

Clarksville-Montgomery County

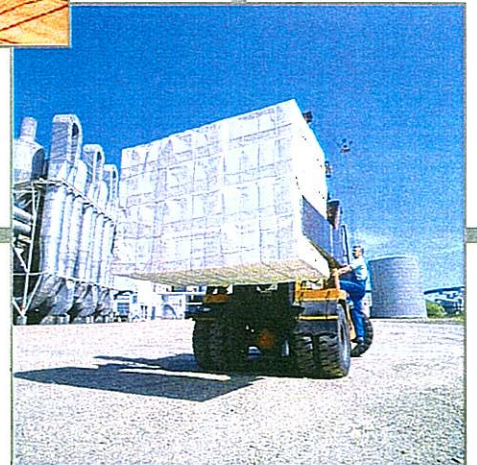
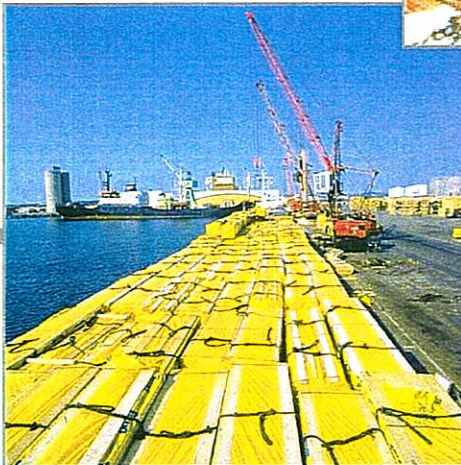
Intermodal Port Development Project

Port Issues and Market Potential

Prepared for:
The Clarksville-Montgomery County
Regional Planning Commission

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June 1999



Executive Summary

Based on local surveys and our independent analysis we believe development of a public-use port in the Clarksville-Montgomery area to be feasible. Because, private sector interests in water transport facilities are strong and diverse. In addition, the regional economy continues to grow and would benefit from public access to water cargo transportation. Indeed, such diversification of transportation facilities coincides with the APSU/EDC Data Center findings that suggest the utilization of the Cumberland River to promote the region's commercial development.

Study findings have identified an order-of-magnitude estimate of annual cargo tonnage that ranges between a conservative 300,000 tons to 1.5 million tons. Based on the conservative volumes, annual-operating revenues could range between \$800,000 to \$2.4 million. From an operating standpoint this translates as shipping volume in the range of 4 to 20 barges per week.

Private business interests speculate that an additional 3.5 million annual tons could be attracted to the port via a single major shipper, this would increase revenues significantly (i.e. possibly over \$10 million) resulting in total weekly barge traffic of 70 plus.

Numerous communities currently benefit from small public-use river ports that handle similar cargo volumes (i.e. 300,000-1.5 million tons). Some of these communities have issued Government Obligation (GO) bonds in the range of \$5.0 million to begin development of their port facilities. Other communities have secured EDA funding and Corps of Engineers assistance for the development of port facilities similar to those anticipated for the Clarksville-Montgomery area.

Regarding development of a port, we recommend some form of cooperation with the private sector if at all possible, due to the high level of private-sector interest in port development. Similar to the way airports operate, this could involve development through a Port Authority with private lease arrangements for maintenance and operation. However, private sector concerns contacted in this study indicated that timing is a major concern, with a preference for development as quickly as possible.

A primary purpose of most public ports is hinterland economic development through access to efficient, low-cost river transportation. For this reason the direct financial benefits of port operation over the long term may actually be less important than the economic growth that is spurred or enabled because of port access.

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Section 1 – Introduction / Background

In recent years several private businesses and developers have expressed interest in using and/or developing a public-use port in Clarksville, Tennessee. Indeed, the Army Corp of Engineers has issued permits to three private concerns interested in building a public-use port. These private concerns wish to use the port for their business needs. To offset the high cost of constructing and operating a port, they have explored the possibility of opening the facility to the general public through discussions with other business people in the area. However, the private entities realize that the development of several ports in the Clarksville area could result in an oversupply of port infrastructure, while land along the river large enough for a port is limited.

As local business interests considered the possibility of different inland river, public-use ports the issue was raised on whether or not the City of Clarksville and/or Montgomery County should be involved, and if so, how. As public concern regarding prospective port locations rose, the Clarksville-Montgomery County Regional Planning Commission (Commission) decided to sponsor a study to ascertain whether or not the city/county should support a public-use port. In addition, the City/County sought information regarding:

- What level and type of tonnage would move through the port;
- What type of storage and land would be required;
- Where such a port should be located;
- Who should own it and operate it;
- How much federal and/or state funding is available; and
- What type of city/county financial support would be required.

1.1 Paper Purpose, Goals and Objectives

This paper is the first part of a two-part study concerning the feasibility of an Intermodal Port Development Project in Clarksville, TN.

Purpose – The overall project purpose is to determine the general feasibility of building a public-use port in the Clarksville-Montgomery County region based on a comparison of anticipated cargo tonnage and potential site locations.

Goals – The overall goal of this feasibility study is to identify anticipated port use by cargo type and to generate order-of-magnitude cargo tonnage estimates. Specifically, this includes identification of general port issues, local economic growth, specific area business needs, market potential of a proposed port facility, various roles for the port,

intermodal/rail access issues, and input of various stakeholders in the overall port feasibility process.

This was accomplished through analysis of current inland-river cargo tonnage on the Mississippi River System (including the Cumberland River), surveys of existing businesses, and discussions with local public officials, business leaders, and other community members

Objective – While generating order-of-magnitude cargo forecasts, the first part of this study sought to provide the Commission with:

- An overall understanding of the inland-river transport industry;
- How it relates to economic growth in a local community; and
- The different roles the public sector (i.e. The City of Clarksville and Montgomery County) can play in the development of a public port.

The underlying objective is to provide the Commission with the necessary tools to make informed decisions on how the City and County should approach the complexities of the development and operation of a public-use port.

Paper Outline – The remainder of Section 1 discusses the local economy, its challenges and its existing advantages. Section 2 provides background discussion on the inland water transport industry. Section 3 examines the potential of the Clarksville-Montgomery County area to support and use the port.

1.2 Local Economy

Montgomery County lies in the northwest quadrant of Middle Tennessee on the Kentucky-Tennessee border. Clarksville, the county seat of Montgomery County, is approximately 50 miles northwest of Nashville. This area is characterized by rolling terrain and fertile farmland. Weaving its way through this scenic county is the Cumberland River, a navigable waterway and tributary of the Ohio River. This section summarizes recent Montgomery County growth trends in population, employment, and economic structure.

Population - In 1998 an estimated 5.4 million people lived in Tennessee's 95 counties, while over 126,000 (2.3% of the state total) lived in Montgomery county. The rate of growth from the years 1990 to 1998 for the State of Tennessee was 0.78% while the growth rate for Montgomery County over the same period was significantly higher (2.73%). Currently, Montgomery County ranks as the seventh highest in total population

for 1998 (126,600), and is the third highest in average annual rate of growth between the years 1990 and 1998, as shown in **Exhibit 1**.

Exhibit 1 TENNESSEE POPULATION TRENDS (Sorted from high to low - 1998)			
Top 10 Counties	1990	1998	1990-98/1
Shelby	827,900	872,600	0.60%
Davidson	511,200	536,500	0.55%
Knox	336,600	370,400	1.12%
Hamilton	285,600	297,000	0.44%
Rutherford	119,700	163,600	4.08%
Sullivan	143,800	151,100	0.56%
Montgomery	101,600	126,600	2.73%
Sumner	103,700	124,400	2.22%
Williamson	81,800	114,900	4.50%
Washington	92,600	102,700	1.21%
Total Pop. 10 Counties	2,604,500	2,859,800	1.09%
Total Pop. Other 85 Counties	2,286,000	2,375,900	0.44%
Total State Population	4,890,500	5,235,700	0.78%
/1 Average annual rate of growth			
Source: Woods & Pool, Wilbur Smith Associates			

Employment - The total employment for Tennessee in 1998 was estimated to be over 3.3 million persons, while Montgomery County's employment level was estimated to be over 50,000 representing 1.5% of the total for the entire state. Employment by industry sector for Montgomery County is broken down in **Exhibit 2**. The Industries with the highest employment are the services and retail trade sectors with 11,810 (23.6%) and 11,610 (23.2%) respectively, while mining represent the lowest employment with only 40 (0.1%) persons employed.

Economic Structure - A study published in March of 1999, for the Clarksville/Montgomery County Economic Development Council, identifies market forces and how well the community (Clarksville-Montgomery County area) is positioned for future growth and development¹. The following discussion of the study's suggests the three major influences on the Clarksville-Montgomery County economic structure:

- The reliance and/or dominance of the military on the local economy
- The lower than average educational attainment
- The slow progress in attracting higher paying, higher technology jobs

¹ "A Competitive Assessment of the Clarksville-Hopkinsville Metropolitan Area", March 1999.

Exhibit 2
TOTAL EMPLOYMENT for MONTGOMERY COUNTY - 1998

Industry Sector	Number	Percent
Farm	1,140	2.3%
Ag., Forestry & Fishes	440	0.9%
Mining	40	0.1%
Construction	3,640	7.3%
Manufacturing	6,560	13.1%
Trans. Comm. & Utilities	1,250	2.5%
Wholesale Trade	1,150	2.3%
Retail Trade	11,610	23.2%
Finance Ins. & Real Estate	3,820	7.6%
Services	11,810	23.6%
Government/1	8,650	17.3%
 Total Montgomery County	 50,100	 100.0%
Total State of Tennessee	3,341,300	N/A

/1 Includes federal civilian, federal military, and st. and local governments

Source: Woods & Pool, Wilbur Smith Associates

During the early eighties (1980-82) the country was embroiled in economic recession. Many manufacturing jobs were lost, which were replaced by lower paying, lower technology-oriented service sector jobs demanded by the growing military base.

Although the Clarksville-Montgomery County workforce is relatively well trained with a high school education, the number of persons attaining baccalaureate degrees is low compared to like communities across the U.S.² Study findings suggest that the relatively "under-educated" workforce may be due to the presence of the military and its demand for lower paying service sector jobs that do not require college degrees. For this reason local community leaders seek to attract higher paying, higher technology jobs to the area and to establish a local economy that is more competitive against other like-communities, as well as internationally.

To do so the study suggests the following existing advantages in the Clarksville-Montgomery County area that should assist in making the area more competitive:

² Chattanooga TN-GA, Columbus GA-AL, Fayetteville NC, Jackson TN, Killeen-Temple TX, Lynchburg VA, Tyler TX, Wichita Falls TX.

- *Transportation* – Utilize the Cumberland River, a navigable waterway, to develop and promote commercial development. Clarksville-Montgomery County also has an excellent network of interstate highways providing an “economic corridor” to Nashville.
- *Cultural Amenities* – The Clarksville-Montgomery County area has many quality of life amenities to offer (i.e. environmental quality, crime rates, housing etc.), which are important considerations to individual families as well as industries that require the re-location of families.

1.3 Preliminary Observation

The private sector push, through three different concerns, towards the development of an inland river public-use port coincides with the river transportation advantages identified by a paper released by the APSU/EDC Data Center. This suggests serious consideration of an inland-river public-use port; private sector interests are supported by overall local economic development objectives.

Section 2 – INLAND RIVER TRANSPORT INDUSTRY

Like any business enterprise, the success or shortcomings of an inland river public-use port will hinge on how the port is conceived, developed, marketed and operated. For public officials in Clarksville and Montgomery County to make correct, informed decisions throughout this evaluation process requires an overall understanding of river ports and terminals, cargo types and intermodal issues.

2.1 River Ports and Terminals

An important terminology definition in this report concerns the distinction between terminals and ports. The U.S. Army Corps of Engineers (COE) compiles tonnage movements for areas along the Mississippi River that often includes both private and public terminals. The specific difference between a port and terminal is defined as follows:

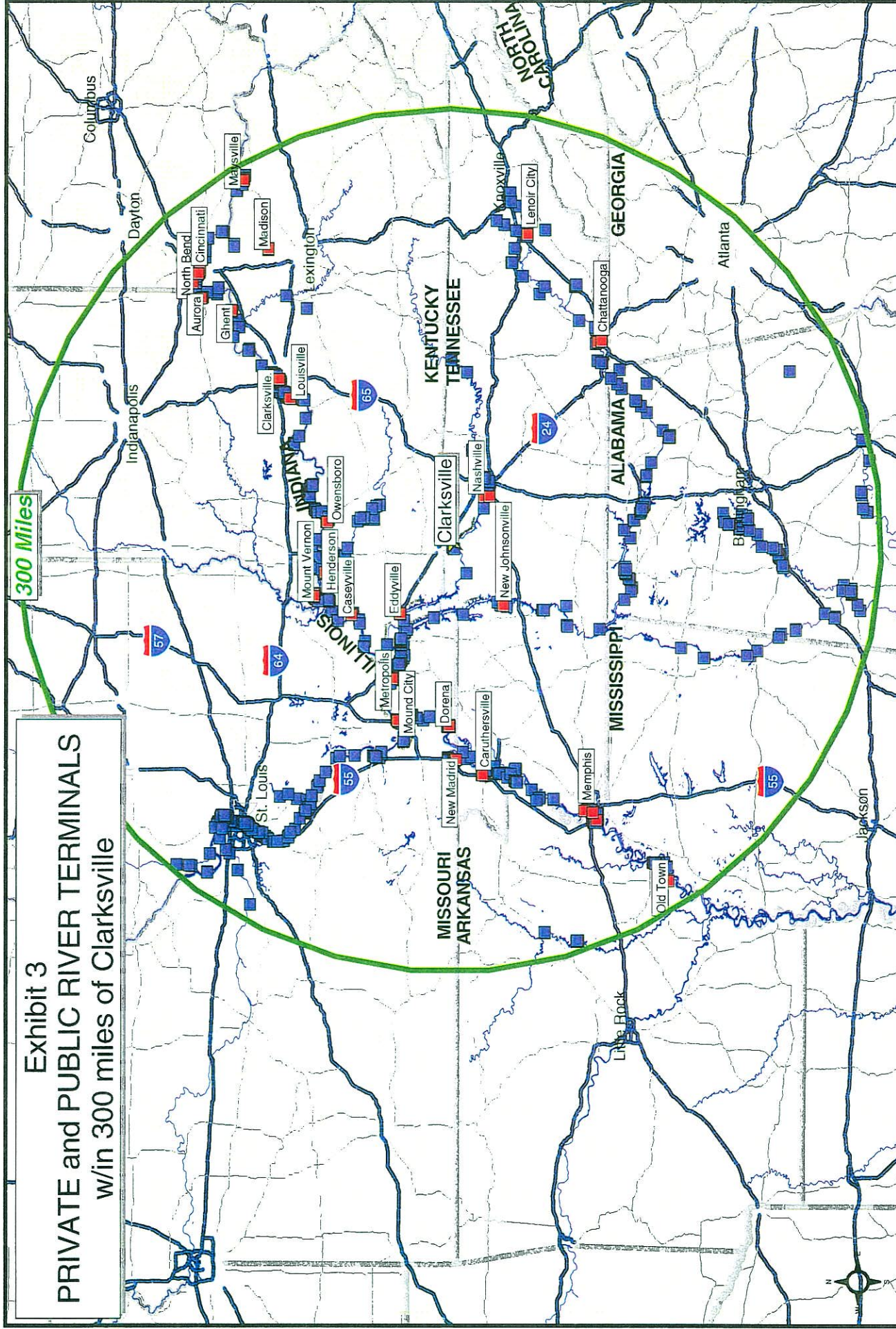
- A **port** is a segment of navigable waterway in which commercial activity takes place. A port often includes both publicly and privately owned river terminals that serve both general purpose and a special purpose needs. A port may also include an industrial park.
- A **river terminal** is a dock, wharf, or other facility used for the loading and/or unloading of river barges. The terminal complex may include inside and/or outside storage facilities, as well as staging areas for trucks and railcars.

Port Terminals - There are literally hundreds of river terminals located on the Mississippi River. The vast majority of these are private river terminals; that is, terminal facilities that are privately owned and often (but not always) intended for the use of a single private company. The other type of river port facility is the "public terminal," which a public port authority often owns, and is open to public use (anyone that wants to ship or receive goods by barge). Many such public terminals exist along the Mississippi River and in the study area, as shown in **Exhibit 3**.

Public Port Purposes - Publicly owned ports are intended to help stimulate the economy that they serve. The goal is that the port, which is open to public use, will provide efficient transportation services and will help to attract new businesses to the port's hinterland. In this sense, public ports are viewed as successful if they help create (or retain) jobs, tax base, value added production, and other activities beneficial to the area's economy.

Exhibit 3

PRIVATE and PUBLIC RIVER TERMINALS w/in 300 miles of Clarksville



- Public Ports
- Private Ports
- Towns
- Interstates
- Other Roads
- Railroads
- Urban Areas
- Bodies of Water
- State Boundaries

Economic Growth and Development - There are two ways by which a public port can promote economic growth and development. The first is by providing an improved intermodal transportation facility and service to the region's business community. In effect, this means increased efficiency (lower transportation cost and/or more dependable transportation service). The second is the port's ability to help the area to attract new firms (shippers/receivers) to the area. In either or both cases, the port benefits the region economically.

2.2 Cargo Types

Water Transport Commodity Types - Barge transport is a function of commodity characteristics, travel distance and volume. For these reasons, commodities transported by water are high bulk, low value, relatively non-perishable commodities such as coal, sand and gravel, rock, fertilizer, agricultural products, wood products and metals, etc. - *not microchips*.³ Most of these commodities are transported to and from the port by truck or railroad. Therefore, either road and/or rail are viable transportation alternatives to water transport.

The most expensive share of inland-river transport typically occurs during the loading and off-loading process. However, the cost of physically transporting the cargo by water is significantly less expensive than by road or rail, as shown in **Exhibit 4**. For these reasons barge transport is typically over a long distance of 450+ miles⁴.

Exhibit 4
TRANSPORTATION COSTS
CENTS PER TON-MILE

	<u>Cents per Ton-Mile</u>
	0.97
	2.53
	5.35

SOURCES: National Transportation Statistics, U.S. Department of Transportation, and U.S. Army Corps of Engineers

³ Section 3 details recent historical commodity movements (by type) on the overall Mississippi River system (including the Cumberland River)

⁴ Transportation in America, Eno Transportation Foundation, Inc., 1992

In addition, the equivalent carrying capacity of a barge is significantly greater than that of a rail car or truck, as shown in **Exhibit 5**. Therefore, for the economies of scale provided by barge transportation to make inland-river transport attractive requires shipments to be in the range of 1000 tons or more.

General vs. Containerized Cargo - The recent decline in general cargo and increase in containerized cargo experienced at ocean ports is not indicative of recent inland river port trends. Typical containerized movement involves agreement to operate a barge service between two points at a designated time regardless of cargo volumes (i.e. every week or 10 days). Thus, the shipper must have sufficient demand. Inland river containerized cargo movements typically involve detailed river port and sea port logistics to ensure direct ship to barge transfer and elimination of on-shore and off-shore loading and stevedoring charges. Such movements are rare among small inland river ports and are not anticipated to be a factor at Clarksville.

2.3 Intermodal Issues

Intermodal issues concern the need for connectivity to road and rail, the inherent competition of road and rail transport, linkage costs between transport modes and the impact of new water transport on current rail and water rates. The study area highways and railroads are shown in **Exhibit 6**.

Highway Connections - Good road and highway access is a vital component to a port's development. Ports wish to avoid road access through or near residential neighborhoods. The access roads themselves should be wide enough to handle truck traffic, have paved or hard stone shoulders, and avoid sharp turns and steep gradients. Proximity to trucking routes and several carriers typically ensures competitive trucking rates. Such rates can form a vital link in the entire price of a commodity's transport cost. Ports located far from good highways or in areas that lack enough trucking companies usually pay higher trucking rates. Since water borne commodities often require truck transport between a port terminal and its origin or destination, a high trucking cost to or from the port can be detrimental to the area's economy. Major Highway and Railroads in the Study Region – The major interstates in the Study region; I-24 and numerous state and U.S. highways link Clarksville to the interstates.

Rail Connections - Similarly, proximity to a main rail line and network can also prove to be advantageous to a port. Rail access provides an alternative to trucking, especially since rail transported commodities also comprise high bulk - low value commodities. Rail access also tends to generate more competitive trucking rates.

Exhibit 5
EQUIVALENT CARRYING CAPACITIES by TRANSPORT MODE

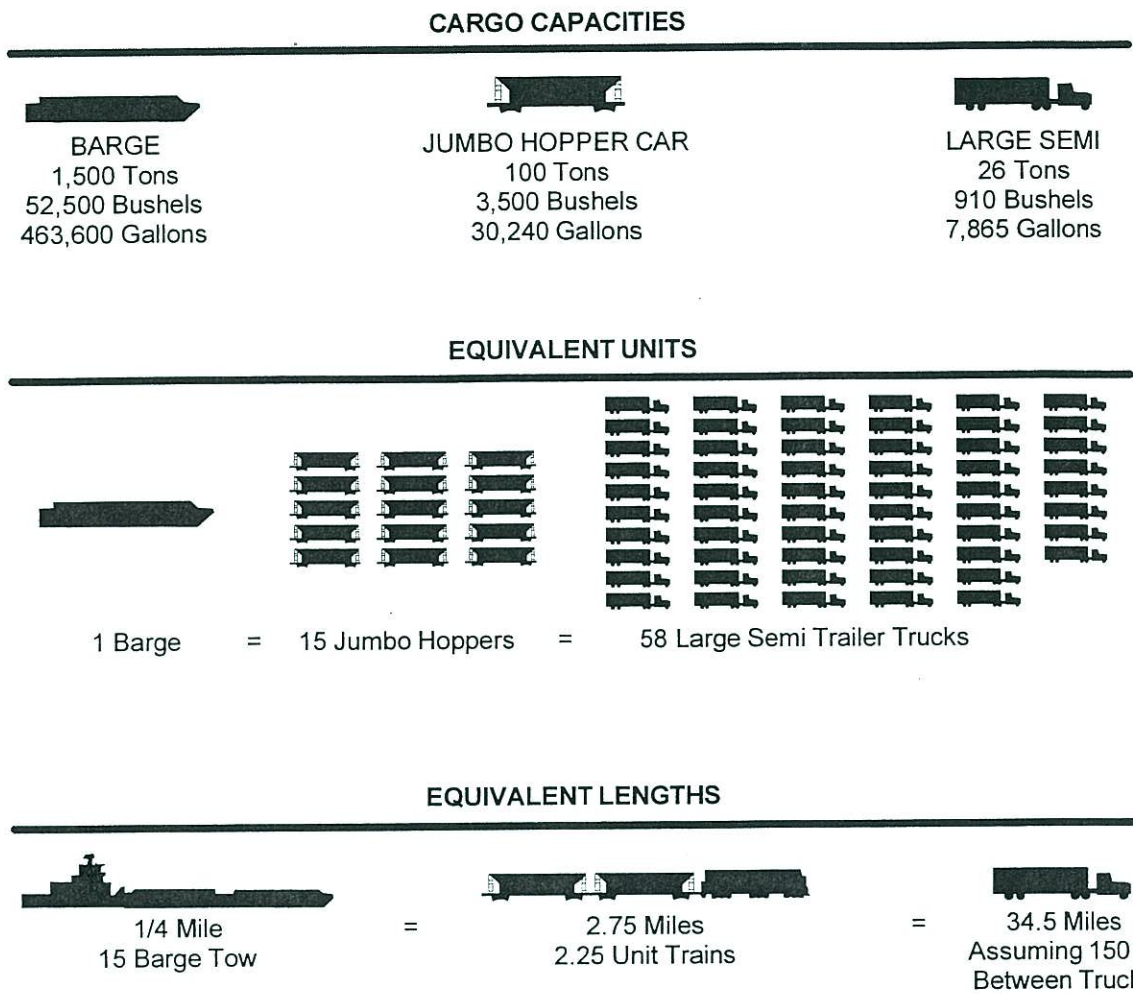


Exhibit 6



Wilbur Smith Associates & Garver, Inc.

Railroads serving the study region include large Class-I railroads, whose annual revenues exceed \$250 million, and a small Class-III railroad (a "short-line railroad" with annual revenues of under \$20 million). The major railroad in the study area is the R.J. Corman Railroad/ Memphis branch (RJCM), a short-line, light density railroad that connects with the CSXT Chicago-Atlanta mainline about 14 miles northeast of Clarksville in Guthrie, KY. The RCJM ends 45 miles to the northeast at Bowling Green, KY where it connects again with the CSXT.

Although rail access helps the marketing potential of a port, it does not guarantee increased private sector investment at the port. Conventional wisdom stipulates that potential industrial investors require rail transportation options at a port regardless of whether or not they initially intend on using the rail. It is important to realize that rail access is not the only criterion evaluated by potential investors, rather the investment decision is based on a large number of factors. Nonetheless, a dilemma arises in which the local port, county and state avoid investing in rail infrastructure until certain that on site development will occur. Meanwhile, firms may avoid investing at a potential site without the rail access - even if they do not intend on using rail in the near future. The issue then is how to break the cycle and attract industry to a port industrial site when rail is not available. To break this cycle, the port authorities should, as a minimum, acquire/control the necessary land for rail access, and develop specific plans. This demonstrates both a strong intent by the authority and enables rapid action if a decision is enacted.

Transportation Link Costs - Cost of non-water transportation modes impact the viability of barge shipments since rarely does a movement both begin and end at a waterside facility.

Competitive Transportation Rates by Other Modes - Establishment of ports often influences competitive modes of transportation to reduce their shipping costs of potential waterborne commodities. Lower overall transportation costs, in and of itself help attract industry.

2.4 Operation Structures

River terminals generally fall into one of two categories by use (general purpose and special purpose) and one of two categories by ownership (public and private). General purpose facilities are usually versatile and can be used for a variety of applications such as loading scrap steel or unloading aluminum, steel or dry bulk materials. Equipment may include, for example, a mobile crane that can be rigged with a bucket, spreader bar, hook, clamp or other device depending on cargo handling requirements. A general purpose terminal is constructed for versatility rather than specialization and some degree of efficiency may naturally be sacrificed with regards to a particular commodity.

Special Purpose – Special purpose facilities are typically built to be very efficient for moving a specific commodity either inbound or outbound. For example, pneumatic systems, special pipelines and special crane systems are often used in single-purpose applications such as loading coal, loading grain, unloading cement, unloading liquid fertilizer or for certain steel or mineral products. These terminals may have little or no versatility, but are typically very efficient for their special purpose. These terminals are most often seen at an industry, mine or power plant and are most often, but not always, privately owned.

General Purpose - Public ports often construct a general purpose river terminal which can best meet the overall economic development objectives of the region by providing capability to load and/or unload a wide variety of materials. Some private companies may also construct a general purpose terminal and provide barge loading and unloading to the “public” much as a commercial moving van company will provide service to anyone who can pay the bill.

This leads to four operation structures for river terminals:

1. General Purpose - Public Ownership
2. General Purpose - Private Ownership
3. Special Purpose - Public Ownership
4. Special Purpose - Private Ownership

Port Operation and Management - Another issue with regard to categorizing river terminals involves daily operation and management. Some local port authorities develop and construct their own facilities (public ownership) and operate the facilities as well, such as Greenville, MS and Rosedale, MS. Other 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, such as West Memphis, AR.

When a public agency operates a public port facility, control of the strategic direction and pricing of service remains with the public agency. On the other hand, the public agency now has the responsibility for staffing, purchasing and maintaining equipment, marketing and the myriad of other duties associated with running a river terminal.

In leasing a river terminal to a private operator, the local port authority gives up control of the facility for a specified time period. A very important consideration in selection of a terminal operator or stevedore has to do with the compatibility of the two entities, their

strategic directions and general approach to business. The stevedore will typically be responsible for staffing the facility, providing mobile equipment, marketing, management and development of the pricing structure. Compensation is provided to the port authority by the stevedore in the form of some combination of fixed and variable fees. For example, a nominal fixed fee may be due every year in addition to a charge of so many cents per ton (a fraction of what the stevedore charges the shipper).

Selection of an experienced stevedore to operate a new port authority facility has the benefit of bringing immediate experience in operations and marketing to the port. A fair contract creates a win-win environment where both parties benefit from the relationship. On the other hand, control is relinquished. Further, the operator may operate other terminals and in some cases these other terminals may compete in the public terminal's market area. Careful evaluation of these factors is needed in the selection process. There is no universally right or wrong way to approach the management of a public terminal. Each method has its pros and cons.

2.5 Other Port Facilities

In addition to the issues regarding general versus special purpose facilities, a port owner and/or operator will face a decision on whether or not to provide warehousing services, as well as other decisions regarding connecting port facilities and industrial investment.

Warehousing - Public terminals can provide storage facilities that enable "warehousing" at the port. Thus, numerous smaller shippers can utilize barge transportation if they concentrate their use through a single port.

Industrial Sites - Readily developable industrial sites with river, rail and highway access are relatively rare and highly desirable. In this context, "readily developable" means land that:

- Is owned by a willing seller who offers the land at a reasonable price;
- Has good access to barge, rail and highway transportation systems;
- Has adequate utilities on-site or nearby;
- Is above the 100 year flood elevation or is flood protected to the 100 year flood elevation; and,
- Is environmentally acceptable and permittable (i.e., any potential problems with wetlands, cultural resources, endangered species, hazardous materials, etc., have been identified and dealt with to the satisfaction of the applicable regulatory agencies).

Connecting Port Facilities - The facilities for loading, unloading, storage and handling, and intermodal facilities influence the viability of water transportation - at both ends of the movement. Thus, for a local port to attract a shipper, the local port must be able to demonstrate to the prospective shipper that the commodity can be handled and transported economically at the other connecting port as well as at the local port.

Other Industrial Users - Water transportation commonly lies unseen behind the conscious reasons for waterside location of non-water dependent industries. The low cost materials and fuels that draw new plants to a locality are often, themselves, the products of water-based industries. Thus, water-based industries, heavily dependent on water tend to generate satellite industries in the vicinity.

Section 3 - POTENTIAL PORT USE

This section begins with an overview of recent water tonnage movements along the Mississippi Inland Water System and those movements on the Cumberland River. To ascertain existing and potential future use of a public-use river port in Clarksville, existing businesses were surveyed. Tonnage movements and operating environments at existing inland river ports in small to mid-sized metropolitan areas are then introduced to provide a degree of relativity to the forecasted potential cargo tonnage at Clarksville. The section concludes with an assessment of the overall potential for a successful river port in Clarksville.

3.1 Mississippi River Inland Water Transport

The Mississippi River stretches 2,360 miles from northern Minnesota to the Gulf of Mexico. In addition to the 1,837 miles of navigable Mississippi River waterway, which begins in Minneapolis, many other river systems flow into the Mississippi. Major systems include the Arkansas River, the Missouri River, the Illinois River, the Ohio River, the Cumberland River and the Tennessee River - another 3,500 miles of navigable waterways. The far reach of the Mississippi within the central United States' inland river waterway system is shown in **Exhibit 7**

Total upbound and downbound tonnage on the Mississippi River system totaled 934 million tons in 1995, of which less than 2.0 percent (17.7 million tons) traveled along the Cumberland River, as shown in **Exhibit 8**. The 1995 Cumberland River tonnage rose over 26 percent versus 1994. Limited detail of the 1994 data shown in **Exhibit 9** indicates that close to half of the 13.9 million tons was upbound coal (5.9 million tons).

Exhibit 9 also exemplifies the potential volatility of inland river ports. Between 1985 and 1987 cargo tonnage surged from 14 million tons to nearly 23 million tons followed by a fall back to 15 million tons. Since then tonnage has hovered between 13 million and 16 million tons. Although fluctuations in coal played a major part in the 1986 peak, other cargo volumes can also gyrate significantly. Since few businesses typically use ports to transport cargoes, anything that impacts these businesses (be it positive or negative) often impact a port's total cargo tonnage similarly. Because of the inherent volatility of river cargo volumes the 27.3 percent increase in Cumberland River cargo volumes between 1994 and 1995 (Exhibit 8) should not be considered indicative of a major trend increase in river cargo.

Exhibit 7
MISSISSIPPI INLAND WATER SYSTEM

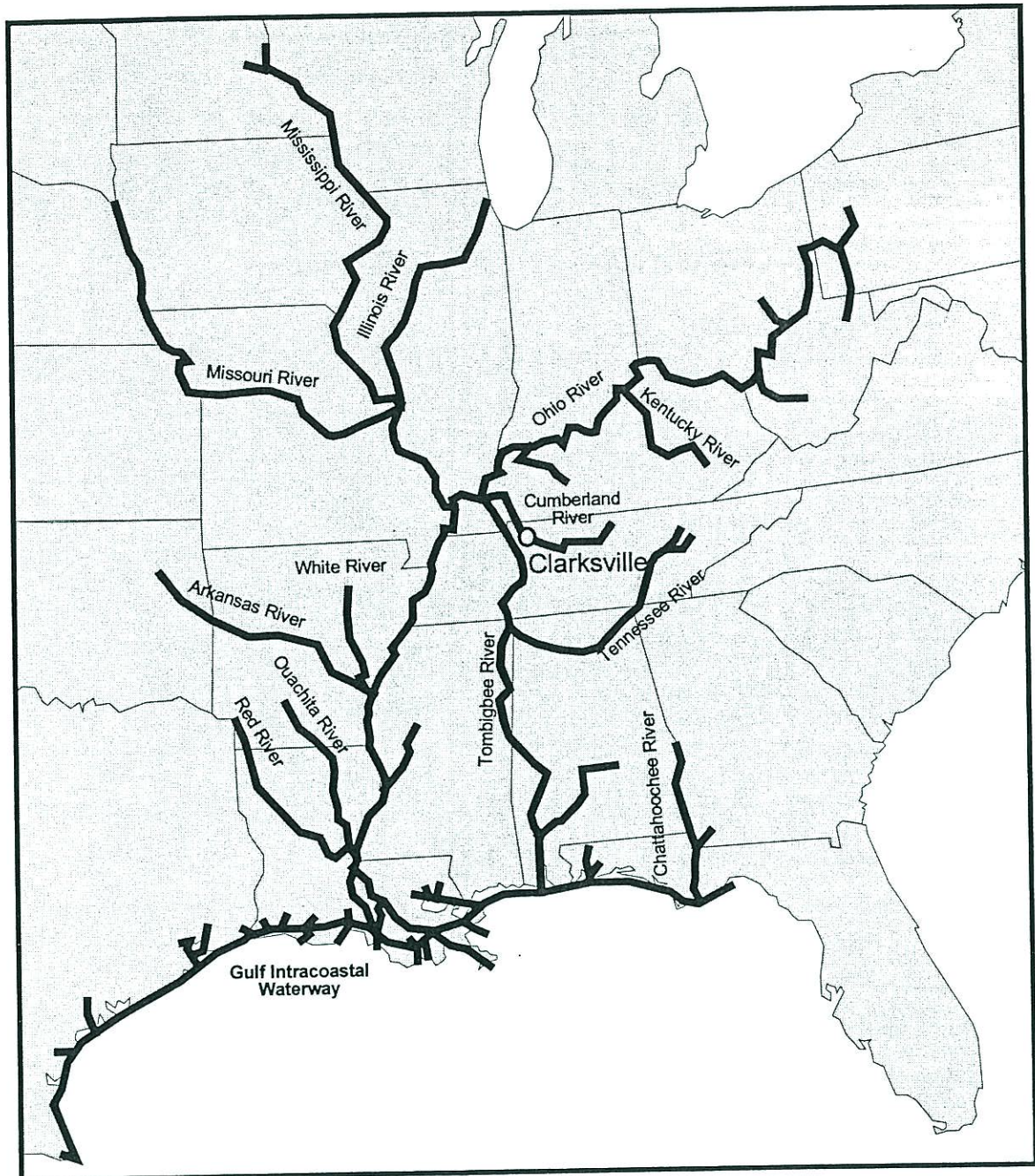


Exhibit 8
TOTAL INLAND WATER TONNAGE MOVEMENTS by WATERWAY

	Tons (Millions)		Percent
	<u>1994</u>	<u>1995</u>	<u>Change</u>
Tennessee			
Cumberland River	13.9	17.7	27.3%
Tennessee River	49.1	46.9	-4.5%
Tennessee Tombigbee	<u>7.1</u>	<u>8.2</u>	15.5%
Total	70.1	72.8	3.9%
Other			
Alabama-Coosa River	1.1	0.8	-27.3%
Allegheny River	3.2	3.5	9.4%
Appalachicola River	0.6	0.6	0.0%
Atlantic Intracoastal	3.7	3.9	5.4%
Black Warrior River	23.8	25.6	7.6%
Columbia River*	18.2	19.0	4.4%
Gulf Intracoastal*	117.6	119.4	1.5%
Illinois Waterway	50.9	49.9	-2.0%
Kanawha River	22.3	23.6	5.8%
McClellan -Kerr Wtwy	10.7	10.4	-2.8%
Mississippi River*	314.6	321.3	2.1%
Missouri River	8.5	6.9	-18.8%
Monongahela River	36.9	34.5	-6.5%
Ohio River	236.7	235.4	-0.5%
Snake River	<u>5.9</u>	<u>6.8</u>	15.3%
Total	854.7	861.6	0.8%
Totals			
Other Waterways	854.7	861.6	0.8%
Tennessee Waterways	<u>70.1</u>	<u>72.8</u>	3.9%
Total Tonnage	924.8	934.4	1.0%

*Includes domestic coastwise tonnage
source: Bureau of Transportation Statistics

Exhibit 9
CUMBERLAND RIVER DOWNBOUND and UPBOUND COMMODITIES 1985-94
(Millions of Tons)

Direction / Commodity	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994*</u>
Downbound										
Nonmetal	3.96	4.26	3.26	3.03	3.28	2.51	3.04	3.08	2.16	1.80
Other	<u>0.62</u>	<u>1.70</u>	<u>0.48</u>	<u>0.64</u>	<u>0.59</u>	<u>0.47</u>	<u>0.49</u>	<u>0.78</u>	<u>0.72</u>	<u>0.80</u>
Total	4.58	5.96	3.74	3.67	3.87	2.98	3.53	3.86	2.88	2.60
Upbound										
Coal	5.21	9.79	6.81	6.10	5.13	6.55	6.48	7.58	6.58	5.90
Nonmetal	2.65	2.73	2.60	2.27	2.26	2.13	2.00	2.16	2.43	2.60
Other	<u>1.78</u>	<u>4.41</u>	<u>2.15</u>	<u>1.98</u>	<u>2.04</u>	<u>2.08</u>	<u>2.14</u>	<u>2.63</u>	<u>2.40</u>	<u>2.80</u>
Total	9.64	16.93	11.56	10.35	9.43	10.76	10.62	12.37	11.41	11.30
Total	14.22	22.89	15.30	14.02	13.30	13.74	14.15	16.23	14.29	13.90

source: Bureau of Transportation Statistics

3.2 Business Survey

To ascertain local business interest in a public-use inland river port in Clarksville/Montgomery County a questionnaire was designed and mailed to targeted businesses in the region (including surrounding counties and Hopkinsville, KY). The businesses surveyed represent a variety of industries that either ship or receive cargo conducive to water transport, such as:

- Petroleum Products
- Coal
- Chemical Products
- Earth Materials
- Manufactured Goods and Equipment
- Food and Farm Products

Businesses Surveyed - To identify target businesses two State Business Directories were used in conjunction with discussions with local business people and the public officials. Targeted businesses are typically large area employers (over 100 employees), with national and international markets. Firms not surveyed, for example, include local agricultural distributors or small manufactures, because their market areas are either local (hence their use of local trucking transport) or transport cargoes in small shipments (versus the 1,000- 1,500 ton carrying capacity of barges).

In total, surveys were sent to 81 businesses, of which 29 (36%) responded. This 36 percent response rate is considered good, since typical response rates of such surveys range between 15-20 percent. A full listing of the businesses that were mailed and those that responded is shown in **Exhibit 10**. A copy of the survey is shown in Appendix A

Existing Cargo Tonnage- The survey responses indicate that the 29 responding firms ship 2.2 million tons of inbound and outbound goods annually by truck and/or rail. The 2.2 million tons compares favorably with the 17.7 million tons currently shipped on the Cumberland River (chiefly through Nashville). Of this 2.2 million tons, 1.3 million tons (59.0%) is inbound tonnage while 898,100 tons (41.0%) is outbound.⁵

As shown in **Exhibit 11**, the leading commodity in terms of current inbound tonnage is sand and gravel, followed by chemicals and fertilizers representing 35 percent and 24

⁵ Although 29 (36%) out of 81 companies responded to the survey, 19 (23%) provided meaningful tonnage movement information.

percent respectively. Food products represents 41 percent of the total outbound tonnage while manufactured goods (ceramic tile, metal products) represent 26 percent.

General Port Interest - General interest in a local port is shown by firm and tonnage in **Exhibit 12**, where 13 firms, representing 1.8 million tons rated their interest in a port as moderate to high. ⁶ Six responding firms representing 0.4 million tons had little or no interest in a Clarksville public-use river port.

Exhibit 10 81 COMPANIES SURVEYED and 29 RESPONDED			
Surveyed	Responded	Surveyed	Responded
AAA Laminators		Letica Corp. of Tennessee	■
Agri-Chem, Inc.	■	Magnum Manufacturing Inc	
American Crop Svcs. (ADI)	■	Metal Forge Co.	
American Limestone Co., Inc.		Mid-Continent Spring Co.	
Atwood Greenbrier Operations		Nagle Industries	
Averitt Lumber Co., Inc.	■	Nashville Wire Products Corp	
Bluegrass Art Cast-TN Inc.		Nashville Wire Products Corp.	
Bosch Braking Systems		North American Oxide	
Brazeway, Inc.	■	Owensboro Grain Co.	
Bridgestone Metalpha Corp	■	Perstorp Components	
Cadiz Milling Co.		Phelps Dodge Magnet Wire Corp.	■
Clarksville Foundry		Pop Fasteners/Div Black & Decker	■
Clarksville Products Co		Precision Printing & Packaging	
Collins Aikman		Precision Printing & Packaging Co.	■
Continental Grain Co.		Precision Products of TN	
Continental Mills		Quebecor Printing USA Corp.	
CoPar, Inc.		Ranken Fabrication Inc.	
Dana Corporation	■	Red River Block & Supply	
Delight Products	■	R.J. Corman Railroad	■
E.W.I./Dover Products Co.		Savage Zinc Inc	
Ebbtide Corp (HQ)		Smithfield Manufacturing Inc.	
Fleetline Products		Soltech Inc.	
Fort Campbell		State Industries Inc.	
Frigidaire Home Products	■	Steele Saddletree Co.	
Gate Bluegrass Precast Inc.	■	Superior Graphite/Desulco Div.	■
Gemtron Corp.		Tate Fabricating Co., Inc.	
Hendrickson Trailer Suspension	■	Tennessee Wire & Cable	
Holley Performance Products	■	Tilcera Inc.	■
Hopkinsville Elevator	■	Trane Co	■
Hopkinsville Milling Co.	■	Trinity Ashland City	
Hopkinsville Stone Co.		Trinity-Ashland Inc.	
Ingram Sand	■	Triton Boat Co LP	■
Installation Transportation Div		UCAR Carbon Co Inc	■
International Paper Co.		UNARCO Material Handling	■
Interstate Packaging Co		Venture Plastics	
Irving Materials Inc	■	Vulcan Corp.	
Jackson Oil Co.	■	White Hydraulics, Inc.	
Jenkins & Wynne		Whitson Lumber Co. (Lumber)	■
JFB Manufacturing Inc.		Whitson Lumber Co.(Logs)	
Johnson Controls, Inc./Hoover Auto Div.		Wylie Steel Fabricators Inc.	
Jostens Printing & Publishing	■		

⁶ Of these firms, 11 transporting 1.5 million tons indicated a high interest

Exhibit 11
CURRENT TRUCK and RAIL TONNAGE by COMMODITY TYPE and DIRECTION
(Clarksville Cargo User Survey Results - Waterborne Tonnage Types)

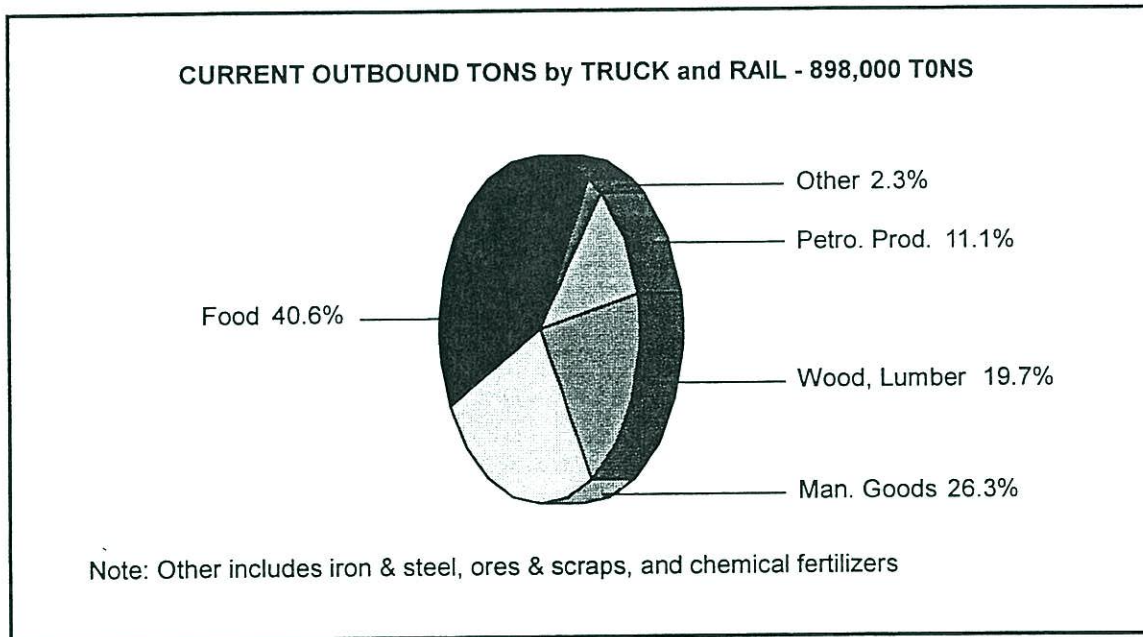
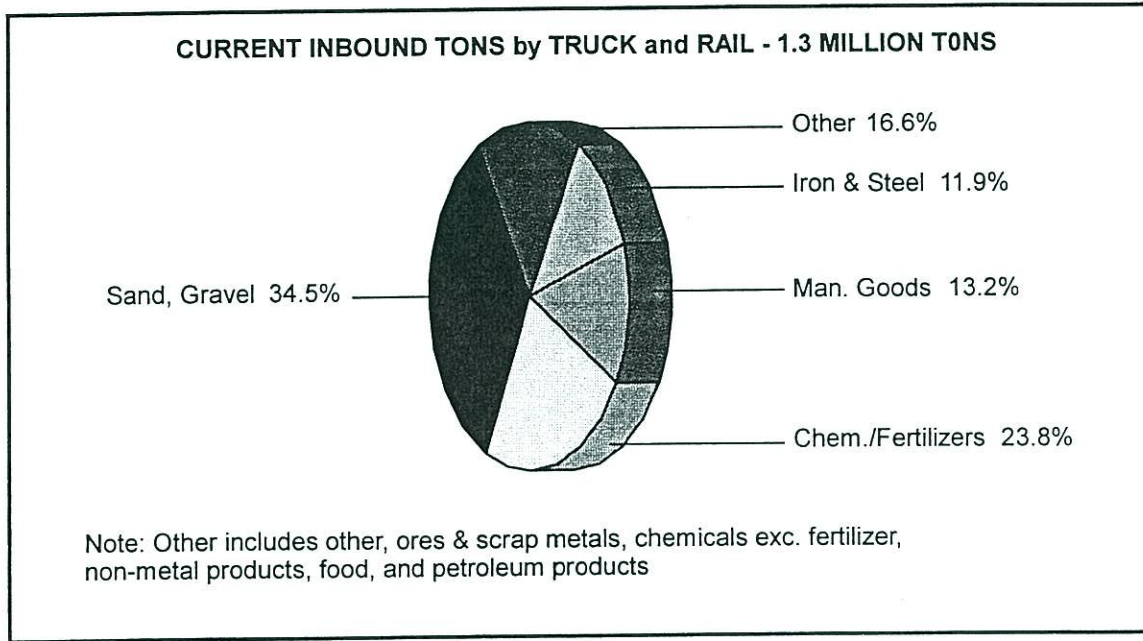
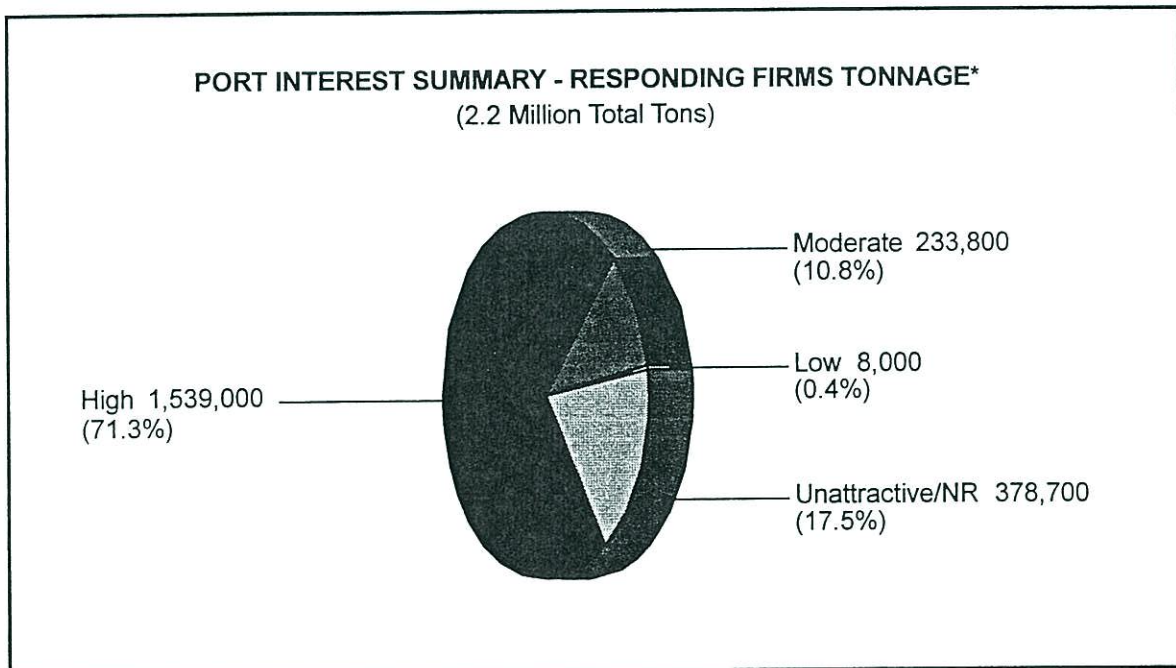
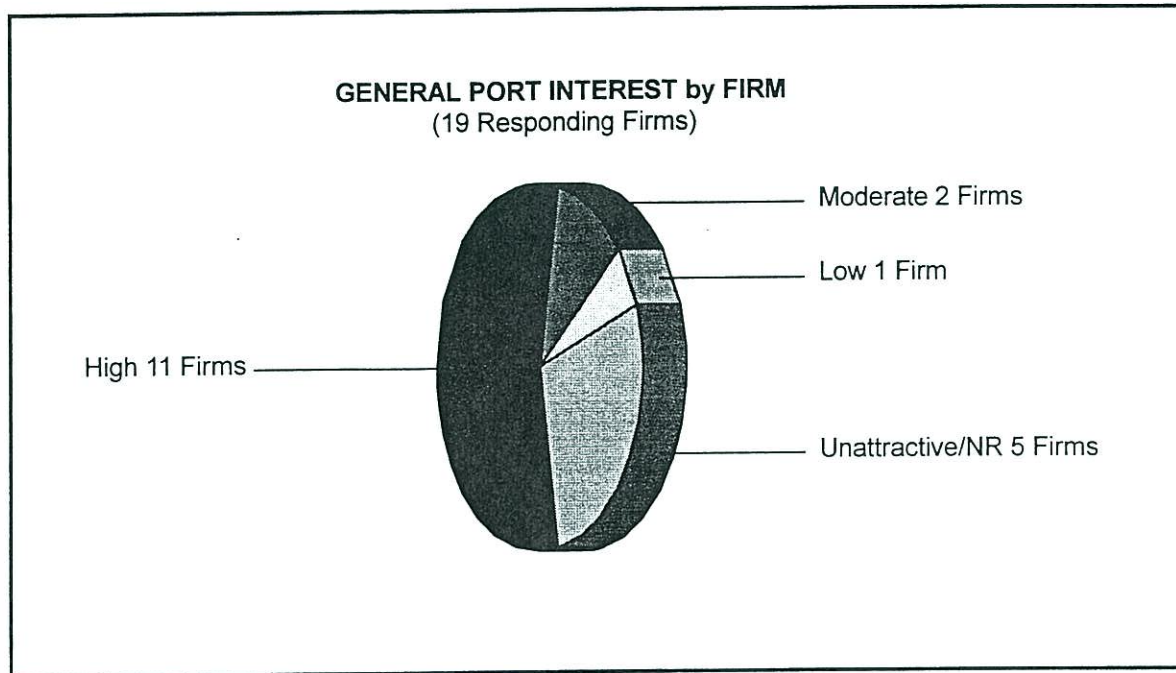


Exhibit 12
LOCAL INTEREST in a CLARKSVILLE PORT
(Clarksville Cargo User Survey Results)



* Reflects results of 19 qualifying surveys

Exhibit 13 POTENTIAL PORT LOCATIONS and POPULATION DENSITY

KENTUCKY
TENNESSEE

Clarksville

West Central
Clarksville

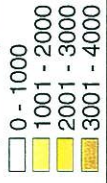
Zinc
Plant

Southeast
Clarksville

Cumberland City



Pop. Density 1990 (people/sq. mi.)



Potential Port Locations



Public Ports



Private Ports



Towns



Interstates



Other Roads



Railroads



Port Interest by Location and Commodity – To ascertain if port interest varied by location, three locations were identified in the survey: Southeast Clarksville, West Clarksville and Palmyra. An attractive fourth possible location, near a zinc plant close to the West Clarksville site, but across the river, however, was not identified on the survey. The location of the four sites is shown in **Exhibit 13**. Breakdown of the responses indicate that perceptions of port attractiveness do vary significantly by location, suggesting that both intermodal connections to highways and rail, and port proximity to businesses/industrial parks may influence port use decisions:

- A total of 4 firms have a high to moderate interest in the Palmyra location representing 1.2 million tons as shown in **Exhibit 14**. In contrast, 7 firms show a high to moderate interest in the West Clarksville port site representing only 454,000 tons. This indicates a disparity in port interest between sites when viewed by the number firms versus tonnage volumes. The reason for the disparity arises because one firm representing a relatively large share of tonnage is highly interested in the Palmyra (and the Zinc plant) locations .
- The same information is depicted in **Exhibit 15** broken out by commodity type. At the Palmyra location, moderate to high tonnage interest (totaling 1.2 million tons) is well distributed between four primary cargo types: chemical fertilizers, food products, petroleum products and earth materials (i.e. sand and gravel). Potential earth material users are also interested in SE Clarksville, but not West Clarksville. Petroleum users are interested any of the three surveyed sites. Food product users are only interested in the Palmyra (and possibly Zinc plant) site.

New Cargo Potential – The survey also asked existing businesses whether or not they anticipated that a new public-use port would lead to expanded production, new markets, etc. Most of the business did not indicate that a new port would or would not generate additional business.

Of the three businesses that have been issued permits by the ACOE, one anticipated additional cargo tonnage of 3.5 million tons annually, should a new local public-use port be built. The majority of this tonnage would be steel coil that would be trucked to Hopkinsville. This raises two points:

1. The success of a public-use inland river ports often hinges on whether or not it is able to attract one major user. Because, unlike roads that accommodates many users, ports serve a small, but important, clientele comprised of large enterprises that employ many people. So, the single large manufacturer that unloads steel coils could conceivably be the major user that unarguably justifies the port.

Exhibit 14
PORT INTEREST by LOCATION

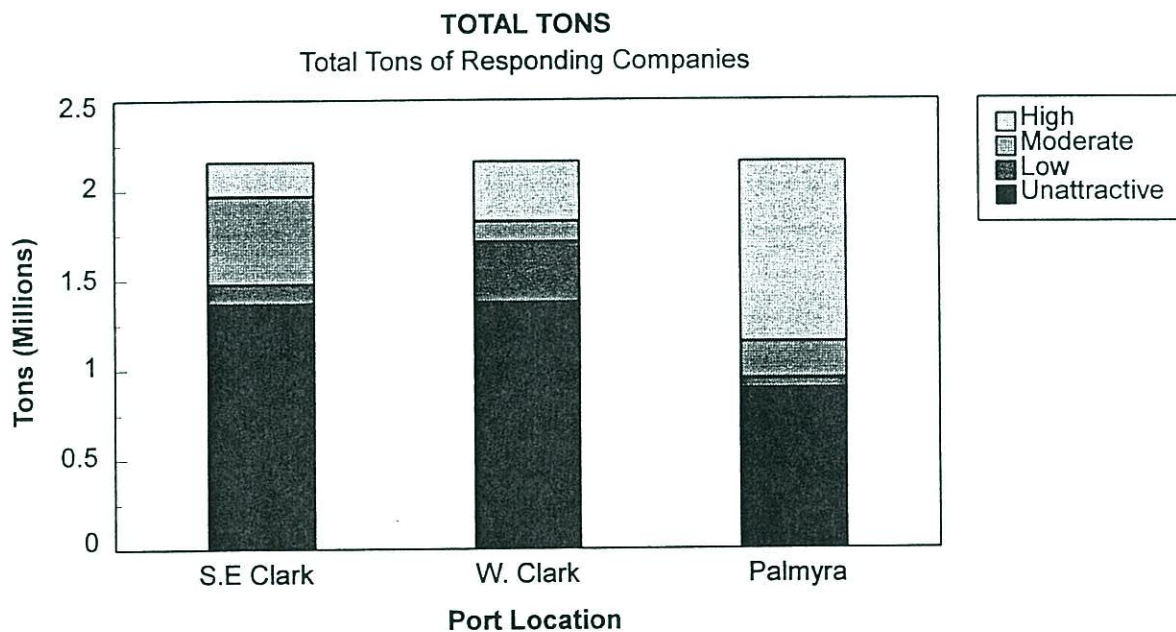
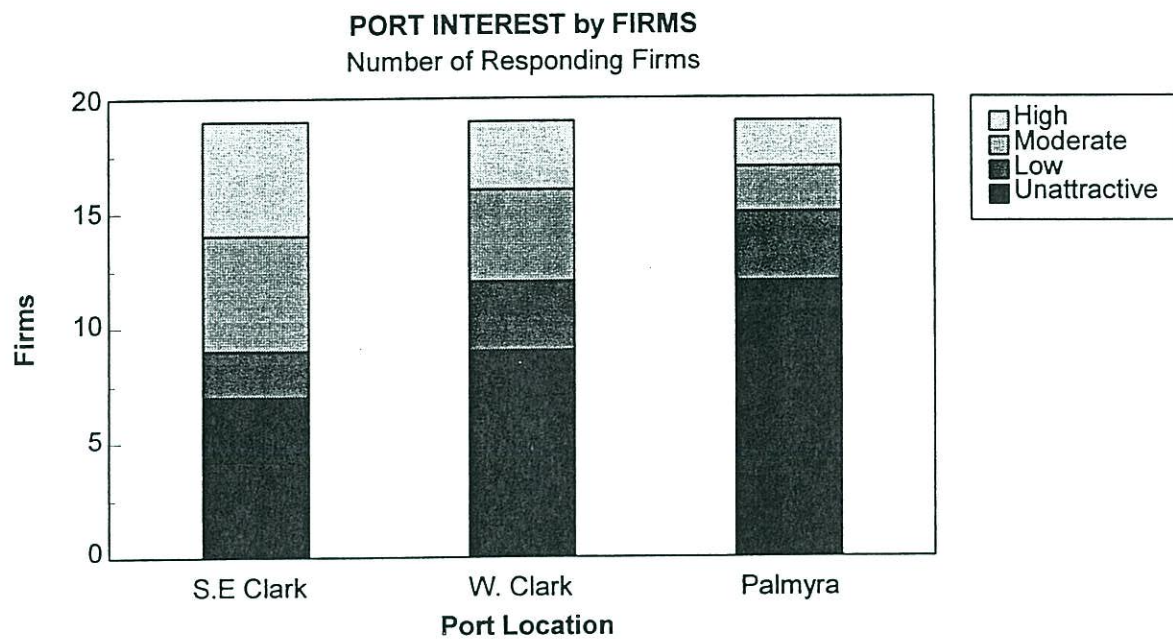
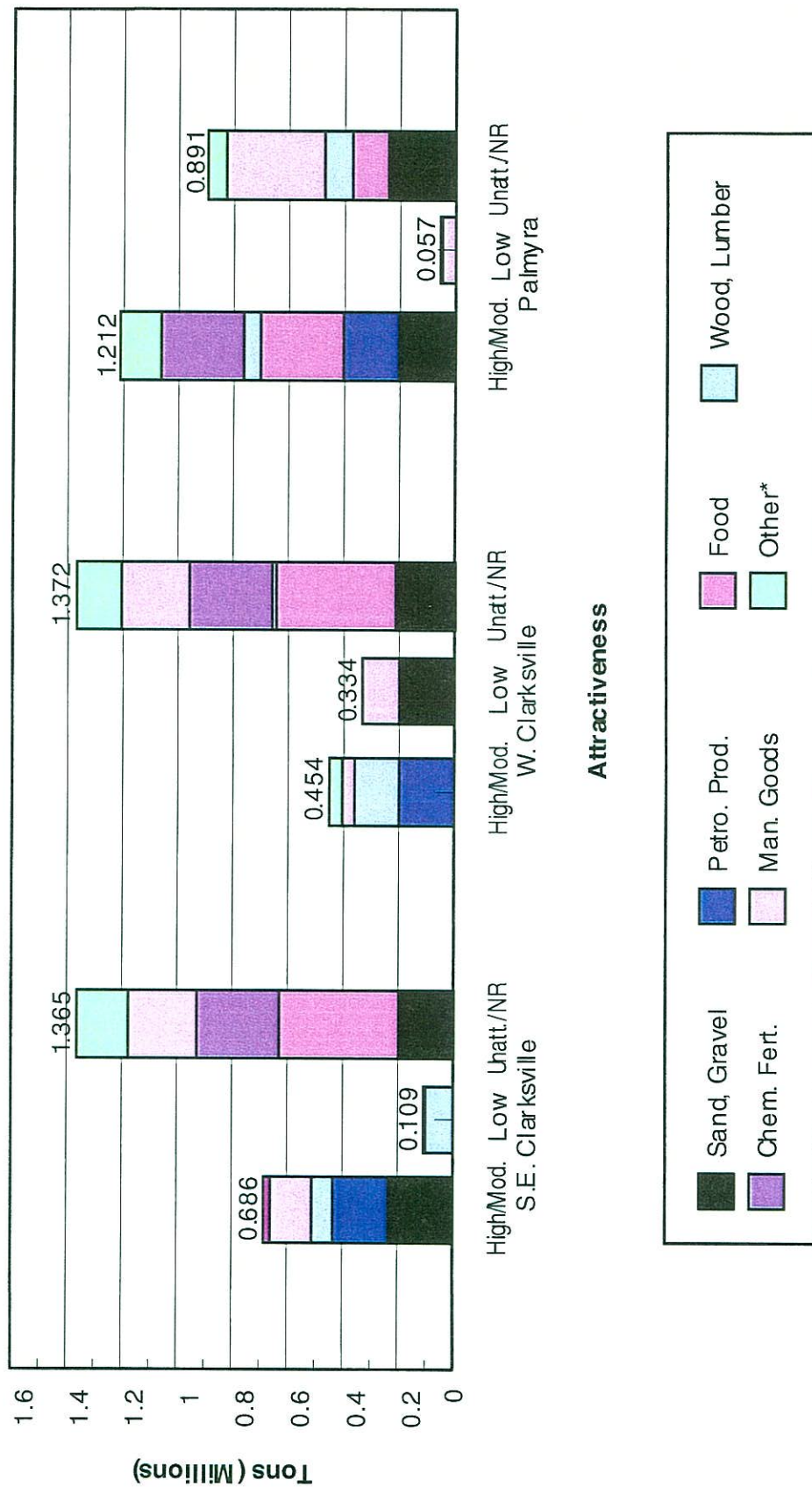


Exhibit 15
PORT INTEREST by COMMODITY



*Other includes other, ores and scrap metals, iron and steel, and non-metals

2. However, the plant site across the TN-KY border means that a large share of the jobs and tax receipts from the new plant would accrue in Hopkinsville, KY – not Montgomery County, TN. While this could become a decisive issue, it is important to consider that Hopkinsville is located less than 30 miles from Clarksville, and that satellite firms that supply the Hopkinsville manufacturer will grow throughout the two-city area. The result being an indirect overall benefit for Clarksville.

3.3 Other Port Comparisons

To gain perspective on the significance of the potential Clarksville port tonnage, four existing public ports, their tonnage and operation environs are discussed below. The metropolitan areas which they serve range from large and growing (i.e. West Memphis, AR - across the river from Memphis, TN) to small and struggling (i.e. Helena, AR and Rosedale, MS). The inbound and outbound total tonnage for each of the four ports is summarized below in Exhibit 16, and compared to the tonnage handled at each port's respective public terminal.

Exhibit 16 INBOUND and OUTBOUND TONNAGES at OTHER PORTS Entire Port (Public and Private Terminals)					
Ports with Public Terminals	Total Port Tonnage			Public Term. Tonnage	Percent of Port Total
	Outbound	Inbound	Total		
West Memphis, AR	331,000	517,000	848,000	600,000	70.8%
Helena, AR	1,343,000	412,000	1,755,000	0	0.0%
Rosedale, MS	325,000	186,000	511,000	111,000	21.7%
Greenville, MS	636,000	1,620,000	2,256,000	299,000	13.3%

source: Based on data from the Port Authorities, the Army Corps of Engineers and WSA

West Memphis - The port of West Memphis is located directly across the Mississippi River from Memphis, TN, and facilities were completed in 1982 at a total cost of \$4.2 million which included a \$3.5 million grant from the U.S. Economic Development Administration. The original facilities included a T-shaped dock, five sheet pile cells, five pipe pile dolphins, a 30,000 square foot transit shed, truck scales and scale house, paved access road, paved outdoor storage area and a water line. The purpose of the public port facility is to provide multi-modal transportation access for agri-business and industry, and thereby to stimulate economic development in the West Memphis area by creating new job opportunities and increasing the local tax base.

The West Memphis-Crittenden County Port Authority leased the port to a private operator, Pine Bluff Warehouse Company, in 1982 to bring immediate expertise in marketing and operations to the new general-purpose facility. In 1983, a special purpose grain facility was added and also operated by Pine Bluff Warehouse. The lease for operation of the special purpose grain dock and grain handling facility was transferred to Riceland Foods in 1986. In 1995, Mid-South Terminal Company took over operation of the general-purpose river terminal facility in West Memphis.

In the early-1990's total inbound and outbound tonnage for the port area (public and private terminals) averaged around 850,000 tons, of which the public terminal handled approximately 70 percent (primarily grain-outbound and steel coil-inbound). The major private terminal movements consist of petroleum (which fluctuated tremendously) and chemicals.

Helena, AR - Located approximately 60 miles southwest of Memphis in Phillips County, Arkansas, The Helena Slackwater Harbor project was federally funded under authorization of the Water Resources Development Act of 1986 (PL 99-962) and completed in 1993. There is no active general-purpose river terminal in the Harbor at this time. However, a privately owned general-purpose terminal in downtown Helena currently ships out grain and receives fertilizer.

The 12,500 feet long by 450 feet wide Harbor offers a 9-foot deep navigable channel bottom and a width of 350 feet. There is also a 600 by 600-foot turning basin at the up-stream end of the Harbor. The industrial park contains approximately 1300 acres. A public terminal has not yet been developed at the Helena Slackwater Harbor.

The nine other terminals in the downtown area generate significant tonnage volumes. Total inbound and outbound tonnage fell from a combined high of 2.3 million tons in 1983 to a low of 1.0 million tons in 1987, with most recent data indicate tonnage of around 1.3 million.

Rosedale, MS - The Rosedale-Bolivar County Port is located 110 miles south of Memphis, Tennessee. The four-mile long slack-water harbor was completed by the United States Army COE in 1978, and includes a railroad spur connecting to the Illinois Central main line. Construction of a public dock was completed in 1981. Additional roads, railroad extensions and water lines were built in 1982 and 1983, and construction of a 20,000 square foot warehouse was completed in 1983. The County owns all of the physical facilities except for the railroad, which was purchased by the Port Commission from the Illinois Central in 1987. The Port Commission is responsible for operation of all the

facilities. A 270-acre Rosedale Industrial Park is located directly across State Route 1 from the Port.

In addition to the public terminal, privately owned terminals handle steel, agri-business, barge towing and marine repair. Total port tonnage has grown steadily since 1983 from 229,000 to 534,000 tons, annually. In 1993, public terminal tonnage movements were led by inbound steel products (90 percent of the 57,200 inbound tons), and outbound rice (75 percent of the 53,800 tons). The majority of the intermodal transfer of public terminal handled cargo occurred by truck (over 90 percent) versus rail.

Greenville, MS - Located approximately 90 miles northwest of Jackson, MS, the Port comprises an eleven-mile slackwater harbor with a minimum of navigable depth of 12 feet, a harbor width of 250 feet and generous fleeting areas. The Greenville Port Commission operates and markets the public terminal with its own employees, providing cargo and commodity handling services for barge, truck and rail shipments, as well as inside and outside storage. In addition, Greenville is designated an official U.S. Port of Entry with a resident collector of customs duties. A full compliment of customs and freight forwarding services are provided by the private sector. Within the Greenville harbor complex, there are 12 private special-purpose terminals and three towing and marine repair companies.

The public terminal includes a finger pier. Storage is provided outside on concrete, asphalt pavement and crushed stone, and inside in a shed or a climate controlled warehouse building. The Port Commission owns a wide range of cranes (two 100-ton crawlers; and a 140-ton crawler) and materials handling equipment (four forklifts, hoppers, stackers, magnets, etc.). The public terminal handles inbound and outbound cargo by truck, rail cars, barges and small ships.

Inbound and outbound tonnage has remained remarkably steady over the past decade. Approximately half of all inbound tonnage is petroleum products, and about one fourth is basic materials, primarily aggregates. Outbound tonnage is lead by agricultural products, namely rice and soybeans, which account for 75 percent or more of total outbound tonnage.

At the public terminal, outbound tonnage also has also remained relatively constant ranging between 47,000 tons to a high of 71,000 tons. Conversely, inbound tonnage has fluctuated significantly from a 1988 low of 39,000 tons to the recent 1994 high of 263,000 tons. As a percent of total port tonnage, the public terminal typically handles less than 15 percent.

A primary purpose of most public port developments is to strengthen the local economy. One way this is done is to provide access to efficient, low cost river transportation. As a business matures, its tonnage may grow to a point at which it can economically justify building and operating its own special purpose private river terminal. When this happens, the public port has achieved a significant objective of nurturing the growth of a business that will contribute to the local economy. It also points out the fallacy of placing too much emphasis on public terminal tonnage (and operating revenue) as a yardstick for measuring success. Achievement of the larger goal, economic growth, also may result in a decrease of tonnage at the local public terminal. This scenario is taking place in Greenville. Significant fertilizer tonnage shifted from the public terminal to a new private terminal in 1995. The company that built the private terminal was given the opportunity to enter the market and grow a new business on land developed by the Port Commission and with services provided by the Port Commission public dock.

3.4 Port Market Potential

Cargo Volumes - The survey of existing businesses and discussions with business leaders indicate that a significant degree of interest currently exists in the region to seriously consider the development of a river port. The survey/interview process indicates:

- 13 firms shipping 1.8 million annual tons expressed a “moderate” to “high” interest in using a Clarksville river port (of which 11 firms/1.5 million tons are highly interested).
- When different sites are considered the worst location in terms of cargo volumes of “highly” interested firms totals 337,000 tons (West Clarksville site).
- A business in Hopkinsville, KY is a major potential user - 3.5 million tons annually. As mentioned throughout the report, a single major cargo user can easily generate enough volume to justify the development of a river port.

Based on this data, an order-of-magnitude estimate of annual cargo tonnage would range between 300,000 to 5.0 million tons. The actual level would vary depending on site location, crane facilities, storage facilities, truck and rail access, operation and ownership (public vs. private), etc. The low range cargo volumes compare favorably with that of the existing Port of Rosedale (511,000 tons), as shown in Exhibit 16. Excluding the huge potential 3.5 million tons of the new potential in Hopkinsville, the

remaining 1.5 million tons identified under the high-end forecast compares favorable with the existing Port of Greenville and the private terminals in Helena.

To help visualize the magnitude of such potential port development scenarios these cargo volumes are broken down by average barges per week. Under the low scenario, the 300,000 annual tons would average roughly 5,770 tons per week. At 1,500 tons per barge this would result in 4 barges being either loaded or unloaded per week. Conversely, the high estimate of 1.5 million tons per week (excluding the future potential of an additional 3.5 million tons) would result in roughly 28,850 tons per week via 20 barges.

The future potential of an additional 3.5 million inbound tons would translate to an additional 67,300 weekly tons and approximately 45-50 weekly barges. Under the high estimate, including the 3.5 million of potential future tons, the total weekly barge traffic could reach as high as 70 barges (10 barges per day). This is extremely high and is considered doubtful. In addition, such a large operating environment would require extensive road and/or rail improvements to accommodate the traffic.

The low-end range of 300,000 annual tons to the high-end of 1.5 million tons (excluding the additional 3.5 million tons) does, however, appear reasonable compared with existing Cumberland River tonnage and the tonnage at the other ports discussed in the previous sub-section.

Operating Structure - Essentially, public-use ports are viewed as being in one of two categories:

- *Operating Port* – receives revenue mostly from “handling” fees (i.e. movement of goods from barge to dock and/or storage) wharfage fees and stevedoring.
- *Land-Use Port* – receives revenue mostly from leasing land in the area of the port to private industry.

The Port of Rosedale, MS, which has storage capacity of 20,000 sq.ft., and handles general cargo and dry-bulk, is a typical operating port. This port receives its revenue mostly from handling fees, and to a lesser extent, storage fees (90% or more), while the remaining revenue (10% or less) is received from property leases to private industry, the railroad, and tax millage.

The Port Director provided examples of typical handling fees and how they vary depending upon commodity. Stevedoring (i.e. moving cargo from barge to dock) a commodity like steel coil, a "high market value" product, may cost \$2.60 per ton, compared to sand and gravel, a low market value product, costing \$1.50 per ton. Using steel coil as an example again, the cost to "handle" (move the commodity from dock to storage and/or truck) the coils may cost an additional \$1.50 per ton.

Storage is important to the Rosedale port as well, especially to the high-market value commodities such as coiled steel because of its susceptibility to moisture. The fees charged for storage of this type of commodity is approximately \$1.00 per ton for every month. The average time in storage for steel coil is one month. Low market value commodities, such as sand, does not require storage and generally leaves the same day. If, however, a company needs to store their low market value commodity, the company is more likely to lease the required land from the port.

Additional revenue to this port comes from a tax millage set by the county on general property within the county and totals \$100,000 dollars. A portion of the millage fee and the \$100,000 dollars goes toward the retirement of the initial \$5 million dollar GO bond. This port also charges a negligible amount in wharfage (service charge) fees.

Due to underlying economic development objectives, some public ports may wish to either sell port land or charge nominal fees to those who lease. As discussed earlier, high operating revenues typically are not the objective of a publicly operated, public-use port. Rather ports are viewed as a catalyst to attract industry and jobs, and to increase tax revenues.

The Mt. Vernon terminal of Indiana, under the authority of the Indiana Ports Commission, is an example of an inland waterway land-use port. Mt. Vernon offers storage capacity of 37,000 sq. ft. and handles only dry bulk materials. According to the Indiana Ports Commission, approximately 80 percent of Mt. Vernon's revenues are derived from the leasing of property to private industry, while the remaining is from fees (i.e. handling, stevedoring, and wharfage fees). The Commission did not mention any other revenue (i.e. millage fees) being allocated to this port; however, the Commission does manage another inland waterway port and a great lakes port, either of which may receive a small percentage of revenue from some other miscellaneous public source.

The Port of Greenville, MS also operated as a land-use port for many years. It acquired a large tract of land and entered long-term leases and/or sold individual parcels. In doing so, the port earned considerably more revenue than it did from the stevedoring, handling and storage of port cargo.

Potential Operating Revenue at Clarksville – Based on a conservative estimate of annual tonnage volume ranging between 300,000 to 1.5 million tons, annual operating revenues are estimated at Clarksville to range between \$800,000 to \$2.4 million. Estimates are based on an “*Operating Port*” structure where revenues are generated through the stevedoring, handling and storage of water cargo tonnage. No revenues are estimated from the lease or sale of property or from any other services. Storage revenues are based on \$1.50 to \$2.60 per ton charge, handling revenues are based on a \$0.90 to \$1.50 tonnage charge, and a storage charge of \$1.00 per ton is estimated for any neo-bulk cargoes (i.e. steel coil/rods).

If the private sector plans to attract the additional 3.5 million were to occur, cargo revenue would increase significantly (i.e. between \$10 to \$20.0 million). With such a large shipper, actual stevedoring, handling and storage rates would certainly be negotiated. In reality, the true benefit to the community of attracting such a large shipper would occur through the additional jobs and tax revenues; *i.e. it would promote economic development of the hinterland.*

3.5 Summary

Study findings indicate the following:

1. Cargo volumes identified through the business survey and discussions with local business leaders indicate a positive interest in the use of a local river port. The magnitude of such cargo volumes range from modest (i.e. 300,000 annual tons) to considerable (1.5 million annual tons) to very ambitious (5.0 million annual tons).
2. The private sector interest in water transport facilities coincides with the APSU/EDC Data Center findings that suggest the utilization of the Cumberland River to develop and promote the region’s commercial development.
3. Strong private sector interest in the development of a public-use port suggests the Commission should investigate facilitating private development in conjunction with an independent public-owned port. Because, the Commission could not move as quickly as a private company, and it appears the private sector has garnered significant interest in port use that surpasses that identified by the Commission.
4. In exploring assistance for the private sector, the City/County could provide major assistance to the developer of a public-use, privately owned and operated port by helping:

- Expedite needed road and other infrastructure projects that would improve access to the port. This could involve discussion with the TN Department of Transportation and the Department of Economic and Community Development (i.e. the TIIP program – TN Industrial Improvement Program).
 - Educate port opponents to the potential economic impacts, in terms of jobs and tax revenues generated through the creation of a successful port. And, by ensuring that the port is located in an area that creates the least possible negative public feedback.
 - Obtain necessary land and environmental permits for the private developer.
 - Acquire any federal assistance available for port development, i.e. U.S. Army Corps of Engineers Section 107 and other program assistance.
5. While the private business development and operation of a port saves the Commission the cost and responsibility of building, owning and operating a port, the Commission must realize it may forfeit control of port investment and operating decisions. Instead of the port's primary function being that of economic development, it now becomes revenue generation of the private operator. This may create conflicts with short-term versus long-term development plans and local economic development programs.
6. The revenue potential of the envisioned port is estimated at between \$800,000 to \$2.4 million per year (excluding the speculative 3.5 million tons). An independent Port Authority could develop the port in cooperation with private-sector facilities or on its own. However, certain types of federal funding are only available to publicly-owned facilities.
7. Alternatively, if the private sector interests can hold-off their water transport development plans until the Commission can raise public funds through the U.S. Army Corps of Engineers, the State, bonds, etc., then the Commission could build the port and lease it back to the private concerns. The advantage of doing so is that it saves the private investor the up-front investment costs, ensures a revenue stream to repay public investment, and ensures that the Commission has some say in the control and/or operation of the port (i.e. support economic development objectives). For such a development scenario to succeed would require a strong commitment by a local public official (i.e. a Commission member, mayor, etc.).

In conclusion, a public-use port in Montgomery County appears to be a worthwhile economic development project given that it is designed for appropriate movements (i.e. not over-built), and has the appropriate facilities (i.e. cranes, warehouse, outside storage area, etc.). It would help to attract new industry and to make existing business more competitive. The main obstacle is deciding on where to build it, who should build it, and who should operate it.