

2018
UPDATE



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 the communities of the State of Oklahoma. 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. A high quality transportation network is vital to the continued growth and prosperity of a state with Oklahoma's geographic location in the central southwest, proximity to markets and positive business climate. From 2015 to 2045, the Oklahoma Freight Transportation Plan 2018-2022 forecasts 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 the State 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.

A Summary of 2015

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 (BNSF) rail corridor. Those volumes are greatest between the Texas border and north-central Oklahoma, where some of the volumes are dispersed in east-west directions.
- Rail freight flows are predominantly in the north-south direction.

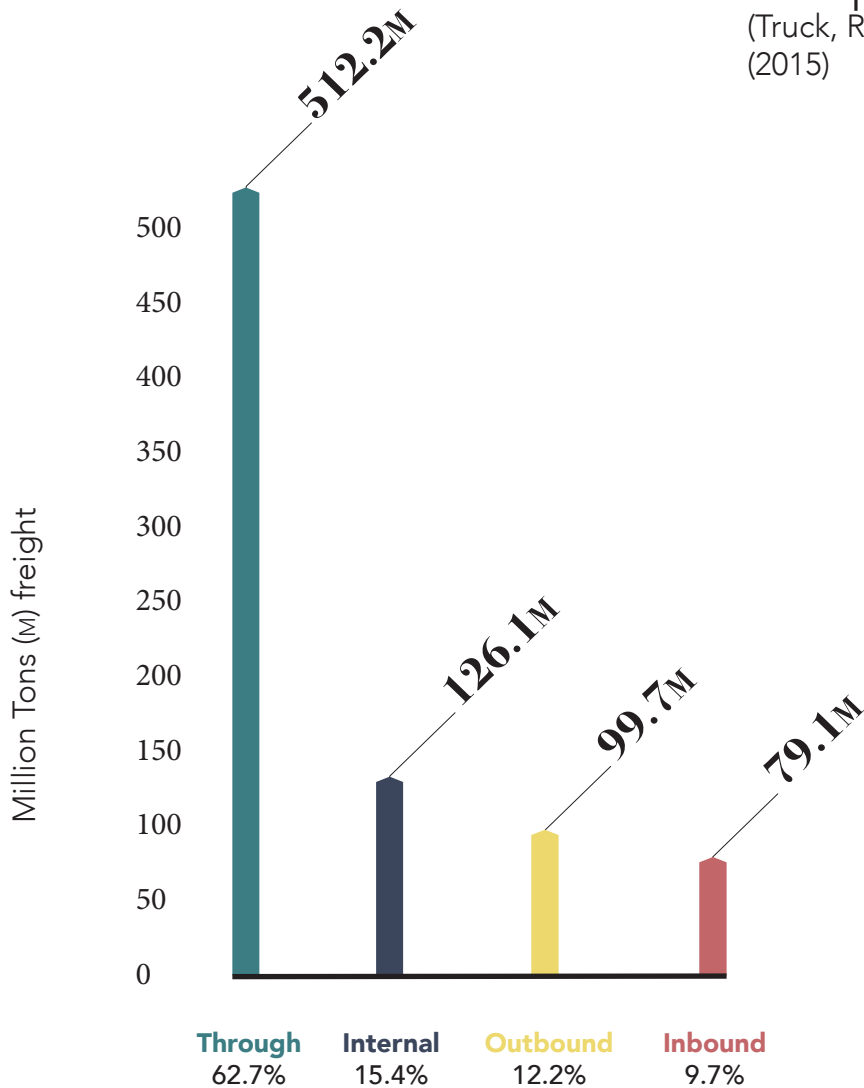
An important question is whether some truck flows could be captured by rail if rail capacity was enhanced.

- A total of 512.2 million tons, or 62.7% of all the state's freight traffic, passes through Oklahoma. The remaining 37.3% is freight that is inbound, outbound, or occurring within the state.
- Most of Oklahoma's freight, 57.9% of total tonnage, is transported by truck.



Estimated direction flows and percentages

(Truck, Rail, and Waterway freight in Oklahoma (2015))



817.1 MILLION TONS
of total freight flow.

Through



Internal



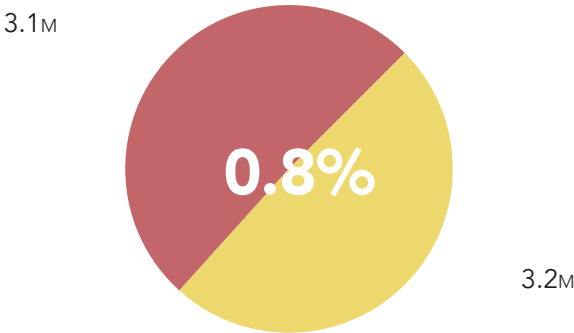
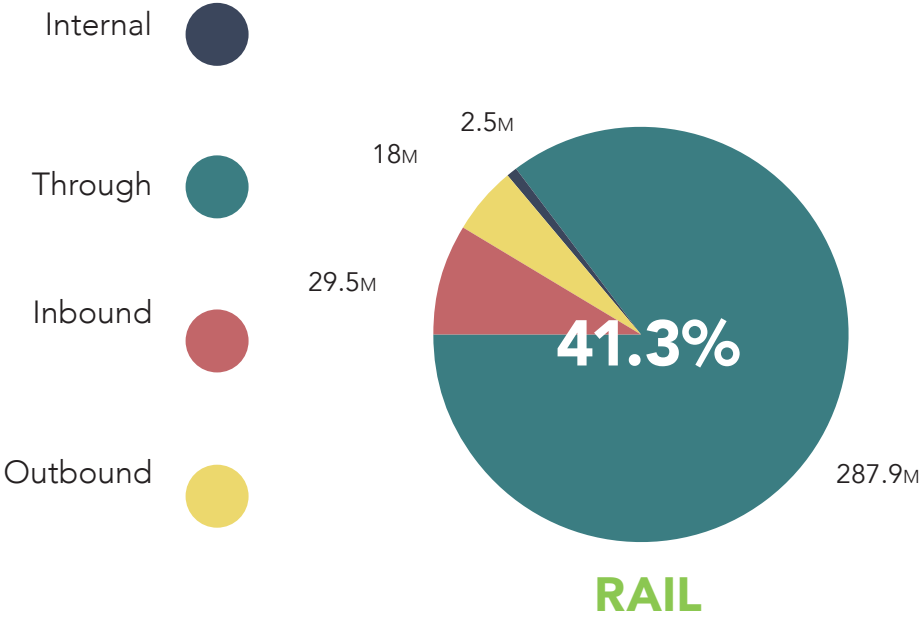
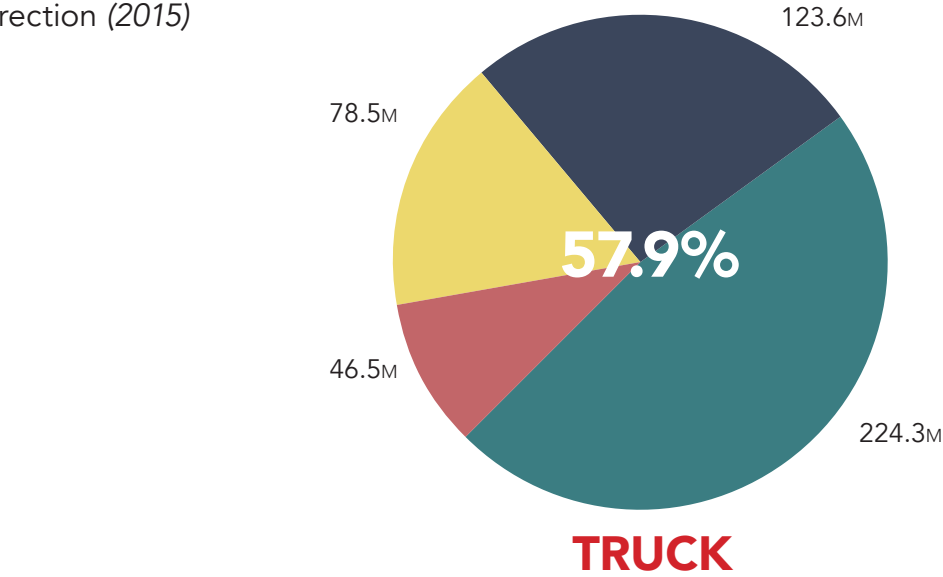
Outbound



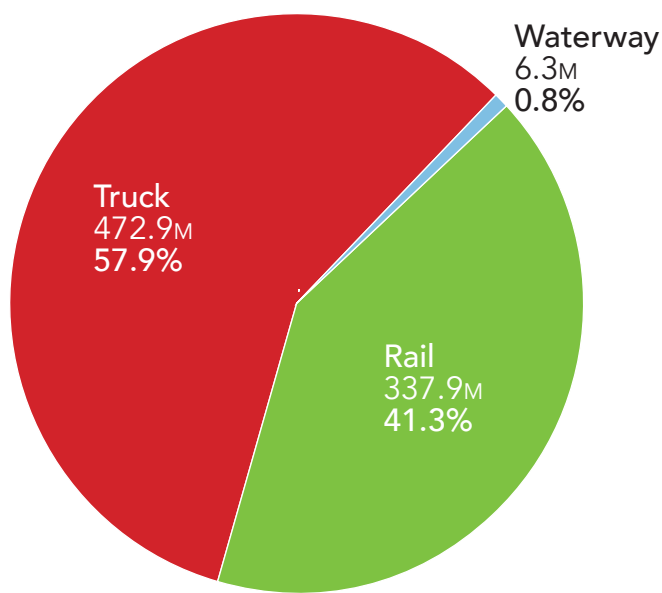
Inbound



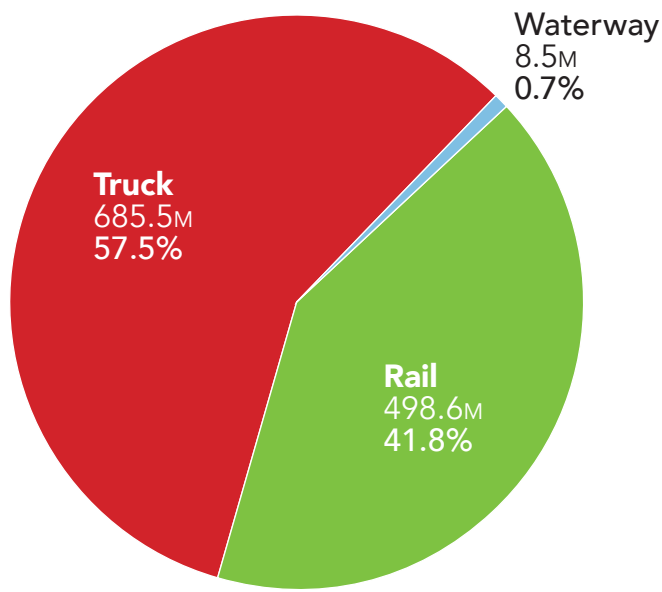
Estimated percentage of
Oklahoma freight flows
by Mode, Million Tons (M),
and Direction (2015)



Millions of
Tons of Freight
Transported in
Oklahoma
(2015)



Millions of
Tons of Freight
Transported in
Oklahoma
(2045 Forecast)





Trucking

Oklahoma's Major Corridors

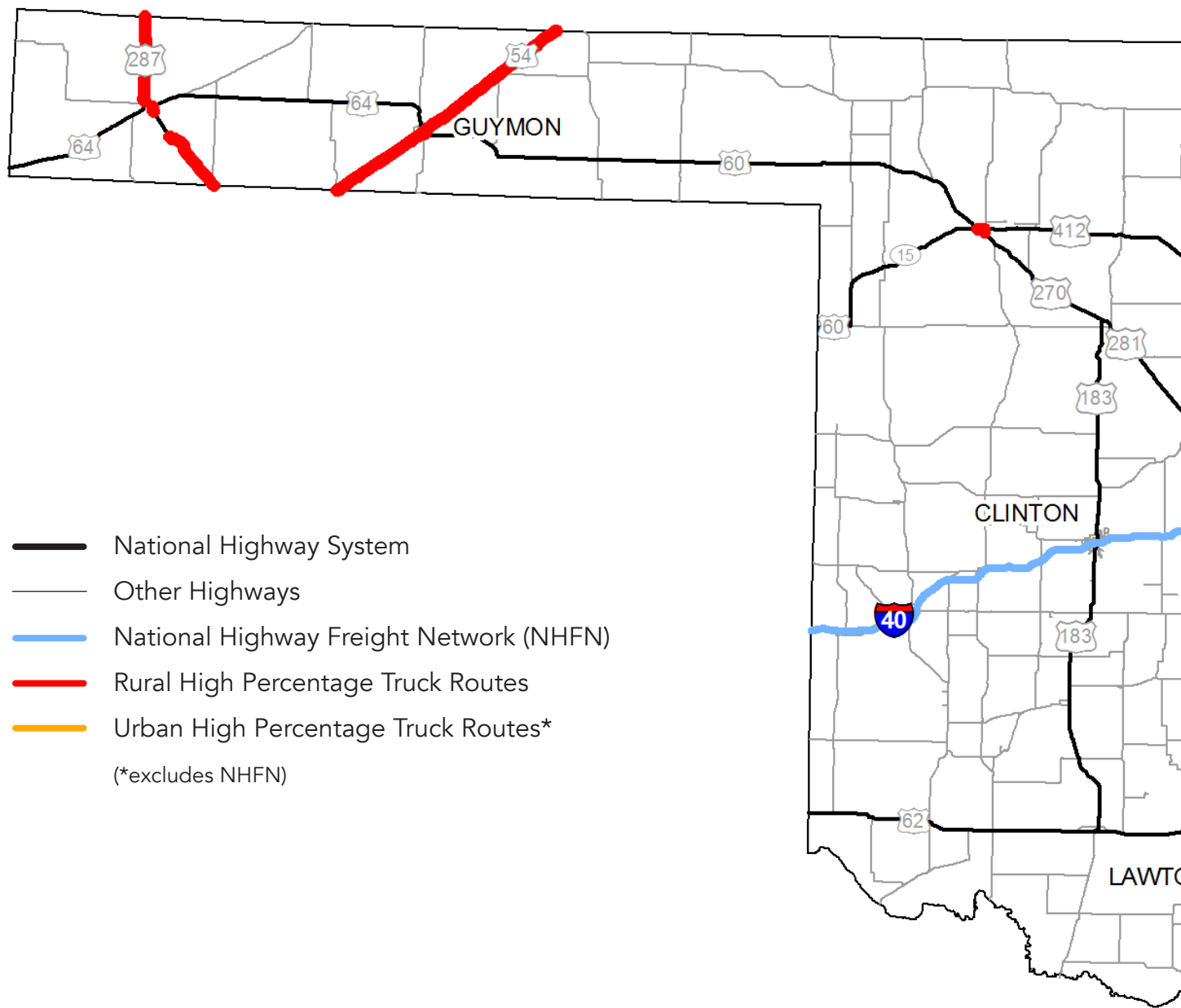
Highways are considered as high volume truck corridors in locations where roadways have consistent truck volumes at or above 5,000 vehicles per day, or on facilities where truck traffic represents 40 percent or more of the total traffic. Interstate 40 truck volumes outside of the Oklahoma City metropolitan 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 Pittsburg 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 over 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.



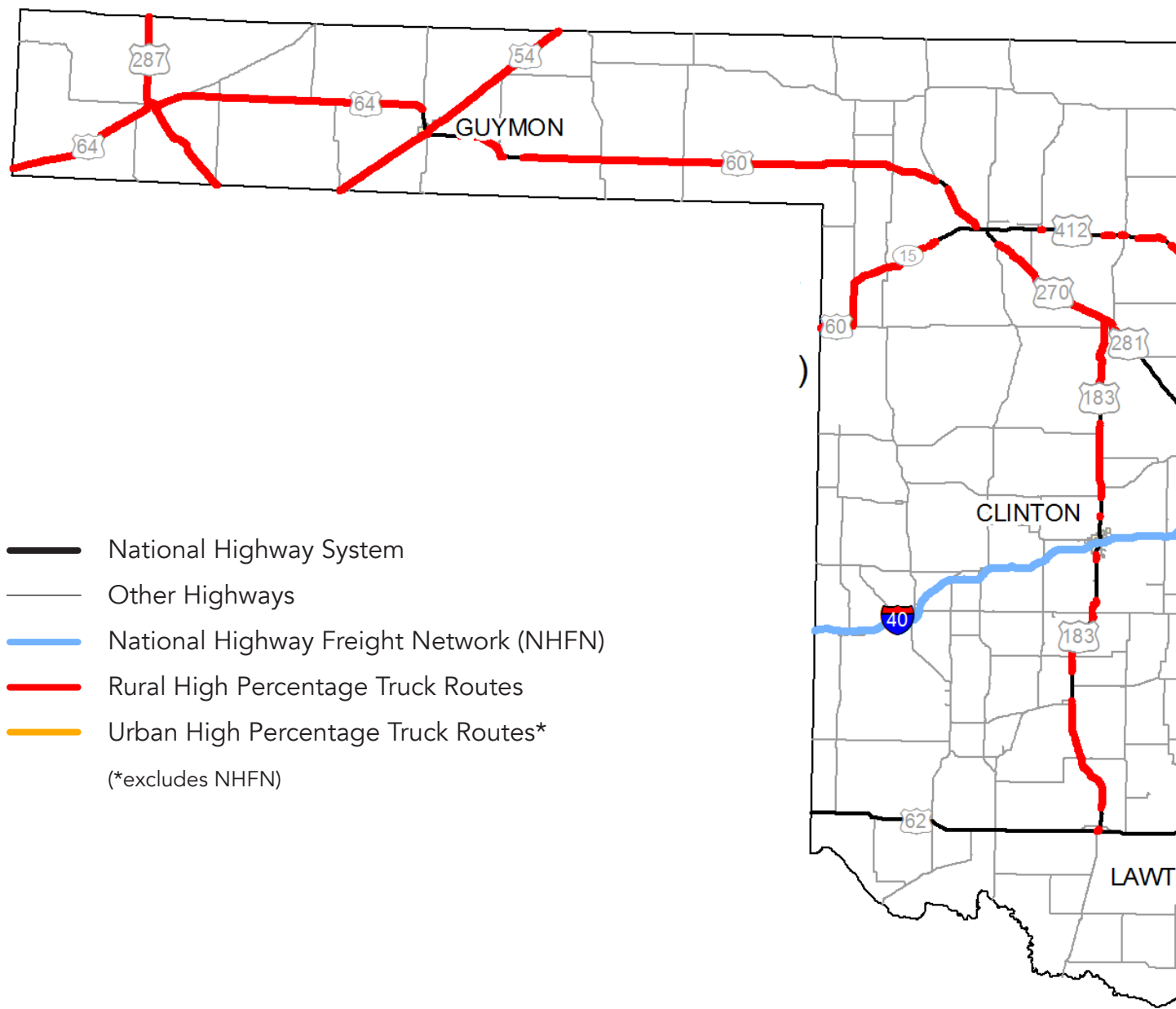
High Volume Truck Corridors:

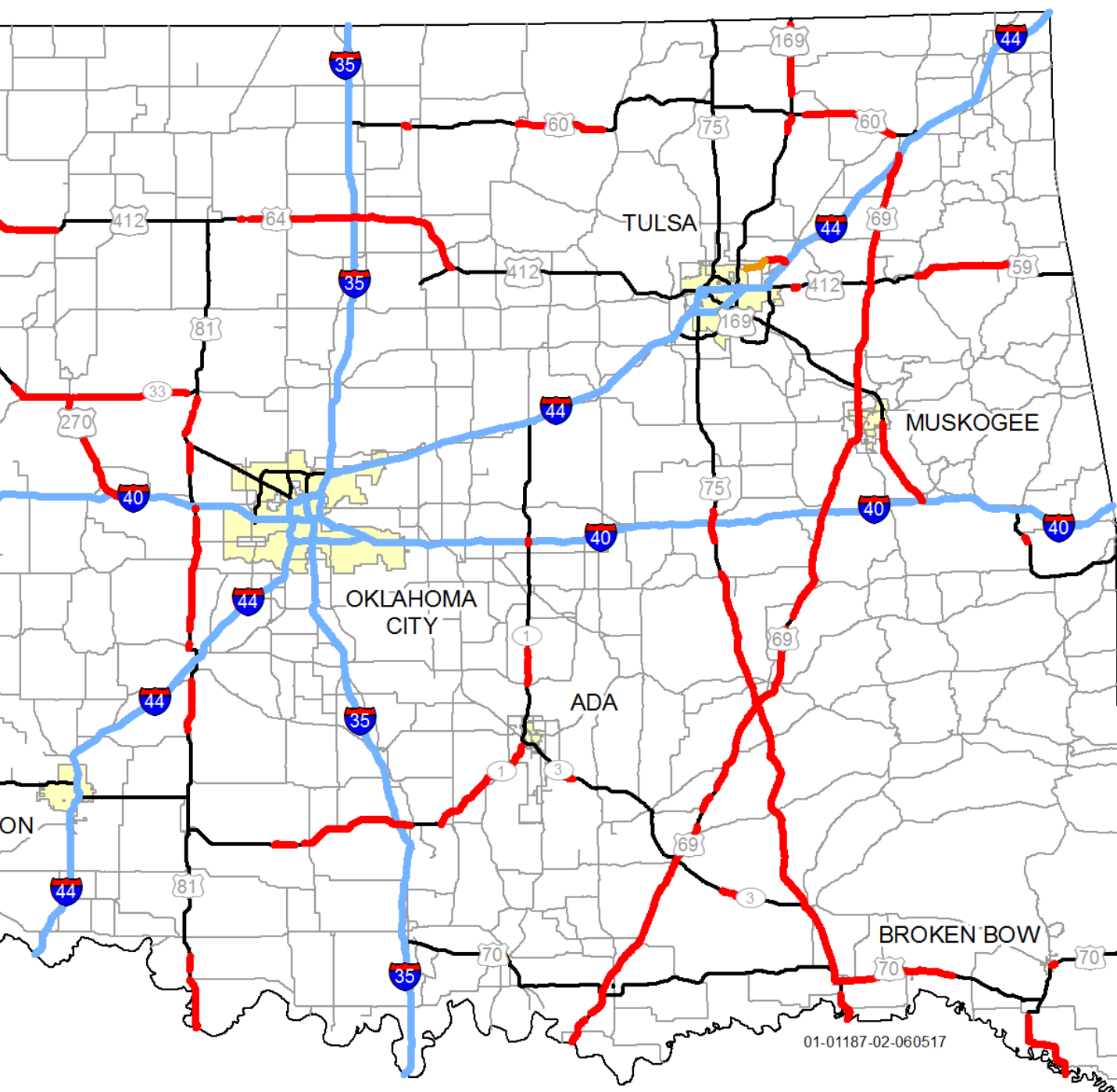
...locations where roadways have consistent truck volumes at or above 5,000 vehicles per day, or on facilities where truck traffic represents 40% or more of the total traffic.





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Source: Oklahoma Freight Transportation Plan, ODOT, 2018-2022

High Percentage Truck Corridors



Ports of Entry

On January 22, 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 freight ports of entry are locations where commercial motor vehicles enter into the state and pass through a credential and safety inspection checkpoint. Utilizing 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 eight new port of entry facilities at Oklahoma borders.

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. Construction on the I-35 location in Love County was completed in May 2017. In 2018, a port of entry station was built in Boise City located in the Oklahoma pan handle. The remaining locations will be scheduled and advanced to construction as additional fiscal resources accumulate.

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 informed 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 (OS/OW) trucking permits on an annual basis.

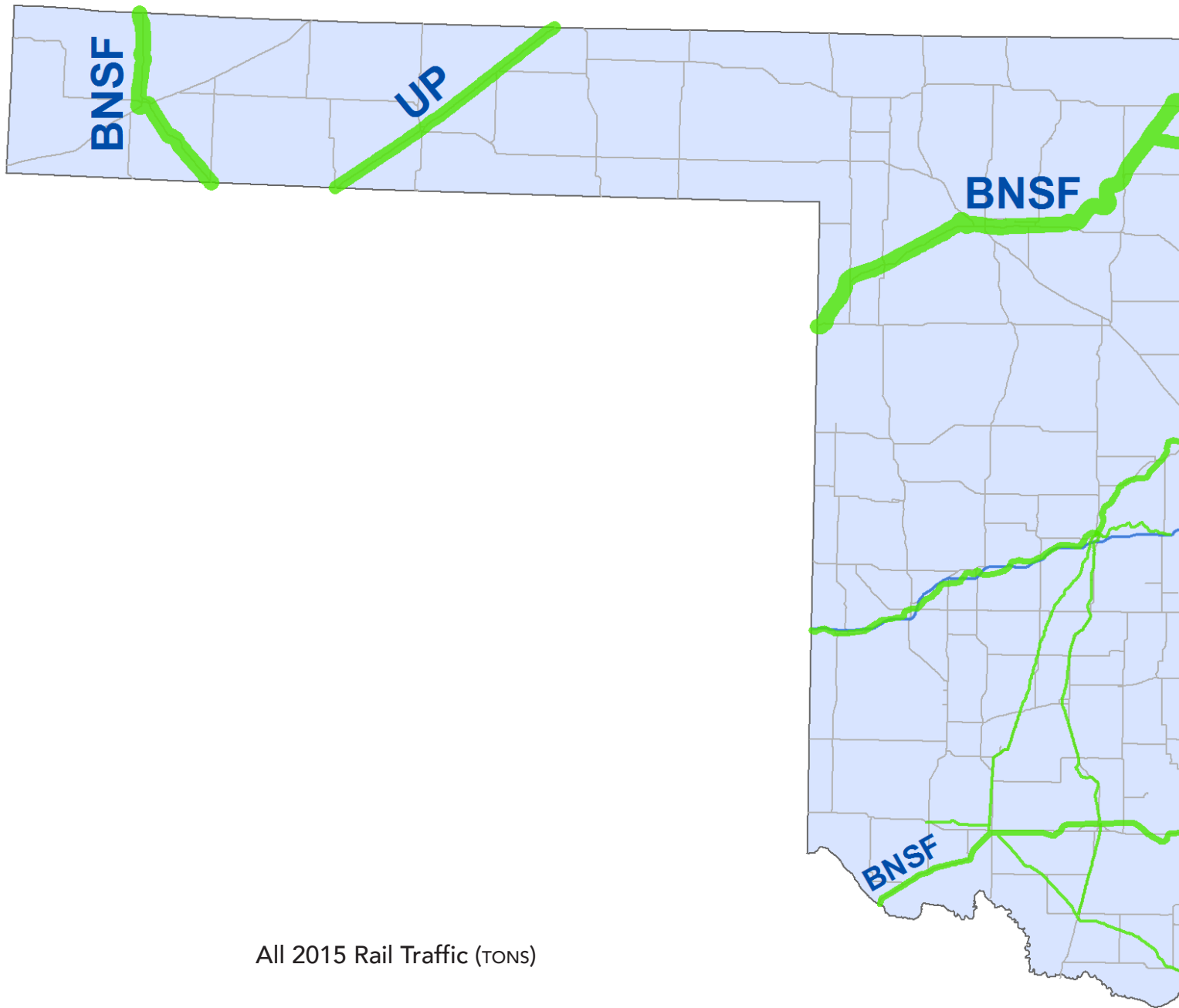
The state legislature met with ODOT and DPS in 2008 and determined that improving the existing oversize/overweight permitting and routing process was a priority. In response, ODOT and DPS initiated a joint project to develop a system that provides carriers with the ability to submit a standard OS/OW permit request over the internet at any time of day, generate a safe route and automatically pay for and receive their 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 OS/OW System processed and approved 250,000 permits. That is almost 10,000 more permits than their highest year ever. In 2017, 224,232 permits were issued. Over 70% of the permits were in the customer's hands in less than five minutes, as compared to a typical 24-hour turn around 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 989 in 2006 to 185 in 2017. The goal is to reduce the proportion of structurally deficient bridges to less than 1 percent by the end of the decade. 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.





All 2015 Rail Traffic (TONS)



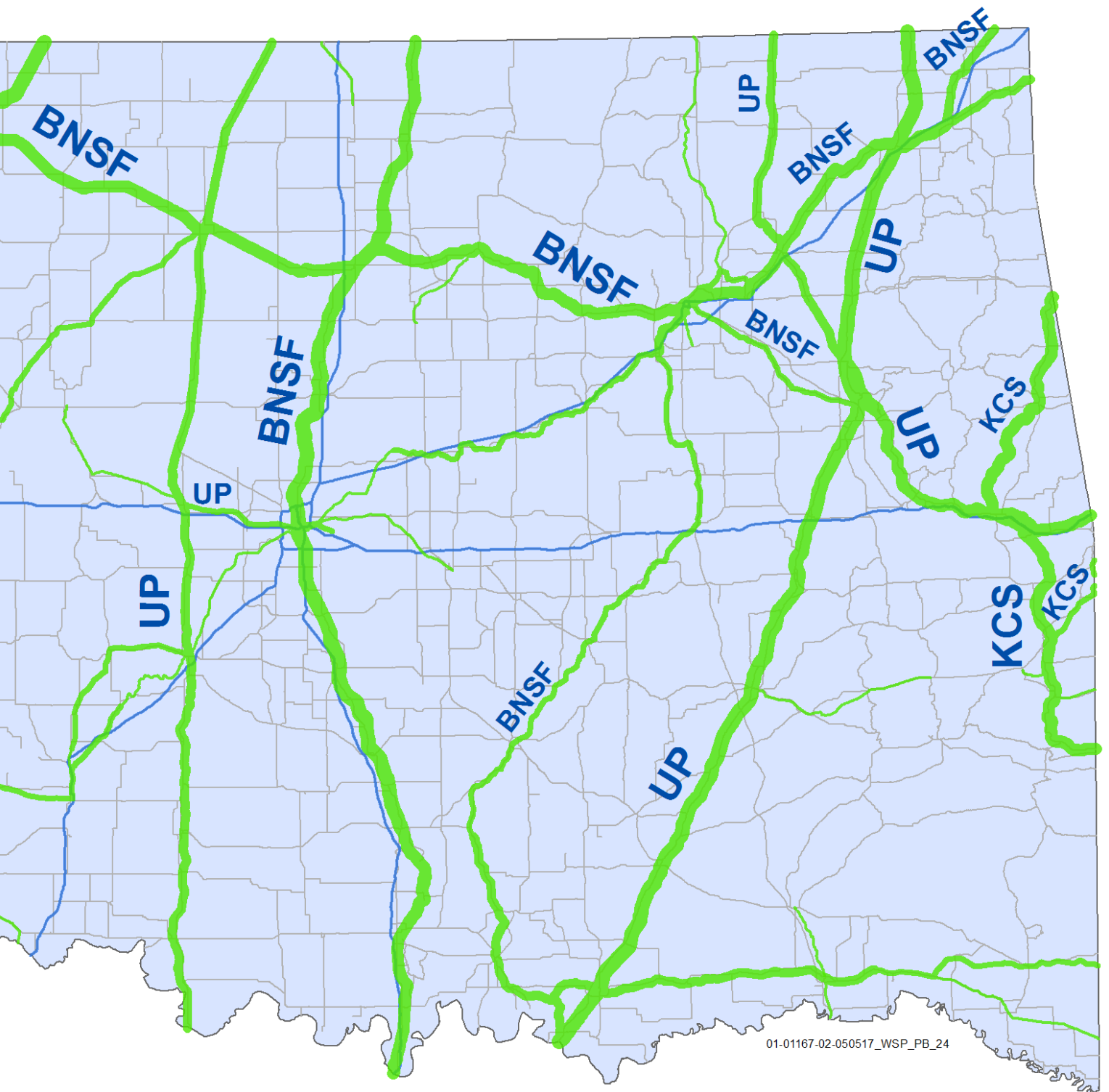
<250,000

250,000 - 2,139,999

2,140,000 - 17,899,99

17,900,000 - 29,499,999

— INTERSTATE HIGHWAYS
— US & OK HIGHWAYS



OK Freight Transportation Plan, ODOT, 2018-2022

Annual Rail Freight Volumes



Rail

Rail Freight Moves Through Oklahoma

There are currently 21 freight railroads operating in Oklahoma, including three Class I and 18 Class III or short line railroads. The Class I railroads are BNSF Railway (BNSF), Kansas City Southern railway (KCS) and Union Pacific (UP). BNSF is Oklahoma's dominant Class I carrier and carries its highest volumes in the northwestern part of the state, immediately east of the Panhandle with 70 to 80 trains per day. A similar traffic volume is shown on the north-south BNSF route in the central part of the state. The UP line with the greatest volume is in the eastern part of the state, extending between the southeast Kansas and central Texas borders. The next highest train traffic volumes are shown on the Union Pacific Railroad (UP) and KCS lines in east central Oklahoma adjacent to the Arkansas stateline.

Rail freight traffic is projected to experience growth over the next few decades, although at a slower pace than what was seen in the 1990s. According to FHWA's 2016 Freight Quick Facts Report, declines in bulk commodities will have a dampening effect on the rail mode share. In terms of direction, Class I railroads are forecast to show their strength in increasing the rate of through traffic by nearly 14% over the next decade. Agriculture, food and chemical products will be among the top commodities carried by rail.

Oklahoma's short-line railroads play different roles in serving the freight needs of the state. Unlike the Class I railroads that serve multiple markets and population centers, the short lines are especially important in rural areas where agriculture, mining and local industries rely on rail freight shipping.

The railroad system plays an important part in Oklahoma's freight network. A single, Class I train car can carry the equivalent of four single axle semi-trailer loads and thus alleviates highway congestion and deterioration throughout the state.

Waterways

Inland Waterways Freight Transportation

Movement of cargo by inland waterway tends to be the preferred mode for the least time sensitive, heavy bulk commodities. The McClellan-Kerr Arkansas River Navigation System (MKARNS) is the only inland waterway in Oklahoma and begins in northeastern Oklahoma and flows through central Arkansas. The MKARNS marine corridor is 445 miles long and includes the Verdigris, Arkansas & White Rivers. The 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. In 2015, the MKARNS was designated by the U.S. Department of Transportation Maritime Administration as “M-40” reflecting its importance as a reliever route for the I-40 corridor.

The Port of Catoosa is located in northeast Oklahoma near Tulsa at the head of the navigation channel for the MKARNS. The Ports of Muskogee and Catoosa are the state’s two public ports and both are designated as Foreign Trade Zones. Additionally, Oakley’s Port 33, a privately owned and operated port facility, is located south of Catoosa near Inola. Typical bulk cargo being shipped on the MKARNS includes rock, grain, fertilizer and steel.

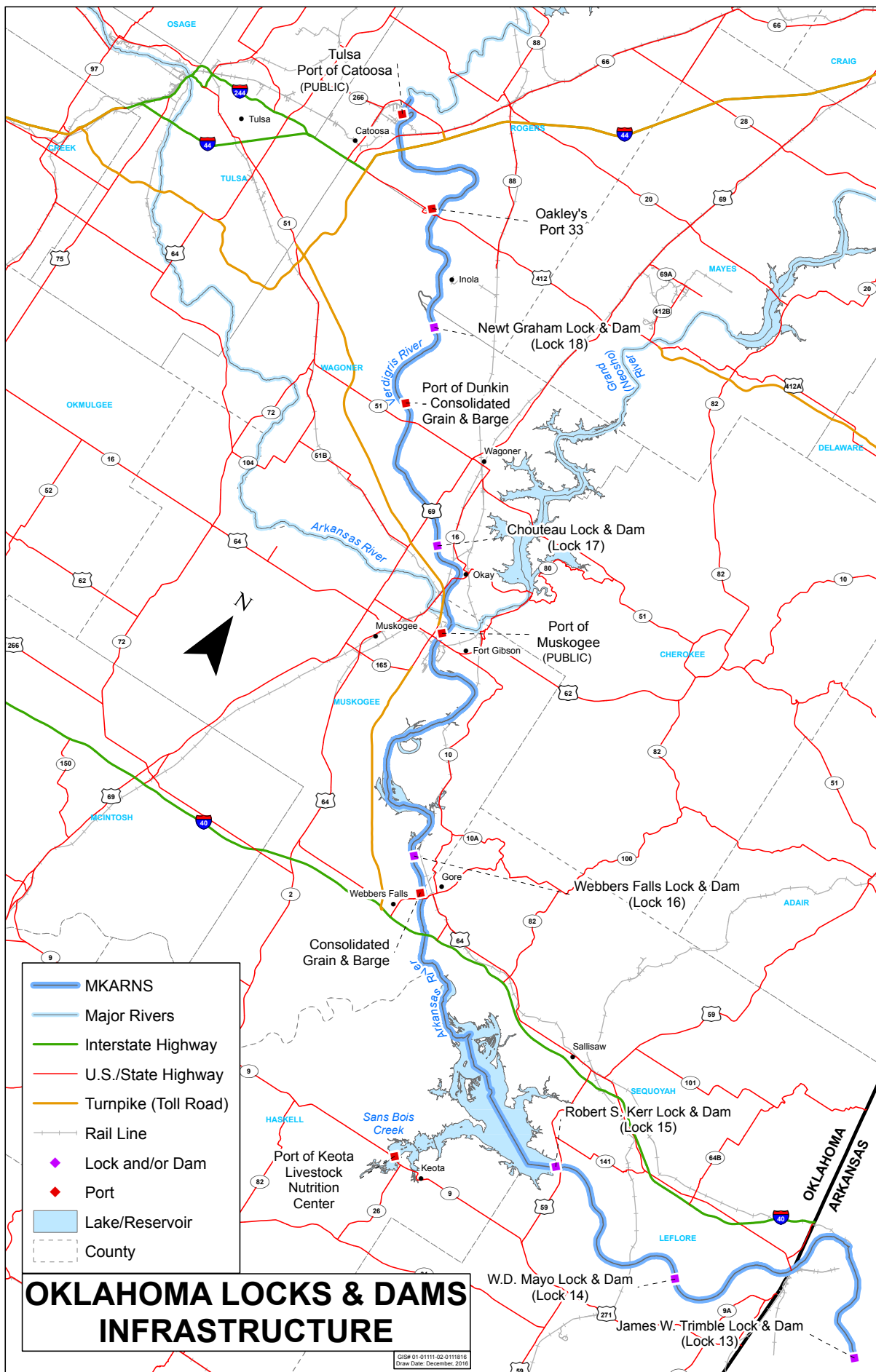
Waterway transportation will continue to play an important part in the state’s future. There is ample room for growth in this mode; and it provides some excellent examples of intermodal transportation. There are a number of initiatives that would be advantageous for the state’s waterway system including: addressing critical maintenance needs on locks and dams, deepening the channel from 9 to 12 feet and adding tow haulage to improve efficiency.

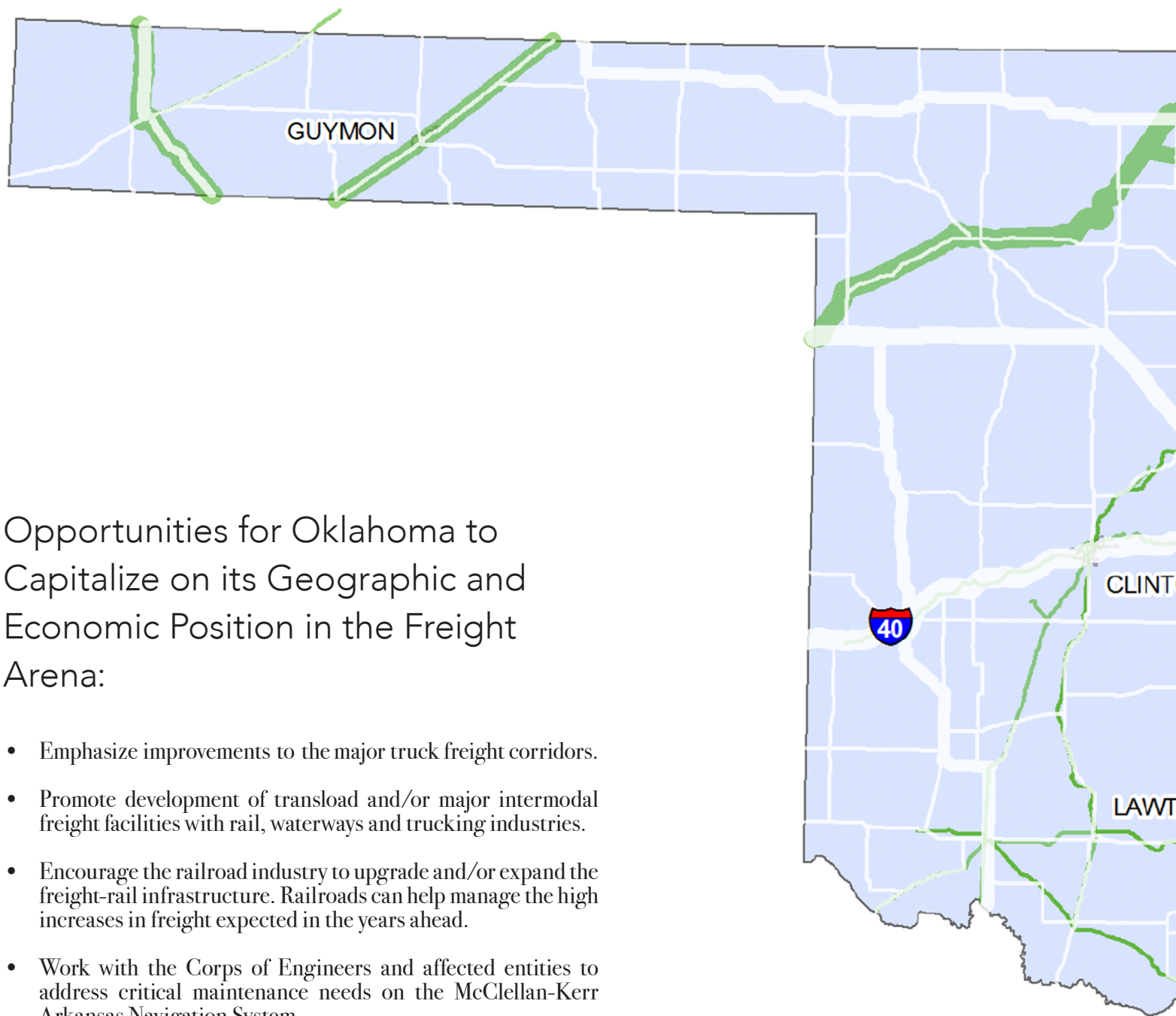




Oklahoma Locks and Dams Infrastructure

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





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 Corps of Engineers and affected entities to address critical maintenance needs on the McClellan-Kerr Arkansas Navigation System.

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2015 Freight Flow (tons)





Freight Volumes on Highways, Railroads, and Inland Waterways



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