6.0 Moving Freight

6.1 FREIGHT FLOWS FOR 2018 THROUGH 2022

Oklahoma's total freight tonnage across directions and modes is projected to grow 4.5 percent for Plan years 2018 through 2022, from 844 million tons to 883 million tons (**Table 10**). Growth is led by rail at 5.3 percent, followed by water at 4.1 percent, and trucking at 4.0 percent.

Table 10. Oklahoma Freight Growth (2018 through 2022)

Tonnage 2018 by Mode and Direction (Millions)					
Mode	Inbound	Outbound	Within	Through	Total
Truck	48.1	80.7	123.6	234.3	**486.7**
Rail	29.5	18.6	2.6	300.5	**351.1**
Water	3.2	3.3	0.0	0.0	**6.5**
Total	**80.8**	**102.5**	**126.1**	**534.8**	**844.3**
Tonnage 2022 by Mode and Direction (Millions)					
Mode	Inbound	Outbound	Within	Through	Total
Truck	50.3	83.8	123.6	248.6	**506.3**
Rail	29.5	19.3	2.7	318.1	**369.6**
Water	3.3	3.4	0.0	0.0	**6.8**
Total	**83.2**	**106.5**	**126.3**	**566.8**	**882.6**
Percent Change in Tonnage by Mode and Direction between 2018 and 2022					
Mode	Inbound	Outbound	Within	Through	Total
Truck	4.6%	3.8%	0.0%	6.1%	**4.0%**
Rail	0.1%	3.9%	3.7%	5.9%	**5.3%**
Water	3.1%	5.1%	—	—	**4.1%**
Total	**2.9%**	**3.8%**	**0.1%**	**6.0%**	**4.5%**

Source: IHS Markit Transearch, Freight Analysis Framework 4.3, WSP

Projected growth varies by type of flow. Oklahoma-based traffic increases are led by outbound freight growth of 3.8 percent. Inbound freight is expected to grow at a slower 2.9 percent, due to flat rail volumes. Within-state freight volumes are projected to grow just 0.1 percent between 2018 and 2022. In contrast, through freight is projected to grow a relatively high 6.0 percent from 2018 to 2022.

During this time period, the commodity mix is expected to stay relatively stable. The top inbound commodity—coal—is expected to decline in volume because of the national trend toward replacement of coal-fired electrical generation capacity with natural gas. Coal is the only top-ranked commodity that is carried almost exclusively by rail. During the five-year period, shipments of nonmetallic minerals are expected to increase and become the top inbound commodity group. Refined petroleum products, which are carried mostly by truck, will remain the top outbound commodity. Agriculture, the third largest outbound commodity, is expected to grow the fastest. Coal, agriculture, food and chemical products are anticipated to remain the top through products.

6.2 FREIGHT POLICIES AND STRATEGIES

6.2.1 Policies and Strategies Address Plan Goals

This OFTP establishes freight policies and strategies, which incorporate and draw upon many sources. Oklahoma's LRTP 2015 through 2040 includes an extensive list of policies and strategies. The Oklahoma State Rail Plan: 2018–2021 also identifies strategies for ODOT as it moves forward with its rail programs.

A review of the LRTP showed that its policies include sufficient coverage to address freight issues. Thus, the appropriate policies, along with related strategies, were selected for use in the freight plan.

Additionally, some new freight-focused strategies were developed to supplement those already adopted as a part of the LRTP. **Table 11** summarizes each of the LRTP goal areas and new freight strategies to achieve the LRTP goals.

Table 11. Multimodal Freight Strategies by Goal Areas

Goal Area: SAFE and SECURE TRAVEL ▪ Plan for the impact and promote the appropriate use of connected and automated vehicle technologies. ▪ Utilize data to track the volume and safety of truck, passenger vehicle and train growth and support necessary infrastructure improvements. ▪ Assure sufficient truck parking and rest areas for major freight routes and activity centers. ▪ Improve the safety of rail-highway at-grade crossings.
Goal Area: INFRASTRUCTURE PRESERVATION ▪ Incorporate freight considerations into all appropriate project evaluations. ▪ Monitor and maintain condition of state-owned freight routes. ▪ Track utilization of oversize/overweight truck routes. ▪ Proactively disseminate advance information about highway construction activities to freight stakeholders.
Goal Area: ECONOMIC VITALITY ▪ Assure investment in freight facilities relied upon by industries critical to the state economy. ▪ Encourage viable economic development across the state through availability of effective freight services. ▪ Continue to seek ways to expedite project approvals to speed reaction to market shifts and attract private capital. ▪ Support public transportation options for workforce in freight-dependent industries.
Goal Area: MOBILITY (Choice, Connectivity and Accessibility) ▪ Monitor and seek to improve the reliability, speed and productivity of freight movement in Oklahoma. ▪ Encourage development of multimodal networks and intermodal facilities, and assure efficient highway access to air, rail, and waterway facilities. ▪ Prepare for continued strong growth of home delivery by managing performance of highway access routes between distribution centers and delivery recipients.
Goal Area: EFFICIENT INTERMODAL SYSTEM MANAGEMENT and OPERATION ▪ Identify competitive opportunities and pursue federal grants for strategic freight projects. ▪ Provide information to the Oklahoma congressional delegation to support expansion of federal freight funding, and utilization of existing funds. ▪ Cooperate with neighboring states to develop improvement and funding concepts for multimodal corridors of strategic economic and security importance to the state, region and nation. ▪ Pilot and implement new technologies and intelligent transportation system tools. ▪ Inventory and monitor Oklahoma's critical supply chains, and evaluate their resiliency and reliability.
Goal Area: ENVIRONMENTAL RESPONSIBILITY ▪ Encourage expansion of natural gas fueling facilities. ▪ Support the availability of freight modal options that reduce environmental impacts.

In addition to these multimodal freight strategies, the LRTP includes policies and strategies related to freight movement by modal system: Highway and Bridge; Freight Rail; Multimodal; Waterways and Ports; and Airport Access and Aviation.[47]

This OFTP is intended to draw upon, and integrate, a broad range of perspectives and opportunities. In addition to the LRTP, the draft Oklahoma State Rail Plan: 2018–2021 currently in development identifies strategic initiatives for ODOT as it moves forward with its rail programs. ODOT recognizes that other important goals, policies, and strategies may be contained in state economic development plans, metropolitan area plans, regional/county/local documents, development plans for ports and airports, and private development plans.

These types of plans are continuously in development, and as they produce important recommendations for freight policies and strategies, ODOT will consider them as part of its larger ongoing program of freight planning.

6.3 FREIGHT PERFORMANCE MEASURES

The FAST Act—like its predecessor legislation, Moving Ahead for Progress in the 21st Century Act (MAP-21)—emphasizes the establishment of performance measures. The value of freight performance measurement is to improve Oklahoma's ability to quantify key performance dimensions in a consistent and systematic way, to identify emerging bottlenecks or deficiencies at the early stages so they can be appropriately addressed, to make project investment decisions in a data-driven manner, and—perhaps most importantly—to track its progress toward meeting its freight goals.[48] Freight performance measures must therefore be closely aligned with freight goals.

6.3.1 Performance Measurement

U.S. DOT requires the collection and reporting of only one freight performance measure, which addresses TTTR on the interstate system. U.S. DOT also requires states to report other performance measures that are not freight-specific, but are relevant to achieving state freight goals.

Table 12 illustrates the correspondence between Oklahoma freight goals and the recommended freight performance measures.[49]

Table 12. Oklahoma's Freight Goals and Correspondence to Oklahoma Freight Transportation Plan Freight Performance Measures

OFTP Freight Goal Areas	Source of Measure	OFTP Freight Transportation Performance Measures
Safe and Secure Travel	OK Measure	Mileage with Paved Shoulders
	U.S. DOT Measure	Rail Grade Crossing Crashes Truck Crashes
Infrastructure Preservation	U.S. DOT General Requirement	Bridge Deck Condition Ratings Pavement Condition Ratings
Mobility: Choice, Connectivity and Accessibility	U.S. DOT Freight Requirement	Truck Travel Time Reliability (TTTR) Index *A measure indicating how well the* over OK interstate highway *system performs in periods of congestion; the higher the index, the greater the impact of congestion.*
Economic Vitality	OK Measure	Highly Used Truck Mileage
Efficient Intermodal System Management and Operation	OK Measure	Median Truck Travel Speed Truck Travel Time Index *A measure indicating how well the system performs in periods of congestion; similar to the TTTR above, but covering all of Oklahoma's NHS.* Truck Delay *A measure of how congestion impacts truck travel times, which in turn impacts freight transportation costs and prices.*
Environmental Responsibility	OK Measure	Clean Fuel Access

6.4 IMPROVEMENT PRIORITIES

6.4.1 Evaluating Potential Freight Projects

One of the purposes of this OFTP is to identify projects that will improve the efficiency of freight transportation. In addition to using the state apportionment of federal highway funds (e.g., National Highway Performance Program, and Surface Transportation Block Grants), a special category of freight formula funds (NHFP) is made available to the states to support freight projects.

A multi-criteria analysis was used to rank projects listed in the first five years of the ODOT 8 Year Construction Work Plan according to how well they scored on the freight goal areas. As a result of this analysis, projects will be ranked for their usefulness to improving freight transportation—identified as freight mobility projects—and listed with planned funding programs. The criteria (**Table 13**) are organized according to this OFTP's goals and performance measures. Specific measures were selected to fit with the framework that is being used by ODOT to rank 8 Year Construction Work Plan projects.[50]

Table 13. Evaluation Criteria

Goal Areas	Measures	Calculation
Safety and Security	Unpaved Shoulder	Number of shoulder miles unpaved (10 feet for interstates and 4 feet for other), along the project segment
	Expected Change in Truck Crash Injuries	Crash Reduction Factor for Injuries times base injury rate (over 5 years)
	Expected Change in Truck Crash Fatalities	Crash Reduction Factor for Fatalities times base fatality rate (over 5 years)
Infrastructure Preservation	Bridges in Poor Condition	Federal measure
	Pavement Condition – IRI	Average IRI throughout project segment
	Heavy-Loaded Truck Routes	Average volume of heavy-loaded trucks
Mobility	Identified Bottleneck	Does project segment coincide with identified bottleneck
	Truck Proportion	Average truck proportion throughout project segment
	Percent Truck Volume Increase - 2025	Average percentage increase in truck traffic in project segment (5 million tons or more)
Economic Vitality	Identified Bottleneck	Does project segment coincide with identified bottleneck?
	Proximity to Key Industry	Number of jobs in key industries within 3 miles
	Proximity to Multimodal and Military Facilities	Number of multimodal and military facilities within 75 miles
Environmental Responsibility	Proximity to Compressed Natural Gas (CNG) Stations	Number of CNG stations within 5 miles
	Proximity to Electric Vehicle (EV) fast charging stations	Number of EV fast charging stations within 5 miles
Strategic Value	Strategic Value	Grant a bonus for example to 1) corridors of regional significance; 2) for geographic balance; and 3) for transformative projects, such as preparation of roadways for vehicle-to-infrastructure technology.

In selecting projects for this OFTP, only projects in the 8 Year Construction Work Plan[51] located on the National Highway System[52] were considered. The analysis was performed on projects scheduled during the first five years of the Work Plan, to coincide with the required OFTP years 2018-2022. In total, 190 highway and bridge projects were considered including the following:

- Improvements to grades, drainage, and surface
- Interchange improvements or additions
- Resurfacing and pavement rehabilitation
- Reconstruction within and without lane additions
- Bridge rehabilitation
- Improvement of bridge approaches

The scoring procedure first calculated the percentile rank of each project according to the measures listed above. Then the percentile ranks were summed using the following weights by goal area, which reflect FAC goal priorities and were established by ODOT management:

- Safety and Security: 30%
- Infrastructure Preservation: 25%
- Mobility: 20%
- Economic Vitality: 10%
- Environmental Responsibility: 5%
- Strategic Value: 10%

Table 17 under Section 6.5: Investment Plan lists the resulting top highway freight mobility projects.

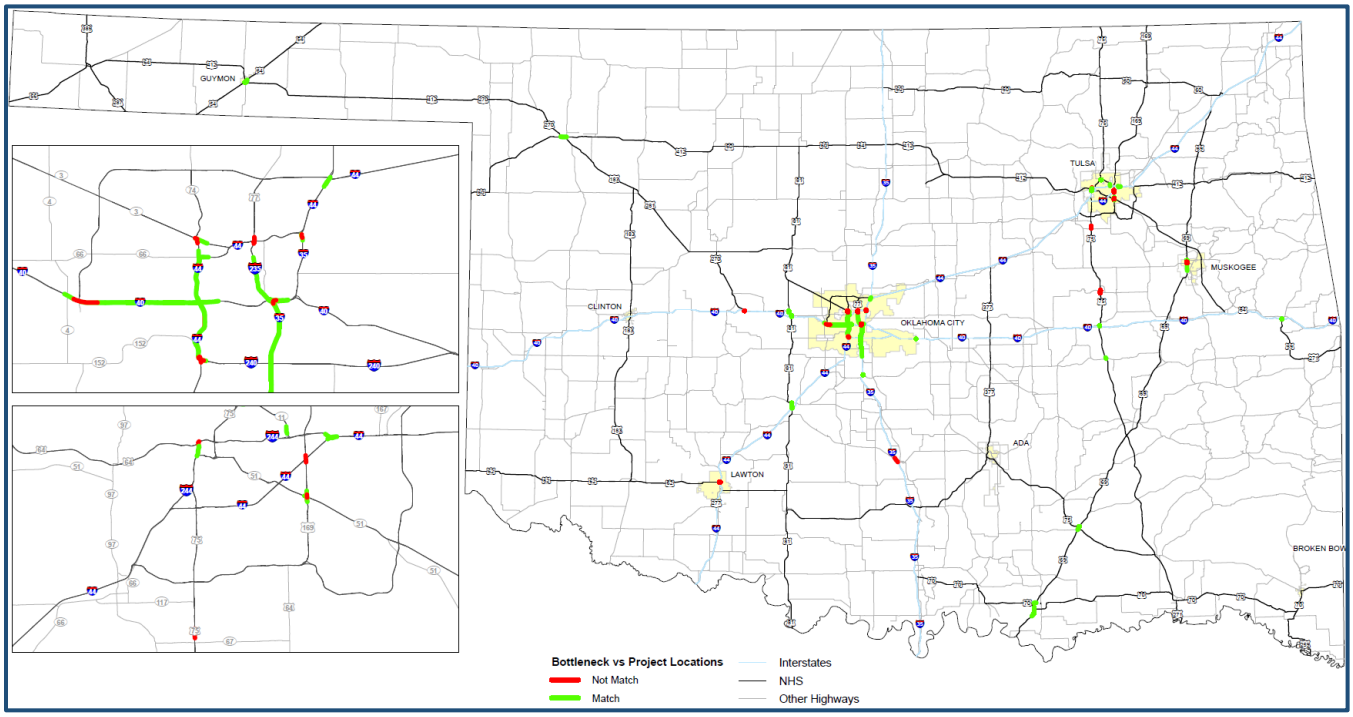
6.4.2 Project Gaps

The bottleneck analysis described in Chapter 5 identified highways with performance issues (**Figure 23**). For a location to be identified as a bottleneck priority that would receive further consideration in the OFTP final analysis, it had to rank in the top 5 percent of way segments in terms of delay or unreliability. Therefore, these are the places on Oklahoma's State Highway System that are considered the major chokepoints for truck movements.

Of the highway bottlenecks identified, 25 did not have a project associated with that location in the first five years of the 8 Year Construction Work Plan. Some of these locations are addressed with projects that are underway, or will be addressed by projects in later years of the 8 Year Construction Work Plan.

Figure 26 shows the bottleneck locations without a project.

Figure 26. Bottleneck Locations Without Project



Source: Oklahoma Department of Transportation; WSP analysis of Highway Performance Monitoring System and National Performance Management Research Data Set data

Table 14 corresponds to the above map and lists the highways affected by bottleneck locations, which do not have projects in the first five years of the 8 Year Construction Work Plan. An engineering analysis is required to assess the situation and develop appropriate responses. As noted above, there are various possible explanations, including that solutions are too expensive or infeasible to address at this time. The determination can be made only after looking into each location individually.

Table 14. Bottleneck Locations without Project

Type of Highway	County	Affected Highway
Interstate	Canadian	I-40
	Garvin	I-35
	Oklahoma	I-35, I-44, I-235, I-35, I-35/I-40, I-240, I-235, I-235/1-40/I-35
	Tulsa	I-244
Other Highway	Atoka	U.S. 69
	Canadian	U.S. 281
	Comanche	U.S. 62
	Muskogee	U.S. 62
	Oklahoma	U.S. 77, S.H. 3
	Okmulgee	U.S. 75
	Texas	U.S. 412, U.S. 54
	Tulsa	U.S. 64, U.S. 169, U.S. 169, U.S. 75

Source: WSP analysis 2017

6.5 FREIGHT INVESTMENT ELEMENT

6.5.1 Funding for Freight Projects

Addressing the many needs on Oklahoma's transportation system requires extensive collaboration and resources from public and private partners.

Table 15 provides a summary of potential federal, state, and local government funding options.

Table 15. Potential Public Funding Options

Federal (Discretionary Grant Programs)	Federal (Formula Funds)	State and Local
Capital Investment Grants	National Highway Performance Program	Rebuilding Oklahoma Access and Driver Safety Fund
Transportation Investment Generating Economic Recovery (TIGER) Grants	Surface Transportation Block Grants	Dedicated Local Funds
Infrastructure for Rebuilding America (INFRA) Grants	Highway Safety Improvement Program	
Rail Line Relocation and Improvement Capital Grant Program	Railway-Highway Crossings Program	
Federal-State Partnership for State of Good Repair Program	Congestion Mitigation and Air Quality Improvement	
Restoration and Enhancement Grants	Metropolitan Planning Funds	
Railroad Safety Infrastructure Improvement Grant Program	National Freight Program	
Consolidated Rail Infrastructure and Safety Improvements		

Source: WSP 2017

Table 16 provides a summary of potential traditional and alternative financing options.

Table 16. Potential Alternative Financing Options

Traditional Financing	Alternative Financing
State Tax Exempt Bonds	State Infrastructure Bank
	Revenue Anticipation Notes

Source: WSP 2017

In my opinion, infrastructure is one the most important functions that government can provide.
—Member of grain marketing consortium of 28 farmer owned cooperatives in central & western Kansas, Oklahoma and the Texas panhandle.

6.5.2 Highlighted Freight Projects

As indicated in its mission statement "…to provide a safe, economical and effective transportation network for the people, commerce and communities of Oklahoma", ODOT has long planned constructed and maintained a transportation system that addresses freight and goods movement. With the FAST Act emphasis on freight, Oklahoma like many other states is adopting its first Freight Transportation Plan, which specifically calls out projects that benefit freight.

The following tables describe planned highway, rail and waterway improvements that are expected to have a significant impact on freight mobility. Many other projects not listed here—projects underway, planned, or envisioned for years beyond the scope of this Plan—have merit for improving freight transportation as well.

Table 17 lists 54 highway freight mobility projects for this OFTP years 2018 through 2022, all of which are or could be eligible for application of National Highway Freight Program funds. These are the top eligible projects in the state as measured by the freight evaluation criteria described in this chapter. About 40 percent of them improve freight mobility through capacity improvements and 60 percent through operational improvements. These projects are also in the 8 Year Construction Work Plan: 2018-2025 and will be in the State Transportation Improvement Plan: 2018-2021 accordingly, by year.

Table 17 Top-Ranked Highway Freight Mobility Projects (FFY 2018 through 2022)

County / ODOT Division	Job Piece No.	Project Description	Plan Year	Type of Project	Plan Cost Est. (M$)
Tulsa 8	28881(04)	I-444 OVER 11TH AND 6TH STREET, .3 MILE NORTH OF S.H. 51	2018	C	$4.20
Beckham 5	30998(04)	I-40: S.H. 6 BOTH NB & SB BRIDGES OVER I-40 IN ELK CITY	2018	C	$9.34
Oklahoma 4	27905(04)	I-235: NB OFFRAMP IMPROVEMENTS AT N. 23RD ST.	2018	C	$.50
Oklahoma 4	28855(04)	I-44: EB, WB & ON-RAMP BRIDGES OVER DEEP FORK CREEK 6.7 MIS. N. OF I-40	2018	OI	$4.00
Oklahoma 4	30444(06)	I-35: ADD CAPACITY TO EXISTING BRIDGES AT I-35/I-40 INTERCHANGE - INTERIM IMPROVEMENT	2018	OI	$5.00
Okmulgee 1	29673(04)	U.S. 75: BRIDGES OVER KO & G R.R. (ABANDONED RR), 1.2 MILE NORTH OF I-40	2018	OI	$4.71
Sequoyah 1	28961(04)	I-40: BRIDGE OVER CO. RD. (OLD U.S. 64) & KCS R.R., 1.40 MI. E. OF JCT. U.S. 59	2018	OI	$10.89
Sequoyah 1	10618(07)	I-40 INTERCHANGE @ U.S. 64 IN SALLISAW (BR @ U.S. 64 & LITTLE SALLISAW CR)	2018	C	$25.90
Tulsa 8	28859(04)	129TH E. AVE, I-244 UNDER, 1.54 MI EAST OF JCT U.S. 169	2018	C	$6.29
Tulsa 8	28900(04)	I-444 FROM ARKANSAS RIVER EXTEND EAST APROX. 1.68 MILES (SOUTH LEG OF THE IDL)	2018	OI	$20.50
Washita 5	29003(04)	I-40 NORTH FRONTAGE ROAD: BRIDGE AND APPROACHES OVER SAND CREEKLOCATED 0.11 MILE EAST OF S.H. 44.	2018	OI	$.74
Grady 7	24428(05)	U.S. 81 REALIGNMENT FROM 1 MI. N. OF THE U.S. 81/U.S. 277 JCT. S. OF CHICKASHA EXT. N. 8.63 MI. TO .85 MI. N OF THE U.S. 62/U.S. 81 JCT. (R/W)	2018	C	$11.51
Oklahoma 4	27897(04)	I-35NB & SB OVER DEEP FORK CR SERVICE RD, 4.6 MI N OF I-40 JUNCTION	2018	OI	$33.00
Texas 6	14971(36)	U.S. 54: BEG APPROX 10.5 MI N of JCT of US54/US64W and EXTEND N 3.6 MI; ROW	2018	OI	$.80
Texas 6	20839(08)	U.S. 54; BEGIN APPROX. 8.5 MI. NORTH OF U.S. 64 & EXTEND N 2.0 MILES THROUGH TYRONE	2018	OI	$9.42
				Subtotal 2018	*$146.81*

Table 17 Top-Ranked Highway Freight Mobility Projects (FFY 2018 through 2022) (continued)

County / ODOT Division	Job Piece No.	Project Description	Plan Year	Type of Project	Plan Cost Est. (M$)
Bryan 2	31855(04)*	U.S. 69. BEGIN AT SOUTH END OF CALERA AND EXTEND NORTH TO U.S. 70 INTERCHANGE (FASTLANE @ $62M).	2019	C	$120.00
Canadian 4	27004(04)	I-40B: OVER THE UP RAILROAD ON THE SOUTH EDGE OF EL RENO	2019	OI	$7.58
Oklahoma 4	31006(04)	I-44: DOWEL BAR RETROFIT AND DIAMOND GRINDING FROM SW 74TH ST, NORTH TO OKLAHOMA RIVER, ADDED LANE ON SB FROM 0.5 SOUTH OF SW74TH ST	2019	OI	$10.10
Oklahoma 4	31019(04)	I-44: NB AND SB BRIDGE REHABILITATION OVER S.59TH ST, 0.75 MILES SOUTH OF S.H. 152 JCT	2019	OI	$1.52
Oklahoma 4	9033(27)	I-235: MAINLINE THRU I-44 INTERCHANGE (SEGMENT 8)	2019	OI	$45.45
Oklahoma 4	9033(11)	I-235: NB TO WB & EB TO NB FLYOVER BRIDGES I-235/ I-44 INTERCHANGE (SEGMENT 2B)	2019	OI	$35.35
Pittsburgh 2	14999(09)	U.S. 69 CONSTRUCTION INTERCHANGE @ KINKEAD ROAD IN MCALESTER	2019	C	$20.00
Texas 6	14971(37)	U.S. 54: BEG APPROX 10.5 MI N of JCT of US54/US64W and EXTEND N 3.6 MI; UT	2019	OI	$.37
Texas 6	14971(41)	U.S. 54: BEG APPROX 10.5 MI N of JCT of US54/US64W and EXTEND N 3.6 MI; (SURFACE FOR SB LANES)	2019	OI	$3.00
				Subtotal 2019	*$243.36*
Canadian 4	30715(04)	I-40. INTERCHANGE AT FRISCO ROAD, 4.5 MILES WEST OF THE KILPATRICKTURNPIKE JUNCTION.	2020	C	$17.36
Dewey 5	17671(41)	U.S. 270, BEGIN 0.4 MI SE OF THE S.H. 51 E JCT AND EXTEND SE 4.9 MILES.TURNKEY PROJECT (CONSTRUCT AS 4 LANE DIV & REHAB EXISTING)	2020	C	$20.00
Garvin 3	20970(08)	I-35: FROM S.H. 19, NORTH 3.21 MI	2020	OI	$15.55
Grady 7	24428(06)	U.S. 81 REALIGNMENT FROM 1 MI. N. OF U.S. 81/U.S. 277 JCT. S. OF CHICKASHA EXT. N. 8.63 MI. TO .85 MI. N OF THE U.S. 62/U.S. 81 JCT. (UTILITIES)	2020	C	$6.30
Muskogee 1	27108(04)	U.S. 69: BEGIN 0.1 MI N OF U.S. 64 E (PEAK BLVD) & EXT N 2.5 MILES	2020	C	$4.00
Muskogee 1	31211(04)	U.S. 69: NB - FROM 4.5 MI. N. OF MUSKOGEE C/L N. 8.5 MI., SB - FROM 8.5 MI. N OF MUSKOGEE C/L N. 4.5 MI.	2020	OI	$6.00
Oklahoma 4	9033(28)	I-44: WB TO NB RAMPS AT I-44/I-235 INTERCHANGE (SEGMENT 3A)	2020	OI	$15.81
Oklahoma 4	9032(05)	I-35: OVER THE I-240 JCT. RECONSTR INTERCHANGE (PHASE IB)	2020	OI	$12.24
Rogers 8	27031(04)	S.H. 20: FROM 4 MILES EAST OF TULSA COUNTY LINE EAST TO 1 MILE EAST OF VERDIGRIS RIVER	2020	C	$52.49
Texas 6	20947(04)	U.S. 54 FROM 4.8 MI. N of U.S. 64 EXTEND N 3.7 MI, GRADE & DRAIN,	2020	OI	$3.25
				Subtotal 2020	*$152.99*

Table 17 Top-Ranked Highway Freight Mobility Projects (FFY 2018 through 2022) (continued)

County / ODOT Division	Job Piece No.	Project Description	Plan Year	Type of Project	Plan Cost Est. (M$)
Custer 5	31060(04)	AIRPORT ROAD OVER I-40 LOCATED 4.3 MILES EAST OF S.H. 54 IN WEATHERFORD.	2021	C	$6.32
Dewey 5	17671(13)	U.S. 270 FROM 5.4 MI SOUTH OF S.H. 51 EAST JCT & EXT SE 3.0 MILES.TURNKEY PROJECT (CONSTRUCT AS 4 LANE DIV & REHAB EXISTING)	2021	C	$14.17
Oklahoma 4	26422(05)	I-40: FROM MM 171 EAST TO MM 173 (RECONSTRUCT & ADD LANES & RECONSTRUCT, HARRAH/NEWALLA INTERCHG	2021	C	$20.60
Oklahoma 4	9032(06)	I-35: OVER THE I-240 JCT. (PHASE II) RECONST INTERCHG	2021	OI	$24.72
Oklahoma 4	9032(07)	I-35 @ THE I-240 JCT (PHASE III) RECONST INTERCHG	2021	OI	$16.48
Oklahoma 4	9032(08)	I-35 @ THE I-240 JCT (PHASE IV) RECONST INTERCHG	2021	OI	$31.93
Rogers 8	26242(04)	S.H. 20 / S.H. 66 CONNECTION	2021	C	$32.70
Texas 6	20947(07)	U.S. 54 FROM 4.8 mi. N of U.S. 64, EXTEND N 3.7 MI; SURFACE	2021	OI	$9.31
Texas 6	20947(08)	U.S. 54 FROM 4.8 mi. N of U.S. 64 EXTEND N 3.7 mi, RR	2021	OI	$.14
				Subtotal 2021	*$156.37*
Canadian 4	27959(04)	U.S. 281 SPUR: BRIDGE OVER I-40 4.1 MIS. E. OF THE CADDO C/L	2022	OI	$4.00
McClain 3	19314(04)	I-35/S.H. 9 INTERCHANGE (PHASE III)	2022	C	$7.18
Oklahoma 4	29844(04)	I-35: NB & SB BRIDGES OVER 63RD STREET 5.0 MIS. N. OF I-40 INCLUDING RECONFIGURATION OF I-35/I-44 INTERCHANGE TO ACCOMODATE BRIDGES	2022	C	$33.00
Oklahoma 4	29843(04)	I-35: NB & SB BRIDGES OVER WATERLOO ROAD AT LOGAN C/L	2022	C	$28.00
Oklahoma 4	31013(06)	I-240: DIAMOND GRINDING FROM 0.15 MILES EAST OF I-35, EXTEND WEST 5.75MILES TO THE WEST SIDE OF AIR DEPOT	2022	OI	$1.50
Oklahoma 4	31018(04)	I-44: BRIDGE REHABILITATION OVER I-240, 1.3 MILES NORTH OF OKLA/CLEVELAND CL INCL. RAMP AND NB MAINLINE	2022	OI	$3.03
Pottawatomie 3	21007(07)	I-40: FROM OKLAHOMA C/L, EAST 5.0 MI TO S.H. 102S (MP172.89 TO MP 177.89)	2022	C	$16.00
Rogers 8	31093(04)	U.S. 412 ADD J-TURNS AT 265TH E AVE & 289TH E AVE. APPROX. 2.8 MI & 4.3 MI EAST OF I 44 JCT	2022	C	$.25
Tulsa 8	29694(04)	UNION AVE OVER I-44, 1.6 MILES EAST OF S.H. 66	2022	C	$10.55
Texas 6	14971(35)	U.S. 54: BEG APPROX 10.5 MI N of JCT of US54/US64W and EXTEND N 3.6 MI; GR, DR, SURF	2022	OI	$2.49
Texas 6	14971(42)	U.S. 54. BEG APPROX 10.5 MI N of JCT of US54/US64W and EXTEND N 3.6 MI; SURF.	2022	OI	$11.13
				Subtotal 2022	*$117.13*
				Grand Total	*$816.66*

**Project is stated at total cost, including funds from FASTLANE grant*
Project Types: Capacity (C), Operational Improvements (OI)

6.5.3 Freight Investment Plan Projects

NATIONAL HIGHWAY FREIGHT PROGRAM PROJECTS

ODOT considered various factors for the allocation of federal freight formula funds for Oklahoma's freight projects including level annual funding, corridor focus, geographic diversification, project ranking, stakeholder priorities, project size, and designation of critical candidate rural freight corridors. The resulting set of 18 projects, selected to be funded in part with National Highway Freight Program (NHFP) funds, constitute Oklahoma's *Five Year Financially Constrained Freight Investment Plan*. As shown in **Table 18a**, these projects require total funding of $250.5 million. NHFP funds will cover $100.2 million, and the remaining $150.3 million will be supplied by state and other federal sources. An additional $62 million (not included in the $250.5 million) already is being funded by a federal FASTLANE grant for U.S. 69 in Bryan County.

U.S. 69 Bryan County

Visualization of U.S. 69 after completion of FASTLANE grant project

Table 18b illustrates fiscal constraint in the planned use of NHFP funds. The table identifies $200,166 previously obligated NHFP funds, which when combined with the Freight Plan projects totaling $100,200,000, equals a sum of $100,400,166 in (previously or planned to be) obligated funds. The bottom line of the Financial Constraint Summary table shows Apportioned NHFP funds ($101.4 million) exceed Obligated NHFP Funds ($100.4 million) by $.99 million.

Table 18a. Five Year Financially Constrained Freight Investment Plan Projects

County / ODOT Division	Job Piece No.	Project Description	Plan Year	Type of Project	NHFN *	Plan Cost Est. (M$)	Funding Source		
							NHFP	Nat'l Hwy PP	State
Grady 7	24428(05)	U.S. 81 REALIGNMENT FROM 1 MI. N. OF U.S. 81/ U.S. 277 JCT. S. OF CHICKASHA EXT. N. 8.63 MI. TO .85 MI. N OF THE U.S. 62/ U.S. 81 JCT. (R/W)	2018	C	R	$11.51	$4.60	$4.60	$2.30
Oklahoma 4	27897(04)	I-35NB & SB BRIDGES OVER DEEP FORK CR SERVICE RD, 4.6 MI N OF I-40 JUNCTION	2018	C	Y	$33.00	$13.20	$13.20	$6.60
Sequoyah 1	10618(07)	I-40 INTERCHANGE @ U.S. 64 IN SALLISAW (BR @ U.S. 64 & LITTLE SALLISAW CR)	2018	C	Y	$25.90	$10.36	$10.36	$5.18
Texas 6	14971(36)	U.S. 54: BEG APPROX 10.5 MI N of JCT of US54/US64W and EXTEND N 3.6 MI; ROW	2018	C	R	$.80	$.32	$.32	$.16
Texas 6	20839(08)	U.S. 54; BEGIN APPROX. 8.5 MI. NORTH OF U.S. 64 & EXTEND N 2.0 MILES THROUGH TYRONE: GRADE, DRAIN, SURFACE	2018	C	R	$9.42	$3.77	$3.77	$1.88
Tulsa 8	28859(04)	129TH E. AVE I-244 UNDER, 1.54 MI EAST OF JCT U.S. 169; BRIDGE	2018	C	Y	$6.29	$2.52	$2.52	$1.26
				Subtotal 2018		*$86.92*	*$34.77*	*$34.77*	*$17.38*

Table 18a. Five Year Financially Constrained Freight Investment Plan Projects (continued)

County / ODOT Division	Job Piece No.	Project Description	Plan Year	Type of Project	NHFN *	Plan Cost Est. (M$)	Funding Source		
							NHFP	Nat'l Hwy PP	State
Bryan 2	31855(04)**	U.S. 69. BEGIN AT SOUTH END OF CALERA AND EXTEND NORTH TO U.S. 70 INTERCHANGE; GRADE, DRAIN, SURFACE, BRIDGE (FASTLANE @ $62M)	2019	C	R	$58.00	$23.20	$10.80	$24.00
Texas 6	14971(37)	U.S. 54: BEG APPROX 10.5 MI N of JCT of US54/US64W and EXTEND N 3.6 MI; UT	2019	C	R	$.37	$.15	$.15	$.07
Texas 6	14971(41)	U.S. 54: BEG APPROX 10.5 MI N of JCT of US54/US64W and EXTEND N 3.6 MI; (SURFACE FOR SB LANES)	2019	OI	R	$3.00	$1.20	$1.20	$.60
			Subtotal 2019			*$61.37*	*$24.55*	*$12.15*	*$24.67*
Grady 7	24428(06)	U.S. 81 REALIGNMENT FROM 1 MI. N. OF THE U.S. 81/U.S. 277 JCT. S. OF CHICKASHA EXT. N. 8.63 MI. TO .85 MI. N OF THE U.S. 62/U.S. 81 JCT. (UTILITIES)	2020	C	R	$6.30	$2.52	$2.52	$1.26
Texas 6	20947(04)	U.S. 54 FROM 4.8 mi. N of U.S. 64 EXTEND N. 3.7 MI, GRADE & DRAIN	2020	C	R	$3.25	$1.30	$1.30	$.65
			Subtotal 2020			*$9.55*	*$3.82*	*$3.82*	*$1.91*
Oklahoma 4	26422(05)	I-40: FROM MI MARKER 171 EAST TO MI MARKER 173 (RECONSTRUCT & ADD LANES & RECONSTRUCT, HARRAH/NEWALLA INTERCHANGE	2021	C	Y	$20.60	$8.24	$8.24	$4.12
Texas 6	20947(07)	U.S. 54 FROM 4.8 mi. N of U.S. 64, EXTEND N 3.7 MI; SURFACE	2021	C	R	$9.31	$3.72	$3.72	$1.86
Texas 6	20947(08)	U.S. 54 FROM 4.8 mi. N of U.S. 64 EXTEND N 3.7 mi, RR XING	2021	OI	R	$.14	$.06	$.06	$.03
			Subtotal 2021			*$30.05*	*$12.02*	*$12.02*	*$6.01*

Table 18a. Five Year Financially Constrained Freight Investment Plan Projects (continued)

County / ODOT Division	Job Piece No.	Project Description	Plan Year	Type of Project	NHFN *	Plan Cost Est. (M$)	Funding Source		
							NHFP	Nat'l Hwy PP	State
Oklahoma 4	29844(04)	I-35: NB & SB BRIDGES OVER 63RD ST 5.0 MIS. N. OF I-40 INCL RECONFIG OF I-35/ I-44 INTERCHGE TO ACCOMODATE BRIDGES	2022	C	Y	$33.00	$13.20	$13.20	$6.60
Pottawatomie 3	21007(07)	I-40: FROM OKLAHOMA C/L, EAST 5.0 MI TO S.H. 102S; GRADE, DRAIN, SURFACE (MP172.89 TO MP 177.89)	2022	C	Y	$16.00	$6.40	$6.40	$3.20
Texas 6	14971(35)	U.S. 54: BEG APPROX 10.5 MI N of JCT of US54/US64W and EXTEND N 3.6 MI; GRADE, DRAIN	2022	OI	R	$2.49	1.00	$1.00	$.50
Texas 6	14971(42)	U.S. 54. BEG APPROX 10.5 MI N of JCT of US54/US64W and EXTEND N 3.6 MI; SURFACE	2022	OI	R	$11.13	$4.45	$4.45	$2.23
				Subtotal 2022		*$62.62*	*$25.05*	*$25.05*	*$12.52*
				Grand Total		*$250.51*	*$100.20*	*$87.80*	*$62.50*

**Y indicates Yes, on National Highway Freight Network (NHFN); R indicates Recommended for NHFN*
***Plan Cost Est. ($58M) + FASTLANE grant ($62M) = Total project cost of $120M*
Project Types: Capacity (C), Operational Improvements (OI)

Table 18b. Financial Constraint Summary: Annual Apportionment of National Highway Freight Program (NHFP) Funds and Annual Planned/Programmed Obligation of NHFP Funds, 2016–2022

Year	Apportioned NHFP Funds (M$)	Obligated or Planned Obligation NHFP Funds (M$)	Balance NHFP Funds (M$)
2016	18.55	0.20	18.35
2017	17.63	0.00	35.98
2018	19.26	34.77	20.47
2019	21.77	24.55	17.69
2020	24.19	3.82	38.06
2021	0.00	12.02	26.04
2022	0.00	25.05	0.99
TOTAL	**101.40**	**100.41**	**0.99**

Source: *https://www.fhwa.dot.gov/fastact/funding.cfm*; accessed Nov 30 2017

- FY 2016-FY 2018: FY 2016-2018: Highway Apportionments under the FAST Act; Apportionment of Federal-Aid Highway Program Funds for Fiscal Year; Classification Code Date Office of Primary Interest: N 4510.
- FY 2019-2020: Fixing America's Surface Transportation Act; Summary; Funding; Estimated Highway Apportionments under the FAST Act.

HIGHWAY FREIGHT MOBILITY PROJECTS

Additional Support by traditional federal and state programs

In addition to projects funded in part by NHFP funds, 36 top highway freight mobility projects appear in the 8 Year Construction Work Plan. These projects are being funded from traditional highway sources, with 80 percent from the federal government and 20 percent from the state. These 36 projects represent an additional $504 million investment in freight over the next five years, as displayed in **Table 19**. Combined with the 18 projects that will receive NHFP funds, the total highway freight investment in Oklahoma over the next five years is $816 million, covering all of the 54 top projects presented in Table 17. The location of these 54 projects appears in the map in **Figure 27**, which also depicts the top highway freight bottlenecks in the state. Twenty-nine of the projects are slated for locations with bottlenecks.

Table 19. Five Year Highway Freight Investment Projects Funded with Traditional Federal and State Funds

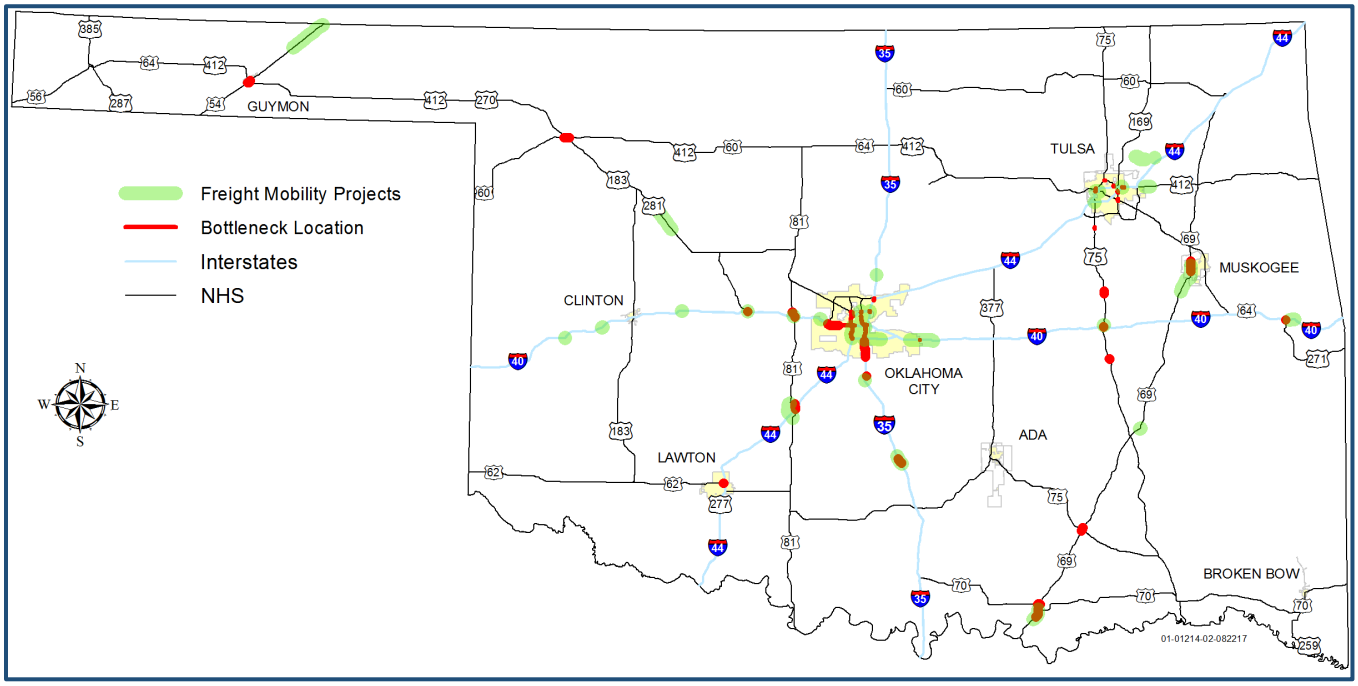
County / ODOT Division	Job Piece No.	Project Description	Plan Year	Type of Project	Plan Cost Est. (M$)
Tulsa 8	28881(04)	I-444 OVER 11TH AND 6TH STREET, .3 MILES NORTH OF S.H. 51	2018	C	$4.20
Beckham 5	30998(04)	I-40: S.H. 6 BOTH NB & SB BRIDGES OVER I-40 IN ELK CITY	2018	C	$9.34
Oklahoma 4	27905(04)	I-235: NB OFFRAMP IMPROVEMENTS AT N. 23RD ST.	2018	C	$.50
Oklahoma 4	28855(04)	I-44: EB, WB & ON-RAMP BRIDGES OVER DEEP FORK CREEK 6.7 MIS. N. OF I-40	2018	OI	$4.00
Oklahoma 4	30444(06)	I-35: ADD CAPACITY TO EXISTING BRIDGES AT I-35/I-40 INTERCHANGE - INTERIM IMPROVEMENT	2018	OI	$5.00
Okmulgee 1	29673(04)	U.S. 75: BRIDGES OVER KO & G R.R. (ABANDONED RR), 1.2 MILE NORTH OF I-40	2018	OI	$4.71
Sequoyah 1	28961(04)	I-40: BRIDGE OVER CO. RD. (OLD U.S. 64) & KCS R.R., 1.40 MI. E. OF JCT. U.S. 59	2018	OI	$10.89
Tulsa 8	28900(04)	I-444 FROM ARKANSAS RIVER EXTEND EAST APROX. 1.68 MILES (SOUTH LEG OF THE IDL)	2018	OI	$20.50
Washita 5	29003(04)	I-40 N. FRONTAGE ROAD: BRIDGE & APPROACHES OVER SAND CREEK, 0.11 MILE EAST OF S.H. 44.	2018	OI	$.74
				Subtotal 2018	$59.89
Canadian 4	27004(04)	I-40B: OVER THE UP RAILROAD ON THE SOUTH EDGE OF EL RENO	2019	OI	$7.58
Oklahoma 4	31006(04)	I-44: DOWEL BAR RETROFIT AND DIAMOND GRINDING FROM SW 74TH ST, NORTH TO OKLAHOMA RIVER, ADDED LANE ON SB FROM 0.5 SOUTH OF SW74TH ST	2019	OI	$10.10
Oklahoma 4	31019(04)	I-44: NB AND SB BRIDGE REHABILITATION OVER S.59TH ST, 0.75 MILES SOUTH OF THES.H. 152 JCT	2019	OI	$1.52
Oklahoma 4	9033(27)	I-235: MAINLINE THRU I-44 INTERCHANGE (SEGMENT 8)	2019	OI	$45.45
Oklahoma 4	9033(11)	I-235: NB TO WB & EB TO NB FLYOVER BRIDGES I-235/ I-44 INTERCHANGE (SEGMENT 2B)	2019	OI	$35.35
Pittsburg 2	14999(09)	U.S. 69 CONSTRUCTION INTERCHANGE @ KINKEAD ROAD IN MCALESTER	2019	C	$20.00
				Subtotal 2019	$119.99

Table 19. Five Year Highway Freight Investment Projects Funded with Traditional Federal and State Funds (continued)

County / ODOT Division	Job Piece No.	Project Description	Plan Year	Type of Project	Plan Cost Est. (M$)
Canadian 4	30715(04)	I-40: INTERCHGE AT FRISCO ROAD, 4.5 MILES WEST OF THE KILPATRICKTURNPIKE JUNCTION.	2020	C	$17.36
Dewey 5	17671(41)	U.S. 270, BEGIN 0.4 MI SE OF THE S.H. 51 E JCT AND EXTEND SE 4.9 MILES.TURNKEY PROJECT (CONSTRUCT AS 4 LANE DIV & REHAB EXISTING)	2020	C	$20.00
Garvin 3	20970(08)	I-35: FROM S.H. 19, NORTH 3.21 MI	2020	OI	$15.55
Muskogee 1	27108(04)	U.S. 69: BEGIN 0.1 MI N OF U.S. 64 E (PEAK BLVD) & EXT N 2.5 MILES	2020	C	$4.00
Muskogee 1	31211(04)	U.S. 69: NORTHBOUND - FROM 4.5 MI. N. OF MUSKOGEE C/L N. 8.5 MI., SOUTHBOUND - FROM 8.5 MI. N OF MUSKOGEE C/L N. 4.5 MI.	2020	OI	$6.00
Oklahoma 4	9033(28)	I-44: WB TO NB RAMPS AT I-44E/I-235 INTERCHGE (SEGMENT 3A)	2020	OI	$15.81
Oklahoma 4	9032(05)	I-35: OVER THE I-240 JCT. RECONSTR INTERCHGE (PHASE IB)	2020	OI	$12.24
Rogers 8	27031(04)	S.H. 20: FROM 4 MILES EAST OF TULSA COUNTY LINE EAST TO 1 MILE EAST OF VERDIGRIS RIVER	2020	C	$52.49
				Subtotal 2020	$143.44
Custer 5	31060(04)	AIRPORT ROAD OVER I-40 LOCATED 4.3 MILES EAST OF S.H. 54 IN WEATHERFORD.	2021	C	$6.32
Dewey 5	17671(13)	U.S. 270 FROM 5.4 MI SOUTH OF S.H. 51 EAST JCT & EXT SE 3.0 MILES.TURNKEY PROJECT (CONSTRUCT AS 4 LANE DIV & REHAB EXISTING)	2021	C	$14.17
Oklahoma 4	9032(06)	I-35: OVER THE I-240 JCT. (PHASE II) RECONST INTERCHG.	2021	OI	$24.72
Oklahoma 4	9032(07)	I-35 @ THE I-240 JCT (PHASE III) RECONST INTERCHG.	2021	OI	$16.48
Oklahoma 4	9032(08)	I-35 @ THE I-240 JCT (PHASE IV) RECONST INTERCHG	2021	OI	$31.93
Rogers 8	26242(04)	S.H. 20 / S.H. 66 CONNECTION	2021	C	$32.70
				Subtotal 2021	$126.32
Canadian 4	27959(04)	U.S. 281 SPUR: BRIDGE OVER I-40 4.1 MIS. E. OF THE CADDO C/L	2022	OI	$4.00
McClain 3	19314(04)	I-35/S.H. 9 INTERCHGE (PHASE III)	2022	C	$7.18
Oklahoma 4	31013(06)	I-240: DIAMOND GRINDING FROM 0.15 MILES EAST OF I-35, EXTEND WEST 5.75MILES TO THE WEST SIDE OF AIR DEPOT	2022	OI	$1.50
Oklahoma 4	29843(04)	I-35: NB & SB BRIDGES OVER WATERLOO ROAD AT LOGAN C/L	2022	C	$28.00
Oklahoma 4	31018(04)	I-44: BRIDGE REHABILITATION OVER I-240, 1.3 MILES NORTH OF THECLEVELAND COUNTY LINE INCL. RAMP AND NB MAINLINE	2022	OI	$3.03
Rogers 8	31093(04)	U.S. 412 ADD J-TURNS AT 265TH E AVE & 289TH E AVE. APPROX. 2.8 MI & 4.3 MI EAST OF I 44 JCT	2022	C	$.25
Tulsa 8	29694(04)	UNION AVE OVER I-44, 1.6 MILES EAST OF S.H. 66	2022	C	$10.55
				Subtotal 2022	$54.51
				Grand Total	$504.15

Note: Project Types: Capacity (C), Operational Improvements (OI)

Figure 27. Top Highway Freight Mobility Projects



Source: Oklahoma Department of Transportation; WSP analysis of Highway Performance Monitoring System and National Performance Management Research Data Set data

WATERWAY FREIGHT MOBILITY PROJECTS

Turning to investments in other parts of the Oklahoma multimodal freight system, **Table 20** lists freight mobility projects scheduled on the MKARNS system at the time of this Plan's development.

Table 20. Waterway Freight Mobility Projects, FFY 2018 through 2022

County ODOT Division	Ref. No.	Owner/ Operator	Project Description	Yr. of Planned Expenditure	NHFN	Est. Cost. Mill $	Funding Sources
Wagoner, Sequoyah & LeFlore, Muskogee 1 and 2	WW 1	USACE	Replace lock roof at multiple locations to eliminate leaking onto control panels	2018	NA	0.30	USACE
Muskogee 1	WW 2	USACE	Acquire new miter gate pintle ball for Webbers Falls	2018	NA	0.40	USACE
Wagoner, Leflore & Sequoyah 1 and 2	WW 3	USACE	Replace lock control wiring at multiple locations upstream & downstream	2018	NA	2.50	USACE
LeFlore & Sequoyah 1 and 2	WW 4	USACE	Purchase stop Logs (50 foot) at Robert S Kerr lock	2018	NA	5.50	USACE
					Total	**$8.7**	

Railroad Freight Mobility Projects

Table 21 lists freight mobility projects planned for railroads in Oklahoma at the time of Plan development. Further information is available in the Oklahoma State Rail Plan: 2018–2021.

Table 21. Rail Freight Mobility Projects, FFY 2018 through 2022

County ODOT Division	Ref. No.	Owner/ Operator	Project Description	Yr. of Planned Expenditure	NHFN	Est. Cost. Mill $	Funding Sources
Oklahoma Pottawatomie 3 and 4	RR1	AOK	AOK Shawnee Subdivision Upgrade	2020 through 2022	NA	$1.5	State and Local gov't, Railroad and/or other private sector sources
Oklahoma 4	RR2	BNSF	BNSF rail bridges over Interstate240, north of Flynn Yard (Oklahoma City)	2020	NA	$20.0	Federal, State, and Local gov't, Railroad and/or other private sector sources
Blaine 5	RR3	GNBC	Replace GNBC bridge over North Canadian River between Southard and Eagle City	2018/19	NA	$5.4	
Blaine 5	RR4	GNBC	GNBC Okeene Passing Siding and Mainline Rail Upgrade	2018/19	NA	$7.6	
Choctaw 2	RR5	KRR	Track rehab on KRR Paris Subdivision (Hugo, Oklahoma to Paris, Texas)	2020 through 2022	NA	$1.5	Railroad and/or other private sector sources, local gov't
Choctaw 2	RR6	KRR	Track rehab on KRR Lake Subdivision - Hugo to Lake	2020 through 2022	NA	$3.6	
Tulsa 8	RR7	SKOL	SKOL Bridge Upgrades at Milepost 60.6	2018/19	NA	$1.5	
Tulsa 8	RR7	SKOL	SKOL Owasso Yard Switch Upgrade	2018/19	NA	$0.2	
Comanche 7	RR8	SLWC	Tie improvement / Surfacing on SLWC Lawton Subdivision (Milepost 563-Milepost 580)	2020 through 2022	NA	$0.5	
Caddo, Comanche, Grady 7	RR9	SLWC	Various SLWC Bridge Repairs (Milepost 438.9 – Milepost 668.7)	2020 through 2022	NA	$0.6	
Tulsa 8	RR10	SS	Rail repair and crossing renewals on Sand Springs Railway in Tulsa area	2020 through 2022	NA	$0.4	
Tulsa 8	RR11	TSU	Perform bridge and track maintenance on TSU system wide	2020 through 2022	NA	$2.0	
Tulsa 8	RR12	TSU	Add Storage Track Capacity on TSU Systemwide	2020 through 2022	NA	$5.0	
					Total	**$49.8**	

FREIGHT TRANSPORTATION PROVIDED BY MULTIPLE MODES

The freight investment captured by the projects listed in the four previous tables represents a total of $875 million to be spent over the five years of the OFTP. This includes rail at $49.8 million, waterways at $8.7 million, and highways at $816.7 million, including the full value of the FASTLANE grant. In subsets, the highway program represents $100.2 million NFHP, $62.0 million FASTLANE grant, $491.2 million federal formula funds, and $163.3 million state funds.

6.6 NETWORK DESIGNATIONS

6.6.1 National Highway Freight Network

The Oklahoma freight network consists of the state's transportation corridors and assets designated as parts of the National Highway Freight Network (NHFN) and NMFN. The FAST Act directs the FHWA to establish the NHFN, which replaced the Primary Freight Network and the Freight Network; both were created by MAP-21. The NHFN has the following components:[53]

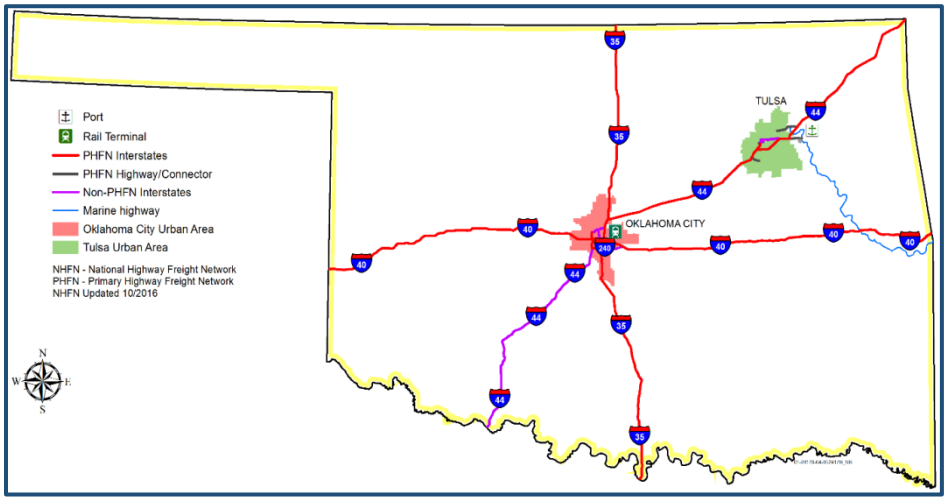
- **Primary Highway Freight System (PHFS[54]):** This is a network of highways identified as the most critical highway portions of the U.S. freight transportation system determined by measurable and objective national data. The network consists of 41,518 centerlines miles, including 37,436 centerline miles of interstate and 4,082 centerline miles of non-interstate roads. In Oklahoma, this includes I-40, I-35, I-44 (partial), I-240 (partial), I-244 (partial), U.S. 412, and S.H. 364 (Creek Turnpike).
- **Other interstate portions not on the PHFS**: These highways consist of the remaining portion of interstate highways not included in the PHFS. These routes provide important continuity and access to freight transportation facilities. These portions amount to an estimated 9,511 centerline miles of interstate nationwide, and will fluctuate with additions and deletions to the interstate highway system. In Oklahoma, this includes I-44 (partial), I-235, I-240 (partial), I-244 (partial), and I-444.
- **Critical Rural Freight Corridors (CRFCs):** These are public roads not in an urbanized area which provide access and connection for the PHFS and the interstates with other important ports, public transportation facilities, or other intermodal freight facilities.
- **Critical Urban Freight Corridors (CUFCs)**: These are public roads in urbanized areas which provide access and connection for the PHFS and the interstates with other ports, public transportation facilities, or other intermodal transportation facilities.

The NHFN also includes 14 miles of intermodal connectors in Oklahoma. Prior to designation of CRFCs and CUFCs, the NHFN consists of the PHFS and other interstate portions not on the PHFS.

The FAST Act initially designated the PHFS as the network identified by MAP-21 for the highway primary freight network. In October 2015, after a solicitation of comments, the FHWA confirmed the initial PHFS. The PHFS can be re-designated by the FHWA every five years to reflect changes in freight patterns, including emerging and critical commerce corridors. In addition to the PHFS, the FAST Act included all segments of the interstate system (that were not part of PHFS) in the NHFN.

Thus, the starting point for the NHFN in Oklahoma (**Figure 28**) is the interstate system, approximately 11 additional highway miles in the Tulsa area; the BNSF terminal line and the Williams Pipeline station in Tulsa; and road connectors to Port 33 and the Tulsa Port of Catoosa. The assumption is that these NHFN elements are the most critical components of a continuous and accessible state freight transportation system.

Figure 28. Oklahoma National Highway Freight Network



Source: Federal Highway Administration; Oklahoma DOT

Table 22. Oklahoma National Highway Freight Network Mileage Distribution

Primary Highway Freight System (PHFS)			
Route	**Start Point**	**End Point**	**Miles**
Creek Turnpike/ S.H. 364	I-44	U.S. 75	4.90
I-240	I-44	I-35	4.61
I-244	OK3R (BNSF RR in Tulsa)	I-44	3.52
I-35	TX/OK Line	OK/KS Line	236.13
I-40	TX/OK Line	I-35	151.76
I-40	I-35	OK/AR Line	177.96
I-44	I-240	4.68 miles north of I-40	7.92
I-44	I-35	OK/MO Line	194.00
U.S. 412	SH6P/near Oakley's Port 33	I-44	6.40
		Subtotal	**787.20**
PHFS Intermodal Connectors			
Facility ID	**Facility Name**	**Facility Description**	**Miles**
OK2L, Tulsa Co. pipeline	Williams Pipeline Station	21st St (33rd W Avenue east to BNSF Terminal at 23 Street)	1.27
OK2R, Tulsa Co. railroad	BNSF Railroad	From SW Blvd. and I-244 north to BNSF Terminal; (parallel to SW Boulevard)	0.56
OK5P/ S.H. 266, Rogers Co. port connector road	Port of Catoosa	S.H. 266 (from U.S. 169 to I-44/W. Rogers Turnpike)	11.42
OK6P/ S.H. 412P, Wagoner Co. port connector road	Oakley's Port 33	From location 0.25 mile south of U.S. 412 on N/S 415, and approximately 5 miles east of W. Rogers Turnpike, then east 1.1 miles on S.H. 412P to port and river	1.14
		Subtotal	**14.39**
		PHFS Total	**801.59**
Interstate Not On PHFS			
Route	**Start Point**	**End Point**	**Miles**
I-235	I-40	I-44	5.14
I-240	I-35	I-40	11.68
I-244	S 21st St	I-44	12.24
I-44	TX/OK Line	I-240	114.91
I-44	0.35 Miles South of S.H. 66	I-35	7.70
I-444	I-244 (South)	I-244 (North)	2.50
		Non-PHFS Total	**154.17**
		All	**955.76**

Source: Federal Highway Administration, Oklahoma Department of Transportation

As shown in **Table 22** the NHFN amounts to 955 miles in Oklahoma prior to the designation of CRFCs and CUFCs. PHFS routes or connectors comprise 802 miles; the remaining 154 miles are Oklahoma interstate miles that are not part of the PHFS. I-40 represents the longest part of the network followed by I-35.

The principal significance of the NHFN is that it determines eligibility for use of apportioned funds under the NHFP (also referred to as "freight formula funds"), which total $101.4 million in Oklahoma over the five years of the FAST Act. It also determines eligibility for highway projects under the FAST Act's Infrastructure for Rebuilding America (INFRA) competitive grant program.[55]

As a part of this OFTP's development, there was a recognition that several highways or rail lines in Oklahoma that are important to freight movement will not be included the National Highway/Multimodal Freight Network due to the limited mileage allocated to the state. Thus, it should be noted that a number of freight facilities at the state level could be viewed as essential to the goods movement process, even if they are not officially designated as a critical freight corridor or of the national networks.

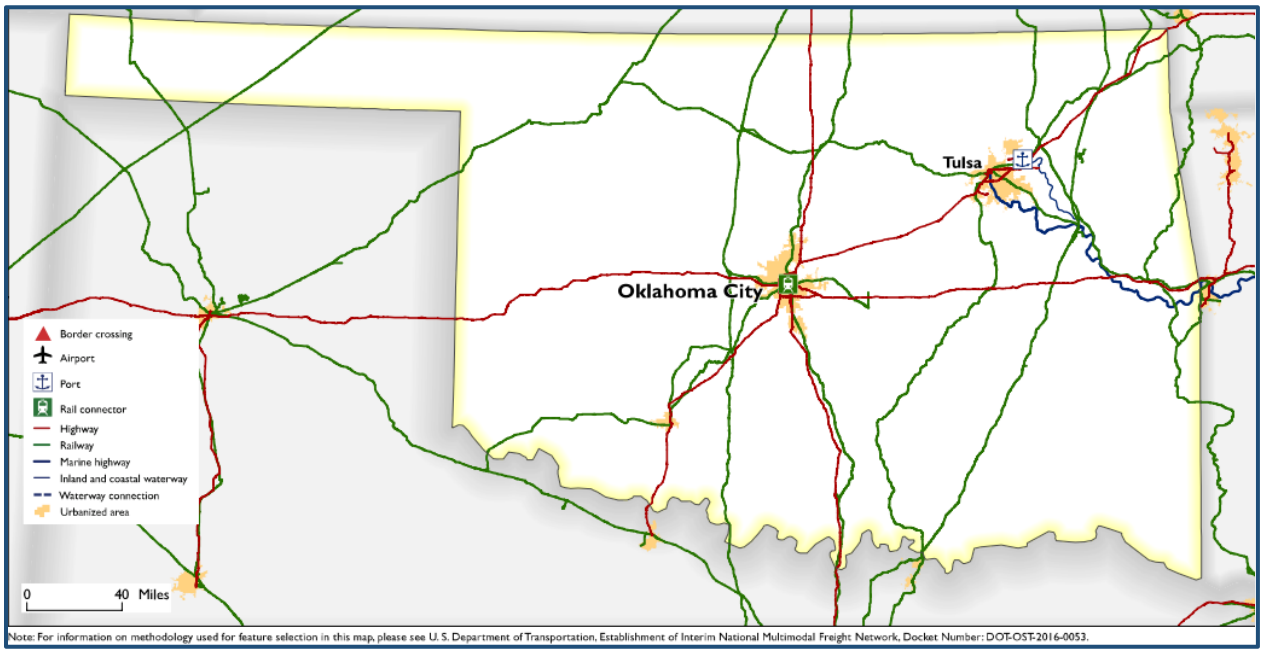
National Multimodal Freight Network

The FAST Act also directed ODOT to establish an NMFN to:

- Assist states in directing resources toward improved system performance for efficient movement of freight.
- Inform freight transportation planning.
- Assist in prioritizing federal investment.
- Assess and support federal investment to achieve national multimodal freight policy goals.

The statute directed U.S. DOT to designate an interim NMFN, with a final network to be identified by December 2017. This corresponds to the FAST Act's emphasis the multimodal nature of freight transportation. **Figure 29** shows the interim NMFN in Oklahoma.

Figure 29. Oklahoma Interim National Multimodal Freight Network



Source: U.S. Department of Transportation

In addition to the highways and intermodal connectors included in NHFN, the interim NMFN also includes over 2,000 miles of railroad, 205 navigable river miles on the MKARNS (Marine Highway M-40), and the Port of Catoosa. The railroad component of the network includes the routes of all the Class I operators in the state: BNSF, KCS, and UP.

6.6.2 Rural Freight Corridors

The final elements of the NHFN have been left to the discretion of the states: the CRFCs and the CUFCs. These are limited as to centerline miles; the limits in Oklahoma are 160 rural miles and 80 urban miles. Candidate highways are identified in this document.

Rural freight corridors are called out for specific attention in the FAST Act. The concept "critical rural freight corridor" is reserved for specific designation of a limited number of rural miles in each state that are important to freight mobility. Following the adoption of this OFTP, the recommended CRFCs that are approved will join the rural interstates, urban interstates, the PHFN, and the CUFCs in being Oklahoma's portion of the NHFN.

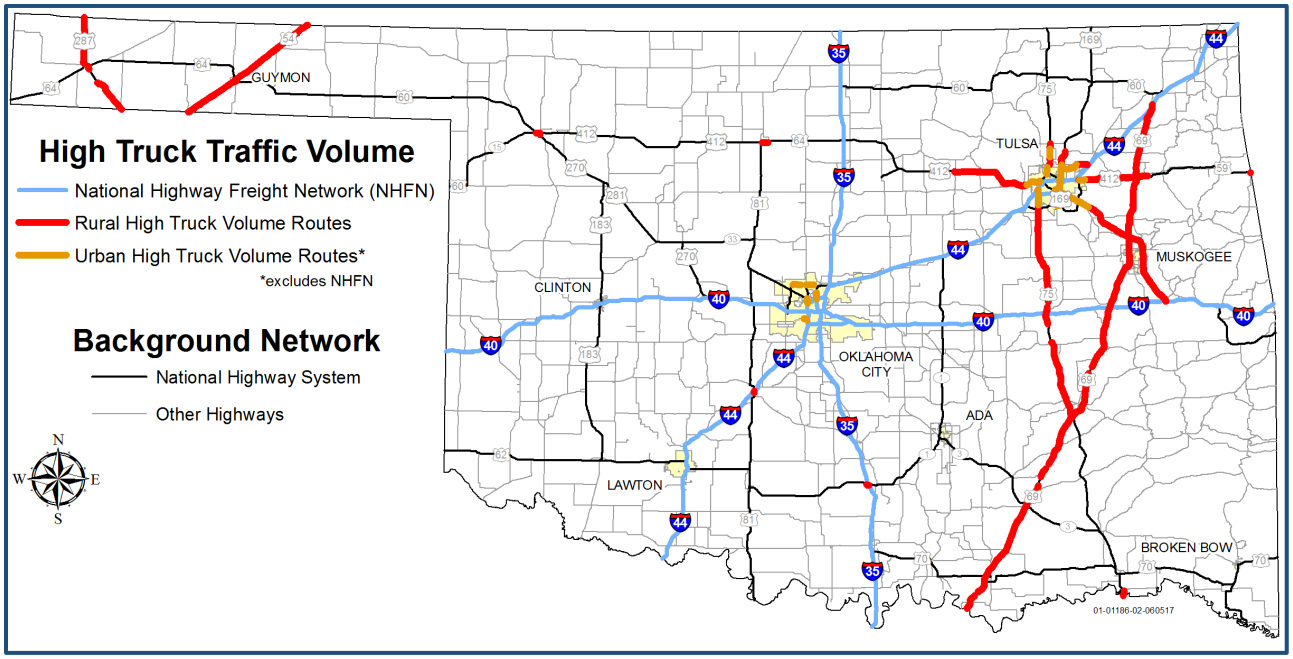
Definition of Critical Rural Freight Corridors

The FAST Act makes provisions for expanding the NHFN beyond the interstate highway system by designating two other components: the CRFC and the CUFC subsystems. CRFCs are principal arterials located outside of the U.S. Census Bureau-designated urbanized areas.[56] To qualify as a CRFC, the roadway must meet one or more criteria such as high volume or high percentage truck traffic, access to energy, agriculture or other production areas, or connection to interstates and ports.

FHWA also encouraged states, to consider connector routes from high-volume freight corridors to key rural freight facilities, including manufacturing centers, agricultural processing centers, farms, intermodal, and military facilities.

Figure 30 shows Oklahoma corridors that carry a high volume of truck traffic.[57]

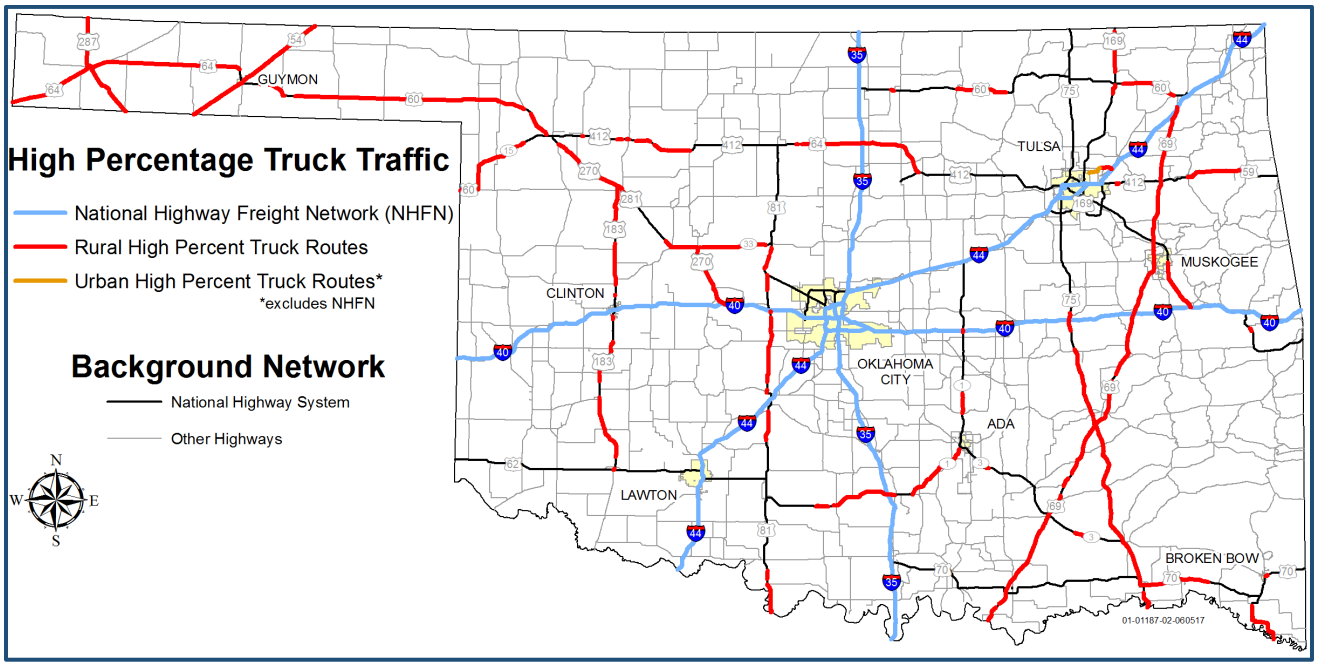
Figure 30. High Truck Traffic Volume



Source: Oklahoma Department of Transportation, WSP analysis

Figure 31 shows the rural highway routes with average daily combination vehicle truck counts equal to or exceeding the 25 percent minimum, described in FHWA guidance.

Figure 31. High Percentage Truck Traffic



Source: Oklahoma Department of Transportation, WSP analysis

Like many states, Oklahoma employed a process of identifying "candidate" rural corridors; the final determination as to requesting designation as CRFCs was made following an identification of projects most suitable for freight formula funds. The locations of those projects directed the final recommendation for naming CRFCs.

Identification of Oklahoma Rural Freight Corridor Candidates

To identify eligible highway segments that would be candidates for inclusion in the Oklahoma CRFC, as a part of this Plan's process, ODOT employed a methodology that considered the FAST Act criteria as described above for CRFCs. The methodology also recognized projects slated for FFY 2018 through FFY 2022 from the 8 Year Construction Work Plan, identifying rural highway sites where improvement projects have been defined or are needed.

The initial review of possible CRFCs by ODOT found that the 8 Year Construction Work Plan has more projects than can currently be accommodated by the CRFC designated highways. However, the FAST Act allows initially identified CRFCs can be modified as conditions warrant.[58]

Looking at locations where proposed freight mobility projects coincided with high percentage truck traffic provided a mechanism to narrow the list to projects where funding was most needed. In doing so, candidate CRFCs were those eligible highways where freight mobility improvements requiring funding (Table 17) were identified. Additionally, highways experiencing high truck volumes or high truck percentages were considered.

Following selection of projects for NHFP funding, recommendations for CRFCs (**Table 23**) were made accordingly. These CRFCs were certified by ODOT and subsequently verified by FHWA (Attachment 1). Each of these facilities is a principal arterial carrying a high volume and/or high percentage of truck traffic. The highways also provide connectivity to highway, rail, and/or waterway freight facilities; and each highway is vital to improving the efficient movement of freight in the state. This OFTP recommends that the CRFC designation change as funds are used and needs are met.

Table 23. Critical Rural Freight Corridors

County	Route No.	Start Point	End Point	Length/ miles
Bryan County	U.S. 69	2.2 miles North of S.H. 91	Main St., Durant, Old U.S. 70	10.29
Atoka County	U.S. 69	Bryan/Atoka C/L	Pittsburgh/Atoka C/L	41.48
Pittsburgh County	U.S. 69	Pittsburgh/Atoka C/L	U.S. 69/U.S. 69B Jct. N of McAlester	26.43
Muskogee County	U.S. 69	10.2 mi N of Muskogee/McIntosh C/L	Arkansas River	9.01
Wagoner County	U.S. 69	Muskogee/Wagoner C/L	Mayes/Wagoner C/L	19.22
Mayes County	U.S. 69	Mayes/Wagoner C/L	U.S. 69/S.H. 20 Junction (Pryor)	16.54
Grady County	U.S. 81	1.5 mi S of U.S. 81/S.H. 19 Jct.	.85 mile N of U.S. 62/U.S. 81 Jct.	8.65
Texas County	U.S. 54	U.S. 54 from 4.8 mi N of Jct. U.S. 54/ U.S. 64E	Jct. of U.S. 54 and Okla/Kansas SL	14.82
			Total	146.44

Source: Oklahoma Department of Transportation

6.6.3 Critical Urban Freight Corridors

Urban freight corridors are also identified in the FAST Act as locations that merit specific attention. The term "critical urban freight corridor" is reserved for designation for a limited number of miles in urban areas that are important to freight mobility. Following the adoption of this OFTP, the recommended CUFCs that are approved will join the rural interstates, the CRFCs, urban interstates, and the PHFN in being Oklahoma's portion of the NHFN. Projects on these corridors will be eligible for freight formula funds or for FAST Act competitive freight grant proposals.

Definition of Urban Freight Corridors

The FAST Act provides guidance for selecting CUFCs in urbanized area. To identify the corridors in an urbanized area with a population of 500,000 or more individuals, the MPO, in consultation with the state, may designate a CUFC. In an urbanized area with a population between 50,000 and 500,000 individuals, the state, in consultation with the MPO, may designate a CUFC.

A public road designated as a CUFC must be in an urbanized area. It must meet one or more of several criteria related to providing a key role in movement of freight, including connections to key freight facilities. FHWA encourages consideration be given to first- or last-mile connector routes from high-volume freight corridors to freight-intensive land and key urban freight facilities, including ports, rail terminals, and other industrial-zoned land.

Each state can designate as CUFCs a maximum of 75 miles of highway or 10 percent of the PHFS mileage in the state, whichever is greater. The maximum mileage for Oklahoma is 80.

Oklahoma Urban Freight Corridor Candidates

The proposed streets and highways to include as CUFCs were identified by the MPOs, in consultation with ODOT, for the Oklahoma City and Tulsa metropolitan areas. The recommended CUFCs were certified by ODOT and subsequently verified by FHWA (Attachments 2 and 3).

Oklahoma City Area

In consultation with local communities and ODOT, the Association of Central Oklahoma Governments (ACOG), the MPO for the Oklahoma City metropolitan area, developed a list of proposed CUFCs (**Table 24**) for the Oklahoma City urbanized area.

Table 24. Association of Central Oklahoma Governments/Oklahoma City Area Critical Urban Freight Corridors

Entity	Location	From	To	Length in Miles
OKC	MacArthur Boulevard	N. 16th Street	S. 44th Street	4.50
	N. 122nd Street	Santa Fe Avenue	I-235/S.H. 77	0.45
	Santa Fe Avenue	N. 150th Street	N. 114th Street	2.60
	Reno Avenue	Morgan Road	Western Avenue	9.00
Norman	Flood Avenue	I-35	S. 239th Street (Robinson Street)	3.87
	Eastern Avenue (24th Avenue SW)	S. 209th Street (Tecumseh Road)	S.H. 9	4.86
OKC	Memorial Road	Santa Fe Avenue	Kelley Avenue	1.01
MWC	Douglas Boulevard	U.S. 62 (N. 23rd Street)	I-40	4.22
OKC	Council Road	I-40	S.H. 152	3.24
	N. 36th Street	Santa Fe Avenue	Lincoln Boulevard	0.49
	Reno Avenue	I-235	Eastern Ave	1.24
Del City	Sunnylane Road	N. 4th Street	I-40	1.13
Moore	S. 149th Street (S. 19th Street)	Telephone Road	Eastern Avenue	0.76
Yukon	N. 10th Street	Cemetery Road (Garth Brooks Boulevard)	Mustang Road	2.02
			Total	**39.37**

Source: Association of Central Oklahoma Governments

Several criteria were used to score and rank each corridor. These included items such as inclusion in a master transportation plan, functional classification, average annual daily traffic, connectivity with highways and other modes, and proximity to freight reliant industries. While scores were used to narrow the corridor list initially, consideration was also given to local government priorities. Local entities were advised to rank corridors based on interstate and multimodal connections, high freight traffic, pavement condition, and overall project priorities.

Tulsa Area

The Indian Nations Council of Governments (INCOG)—the MPO for the Tulsa metropolitan area—formed a technical working group comprising representatives of member governments. The working group identified CUFC segments based on high-growth freight corridors, travel times, target miles for the MPO, and projects in the ODOT 8 year Construction Work Plan. **Table 25** shows the proposed CUFCs for the Tulsa area.

Table 25. Indian Nations Council of Governments/Tulsa Area Critical Urban Freight Corridors

Entity	Location	From	To	Length in Miles
Tulsa	S.H. 51/U.S. 64	IDL/U.S. 75	U.S. 169	7.7
Tulsa	U.S. 169	U.S. 64/ Memorial Drive	Pine St.	11.7
Rogers	S.H. 167	I-44	S.H. 266	4.8
Tulsa	U.S. 75	S.H. 364/Creek Turnpike	I-244	7.0
			Total	**31.2**

Source: Indian Nations Council of Governments

6.7 FREIGHT FUNDING PARTNERSHIPS

In addition to the freight formula funding available through the FAST Act, ODOT should continue to pursue other revenue sources. INFRA Grants[53] are a key component of this. ODOT was awarded a $62 million grant in the first (2016) round of FASTLANE competition for improvements on U.S. 69 in Bryan County. The project will improve approximately four miles of existing arterial highway with numerous access point and three signalized intersections. The new facility will be fully access controlled, with grade separation and functional frontage roads.

ODOT will submit three projects for Infrastructure for Rebuilding America (INFRA) in 2017:

- Tulsa County – Reconstruction of I-44/U.S. 75 interchange bridges and related reconstruction and improvements on I-44, City of Tulsa (approximately 2.5 miles)
- Grady County – Construction of controlled-access 4-lane divided realignment of U.S. 81 west of city of Chickasha (approximately 8.6 miles)
- Oklahoma County I-40/Douglas interchange reconstruction and related interstate widening in Oklahoma City (approximately 5.5 miles)

ODOT has a number of freight projects included in the Five Year Freight Investment Plan and/or Construction Work Plan that should compete well for future INFRA funding. Private and or public funding partnerships will be critical to the success of these applications.