2020UPDATE



FREIGHT & GOODS MOVEMENT

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Freight and Goods Movement

Growth in Freight is a Central Issue for Oklahoma

The Oklahoma Department of Transportation is committed to developing and maintaining an integrated surface transportation network that enhances commerce and supports Oklahoma communities. As the state's economy and technology continue to evolve, transporting cargo often includes more than one type, or mode, of transportation. The following modes will be addressed in this report: commercial motor vehicles or trucks, railroads and ports and waterways.

Reliable freight transportation enables productive connections between business and markets in Oklahoma, the United States and the world economy. Because of its geographic location in the central southwest, the state's proximity to markets and a positive business climate, a high-quality transportation network is vital to the state's continued growth and prosperity. From 2015 to 2045, the <u>Oklahoma</u> <u>State Freight Transportation Plan</u> projects tonnage to increase on average about 1.5% per year.

Freight Transportation in Oklahoma

The Oklahoma Department of Transportation analyzes freight flows within, through and into and out of Oklahoma. Freight flows reflect the most recent year for which consistent and comprehensive data are accessible for each freight mode. This report describes freight flows on major highways, the freight rail network and also the McClellan-Kerr Arkansas River Navigation System (MKARNS) in Oklahoma.



Total freight flow volumes, by mode, indicates several points as follows:

- The largest total freight volumes, for all modes combined, occur in the north-south corridor that includes the I-35 truck corridor and the BNSF Railway corridor. Those volumes are greatest between the Texas border and northcentral Oklahoma, where some of the volumes are dispersed in east-west directions.
- Rail freight flows are predominantly in the north-south direction.
- A total of 519.3 million tons, or 63.7% of all the state's freight traffic, flows through Oklahoma. The remaining 36.3% is freight that is inbound, outbound, or occurring within the state.
- Most of Oklahoma's freight, 59.7% of total tonnage, is transported by truck.





Millions of Tons of Freight Transported in Oklahoma (2018)









Trucking Oklahoma's Major Corridors

Highways are considered high-volume truck corridors that have consistent truck volumes at or above 5,000 vehicles per day, or on facilities where truck traffic represents 40 percent or more of the total traffic. Interstate 40 truck volumes outside of the Oklahoma City metropolitan area are in the range of 6,000 to 8,000 freight vehicles per day. In the rural parts of the state, trucks are a larger percentage of total vehicles; in some locations one of every two vehicles on I-40 is a truck. Interstate 40 truck volumes in central Oklahoma exceed 10,000 vehicles per day. In general, I-35 truck volumes increase from north to south, with the peak in the Oklahoma City metropolitan area. Interstate 44 truck volumes increase from southwest to northeast with the highest volumes in the northeast corner of the state near Missouri. US-69 crosses the eastern one-third of the state and handles up to 6,500 trucks per day with the highest volumes in Pittsburgh County southwest of McAlester. US-64 and US-287 in the Oklahoma panhandle serve commercial carriers traveling between Texas, Kansas, New Mexico and Colorado. Trucks comprise more than half of all vehicles on these roadways. Products most commonly transported by commercial motor vehicles in Oklahoma include refined petroleum, non-metallic minerals (such as sulphur, limestone, sand and gravel), agriculture, clay and concrete.



High Volume Truck Corridors:

...are locations where highways have consistent truck volumes at or above 5,000 vehicles per day, or on facilities where truck traffic represents 40% or more of the total traffic.



Single-Unit vehicles are designed to transport goods without an attached trailer. Combination Vehicles are standard 5-axle semi trailer-trucks with an attached trailer. AADTT is Average Annual Daily Truck Traffic.

*STRAHNET (Strategic Highway Network) is a system of roads deemed necessary for emergency mobilization and peacetime movement of armor, fuel, ammunition, and other commodities to support U.S. military operations.



High Volume Truck Corridors



Ports of Entry

In 2008, the Oklahoma Department of Transportation, the Oklahoma Corporation Commission and the Oklahoma Turnpike Authority announced a partnership effort to upgrade Oklahoma's port of entry facilities. These ports of entry facilities are where commercial motor vehicles enter into the state and pass through a credential and safety inspection checkpoint. Using an estimated \$81 million in funding originating from the Oklahoma Petroleum Storage Tank Release Indemnity Program, as provided by the Corporation Commission, \$11 million from the Turnpike Authority and \$4 million from ODOT, the department set a goal of developing several new port of entry facilities at key points on Oklahoma State lines.

Four ports of entry have been completed to date. The ports of entry on I-35 in Kay County at the Kansas state line and on I-40 in Beckham County at the Texas state line were the first to be completed in 2012. A third port of entry was put

into service in 2015 on I-40 in Sequoyah County at the Arkansas state line. In 2017 the fourth port of entry was opened in Love County. There are three more ports of entry planned for construction during the span of 2020 through 2025, located in Bryan, Choctaw and Cotton counties.

Illegally loaded or operated trucks have an adverse impact on the condition of our transportation system and on the safety of the traveling public. These state-of-the-art facilities will establish the front line necessary to create a safer and more responsible freight transportation environment on the highway system. By closely monitoring freight ingress at the state line, the appropriate state agencies can better enforce vehicle and freight laws and regulations, ensure proper truck registration, operation and permitting and enforce weight and size regulations.

Oversize/Overweight Truck Routing and Permitting System

Agriculture, along with the energy industry, powers much of Oklahoma's economy. As such, the Department of Public Safety issues thousands of oversized or overweight trucking permits on an annual basis.

The state legislature met with ODOT and DPS in 2008 and determined that improving the existing oversize/overweight permitting and routing process was a priority. In response, ODOT and DPS initiated a joint project to develop a system that provides carriers with the ability to submit a standard permit request via the internet at any time of day, generate a safe route and automatically pay for and receive the permit electronically. The first phase of development and implementation of the automated Oklahoma Permitting and Routing Optimization System (OkiePROS) for oversize overweight trucks began in November 2011.

In the first full year of operation, the new oversize overweight system processed and approved 250,000 permits. That is almost 10,000 more permits than its highest year ever. In 2019, 121,310 permits were issued. Seventy five percent of the permits were in the customer's hands in less than five minutes, as compared to a typical 24hour turnaround prior to the inauguration of the automated system. Since the system is 24 hours/7 days a week, it provides customers with working options on weekends and late hours of the day, even when state offices are closed. The second phase of development will include additional functional enhancements, and is currently underway.



The current statewide focus on improving structurally deficient bridge infrastructure also has a direct effect on both legal and permitted loads. In recent years, the department has reduced the number of structurally deficient bridges from 1168 in 2004 to 86 in 2019. ODOT is now #9 in the nation for structurally deficient bridges as of 2020. The goal is to have ODOT's highway bridge inventory at a manageable level of less than one percent structurally deficient. Load posted or deficient bridges present significant and costly obstacles to the conduct of business and commerce for trucking in Oklahoma. The focus on bridge infrastructure ensures that highway structures are in a condition that can support the safe and efficient travel for both legally loaded trucks and permitted loads in all areas of the state.



GUYMON

Opportunities for Oklahoma to Capitalize on its Geographic and Economic Position in the Freight Arena:

- Emphasize improvements to the major truck freight corridors.
- Promote development of transload and/or major intermodal freight facilities with rail, waterways and trucking industries.
- Encourage the railroad industry to upgrade and/or expand the freight-rail infrastructure. Railroads can help manage the high increases in freight expected in the years ahead.
- Work with the U.S. Army Corps of Engineers and affected entities to address critical maintenance needs on the McClellan-Kerr Arkansas Navigation System, especially after catastrophic flooding in spring of 2019.









Oklahoma Freight Transportation Plan, ODOT, 2018-2022

Freight Volumes on Highways, Railroads, and Inland Waterways



OKLAHOMA Transportation



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Rail Involvement

The Oklahoma Department of Transportation serves in a number of roles related to railroads and railroad related activities. ODOT currently manages leases with five railroad companies operating on state-owned track, administers the Federal Highway Administration's Grade Crossing Safety Program, which provides funding for safety improvements to Oklahoma's nearly 3,450 at-grade public rail/roadway intersections, manages Oklahoma's Heartland Flyer passenger rail service (one of Amtrak's highest-rated trains for customer satisfaction), a liaise to the rail companies for ODOT projects that involve operations or railroad property and reviews federal funding opportunities to grow and improve Oklahoma's passenger and freight rail systems.

Over the years, the department has developed public-private partnerships with many railroads to lease the majority of what was once an 882 mile system of state-owned track, in order to continue rail freight service for many Oklahoma communities and businesses. Two of the leases were developed as long-term lease-to-purchase agreements, intended to eventually return those facilities to private ownership. Following the maturation of these 30-year agreements, more than 350 miles of the state-owned rail system was returned to private ownership in 2013, thus reducing ODOT's rail ownership to more than 300 miles. In August 2014, ODOT and the Stillwater Central Railroad completed a \$75 million sale of the Sooner Sub rail line between Midwest City and Sapulpa. The sale of this 97.5 mile line was the culmination of a 180 day process put into place in 2013 by the State Legislature.

With the sale of the Sooner Sub rail line, ODOT announced a \$100 million initiative to accelerate safety projects at railroad crossings statewide. State budget reductions in 2016 have subsequently limited the program to \$75 million. Since kicking off the safety initiative in October of 2015, the Transportation Commission has approved more than 276 crossing improvement projects statewide, which will add flashing light signals and crossing gate arms to many of these crossings. Federal funding, as well as funds provided by railroad companies and the local entities are also being used in the initiative, which has enabled ODOT to advance nearly 8 years worth of improvements in three years.

Freight traffic continues to be the main source of railroad activity in the state. An estimated 322 million tons of freight is transported by rail in the state each year, with many rail lines carrying 50 to 100 trains a day. Rail freight traffic will experience significant growth during the next few decades with the number of trains on some corridors expected to double in the next 20 years. The largest growth in freight traffic per day is expected on the BNSF Railway in the northern part of the state.



Rail Programs Division of the Oklahoma Department of Transportation

Established in 1989, Rail Programs Division oversees the State's interests in the 3,244 miles of rail that run across Oklahoma. The Division is responsible for administering federal and state funds used to support operation of the Heartland Flyer passenger service, highway construction projects affecting railroad property, railroad crossing safety improvements, and maintenance of the state-owned rail lines. The Division is comprised of five branches - Safety; State-owned Rail Line Management; Construction; Federal Programs; and Passenger Rail. **322 MILLION TONS** of freight is transported by rail in the state each year.

Many rail lines carrying **50 to 100 TRAINS EACH DAY**



ODOT Rail Safety Program

The Rail Programs Division Safety Branch works with all railroads active in Oklahoma and the Oklahoma Corporation Commission, as well as the counties and communities in which the railroads operate, to actively pursue initiatives leading to safer travel for Oklahoma's citizens. The ODOT Rail Safety Program is comprised of three primary areas of focus - single high priority rail crossing locations, statewide minimum rail safety standard projects and rail corridor safety improvements. These programs aim to either improve on-the-ground safety conditions or close and eliminate highly active railroad crossings that rise to the top of the annual ranking and inspection reports. Through a combination of annual OK.RAIL crossing database reporting results and field-based diagnostic team inspections, the ODOT Rail Programs Safety Branch identifies the crossings deemed most in need of attention.

The State-owned Rail Line Management and Construction

The state of Oklahoma, through ODOT, leases 143+ miles of railroad to five railroad operators in the state. ODOT's Rail Program staff oversees the state-owned properties and its selected operators, which includes direct responsibility of the rights-of-way, operator contract compliance, property inspections and all easement license lease reviews and maintains the lease agreements between the state and the operators. The program staff also completes yearly inspections for proper maintenance. ODOT has successfully leased 95 percent of the lines the department owns to short line railroad operators.



Federal Programs Branch

The Federal Programs Branch identifies and secures federal funding available for rail improvements such as TIGER, BUILD, INFRA and CRISI grants. Its purpose is to ensure that ODOT is fully compliant and integrated with all rail funding initiatives such as the State Rail Plan and State Freight Plan requirements. The branch also keeps ODOT staff informed of national rail policy and priorities by participating in the AASHTO Standing Committee on Rail and the States for Passenger Rail Coalition.



Oklahoma Rail

Transportation Investment Generating Economic Recovery (TIGER) & Consolidated Rail Infrastructure and Saftey Improvement (CRISI) Grant Awards

Accelerating Economic Prosperity in the Heartland: A Rural Freight Rail Project	K R	Gamichi Tri-State Freight Bail Improvement Project <u>CRISI</u>	Eric to Sayre <u>TIGER V</u>	Enid to Elk City <u>TIGER IX</u>
CRISI				
(co-op with KDOT-ODOT) TOTAL PROJECT COST: \$40,627,880	Т	TOTAL PROJECT COST: \$20,012,578	TOTAL PROJECT COST: \$2,621,700	TOTAL PROJECT COST: \$16,502,989
This project improved capacity on the South Kansas and Oklahoma Railroad Company (SK&O) rail line to carry 286,000 pound cars in cansas and Oklahoma. Awarded March 2020		This project greatly increased freight rail capacity for Kiamichi lines in southeast Oklahoma. Awarded Sept. 2020	This project has greatly increased freight rail capacity between Texas and western Oklahoma. Completed July 2016	This project will upgrade the Enid to Elk City line to carry 286,000 pound cars. Expected Completion Sept. 2022





< 3 Million 3-4.99 Million 5-14.99 Million 15-49.99 Million 50-89.99 Million >90 Million

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Arkansas and Missouri.

Class III carriers.

boosted by gains in exports from the Tulsa area to

In addition to the BNSF and the UP, the Kansas City Southern Railway Company is the third Class I railroad

operating in Oklahoma. Additionally, Oklahoma has 18



History and Current Status of Oklahoma's Rail Line Acquisitions

Hydro-Elk City

In November 1981, the department acquired 62.4 miles of former Chicago, Rock Island and Pacific Railroad (CRI&P) between Hydro and Elk City for \$3.1 million These properties are leased to the Farmrail Corporation under a long-term lease and operating agreement. The segment between Weatherford and Hydro is presently not in operation because of infrastructure damage that occurred due to flooding in 1987. The damages include several track washouts west of Hydro that were estimated in 2002 to require a \$30 million investment to become operational.





Altus-Devol

In June 1982, the department acquired 61.02 miles of abandoned Missouri-Kansas-Texas Railroad (MKT) between Altus and the Oklahoma/Texas state line south of Devol in Cotton County, for \$811,000. This was a joint federal-state purchase with 80 percent of the funding provided through a federal grant program. This line was originally operated by the MKT Railroad under a long-term lease agreement. In November 1988, the MKT Railroad was acquired by the Union Pacific Railroad and the operating agreement was reassigned to the UP. In January 1991, by mutual agreement, the lease and operating agreement between the department and the UP terminated. Concurrent with the termination of that agreement, a long-term lease and operating agreement was executed between the department and the Wichita, Tillman and Jackson Railway Company. The WT&J was a new company established for the sole purpose of operating and managing this specific line, as well as a short segment of the Oklahoma, Kansas and Texas Railway Company line between Waurika and Walters. The WT&J purchased the Altus to Devol route from the state at the end of 2010, returning the 61.02 miles to private ownership.

OKT Properties

In October 1982, the Department acquired 350.93 miles of the bankrupt CRI&P (Chicago, Rock Island & Pacific Railroad) for \$15 million. The lines purchased are generally referred to as the OKT Properties and included the former north-south mainline of the CRI&P from the Kansas State line, south through Enid, El Reno, Chickasha, Duncan and Waurika, to the Texas state line; the east-west CRI&P mainline between El Reno and Oklahoma City, and the branch line loop through Chickasha, Anadarko, Lawton, and Waurika. These lines were initially operated and managed under a long-term lease-purchase and operating agreement by the Oklahoma, Kansas and Texas Railroad Company, a subsidiary of the MKT. In November 1988, MKT/OKT Railroad Companies were acquired by the UP and the lease-purchase and operating agreement assigned to the UP as the successor to the MKT/OKT.

This lease-purchase and operating agreement was complete in March 2012, returning these properties to private ownership by the UP. In December 1987, a 15.5 mile segment of the OKT properties between Lawton and Walters (a component of the Lawton branch line) was abandoned and the material salvaged, effectively reducing the OKT properties from 350.93 miles to 335.43 miles. In January 1991, the department agreed to allow UP to sublease the operation and management of the 23.9 mile Waurika to Walters branch line, a component of the original OKT properties, to the Wichita, Tillman and Jackson Railway Company (WT&J). This line was a component of the UP/ OKT leasepurchase agreement and is currently owned by the UP.



El Reno-Hydro

In July 1983, the Department acquired 37.6 miles between El Reno and Hydro from the former CRI&P Railroad for \$1.7 million. Twenty miles of this line, from El Reno to Geary, is operated by the Austin, Todd and Ladd Railroad Company under a long-term lease-purchase agreement that completed in 2013. The AT&L is owned by Wheeler Brothers Grain Company, headquartered in Watonga and has leased, with the option to purchase, 17 miles of the former CRI&P line between Geary and Watonga. The lease-purchase agreement facilitates the contiguous operation of those segments. An operating agreement executed between the department and the AT&L on May 14, 1986, extended AT&L operations on an additional 9.5-mile contiguous segment of the former CRI&P line between Geary and Bridgeport. This agreement expanded AT&L operations on state-owned line to 29.5 miles through 2013. Then, the AT&L completed an ongoing lease-purchase agreement for the 20 miles between El Reno and Geary and will continue to operate the 9.5 mile between Geary and Bridgeport under a lease operating agreement. Currently a segment of this line from Hydro east to the Canadian River, in addition to the previously noted segment from Weatherford to Hydro, is not in operation because of

structural damage, most of which occurred in 1987. This segment is presently the longest segment of state-owned property that is not operable. The rehabilitation of this route has been postponed pending additional economic and engineering evaluation.

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Thomas-Elmer

In December 1992, the department acquired 89.32 miles of the Atchison, Topeka and Santa Fe "Orient" Line Railwav between Thomas and Elmer for \$1.2 million. This line was operated by the FMRC under a lease purchase agreement that returned the line to private ownership in 2013.

McAlester-Howe

In February 1986, the department acquired 69.6 miles of the former CRI&P between McAlester and Howe for a total cost of \$2.8 million. This line was initially operated by the MKT Railroad under a long-term lease and operating agreement,

which included an option for the operator to purchase the property for the state's original purchase price any time during the term of the lease. In November 1988, the Union Pacific Railroad (UP) assumed the lease and corresponding operating agreement through the acquisition of the MKT Railroad Company. The UP continued operating the line until February 1996, when the lease and operating agreement were reassigned to the newly formed Arkansas-Oklahoma Railroad Company (AOK). The AOK operated the line under the authority of the UP until June 1998. The continued operation by a Class III operator (AOK) was contingent on how well the original contractual obligations were met. The original obligations of the operating agreement were reassigned to the UP in conjunction with the UP/MKT merger. After the interim period following the merger, the operation of this line was officially assigned to the AOK as the successor to the MKT in 1998. The operating criteria for this line remain the same as those executed in the original MKT operating agreement in 1986. A contiguous segment of the original CRI&P line from Howe to the Arkansas State line (about 11.1 miles) was previously abandoned then removed. The AOK purchased this route in 2016.

OKC-Tinker Line

In May 1995, the department acquired 5 miles from eastern Oklahoma City limits to Tinker Air Force Base in Midwest City \$350,000 for from Atchinson Topeka and Santa Fe Railway Company. This line is currently under a long-term track lease and operating agreement with the South

Kansas and Oklahoma Railroad Company. The original agreement was executed in December 1995; however, actual operation was not initiated immediately because the BNSF had removed a crossing diamond, which had ultimately prohibited access to the Midwest City line.

Blackwell-Kansas State Line

In September 1997, the department acquired 17 miles from Blackwell, north to the Kansas state line for \$460,000. This purchase is part of a joint effort with the Blackwell Industrial Authority, which purchased a contiguous segment of the line that extends 17 miles into Kansas, terminating in Wellington. The "Blackwell Line" was originally owned and operated by the AT&SF and was seriously in danger of abandonment. The state-owned segment was originally operated under a long-term lease and operating agreement between the department and the SK&O. The Blackwell and Northern Railroad Company, Inc. (BNGR) assumed operation of the line. A five-year lease operating agreement was renewed in 2011, extending operations through December 2016.

OKC - Sapulpa & Stillwater - Pawnee

In February 1998 the Department acquired two rail lines from the Burlington Northern Santa Fe Railroad Company. The first line extends 22.21 miles from Stillwater in Payne County, Pawnee in Pawnee to County. The second line runs 97.5 miles east of Oklahoma City to the western edge of

Sapulpa. Both segments were purchased from the BNSF for \$6.6 billion, utilizing funds allocated from the Railroad Maintenance Revolving Fund (RMRF). An advertised search for an operator from OKC to Sapulpa resulted in the selection of the Stillwater Central Railroad Company (SLWC/SK&O/WATCO) to manage and operate both rail lines. In August 2014, ODOT and the Stillwater Central Railroad completed a \$75 million sale of the Sooner Sub rail line between Midwest City and Sapulpa. The sale of this 97.5-mile line was the culmination of a 180-day process put into place in 2013 by the state Legislature.

Guthrie - Fairmont

In October 1998, the department acquired 42.8 miles of track from the BNSF, extending from Guthrie in Logan County to Fairmont in Garfield County, for \$2.6 million. The City of Guthrie was originally given a two-year period beginning January 1, 1999, to secure an operator agreement that if operations could not be implemented during the specified period, the state would salvage the line and recover the original investment. Several time extensions were granted while attempting to secure an operator, however, the line remained inactive since being

purchased by the state in 1998. Subsequently, the line was sold into private ownership in 2010.

PMR

STATE

9

PUBLIC SERVICE OF OKLAHOMA PORT OF MUSKOGEE RAILROAD OKLAHOMA RAILROAD MUSEUM STATE-OWNED (Non-Operating)

4 8.2 8.2 SCALE 0 10 20 MILES

CITIES & STATIONS COUNTY SEATS PRINCIPAL HIGHWAYS McLELLAN-KERR ARKANSAS RIVER NAVIGATION SYSTEM FMRC LEASED FROM THE STATE

OPERATED BY TRACKAGE RIGHTS AGREEMENT (BNSF)
AMTRAK SERVICE - HEARTLAND FLYER STATIONS
RAILWAY MUSEUM OR DEPOT RESTORATION PROJECT

OKLAHOMA Transportation

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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.

The system is currently open 24/7/365, and the system is continuing to ship its annual tonnage. 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, estimated at a savings to Oklahoma of \$644 million and a cumulative savings of \$9.3 billion since the MKARNS opened in 1971. 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 700,000 end users that provide clean energy. A portion of the revenues is applied to the operations, maintenance and construction costs and the rest is deposited into the U.S. Treasury. Over 22,761 full and part-time jobs are provided for in Oklahoma and the surrounding region from the MKARNS.

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 12-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.

The most prevalent commodities shipped on the MKARNS are fertilizer and steel moving inbound and agricultural products such as wheat, soybeans and other grains moving outbound. Agricultural commodities accounted for 73% of the total product moved on the Oklahoma segment of the MKARNS in CY15.

The 2020 tonnage transported on the Oklahoma segment was 4.9 million tons (valued at \$2.2 billion), which would require as many as 195,847 equivalent trucks to move on Oklahoma's highways, interstates and bridges. The system as a whole transported 10.9 million tons (valued at \$4.1 billion), which would require as many as 412,891 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 all modes of transport, including truck, rail and waterway. Shipping rates of all modes are reduced by 15 percent due to the competition the system provides. Fuel use and CO2 emissions are reduced by 40 percent compared to rail and 270 percent by truck.

The system as a whole transported 10.9 million tons valued at \$4.1 BILLION

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.

COMMODITY COMPARISON BY TON THE OKLAHOMA SEGMENT OF THE MKARNS NAVIGATION SYSTEM FOR CY20

TRANSPORTATION MODE COMPARISON FUEL AND CO2 EMISSIONS

Ton-Miles Travelled per Gallon of Fuel

Tons of CO_2 Emissions per Million Ton-Miles

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, bulk materials and project cargo from across the globe. Both public ports have designated Foreign Trade Zones and have served over 44 countries. Oakley'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 within Oakley's Port 33, the Port of Dunkin 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.

The port facilities are able to transfer cargo quickly and easily to the next mode of transportation. Oakley's Port 33 and the Port of Keota have their own harbor towboats for barge movement, while the two public ports also have internal rail tracks with locomotives for rail switching within the ports for the mainline railroads, in addition to the harbor towboats. Additionally, the Port of Catoosa handles services to and from pipelines. Both public ports are located within 12 miles of the airports in their respective cities. Most ports have direct access to several interstate, state highway, and/or turnpike facilities.

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-offlow water wharf, dry bulk terminal, grain terminals and the 6 liquid bulk terminals are all privately owned and operated. The Port of Catoosa was awarded a \$6.425 million TIGER Grant from USDOT for rehabilitation of the main dock and adding a second crane with 100+ ton capacity. The Port owns three locomotives for its 12-mile short-line railroad system that serves the terminals and private industries. The Portalso owns two switch-boats that move barges between docks. The Port of Catoosa is served by various nationwide trucking shippers, and averages over 1,000 trucks per day. There is easy access on and off of I-44 and SH-169. Class I railroads serving the Port include Burlington Northern Santa Fe directly, and Union Pacific Rail Road through a short-line switch on the South Kansas and Oklahoma Railroad. The nearby Tulsa International Airport 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, Oakley Trucking and a few others. There is a rail marshalling yard and an internal track system within the Muskogee switching limits of the UPRR. The Port of Muskogee was awarded a \$5.7 million Build Grant from USDOT to protect, sustain and enhance the rail system located at the port. Overhead and mobile cranes are available for transloading shipments among barge, rail, and truck. The Port of Muskogee has 94,000 square feet of dockside warehouse. THE MKARNS

Locks and Dam System

- H- HEAD OF NAVIGATIONH
- 18- NEWT GRAHAM L&D
- 17- CHOUTEAU L&D
- 16- WEBBERS FALLS L&D
- 15- ROBERT S. KERR L&D
- 14- W.D. MAYO L&D

MO OK AR

- 13- JAMES W. TRIMBLE L&D
- 12- OSARK JETA TAYLOR L&D
- 10- DARDANELLE L&D
- 9- ARTHUR V. ORMOND L&D
- 8- TOAT SUCK FERRY L&D
- 7- MURRAY L&D
- 6- DAVID D. TERRY L&D
- 5- COL CHARLES D. MAYNARD L&D
- 4- EMMETT SANDERS L&D
- 3- JOE HARDIN L&D
- W- WEBBER D. MILLS DAM
- 2- LOCK 2
- 1- NORRELL L&D
- M- MONTGOMERY POINT L&D

SYSTEM NEEDS

There is a backlog of critical maintenance of approximately \$230 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 nearly 50 years old.

At the beginning of 2016, a list of shovel ready infrastructure projects was submitted by Governor Mary Fallin with the Trump Administration infrastructure package. The following MKARNS projects were included in the submission: a joint request from Oklahoma and Arkansas for rehabilitation of U.S. Army Corps of Engineers lock and dam infrastructure and dredging the river bottom and a permanent fix for the Three Rivers Area.

The Three Rivers Feasibility Study was completed in June 2018 at which time a Chief's report was submitted

for approval. In September 2018, the Chief's report was signed, approved and later added in the 2018 Water Resources Development Act. A "new start" for a new construction project for the permanent fix now needs to be acquired and funded for a 50/50 cost share. According to the Chief's report, the first phase of this project is preliminary engineering design (PED) which carries an estimated cost of \$14 million over a 3 year period, \$4.6 million per year. FY2021 United States Army Corps of Engineers Work Plan includes \$3.3 million to complete pre-construction, engineering and design (PED) at Three Rivers. Once the PED phase has been completed the project will move into the construction phase which will take approximately three years to complete. The entire completion of this project carries an estimated cost of \$180 million. The Three Rivers Project is crucial to the longevity of our system.

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. Clarity on the 12-foot channel deepening was included in the Water Resources and Development Act (WRDA) of 2020 to ensure the project would not require a New Start designation to resume construction. FY2021 United States Army Corps of Engineers Work Plan includes \$559,000.00 in funds to complete the economic update for the 12' deepening.

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.

2019 Flood Damage

The ODOT Waterways Program represents Oklahoma's marine highway, the McClellan-Kerr Arkansas River Navigation System, at the state level. Waterways program representatives partner with public and private port operators and stakeholders along the MKARNS to coordinate initiatives which promote and market the assets and capabilities of the system and all associated intermodal transportation systems through outreach and other activities. They work with the United States Army Corps of Engineers, the Oklahoma Waterways Advisory Board, the U.S. Coast Guard and elected officials and their staff to represent the department in waterway transportation operations. Additionally, program representatives provide education to the general public on the benefits, capabilities and needs of the system.

The historic flooding of 2019 has been devastating for the ports and industries along the McClellan-Kerr Arkansas River Navigation System of Oklahoma and Arkansas. According to a 2015 economic impact study, complete disruption of operations on the McClellan–Kerr Arkansas River Navigation System costs its beneficiaries \$2 million per day and could result in a daily loss of \$20.7 million in Gross Domestic Product in Oklahoma.

As a result of 2019's flood, the Oklahoma segment of the MKARNS was inoperable from mid-May until the end of September. Traffic on the system has since resumed but due to excessive shoaling issues, towboats may only operate during daylight hours and tow at half capacity (six barges). Normal operations are expected to resume by mid-to-late spring of 2020. Additionally, Oklahoma Ports and industry stakeholders have collectively sustained millions of dollars in infrastructure damages and revenue and commodity losses, as outlined below. The Oklahoma Department of Transportation continues to work diligently with our valued federal partners and MKARNS stakeholders to address recovery efforts, emergency response best practices and return the system to normal operations.

Floodwater damage to Arkansas River ports and terminals has been devastating. Previously, the historic flood of record occurred in 1986 when, at the Port of Muskogee, river flows reached 375,000 cubic feet per second (typically, at Muskogee, under normal conditions flows are about 8,000 cfs). The 2019 flooding reached river stages, elevations, and flows that nearly doubled those of the 1986 flood, with flows exceeding 675,000 cfs and water levels at the Port reaching more than eight feet higher than in 1986. Several industries at the Port of Muskogee sustained significant flooding damage. At the Muskogee River Center, water was 2 feet deep despite the facility being constructed well above the 100-year base flood elevation.

During the barrage of floodwater flow, two barges did ultimately break free, floating downstream and striking the dam structure at Webbers Falls Lock and Dam where they promptly sank. However, hundreds of barges along the system were at risk for many days and nights with dead man anchors and other fixed mooring structures as much as ten feet below the water's surface.

Through the end of FY19, the cumulative flood damages prevented totaled \$15.9B in the Arkansas River basin (including \$6.5B in FY19 alone).

CURRENT REPORTED LOSSES

as reported by OK Ports and industry stakeholders:

OAKLEY INC.

OAKLEY'S PORT 33:

Infrastructure damages (includes machinery and equipment): \$2.2 million

Revenue loss: \$4.2 million (typical revenue for May thru August)

Commodity Loss: No commodities were lost

Salaries/Wages paid in lieu of layoffs: There were no layoffs. Typical wages for May, June, July and August would have been a little more than \$1 million

Overtime expenses related to protection and recovery : \$85,000 (May and June)

Demurrage charges: \$7.6 million charged to respective customers while barges lay idle on the system

OAKLEY'S TERMINAL at the PORT OF MUSKOGEE:

Infrastructure damages (includes machinery and equipment): \$500,000

Revenue Loss: \$1.2 million

Commodity loss: Not yet valued; industry may not wish to report

Additional: \$80,000 spent on increasing cable sizes for barge anchorage

*Oakley's also entered into a cost share agreement with the Corps, spending \$310,000 on dredging below Lock 16. Additionally, Oakley's funded the barge salvage operation at Lock 16. Total expense for this operation has not yet been reported.

PORT OF MUSKOGEE

Infrastructure damages (includes machinery and equipment): \$57 million

(Port of Muskogee expects this total to exceed \$100 million)

Additional Transportation Costs: \$31 million

Business Losses: \$11 million

Demurrage charges: \$18 million charged to respective customers while barges lay idle on the system

Job Losses (Industry layoffs): Layoffs of 200 employees

PORT OF CATOOSA

Infrastructure, machinery, and equipment):

Emergency Channel repairs, completed: \$50,000

Supplementary Dredging estimated: \$150,000

Restoration of Verdigris River Banks (bank stabilization and future projects) estimated: \$3 million

Repair of dredge disposal area, related to erosion of river banks: \$1 million

Additional transportation costs:

Trying to obtain concrete figures but estimate additional shipping, demurrage, fleeting for 150 days to be \$20-25 million.

ODOT COMMITMENT TO WATERWAYS

The importance of this vital infrastructure to Oklahoma's economy is undeniable. ODOT and the Arkansas Waterways Commission jointly worked on a Regional Economic Impact Study that was conducted by the University of Arkansas Little Rock, Oklahoma State University and the University of Arkansas Mack-Blackwell Rural Transportation Center in Fayetteville. The study illustrates the estimated economic impact of the MKARNS to not only Oklahoma's and Arkansas' economies, but also the nation.

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. Since 2000, the department has awarded 192 contracts, including right-of-way and utility relocation efforts, totaling in excess of \$701 million within a 10 mile radius of the Port of Catoosa and Oakley's Port 33. Further, within that same area an additional 43 projects totaling nearly \$247 million are scheduled for award in FFY 2021 through 2028, of which \$219.3 million are included in the 8-Year Construction Work Plan. Similarly, since 2000, the department has awarded 59 contracts, including right-of-way and utility relocation efforts, totaling \$116.7 million within a 10 mile radius of the Port of Muskogee. An additional 24 projects totaling over \$127.4 million are scheduled for award in FFY 2021 through 2028, of which \$100.7 million are included in the 8-Year Construction Work Plan for that same area.

PORT OF CATOOSA & OAKLEY'S PORT 33

Awarded Projects

\$701,689,672.00

since 2000

between 2021 and 2028

Awarded Projects

\$116,719,585.00

since 2000

The total nationwide impact of the entire MKARNS operations on business taxes is \$288 million. On its own, the Arkansas segment of the MKARNS nationally contributes \$168 million, while the Oklahoma MKARNS segment nationally contributes \$125 million. The combined impact is slightly less than the two segment impacts combined due to shared freight benefits.

Port Activities and Transportation Cost Savings are the largest contributors to Business Tax impacts.

MKARNS Business Tax Impacts (\$ Million)

The total impact on Employment of the MKARNS is 55,872 jobs nationwide. On its own, the Arkansas segment of the MKARNS nationally contributes 33,695 jobs and the Oklahoma MKARNS segment nationally contributes 22,761 jobs. The combined impact is slightly less than the two segment impacts combined due to shared freight benefits.

The largest component of the entire MKARNS and MKARNS Oklahoma segment employment impacts are due to port activities (18,070 and 8,969 jobs respectively).

The diagram to the left illustrates the total direct and indirect impacts on sales revenues if the MKARNS was no longer in operation. Sales is defined as the revenue generated by firms whose operations are affected by the MKARNS.

The total MKARNS impact on sales is \$8.5 billion nationwide. On its own, the Arkansas segment of the MKARNS nationally contributes \$4.53 billion, and the Oklahoma MKARNS segment nationally contributes \$4.07 billion. The combined impact is slightly less than the two segment impacts combined due to shared freight benifits.

Port Activities (\$2,904 million), Shippers' Activities (\$1,775 million) and Transportation Cost Savings (\$1,615 million) are the largest contributors to Sales impacts. Studies have shown that without barge competition, agricultural shippers pay higher rail and highway transportation costs the farther they are from an inland waterway.

A 2014 study showed that moving freight by barge resulted in cost savings of \$156.1million for Oklahoma farmers, manufacturers and consumers, compared to the cost of alternative overland modes.

The MKARNS status changed from a moderate to high-use waterway system in February 2015 after the Waterborne Commerce Statistic Center (WCSC) showed the 5 year average to be 3.3 billion ton-miles. There are three designated Foreign Trade Zones on the MKARNS. The ports of Catoosa, Muskogee and Little Rock have traded commerce with 44 countries worldwide.

The 2,500-acre Tulsa Port of Catoosa is one of the largest, most inland ice-free ports in the nation, with 70+ industries employing over 4,000 workers. On average, 1,000 semi-trucks per day carry products through the Port complex.

Port & dock facilities on the MKARNS in Oklahoma serve/facilitate 85 industries, nearly \$5 billion in private investments, 6,620 jobs, and \$216,569 million in annual payroll.

If Oklahoma's 4.9 million tons of waterborne commerce were transported by highway it would require 195,847 trucks on the road.

In 2019, The Tulsa Port of Catoosa acquired 2,000 acres in Inola, OK as part of a land transfer from Public Service Company of Oklahoma, with plans to develop the site to attract large-scale economic development projects.

Flood damages prevented by Arkansas River Basin projects under the jurisdiction of the Corps' Tulsa district totaled \$552 million in FY 2015. Cumulative damages prevented through 2015 equal more than \$11 billion. Investments in inland river navigation infrastructure are investments in the longterm strength and security of the nation to keep the U.S. a major player in the global market.

OKLAHOMA Transportation

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