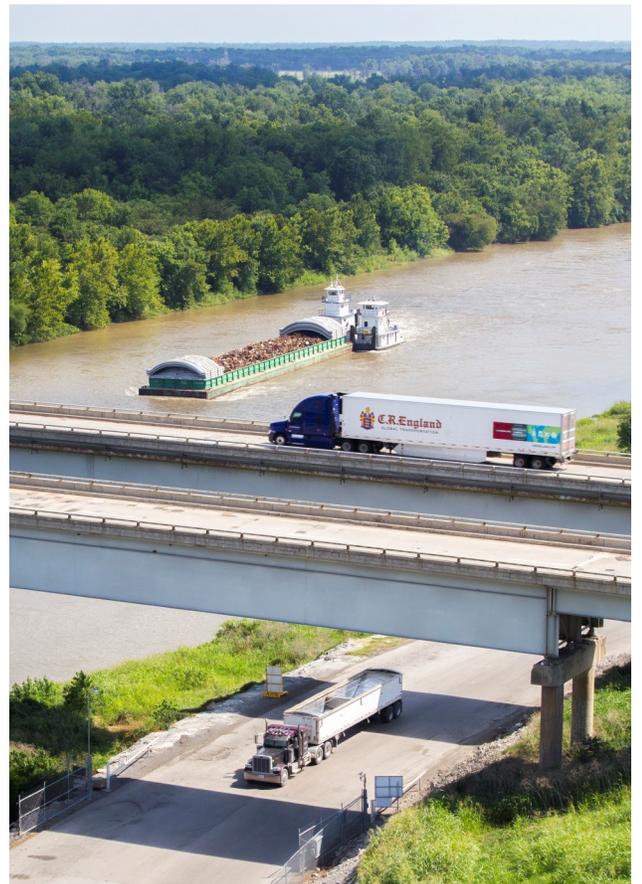


# Waterways

Oklahoma Department of Transportation  
December 2013



## MCCLELLAN-KERR ARKANSAS RIVER NAVIGATION SYSTEM

The McClellan-Kerr Arkansas River Navigation System (MKARNS) is Oklahoma's primary navigable waterway originating at the Tulsa Port of Catoosa and flowing southeast to the Mississippi River. The MKARNS is synonymous with the Arkansas River in Oklahoma from the Port of Muskogee downstream to the Arkansas border. Upstream of the Port of Muskogee, the MKARNS leaves the Arkansas River and joins the Verdigris River as it heads up to the Tulsa Port of Catoosa. It was dedicated by President Nixon in 1971 after being funded by Congress at a cost of \$1.2 billion with a name that was selected in honor of U. S. Senators John L. McClellan and Robert S. Kerr from Arkansas and Oklahoma, respectively, after their vision became a reality.

A total of 18 locks and dams enable tows to traverse the 445 mile trip along the MKARNS by raising the tows a total of 420' to meet the total change in elevation going upstream and lowering the tows going downstream through these locks. The five dams located in Oklahoma provide numerous benefits, one of which is preventing flood damage that is estimated at a savings to Oklahoma of \$165.5 million. Other benefits of the MKARNS include water supply, hydropower generation, recreation, fish and wildlife conservation and, most importantly, navigation. Transporting by barge is the most economical, safe and environmentally friendly way of shipping bulk and oversized cargo.

There are two hydropower plants with a total of seven power generating units on the MKARNS in Oklahoma benefiting approximately 636,500 end users that provide clean energy. A portion of the revenues is applied to the operations, maintenance and construction costs of these projects and the rest is deposited into the U.S. Treasury. Over 8,000 jobs have been created in Oklahoma from industries using the MKARNS.

The MKARNS has been designated the M-40 Marine Highway. It is currently designated a "connector" meaning it represents a shorter route that serves as a feeder to the larger "corridor" such as the Mississippi River. These designations identify routes where water transportation presents an opportunity to offer a level of relief to Interstate surface transportation facilities that may be congested or have conditional issues.

## INLAND WATERWAY FREIGHT TRANSPORTATION

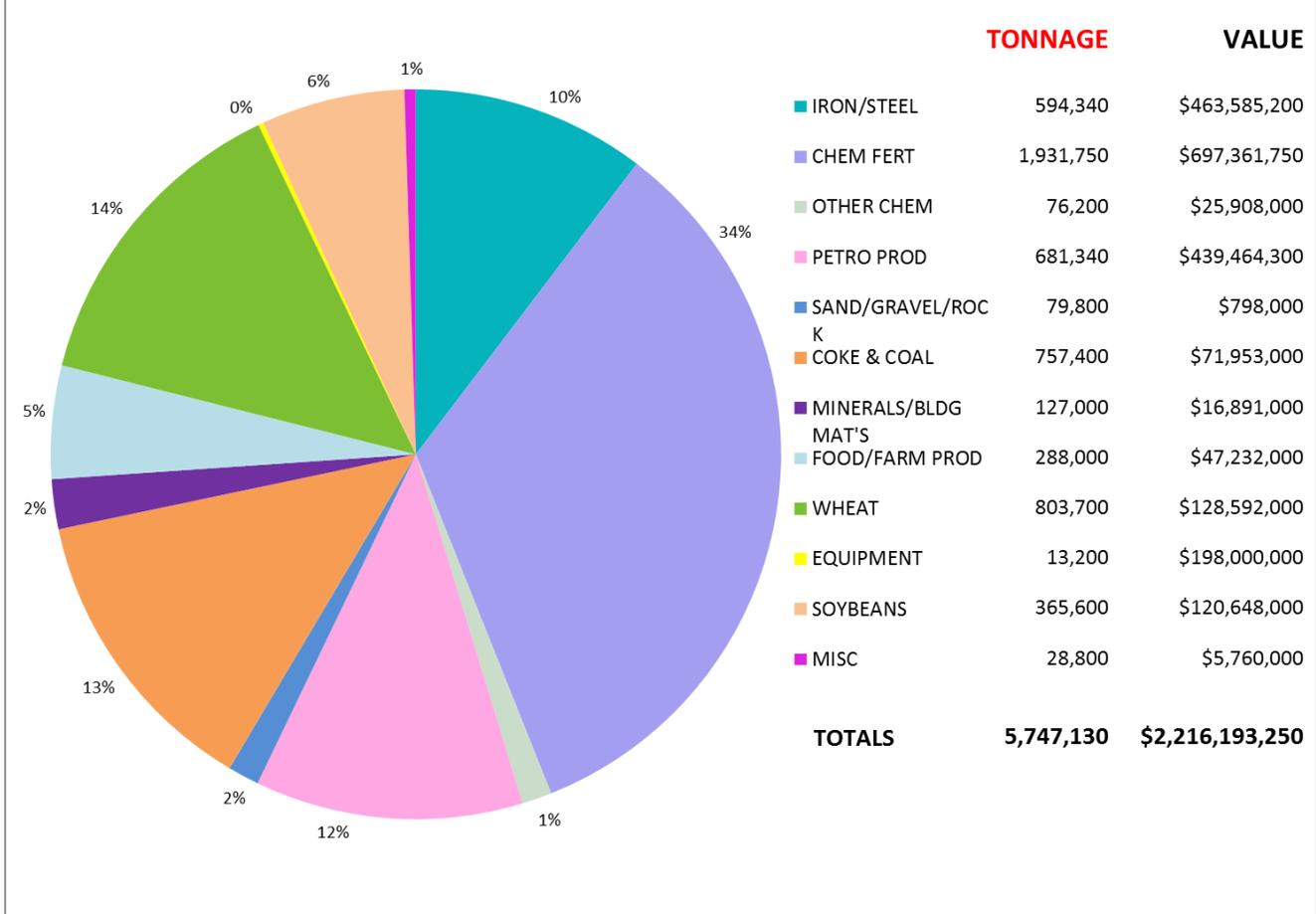
Movement of cargo by inland waterway tends to be comprised of the least time sensitive and heavy bulk commodities. Ports and waterways are an important component of Oklahoma's network for transporting these goods. The MKARNS waterway links Oklahoma to a 10-state service area with various domestic ports on the U.S. inland waterways system and foreign ports by way of New Orleans and the Gulf Intracoastal Waterway.

As described earlier, the Ports of Muskogee and Catoosa are the state's two public ports, and both are designated as Foreign Trade Zones. In addition, there are several other private port operations along the MKARNS. For example, Johnston's Port 33, a privately owned and operated port facility, is located south of Catoosa near Inola. Typical outbound freight includes fertilizer, grain and agricultural products; while bulk commodities, petroleum refining products, and steel and pipe are inbound.

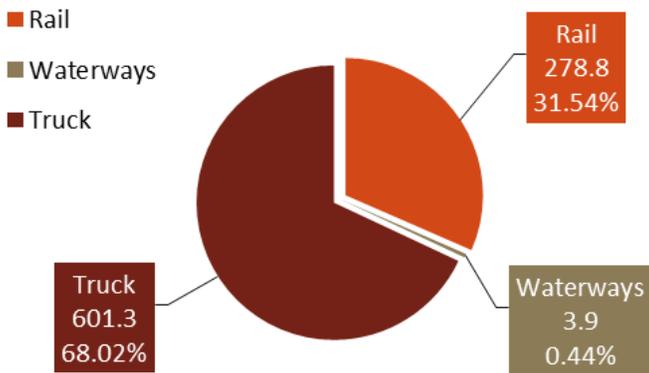
The 2012 tonnage transported on the Oklahoma segment was 5.75 million tons (valued at \$2.2 billion), which could require as many as 230,000 equivalent trucks to move on Oklahoma's highways, interstates and bridges. The system as a whole has an average of 11.7 million tons (valued at \$3.7 billion), which could require as many as 468,000 equivalent trucks to move. While a significant and growing volume of freight is transported via the waterway, the representative tonnage is less than one percent of the total annual freight moved in, out, within and through the State of Oklahoma when considering truck, rail and waterway.

Water transportation will continue to play an important part in the state's future. There is ample room for growth in this mode; and it provides some excellent examples of intermodal transportation. The port facilities are able to transfer cargo quickly and easily to the next mode of transportation. The ports at Catoosa and Muskogee have their own harbor towboats for barge movement, as well as internal rail tracks with locomotives for rail switching within the ports for the mainline railroads. Additionally, the Port of Catoosa handles services to and from pipelines and is eight miles from the Tulsa International Airport. Most ports have direct access to several interstate, state highway, and/or turnpike facilities.

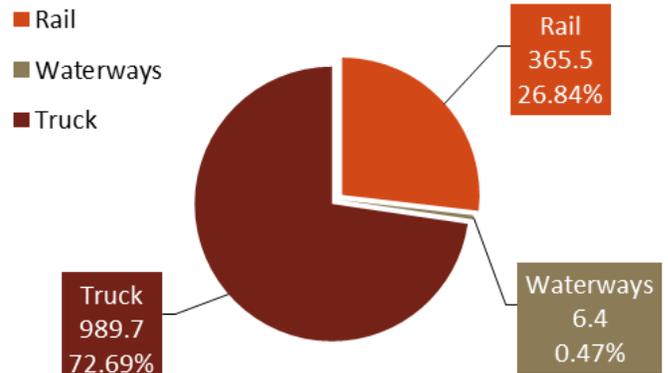
**CY12 - COMMODITY COMPARISON BY TON ON THE OKLAHOMA SEGMENT OF THE McCLELLAN-KERR ARKANSAS RIVER NAVIGATION SYSTEM**



**2009 Actual Tonnage**  
(in millions of tons)



**2035 Projected Tonnage**  
(in millions of tons)



## PORTS

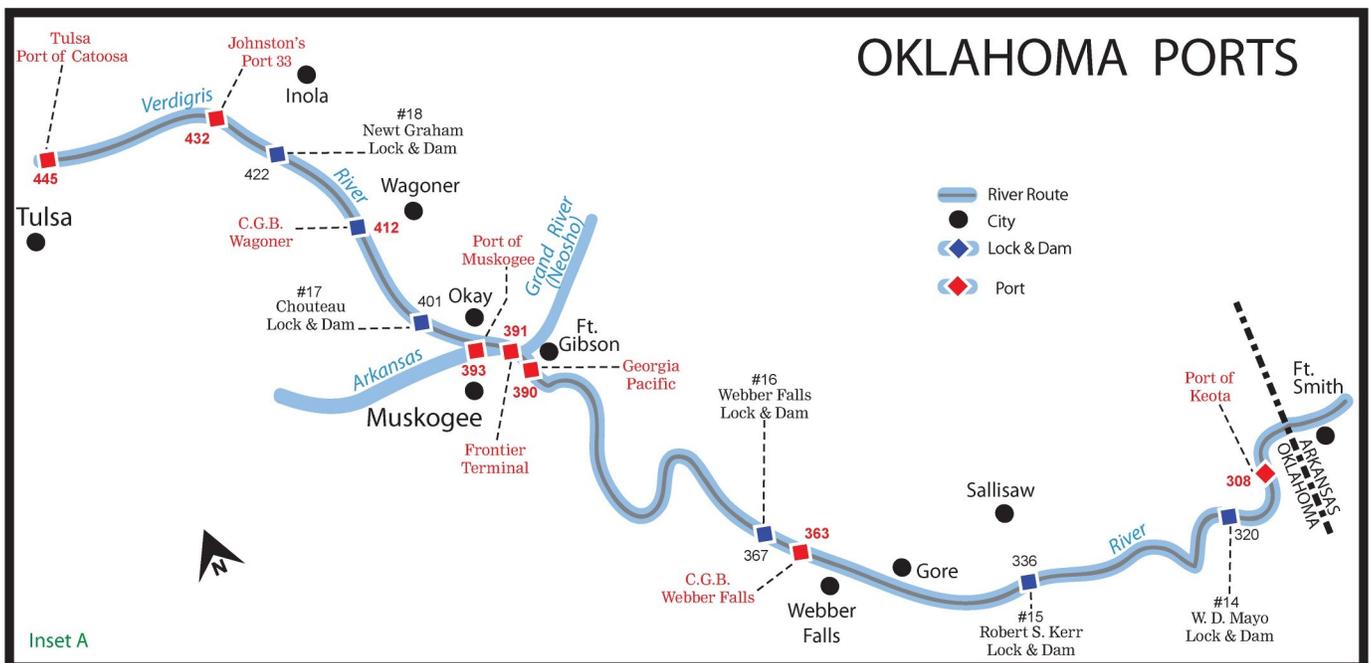
There are 31 terminal facilities along the MKARNS within Oklahoma; however, most facilities are clustered along the Ports of Catoosa and Muskogee. The Port of Catoosa and the Port of Muskogee are the two public ports on the Oklahoma segment of the system. They both have rail access in and out of their industrial parks where industries lease property from the ports and ship liquid and bulk materials and project cargo from across the globe. Both public ports have designated Foreign Trade Zones and have served over 44 countries. Johnston's Port 33 is the largest private port located 13 river miles downstream from the Port of Catoosa. The other ports and terminals in Oklahoma include Consolidated Grain and Barge located at the Port of Dunkin, Johnston's Port 33, and Webbers Falls; Frontier Terminal and Georgia Pacific, LLC, located downstream from the Port of Muskogee, and Livestock Nutrition at the Port of Keota. The main commodities being shipped include: iron and steel, chemical fertilizer, other chemicals, petroleum products, coal & coke, sand, gravel and rock, soybeans, wheat, other grains, forest products/minerals, miscellaneous, farm products/minerals and project cargo such as manufacturing equipment or machines that are generally too large to ship by rail or truck.

### Tulsa Port of Catoosa

The Tulsa Port of Catoosa is one of the nation's largest inland river-ports, located at the head of the MKARNS. It is owned by the city of Tulsa-Rogers County Port Authority in Catoosa, with approximately 2,000 acres of industrial park space with multi-modal access. Industrial facilities located within the Port of Catoosa include manufacturing, distribution, and processing of goods. The Port has five public terminals including a general dry cargo dock, roll-on/roll-off low water wharf, dry bulk terminal, grain terminals, and the bulk liquids terminals are all privately owned and operated. Barges, trains, and trucks serve the Port of Catoosa. The Port owns two locomotives for its 12-mile short-line railroad system that serves the terminals and private industries. The Port also owns two switch-boats that move barges between docks. The Port of Catoosa is served by various nationwide trucking shippers, and averages over 450 trucks per day. There is easy access on and off of I-44 and SH-169. Class I railroads serve the Port including BNSF directly, and UPRR through a short-line switch on the South Kansas and Oklahoma Railroad. The Tulsa International Airport is seven miles from the Port, and provides freight cargo shipping.

### Port of Muskogee

The Port of Muskogee lies in the city of Muskogee and provides industrial park facilities with access to multiple modes of transportation. There is the Port Industrial Park with 144 acres of industrial park land, and the Port of Muskogee/John T. Griffin Industrial Park with 117 acres. Industrial roads connect the Port to the Muskogee Turnpike and SH-165. The Turnpike and SH-165 provides access to US-69, which provides access to I-40 and I-44. Commercial trucking companies that serve this Port include J.B. Hunt, Yellow Freight, Dalworth Trucking, Arrow Trucking, and a few others. There is a rail marshalling yard and an internal track system within the Muskogee switching limits of the UP Railroad. Overhead and mobile cranes are available for transloading shipments among barge, trail, and truck. Davis Field Airport lies nine miles south of the Port, and Tulsa International Airport is 45 air miles north of the Port. The Port of Muskogee has 94,000 square feet of dockside warehouse.



## SYSTEM NEEDS

Although the channel is currently navigable with a 9' draft, Congress authorized the channel at 12' in the Energy and Water Development Act of 2004, H.R. 2754. However, funds have never been appropriated for the work. The 12' draft would allow more weight to be placed on the barges lowering shipping costs that are ultimately paid by the consumer, as well as making MKARNS more competitive with other inland rivers in transporting commodities through the heartland and bringing economic growth to the region.

In addition to the need for an increase in the depth, there is a backlog of critical maintenance of about \$100 million needed on the 100% federally funded navigation features of the system. The Corps of Engineers is responsible for the operation and maintenance of the system and defines "critical maintenance" projects as having a 50% or greater probability of failure within the next 5 years. The available funding has not kept pace with the demand over the years with the increasing wear and tear on the locks that are now over 40 years old. With decreased federal funding, there have been discussions regarding contributions from the stakeholders, not only with funds, but other shared resources including equipment, labor and materials. The current Federal Administration has proposed charging a lockage fee per barge, but the inland waterways industry is adamantly opposed to this proposition. Instead, the industry has requested that the diesel fuel tax be increased from \$0.20 cents per gallon to \$0.26 - \$0.29 cents. For navigation systems like the MKARNS, the concern is that lockage fees could be detrimental with 18 locks on the system. The tax increase may represent a more equitable means of distributing the burden of addressing the backlog of critical maintenance on inland waterway infrastructure. Thus far, the Congress has been hesitant to increase taxes even when industries which would be impacted by additional taxes are supportive of such initiatives.

Another priority for the navigation system is to upgrade Oklahoma's locks with tow haulage equipment. All 13 of Arkansas' locks are equipped with this feature. Because there is only enough room for eight barges and a towboat in a lock chamber, if more than eight barges are being pushed in the tow, the captain has to separate the tow to push the first eight barges and lock through, turn around and lock the towboat through to pick up the remainder of the tow and lock through again. Without tow haulage, it almost doubles the lock time for tows of 9 – 17 barges.

The system is currently open 24/7/365, and the system is continuing to ship its annual tonnage. There is a concern over fleeting capacity. Both the Port of Catoosa and Johnston's Port 33 have been working diligently with the Corps to lease additional land where the overflow of barges waiting to be loaded and unloaded can be docked. This has been a cumbersome process, taking years to go through mitigation, permitting and obtaining reasonable appraisals. Johnston's has had to turn a few industries away because it would create more fleeting than could be managed.

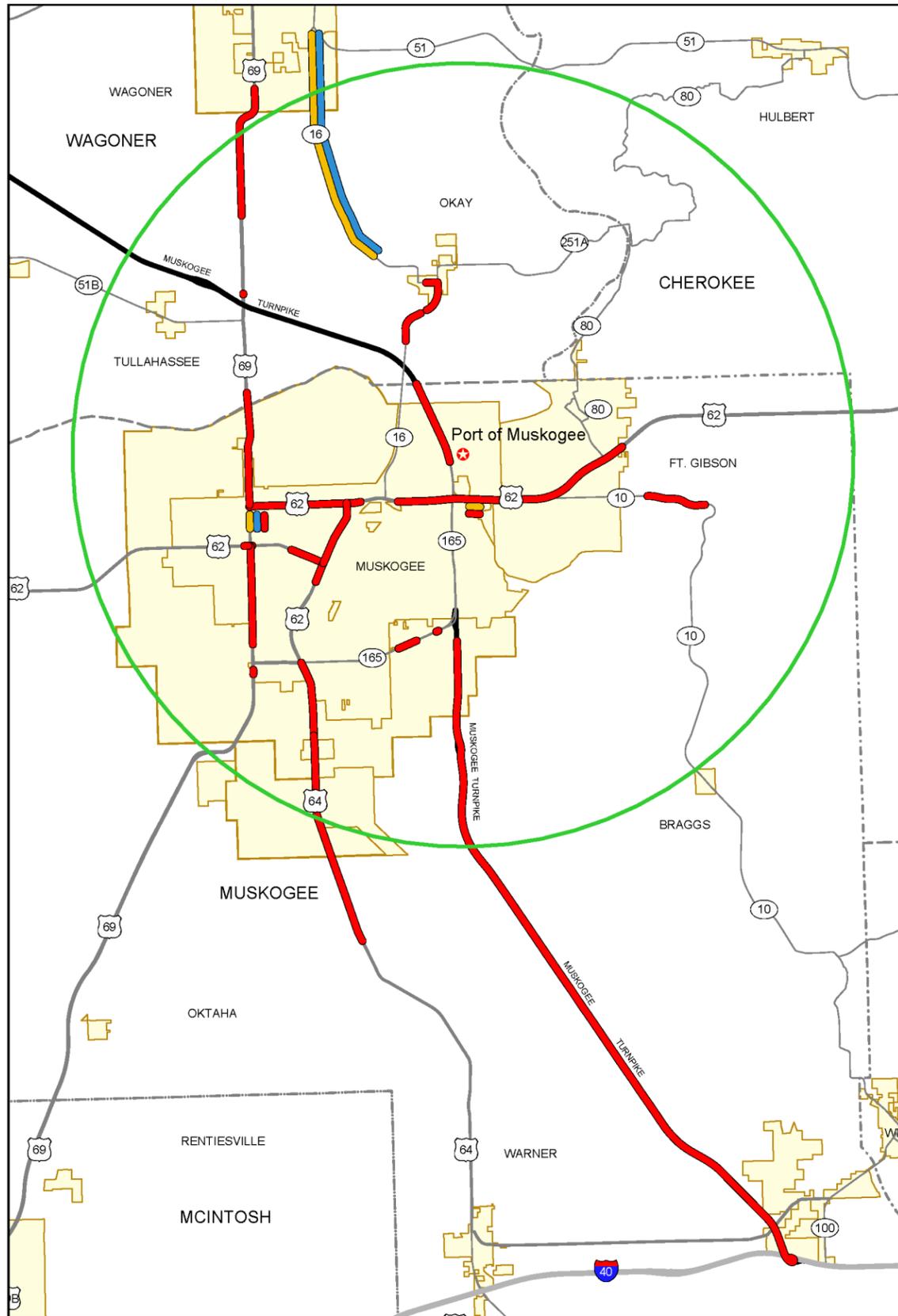
## ODOT COMMITMENT TO WATERWAYS

The importance of maintaining this vital infrastructure to Oklahoma's economy is undeniable. ODOT and the Arkansas Waterways Commission are jointly working on a Regional Economic Impact Study that is being conducted this year with the assistance of two universities, one from each state. The study will illustrate the estimated economic impact of the MKARNS to Oklahoma's and Arkansas' economies as well as other benefits such as employment along with reducing rail and road congestion. The study will further consider the alternative freight and shipping opportunities provided along with the benefits of removing an estimated 468,000 equivalent trucks from the state highways and interstates, which would not be possible if the navigation system did not exist, or if a critical failure were to occur. It is also anticipated that numerous other indirect impacts will also be revealed.

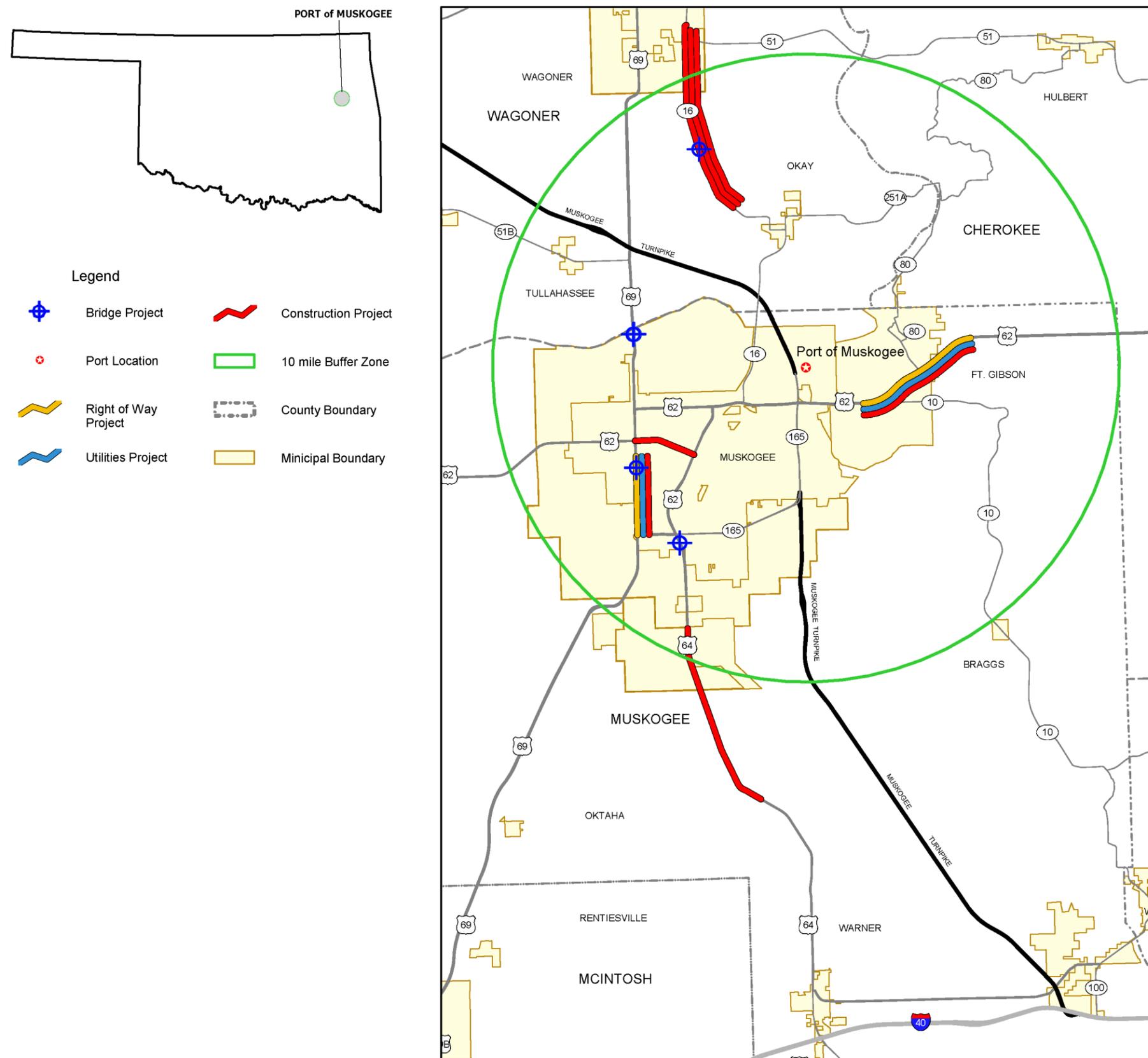
Due to the commitment of the Department to support the ports and the freight and shipping opportunities that are provided for the state, numerous transportation system improvement projects have been completed and are scheduled in their vicinities (reference illustrations on pages 5 – 8). Since 2000, the Department has awarded 150 contracts, including right-of-way and utility relocation efforts, totaling in excess of \$417.4 million within a 10 mile radius of the Port of Catoosa and Johnson's Port 33. Further, within that same area an additional 69 projects totaling nearly \$201.4 million are scheduled for award in the FFY 2014 through FFY 2021 Construction Work Plan. Similarly, since 2000, the Department has awarded 41 contracts, including right-of-way and utility relocation efforts, totaling almost \$66.7 million within a 10 mile radius of the Port of Muskogee. An additional 16 projects totaling over \$55.5 million are scheduled for award in the FFY 2014 through FFY 2021 Construction Work Plan for that same area.

# PORT OF MUSKOGEE

## AWARDED PROJECTS \$66.7 million since 2000

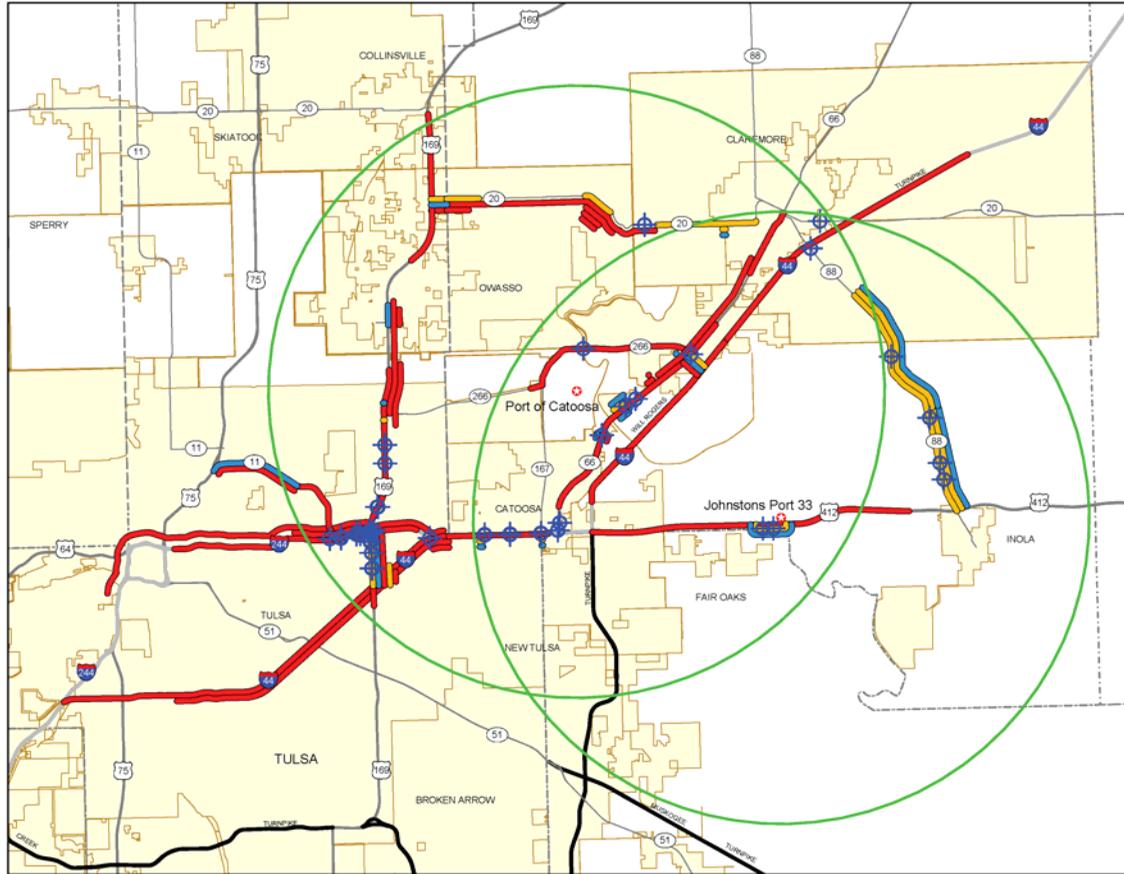


## ACTIVE PROJECTS \$55.5 million planned between 2014 and 2021



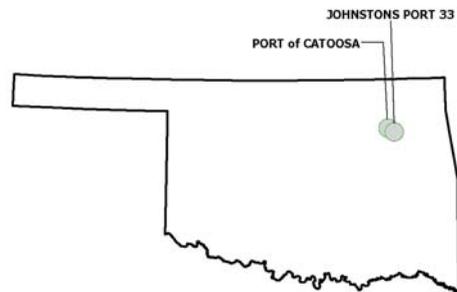
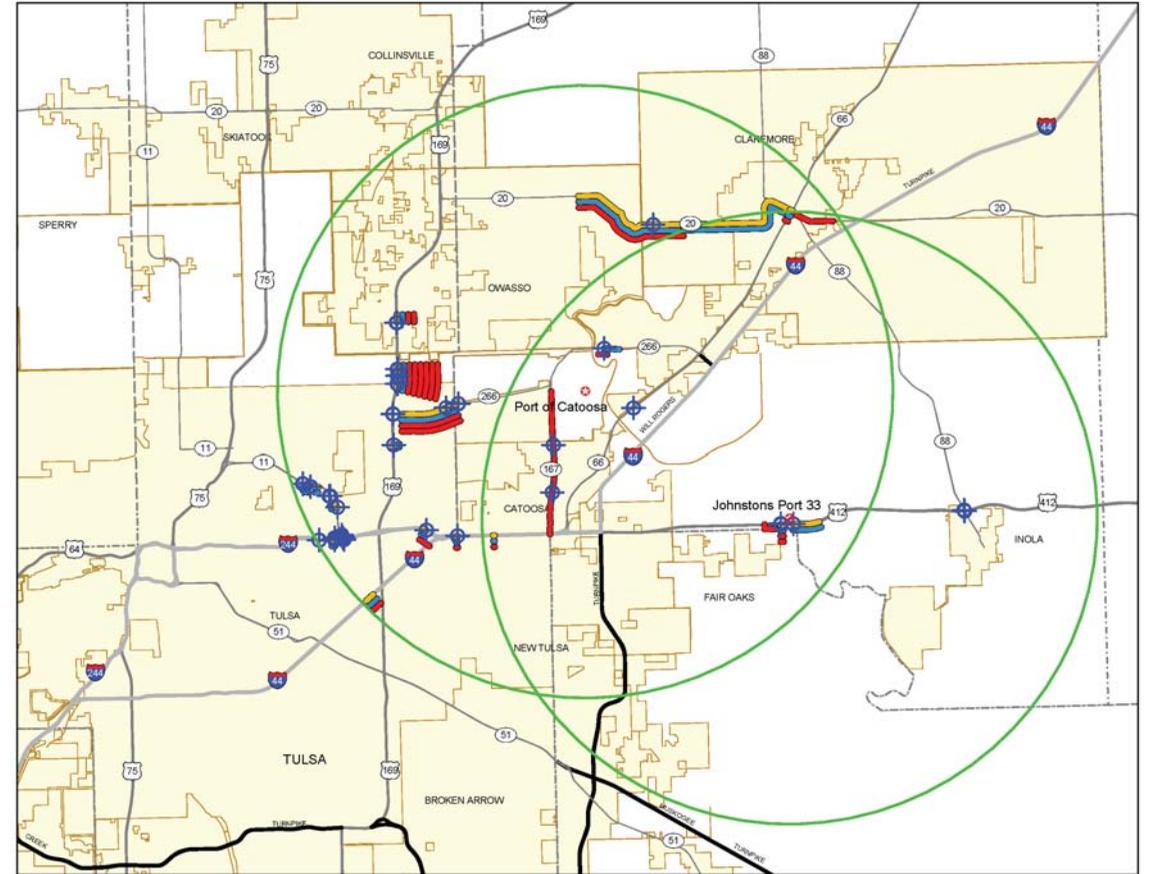
### PORT OF CATOOSA

#### AWARDED PROJECTS \$417.4 million since 2000



### & JOHNSTON'S PORT 33

#### ACTIVE PROJECTS \$201.4 million planned between 2014 and 2021



- Legend**
- Bridge Project
  - Construction Project
  - Port Location
  - 10 mile Buffer Zone
  - Right of Way Project
  - County Boundary
  - Utilities Project
  - Municipal Boundary

## BY THE NUMBERS...

- ❖ One barge can carry the weight of 136 school buses, 750 pickup trucks, 12,000 refrigerators, or 200 elephants.
- ❖ You can ship a bushel of wheat from Tulsa to New Orleans for a little more than the cost of a postage stamp
- ❖ The 2,500-acre Tulsa Port of Catoosa is one of the largest, most inland ice-free ports in the nation, with 60 industries employing over 3,600 workers. On average, **900 semi-trucks per day** carry products through the Port complex.
- ❖ Port & dock facilities on the MKARNS in Oklahoma equal **80 industries**, nearly **\$5 billion in private investments**, **7,500 jobs**, and **\$350 million in annual payroll**.
- ❖ More than **2,000 semi-trucks per day** travel into and out of Oklahoma's port & terminal facilities to load or offload products to/from barge.
- ❖ A 2001 study showed that moving freight by barge resulted in cost savings of \$68 million for Oklahoma farmers, manufacturers and consumers, compared to the cost of alternative overland modes.
- ❖ In 2012, over **1.2 million people** visited the five Corps-operated projects on the system in **Oklahoma**. **Over 5 million visitors** took advantage of the 12 Corps-operated projects in **Arkansas** (campgrounds, parks, boat ramps, reservoirs, hiking trails and picnicking areas).
- ❖ In 2012, **833 recreational vessels** locked through **Oklahoma's 5 locks**.
- ❖ **Flood damages** prevented by Arkansas River Basin projects under the jurisdiction of the Corps' **Tulsa District** totaled **\$165.5 million** in FY 2012. Cumulative damages prevented through 2012 equal more than **\$10.99 billion**.

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