Conclusion**

With impending highway congestion concerns facing Tennessee and public sensitivity to fuel costs, policy makers should be looking at ways to better utilize the state's waterways. Waterways that provide inexpensive barge rates and available water transportation attract industries such as Severcorr, and could provide transportation cost savings implications to

atypical waterway users such as the auto industry. The Mississippi megasites will create many new jobs not just for the industries that purchased them, but also for all the supporting industries that could follow. Waterways can carry an increasingly larger share of the two-fold increase in trade predicted for the U.S. by the end of the next decade<sup>29</sup>. Much of this new business will be shipments not currently typical for barges, such as higher value products and containerized cargo. Containers-on-barge and movement of automobiles, farm equipment, and other manufactured products are now commonplace on European waterways and may become common practice in the U.S. as well.

TVA's megasite certification program has experienced successful outcomes with the sale of four of its eight locations, but other opportunities may exist to further impact this success. Waterborne transport works well with all modes of transportation adding sustainability to multimodal supply chains. It benefits the communities surrounding the megasites that experience growth from the establishment of these large industries and their supporting partners through reduced congestion, reduced exhaust emissions and damage to the environment, and less wear and tear on the roadway system. It supports these industries as a major participant in the integrated physical distribution of their freight and it provides potential buyers a site with true multimodal capabilities that can make U.S. businesses located on these megasites even more competitive in the global economy.

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<sup>29</sup> USDOT, Freight Analysis Framework

**APPENDIX**

**STAKEHOLDER MEETINGS –  
COMMENTS FROM  
STAKEHOLDERS**

**Meeting Locations**



Chattanooga



Memphis



Nashville

**ORGANIZATIONAL STRUCTURE COMMENTS**

Committer	Remarks
<b>Government:</b>	Use the expertise of the port/waterway reps on each of the Rural Planning Organizations.
	Formal organization at state level working with local MPOs to develop transportation plans using all modes.
	WV structure effective, but resource intensive.
	State contact for port locations/information/studies etc. "Clearing House."
	Needs to be a specific state organization/agency with responsibility for waterways and with authority and funding to evaluate waterway system and integrate into state transportation system.
	Designate a state waterway point of contact to work with MPO, RPO and Port Authority.
	Create Review Committee for state projects requesting funding.
	Create state organization to promote and support existing ports and terminal.
	Organization created is not lost in shuffle? Not seen as funding threat to TDOT. Create state advisory committee with members from different regions of state (west/middle/east).
	Need State Level Port Authority to guide local governments. They (State Port Authority) could own and operate local ports - produce state revenue.
	Department within TDOT would allow TDOT to coordinate all modal trans activities.
	There should be a dedicated section within TDOT to oversee Waterway Transportation Programs. Advisory Board could be beneficial.
	Designated individuals in DOT devoted to waterway industry. State-level port authority.
	State Port Authority should be considered.
	Needs: State Port Authority.
	This office could also help with studies re: construction and navigation maintenance needs in TN, for use in obtaining federal funds.
	Current TCA give port authority very broad range of authority. This causes County Commissions to hesitate to form a Port Authority. A State Port Authority could improve supervision and oversight of local port authorities and guide policies.

<b>ORGANIZATIONAL STRUCTURE COMMENTS</b>	
<b>Commenter</b>	<b>Remarks</b>
<b>Shippers and Carriers:</b>	Full-time waterway person in TDOT.
	Absolutely. The role should include coordination with industry, General Assembly, Gov.'s office, Congress, Corps, etc. Person should be knowledgeable on the issues and available to help promote TN's waterways, etc.
	Knowledgeable person in DOT would be helpful if based on marketing TN advantages using waterways transportation - marketing is vital.
	Formal organizational structure: have a "czar" of inland waterways. Responsible for flood control, recreational, navigation issues with the river system. "Czar" would report to TDOT director, respond and react to federal mandates quicker. TN has other issues with TDOT. He/she could easily work with other modes to create synergies.
	Important to have the expertise within TN to promote TN.
	TN should have an organization to improve travel time of barges and to help with alternate plans of travel when there are issues with the level of the River.
	State of TN should have someone solely focused on waterways.
	Expertise to promote this mode.
	Need to understand legislation and compliance issues that face this mode.
	An office within TDOT that has significant overlap with state economic development office, Gov.'s office, General Assembly, etc. The "go to" office for all things "waterways." <ul style="list-style-type: none"> <li>• Technical expertise</li> <li>• Marketing</li> <li>• Governmental Affairs</li> <li>• Advocates within TDOT for advancing waterway image</li> </ul>
	Support formation of a waterway commission as a part of state government to help fund government on the waterways.
<b>General Purpose Terminals:</b>	State advisory board to develop policy for TDOT implementation. Dedicated TDOT personnel for policy implementation and other assistance to ports and other waterway users.

<b>FINANCIAL ASSISTANCE COMMENTS</b>	
<b>Commenter</b>	<b>Remarks</b>
<b>Government:</b>	Need financial incentive program, competitive transportation grant program
	A grant program similar to the one provided by the TN Aeronautics Commission for Capital Improvement
	WV state-funded state-conducted developments
	Assess traffic flows to determine the need to develop waterways land side infrastructure. Ask - why don't you ship by waterway? What do you need to make the shift?
	How does TDOT identify local port authorities that are inactive and provide them with assistance?
	State should provide matching funds for such items as planning studies or dredging requirements. Often, federal funds are available for such work, but the local government can't provide the required match.
	Grants should be made available to local governments for local studies and assessments of waterways.
	Create a formula base allocation based on tonnage for state. Research legislation on existing funding sources and enforce.
	Grant funding for industry maintenance assistance.
	Support port projects at federal level.
	Support (financial, other) to local interests (port authorities, cities, etc.) for facility maintenance, planning, etc.
	Incentives to local firms/businesses; particularly small business to get involved in river commerce.
	Must find funding to assist in construction of new facilities, upgrading and maintenance of existing ports
	Financial assistance must be made available if government operated ports are to be created and survive. Start-up and capital improvements funding seems to be critical.
	Financial assistance is greatly needed at the local government level for assessment, planning and development. State Grants based on needs assessment.
	Financial Assistance with needs assessment research
	Tax incentives might encourage more development of ports.
	Infrastructure assistance is imperative to future success of increasing port development and activity.

<b>FINANCIAL ASSISTANCE COMMENTS</b>	
<b>Commenter</b>	<b>Remarks</b>
<b>Shippers and Carriers:</b>	Create some incentive for shippers to move cargos traditionally moved via truck on the waterways. Tax breaks, tax credits, etc. Provide relief to invest in Infrastructure to handle containers via barge to rail/truck.
	Grants for in-state projects like bridge replacements/upgrades; lock improvements; dredging
	Against financial assistance to public ports competing with private ports - say within 50 river or straight line miles. Financial assistance, if any, should be available to all ports or only isolated public ports.
	Incentives for river shipping. It saves the roads and decreases rail congestion.
	There should be some sort of state funding program to help with the dredging of channels on the river.
	Matching funds or grant money for helping industry for maintenance dredging.
	There seems to be a lot of "buzz" about ozone and climate change. This concerns manufacturing industries in TN. Funding from federal and state sources may be readily available to develop a more efficient rail and waterways shipping industry. The positive environmental impacts will certainly play a large role in obtaining funding for these programs.
(None)	
<b>General Purpose Terminals:</b>	Incentives for new port development from design help to financial assistance
	Incentives for river shipping over road shipping. Tax breaks to river shippers.
	(None)
	Recently, Congress authorized incentives for coastal short sea shipping initiatives - the state can work with Congressional delegation to expand SSS to cover inland waterways - same purpose, to relieve congestion on highways.
	Grant/Loan funding for capital improvements and other improvements to assist in terminal construction at public ports.

<b>TECHNICAL ASSISTANCE COMMENTS</b>	
<b>Commenter</b>	<b>Remarks</b>
<b>Government:</b>	TDOT should utilize the results of the Waterways Assessment to create a Technical Assistance program to address identified needs and provide advocacy at local, state and federal levels.
	Expand/shift view from truck traffic to other modes including waterways. Work directly with MPO to plan future uses of waterways and ports (public and private).
	Do your research before you try to do marketing.
	Examine origin/destination flows in the state by mode. Look at clusters of movements as candidates for brokering or infrastructure improvements - with the goal of shifting some movements to rail or water.
	Use the expertise in the Universities throughout TN - Univ. of Memphis, Univ. of Tenn., Vanderbilt - to provide technical assistance.
	Encourage greater utilization of waterway transport.
	Lack of recognition on importance of this mode
	Provide justification studies to invest in this mode
	Encourage industries to explore opportunities to shift to waterway transportation. Provide them info. and tech. assistance they need to make decisions. Educate industries on the benefits of waterway transportation - potential savings to ship by barge, reduction in highway congestion, reduction in environmental concerns, etc.
	Technical Assistance with Phase II. Needs assessment research.
	Environmental impact studies are too expensive for local/small ports. This is something TDOT could help do.
	Assistance for feasibility assessments, especially to local governments.

<b>TECHNICAL ASSISTANCE COMMENTS</b>	
<b>Commenter</b>	<b>Remarks</b>
<b>Shippers and Carriers:</b>	State-funded studies predicting waterways trends would be helpful. Is a certain cargo segment forecast to increase or decrease? Coal? Limestone? Containers? Steel? Imports? Exports?
	"Iowa DOT chart" is a great tool - similar docs issued by TN agencies would add ports credibility to efforts in the state to promote this waterways system. Also, monitor market conditions, economic development opportunities, etc.
	(None)
	Technical Assistance - This is a critical need. TN is at a competition disadvantage vis-à-vis other states which have taken a more proactive approach. Nonetheless, it would be important for this office to be a partner with other states to foster increasing waterway usage etc. nationwide. This office could also help with studies re: construction and navigation maintenance needs in TN, for use in obtaining federal funds.  Perhaps such state legislation requiring economic or impact analyses by state agencies to also consider waterway impacts etc.
<b>General Purpose Terminals:</b>	(None)
	(None)
	Technical Assistance - develop key shipping data, trends, etc. to assist in business development.

<b>MARKETING ASSISTANCE COMMENTS</b>	
<b>Commenter</b>	<b>Remarks</b>
<b>Government:</b>	TDOT website could contain port/waterways page at their website
	Assist existing ports in marketing effort. Create state marketing effort for municipal ports.
	The waterways should be marketed as efficient and environmentally friendly.
	Provide education to government municipalities on importance of waterways.
	Immediate marketing support on Internet.
	TDOT website. Educate industries and general public about benefits of waterway transportation.
	TN Needs: develop state website to market waterway transportation industry. State marketing grants. Assistance from state to coordinate TN waterway marketing plan (with business and industry in moving goods).
	Recreational uses of TN waterways needs to be marketed as well. Not just the Big waterways.
	Promotion - marketing grants website
	Provide training programs for local governments on marketing facilities. Grants for marketing always welcomed.
<b>Shippers and Carriers:</b>	Pro Marketing - anything is a great help. Websites - industrial development. Public awareness of marine transport advantages.
	Have a comprehensive website that shows all ports and relative hwy's, interstates, RR. Target shippers. They need to realize the multimodal opportunities to get their cargo where it needs to go.
	State grant for the marketing/website for the benefits of river transportation.
	There should be more assistance in marketing existing ports to fill capacity to be able to determine if more ports are needed.
	Marketing Assistance: Promote TN's waterways' central role in the nation's inland waterway system. Find ways to encourage state agencies, businesses, etc. to use waterways.

<b>MARKETING ASSISTANCE COMMENTS</b>	
<b>Commenter</b>	<b>Remarks</b>
<b>General Purpose Terminals:</b>	Marketing - create interactive website to connect shippers with customers. Let manufacturers post shipping needs and receive quotes from ports and barge companies.
	(None)
	Promote rail and water - host transportation conference (annually) to help promote - speakers, workshops, getting all transportation modes together with industry/economy leaders.
	Marketing - TDOT personnel to market TN waterways through appropriate means. Liaison with public ports to market to shippers, logistic companies, deep water ports and other partners. Statewide marketing initiative.
	Marketing assistance for public ports.

<b>POLICY COMMENTS</b>	
<b>Commenter</b>	<b>Remarks</b>
<b>Government:</b>	The TN General Assembly needs to be educated on issues/opportunities facing port/waterway planners and providers. This could be accomplished through the Joint Transportation Committee. TDOT policy to allow construction of Port Access similar to State Industrial Access (SIA) program.
	Land use policies very important. May need state policy on O&M.
	Question - are there any regulations that require overweight over-dimensional cargo to use water transportation when this is appropriate?
	Policies revised to encourage waterway transportation. Incentives.
	Look at regulations concerning gas tax
	Still water harbor improvements to encourage environmental improvements and reduce congestion of other surface transport.
	Future funding source for waterways transportation.
	There are viable options other than truck to ship freight. Construct new intermodal facilities.
	Corps of Engineers currently backlogged and progress of development moves extremely slow. Ports should provide a revenue source for state/local governments. Rail and road improvements to ports should be incentivized at state level.
	TN Rural Transportation Plan Org needs to be consulted/involved.
<b>Shippers and Carriers:</b>	In Chattanooga CSX's access to rivers is very limited even though CSX has facilities in Chattanooga. Encourage intermodal connection barge/rail with CSX similar to barge/rail connection with Norfolk Southern.
	State office in DC does regular and aggressive outreach to Congressmen and Senators on key waterway issues 1. TWIC 2. User fees (IWTF) 3. Vessel Personnel Shortage (need an inland maritime academy) 4. Funding for dredging ports
	State should provide tax credits to waterway industry since they will provide transportation without spending tax dollars for roads, etc.
	Repeal tax on tows passing through state
	TN freight policy to encourage use of the state's waterways, and to be used by state agencies, including TDOT, when making decisions about projects, regulations, etc.

<b>POLICY COMMENTS</b>	
<b>Commenter</b>	<b>Remarks</b>
<b>General Purpose Terminals:</b>	(None)
	(None)
	Promote tax policy and other state regulatory initiatives that enhance competitive position of waterway related industry.
	Maintain/expand support of short-line railroads - Tennessee Southern provides excellent rail service south of Nashville and offers businesses connections with the country through CSX link and global economy through the Port of Florence and the inland waterway system.

<b>OTHER COMMENTS</b>	
<b>Commenter</b>	<b>Remarks</b>
<b>Government:</b>	(None)
	Congestion statistics should concern all transportation professionals
	Improve response time from environmental review.
	The City of Memphis is in the process of building a \$27 million passenger riverboat docking facility. I think the state waterways program needs to recognize a passenger component.
	Steps need to be taken to ensure that ports/waterways are able to carry a greater share of freight
	Encourage utilization of existing ports as well as development of new facilities
	Corps of Engineers would need increased staff to improve timeframe for construction of ports unless state could take on some of work.
	Opportunities to ease truck traffic on highways. Relief for air quality. Potential reduction in traffic accidents. Tennessee should move in this direction.
<b>Shippers and Carriers:</b>	(None)
	1. Is there enough capacity at docks in Memphis area to handle business? 2. Limited amount of tow companies in the Memphis area.
	Widen mouth of McKellar Lake so tows can transfer barges inside lake instead of shifting tows on Mississippi River.
	State should be more engaged with corps to understand waterway needs - attend and note comments during MRC's (Mississippi River Commission's) low- and high-water tours
	Infrastructure: is TDOT aware of the issues with the Waterways Trust Fund? <ul style="list-style-type: none"> <li>• Issues at Olmstead L&amp;D</li> <li>• Issues at KY lock</li> </ul>
	TDOT: are you aware of the pending investments towboat operators must complete to meet compliance and regulation issues?
	TDOT: <ul style="list-style-type: none"> <li>• Is any employee a member of the Inland Ports and Terminals group?</li> <li>• Is any employee a member of Waterways Council?</li> <li>• Is any employee a member of American Waterways Operators?</li> <li>• Is any employee a member of Tenn-Tombigbee Waterways Development Association?</li> </ul>

<b>OTHER COMMENTS</b>	
<b>Commenter</b>	<b>Remarks</b>
	Compliance and regulation issues for barge/towboat operators present a difficult operational future. The state DOTs must become politically involved, not just supporters of economic activity. Economic activity for the river systems will suffer under many of the legislative initiatives that operators face moving forward.
	Meet with shippers/ports to understand their issues
	Can TDOT do more to encourage the use of waterways by, for example, using construction materials shipped via waterways?
<b>General Purpose Terminals:</b>	(None)
	<ol style="list-style-type: none"> <li>1. Ancillary shipping costs                             <ul style="list-style-type: none"> <li>• Truck to shipping port</li> <li>• Transfer at port</li> <li>• Unload at receiving port</li> <li>• Truck to consignee</li> </ul> </li> <li>2. Future of container movement by barge</li> <li>3. Port development and construction environmental constraints</li> </ol>
	Importance of a multi-modal transportation system optimizing TN rail, road, and water resources in support of economic development. Latest EPA rulings to reduce pollution - can help meet standards/improve environment by diverting truck traffic to rail and water.