

Basic Project Information

Project Name: I-44 and US 75 Corridor Improvement Projects

Project Sponsor: Oklahoma Department of Transportation

Previously submitted INFRA Application: No

ODOT Contact

Daniel Nguyen
 Project Management
 Division Manager, ODOT
 (405) 522-3618;
dnguyen@odot.org

Project Costs

INFRA Request:	\$70,515,000
Estimated Federal Funding:	\$35,437,900
Estimated non-Federal funding:	\$59,037,100
Future Eligible Project Cost:	\$163,990,000
Previously incurred costs:	\$130,079,440
Total Project Cost	\$294,069,440
Are matching funds restricted to a specific project component?	No

Project Eligibility

NHFN Components:	\$163,990,000
NHS Components:	\$163,990,000
Railway-highway grade crossing or grade separation:	\$10,168,300
Intermodal or freight rail project, or freight project within freight rail, water or intermodal facility?	\$0

Project Location

State:	Oklahoma
Small or large project:	Large
Urbanized Area for which project is located:	Tulsa, OK
Population of Urbanized Area (2010 Census)	655,479
Is project located (entirely or partially) in an Opportunity Zone?	Yes. Census tract 40143004900

Project Currently Programmed in:

TIP:	Yes
STIP:	Yes
MPO Long Range Transportation Plan:	Yes
State Long Range Transportation Plan;	Yes
State Freight Plan:	Yes

Additional information available at: [I-44 and US 75 Corridor Improvement Projects](#)



TABLE OF CONTENTS

- I. Project Description 1**
 - The Project 1
 - Project History 3
 - Transportation Challenges the Project is Intended to Address..... 3
 - How the Project will Address Transportation Challenges in Tulsa 4
 - Broader Context of Infrastructure Investments in the Tulsa Area 5
- II. Project Location..... 6**
- III. Project Parties 6**
- IV. Grant Funds, Sources and Uses of Project Funds..... 7**
 - Funding Commitments 8
- V. Merit Criteria..... 9**
 - Support for National or Regional Economic Vitality 9
 - Benefit-Cost Analysis 9
 - Regional Benefits 13
 - Economic Vitality Benefits 13
 - Freight and goods movement & the ROUTES Initiative..... 16
 - Leverage Federal Funding..... 16
 - Potential for Innovation..... 17
 - Accelerated deployment of innovative technology 17
 - Use of innovative permitting, contracting, and other project delivery practices 17
 - Innovative financing..... 17
 - Performance and Accountability 18
 - Accountability measures applicant is willing to implement or have implemented 18
 - Lifecycle costs 18



VI. Project Readiness 18

 Technical Feasibility 18

 Project Schedule 19

 Required Approvals..... 19

 Environmental Permits and Reviews 19

 State and Local Approvals..... 20

 State and Local Planning 20

 Assessment of Project Risks and Mitigation Strategies 21

VII. Large/Small Project Requirements 24

TABLE OF FIGURES

Figure 1: Project Map..... 1

Figure 2: Work Package 2 2

Figure 3: Work Package 3 2

Figure 4: Work Package 5 3

Figure 5: History of Gilcrease Expressway Construction 5

Figure 6: Tulsa UA (2010) and Tulsa TMA (2012) Boundaries 6

Figure 7: Major Truck Flows to, From, and Within Oklahoma (2010-2040)..... 15

Figure 8: Major Freight Generators and Rail Lines 15

Figure 9: Project Schedule 19

Figure 10: Turkey Mountain Amenities Adjacent to Project Area..... 23

TABLE OF TABLES

Table 1: Coordinates of Work Package Terminus Points (in Decimal Degrees) 6

Table 2: Sources and Uses of Funds..... 7

Table 3: Summary of Future Eligible Costs 8

Table 4: Build and No-Build Costs by Year 10

Table 5: BCA Results..... 12

Table 6: Economic Vitality Benefits 14

Table 7: Forecasted Population Growth Trends..... 16

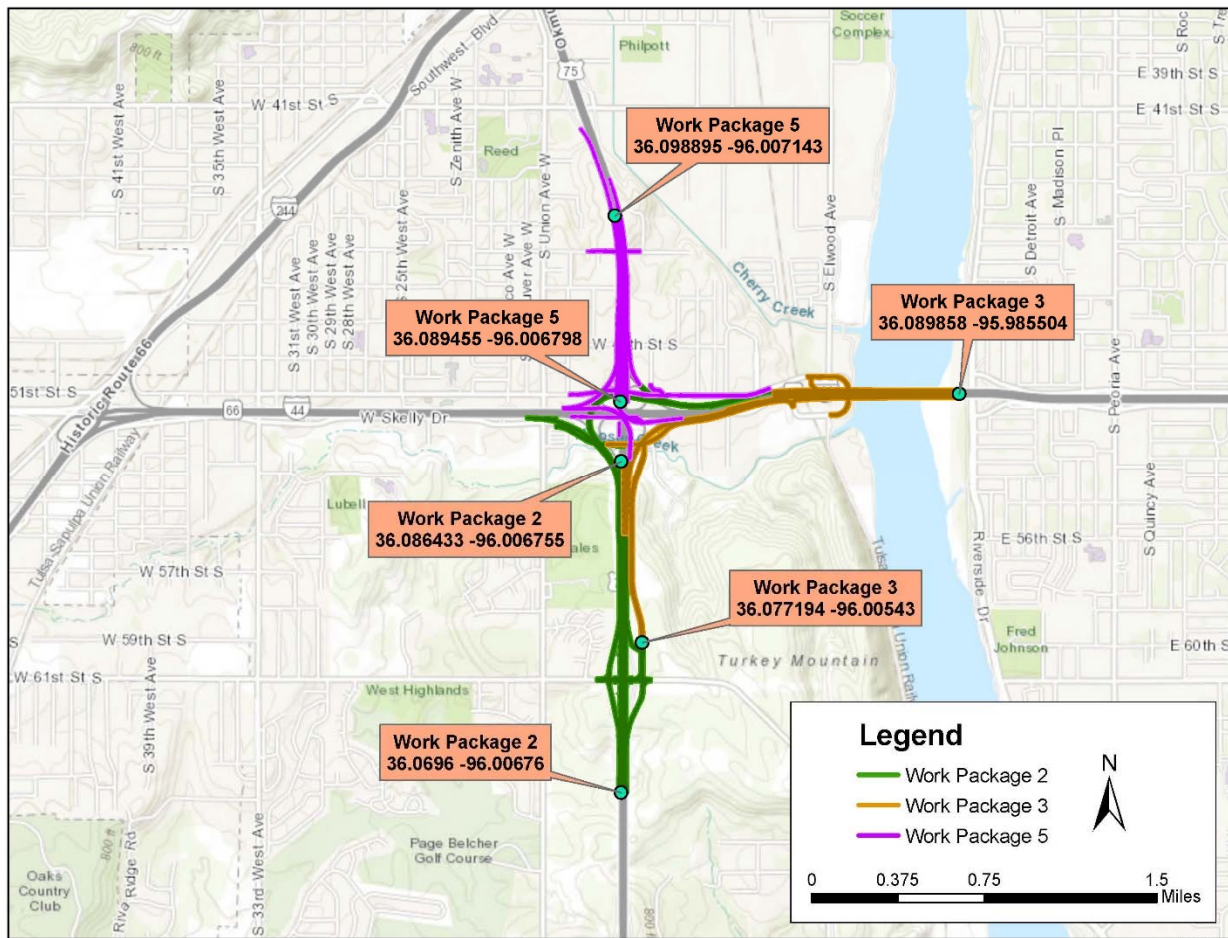


I. PROJECT DESCRIPTION

In Tulsa, Oklahoma, I-44 between I-244 and the Arkansas River is a four-lane divided highway that has not been upgraded since its construction in 1953. As one of Oklahoma’s oldest sections of interstate, the pavement has deteriorated over time earning a “Fair to Poor” performance rating.

To address increasing congestion levels, substantially elevated crash rates, and the state of good repair of the related infrastructure, the Oklahoma Department of Transportation (ODOT) is requesting \$70.5 million in 2020 INFRA funds to assist with I-44 and US 75 Corridor Improvement Projects as shown in **Figure 1**.

Figure 1: Project Map



THE PROJECT

The I-44 and US 75 Corridor Improvement Projects are part of a larger effort to improve the I-44 corridor in west Tulsa. The entire 2.5-mile segment from I-244 to the Arkansas River will eventually be completely reconstructed to meet the demands of growing intra- and interstate



freight demands, address significant safety issues, and upgrade to current interstate standards. However, it is necessary to proceed in phases. The first phase, funded in part by a 2018 INFRA grant of \$45.0 million, is underway.

This application encompasses three of the remaining project work packages (WP) of the I-44 and US 75 Corridor Improvement Projects, which together form a component of independent utility. This grant application covers projected future eligible costs of \$163.9 million. The three work packages for which ODOT is requesting 2020 INFRA funding are summarized below and shown in **Figures 2, 3, and 4**.

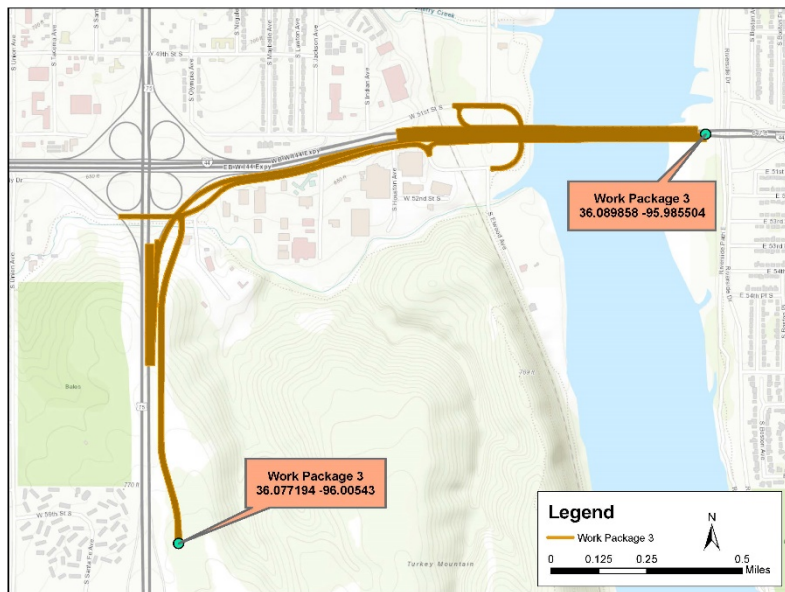
Work Package 2 constructs several directional ramps and bridges at the I-44 / US 75 interchange, reconstructs a portion of US 75 from south of Mooser Creek to near 71st Street, reconstructs the US 75/61st Street interchange, including the 61st Street bridge over US 75, and reconstructs a portion of Skelly Drive from Union Avenue east to US 75.

Figure 2: Work Package 2



Work Package 3 continues the widening of I-44 to six lanes east of US 75 onto the bridge over the Arkansas River, widens I-44 over the Arkansas River bridge, constructs I-44 bridge over the Tulsa-Sapulpa Union Railway, continues widening of US 75 to six lanes south of bridge over Mooser Creek, constructs Skelly Drive east of US 75, and completes the US 75 Frontage Road and the I-44 access road.

Figure 3: Work Package 3



Work Package 3 continues the widening of I-44 to six lanes east of US 75 onto the bridge over the Arkansas River, widens I-44 over the Arkansas River bridge, constructs I-44 bridge over the Tulsa-Sapulpa Union Railway, continues widening of US 75 to six lanes south of bridge over Mooser Creek, constructs Skelly Drive east of US 75, and completes the US 75 Frontage Road and the I-44 access road.



Work Package 5 completes the widening of US 75 to six lanes from 41st Street to 51st Street, constructs the US 75 Bridge over 51st Street, removes existing US 75 bridges over 49th Street, completes several directional ramps and bridges at the I-44 / US 75 interchange, and completes 51st Street and 46th Street.

PROJECT HISTORY

ODOT requested \$63.8 million, and received \$45.0 million, in 2018 INFRA funds to support the first component of this project, known as Work

Package 1. This component widens I-44 to six lanes from near Union Avenue to prior to the bridges over the Tulsa-Sepulpa Union Railway, constructs US 75 bridges over I-44 and Mooser Creek, reconstructs a portion of US 75 in association with new bridges, reconstructs I-44/US 75 loop ramps to match new grade on US 75, partially reconstructs the I-44/US 75 outer ramps, and advances pier construction of select future interchange ramp bridges.

ODOT has incurred \$130.1 million to-date on I-44 and US 75 Corridor Improvement Projects. Expended funds include:

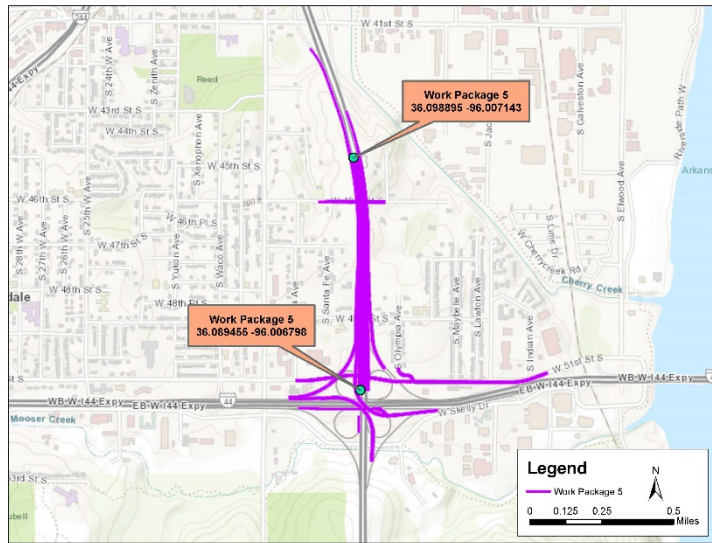
- \$15.6 million for environmental and engineering studies;
- \$20.0 million for right-of-way and utilities; and
- \$94.4 million for construction activities on Work Package 1 to-date.

TRANSPORTATION CHALLENGES THE PROJECT IS INTENDED TO ADDRESS

Tulsa County – in particular, the cities of Tulsa, Jenks, and Glenpool – is experiencing tremendous growth through residential and commercial development. The I-44 corridor provides access to important Tulsa County industrial and manufacturing facilities, large employment centers, schools and education facilities, and recreation. The I-44/US 75 interchange served approximately 142,000 vehicles per day as of March 2017, and future traffic volumes are anticipated to reach over 195,000 vehicles per day as Tulsa County grows through 2045. Estimated and projected traffic volume data from the I-44 Corridor Study is available [here](#).

As the only remaining four-lane interstate highway segment in the Tulsa metropolitan area, growth in Tulsa County cannot be met with existing I-44 infrastructure conditions. Congestion

Figure 4: Work Package 5



and frequent crashes in the corridor pose a regionally significant transportation challenge, affecting the reliable movement of freight and people.

Whereas the Arkansas River formerly served the area as a primary means to move refined oil via river barges, the limited number of suitable highway crossings has made the river a barrier for oil and gas tanker trucks. Today, freight trucks represent approximately 14 percent of daily I-44 corridor vehicles but a system of adjacent collector/distributor roads and US 75 ramps with access to I-44 results in congestion and disrupted reliability. The lack of cross-river connections and congestion is related to capacity as well as the operations of closely spaced access points

HOW THE PROJECT WILL ADDRESS TRANSPORTATION CHALLENGES IN TULSA

The I-44 and US 75 Corridor Improvement Projects will relieve a significant bottleneck and contribute to a safer, continuous six-lane interstate corridor through the city. Although they are not the first or final stages of the larger I-44 and US 75 Corridor Improvement Projects, the components that are the subject of this INFRA grant request are critical, represent most of the project work, and will allow ODOT to accelerate delivery of the remaining corridor improvements.

Designing to modern standards will yield major safety benefits on bridges and roadways. The work covered under this application will include construction of seven directional ramps and bridges between I-44 and US 75 replacing the current obsolete cloverleaf interchange configuration. Bridge construction will include new bridge rail on all replaced bridges, new barrier wall and impact attenuators on bridge approaches, pier protection, and new barrier wall on bridge departures. Roadway safety improvements include a new median barrier protecting both directions and standard 12-foot inside and outside shoulders on mainline I-44.

Existing assets, including the 61st bridge over US 75, portions of US 75, and Skelly Drive from Union Ave to the east of US 75, will be reconstructed to improve safety and traffic flow. The four-lane I-44 will be widened to six lanes east of US 75 over the Arkansas River bridge, relieving a major choke point on the interstate and improving regional connectivity over a significant geographic barrier.

Importantly, I-44 and US 75 Corridor Improvement Projects will include improved local street connections, including the extension of W. 51st Street under US 75 north of I-44, helping to reconnect Carbondale and Winnetka Heights - historic neighborhoods that were separated when US 75 was constructed. The I-44 and US 75 Corridor Improvement Projects will also enhance personal mobility and accessibility, not only for regional users accessing jobs and services but to the residents in the immediate project area through the construction of bicycle lanes on sections of the Tulsa street system that connect to I-44 and US 75.

The I-44 and US 75 Corridor Improvement Projects included in this application build from the improvements in Work Package 1, moving the I-44 corridor-wide improvements closer to completion. The Preliminary Engineering (PE) Study of the corridor-wide improvements was completed by ODOT in 2018 and identifies one final phase following the projects in this application, known as Work Package 4. Work Package 4 has independent utility and will require

new right-of-way to complete the widening of I-44, complete Skelly Drive, reconstruct a portion of southbound US 75 to westbound I-44; and construct I-44 ramps west of Union Avenue.

BROADER CONTEXT OF INFRASTRUCTURE INVESTMENTS IN THE TULSA AREA

Heightening the urgency for improvements to I-44 is the ongoing work on the extension of the Oklahoma Turnpike Authority (OTA)’s Gilcrease Expressway. The extension, from I-44 north to Edison Street, is part of the region’s long-term plan to complete an outer highway loop around Tulsa’s central business district. The City of Tulsa and Tulsa County have completed portions of the loop on the north side of downtown Tulsa as well as just west of the I-44/I-244 interchange (Figure 5).

Figure 5: History of Gilcrease Expressway Construction

- 1 From I-244 to Sheridan Road. 2.4 miles. Completed 1970.
- 2 Sheridan Road to US 75. 2.7 miles. Completed 1988.
- 3 Full interchange reconstruction to Lewis Avenue. 0.5 miles. Completed 2001
- 4 Lewis Avenue to L.L. Tisdale Parkway. 2.3 miles. Completed 2008.
- 5 From L.L. Tisdale Parkway to 41st West Avenue. 2.3 miles. Construction started in early 2010 and will be completed by spring of 2013.
- 6 From 41st West Avenue to 41st St. South. 6.7 miles.
- 7 From 41st St. South to I-44 at 51st St. South. Now consists of two-lane road on a four-lane right-of-way. 2 miles. Completed by late 1980s



OTA plans to construct approximately half of the remaining portion of the Gilcrease Expressway in west Tulsa by leveraging federal investment in the Gilcrease Expressway with contributions from FHWA, ODOT, City of Tulsa, Tulsa County, and the Indian Nations Council of Governments (INCOG).

The Gilcrease Expressway project is under contract, begins in 2020, and will comprise approximately 5.6 miles of a four-lane, a newly aligned, limited-access expressway with grade-separated interchanges and a new bridge across the Arkansas River. The City of Tulsa has already purchased much of the right-of-way for this corridor.

When the Gilcrease Expressway expansion opens in 2022, tolling will raise revenue to invest in future infrastructure and new trips will be added to the I-44 corridor. An expected increase of 10,000 vehicles per day will include a large proportion of commercial trucks, as the Gilcrease Expressway will serve the industrial and refinery businesses in west Tulsa. The increase in vehicles will add to the burden on I-44 and increase the need to reduce the existing bottleneck for freight and passenger traffic on this congested facility.



II. PROJECT LOCATION

The project is within the Tulsa Urbanized Area (UA-88948) and the Tulsa Transportation Management Area (TMA). The blue line in below is the Tulsa TMA boundary, the red line is the Tulsa UA boundary, and the black box represents the project location.

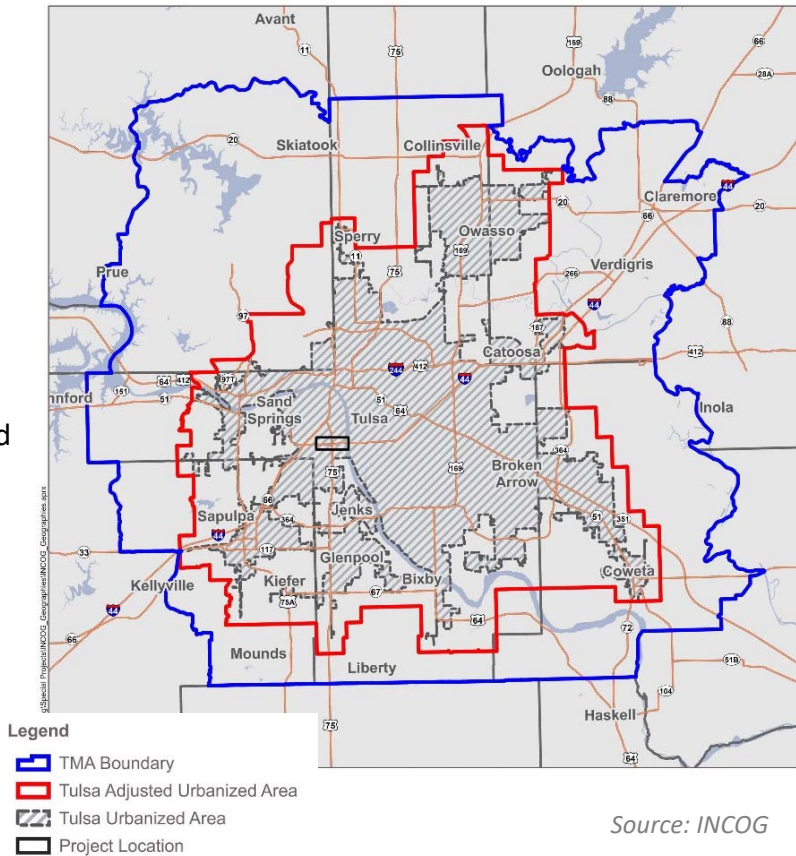
The project is located within the I-44 corridor, a portion of the National Highway System (NHS) and the Primary Highway Freight Network (PHFN), from the interchange with I-244 and extending east approximately two and one-half miles to the Arkansas River.

The location of the proposed improvements for which 2020 INFRA funding is requested is I-44 between Union Avenue and the east bank of the Arkansas River and US 75 from 41st Street south through the 61st Street exits.

The geospatial terminus points of each of the WPs are presented in

Table 1.

Figure 6: Tulsa UA (2010) and Tulsa TMA (2012) Boundaries



Source: INCOG

Table 1: Coordinates of Work Package Terminus Points (in Decimal Degrees)

COMPONENT	NORTH	EAST	SOUTH	WEST
Work Package 2	36.086433	-96.006755	36.0696	-96.00676
Work Package 3	36.089858	-95.985504	36.0772	-96.00543
Work Package 5	36.098895	-96.006798	36.0895	-96.00714

III. PROJECT PARTIES

ODOT is the project sponsor and is coordinating the project with FHWA, INCOG, OTA, City of Tulsa, and Tulsa County.



IV. GRANT FUNDS, SOURCES AND USES OF PROJECT FUNDS

The I-44 and US 75 Corridor Improvement Projects is a true partnership, using State and Federal funds as shown in **Table 2** below. The previously incurred funds total \$130.1 million. The future eligible cost for the I-44 Improvement project components covered in this application is \$163.9 million. A project of this magnitude is beyond the capabilities of ODOT to fund with state and federal appropriations alone. Without INFRA funding, ODOT would be forced to build the project in multiple phases over many decades. ODOT is requesting \$70.5 million of 2020 INFRA funds to accelerate this project and its significant safety and mobility benefits.

Table 2: Sources and Uses of Funds

USES OF FUNDS	SOURCES OF FUNDS (IN \$1,000s)						
	STATE FUNDS		FEDERAL FUNDS		INFRA FUNDS	FUTURE ELIGIBLE COSTS	TOTAL PROJECT COST
	Previously Incurred	Future	Previously Incurred	Future			
Environmental and Engineering	3,125.2		12,500.6				15,625.8
ROW and Utilities	15,000.0		5,000.0				20,000.0
Construction	27,087.0	51,336.6	67,366.7	29,946.0	61,317.4	142,600.0	237,053.6
Contingency and Other		7,700.5		4,491.9	9,197.6	21,390.0	21,390.0
TOTAL	45,212.2	59,037.1	84,867.3	34,437.9	70,515.0	163,990.0	294,069.4

Cost estimates were developed by the design engineer based on estimated quantities and recent similar projects constructed in Oklahoma. A [pre-construction and construction schedule and detailed cost estimate](#) are included as a part of the application attachments.

The budget and schedule include the cost of each project component, and how non-federal (state), INFRA, and other federal funds will be allocated to each component. A summary of the future costs of the different project components and the anticipated cost share is presented in **Table 3**.



Table 3: Summary of Future Eligible Costs

PROJECT COMPONENT	FUNDING TYPE	COST SHARE (%)	COST (\$1000s)
Construction	INFRA	43.0%	61,317.4
	Other Federal	21.0%	29,946.0
	ODOT	36.0%	51,336.6
Contingency and Other	INFRA	43.0%	9,197.6
	Other Federal	21.0%	4,491.9
	ODOT	36.0%	7,700.5
Total	INFRA	43.0%	70,515.0
	Other Federal	21.0%	34,437.9
	ODOT	36.0%	59,037.1

Design, environmental, and right-of-way costs will be covered 100 percent by ODOT’s state transportation funds and federal-aid allocation. Construction funds are anticipated to be 43 percent INFRA funds, 36 percent state funds, and 21 percent other federal funds. The cost estimate also includes a 15 percent contingency.

[ODOT’s 8 Year Construction Work Plan](#) (CWP) outlines ODOT’s commitment to allocate future state transportation funds to the projects in the I-44 corridor. ODOT has traditionally used state funding sources for all of its maintenance activities, and funding for the future maintenance of the I-44 improvements would be no different. ODOT is committed to building and maintaining the I-44 improvements for decades to come.

ODOT currently has over \$166 million in improvements programmed in the 8 Year CWP for the corridor, including portions of the I-44 and US 75 Corridor Improvement Projects. An INFRA funding award would accelerate the delivery of the ultimate solution for the I-44 and US 75 Corridor Improvement Projects.

FUNDING COMMITMENTS

The ODOT Director signed a [Certificate of Assurances forms](#) for the matching state funds. The source of the \$59 million in non-Federal funds is from state transportation funds and it has no limit or condition to satisfy to use the funds.

V. MERIT CRITERIA

SUPPORT FOR NATIONAL OR REGIONAL ECONOMIC VITALITY

BENEFIT-COST ANALYSIS

Overview of Approach

A Benefit-Cost Analysis (BCA) has been conducted for WP 2, 3, and 5 of the I-44/US 75 Interchange, a major part of the overall I-44 and US 75 Corridor Improvement Projects in Tulsa County, Oklahoma. The BCA follows the most recent 2020 DOT guidance for BCAs, which provides both methodological guidance and specific values for monetizing various types of benefits, such as hourly values of travel time and the economic cost of vehicle crashes (including pedestrian-vehicle incidents). All values from that guidance are in 2018 dollars, which have been updated to 2019 real dollars using the 2018-2019 GDP Price Deflator published by the U.S. Bureau of Economic Analysis.

The following general parameters and assumptions have been used in carrying out the BCA:

- A real discount rate of 7 percent is applied to all costs and benefits, which are expressed in 2019 dollars.
- A project life cycle of 25 years is assumed, which represents a mid-point between a recommended 20-year horizon of analysis for rehab and replace projects, vs. 30 years for new right-of-way and facilities. The I-44 and US 75 Corridor Improvement Projects comprises multiple individual elements reflecting a mix of old and rehabbed infrastructure.
- No residual value is assumed at the close of the 25 years of operation.
- The project construction is assumed to commence in 2024 and end in late 2026, with operation commencing in 2027. Some advance right-of-way acquisition for interchange construction will occur in the years 2020 – 2024.
- All costs and benefits are in 2019 dollars.

The [BCA spreadsheet](#) and [BCA Appendix Report](#) provides additional details and data source information.

Project Costs

Cost Summary – Capital and Rehab/Replace Costs – Build vs. No-Build

Major capital, maintenance, and bridge rehab and repair costs are summarized in **Table 4**.



Table 4: Build and No-Build Costs by Year (in \$1,000s)

YEAR	NO-BUILD				BUILD		
	Maint & Rehab Costs for I-44/ US 75	Bridge Rehab Costs	Bridge Damage repair	TOTAL	Capital Costs	Maintenance	TOTAL
2016	4,900	-	-	4,900	-	-	-
2017	-	2,500	-	2,500	-	-	-
2018	1,700	-	-	1,700	-	-	-
2019	-	-	-	-	-	-	-
2020	-	-	-	-	-	-	-
2021	-	2,400	-	2,400	-	-	-
2022	-	-	-	-	-	-	-
2023	-	-	-	-	-	-	-
2024	-	-	-	-	54,664	-	54,663
2025	-	-	-	-	54,663	-	54,663
2026	-	-	-	-	54,663	1,000	55,663
2030	6,600	2,000	100	8,700	-	-	-
2035	-	3,300	100	3,400	-	-	-
2040	6,600	4,900	100	11,600	-	-	-
2045	-	-	100	100	-	5,000	5,000
2050	6,600	10,000	100	16,700	-	2,500	2,500
2055	-	-	-	-	-	-	-
2060	-	-	-	-	-	-	-
TOTAL	\$26,400	\$25,100	\$600	\$52,000	\$163,990	\$8,500	\$172,490

Source: Oklahoma DOT Engineering

Capital Cost

The estimated capital cost of combined WP 2, 3, and 5 is \$163.9 million in 2019 dollars (including contingency), and is broken down as follows:

- WP 2: \$56.0 million
- WP 3: \$48.8 million
- WP 5: \$59.1 million

Operations and Maintenance Costs

Because very little difference in lane mileage will be in place with the I-44 and US 75 Corridor Improvement Projects versus the No-Build, no incremental difference in routine lane-related maintenance costs has been assumed. However, as seen in the cost summary, there are significant differences in non-routine maintenance, bridge repair, and rehab costs, and bridge damage costs. Under the No-Build, ODOT engineers estimate \$52 million has been and will be spent for non-routine roadway and bridge maintenance, compared with \$8.5 million for the Build (i.e., with I-44 and US 75 Corridor Improvement Projects). Except for \$9.1 million already

spent before today for the existing infrastructure, the No-Build costs represent significant life cycle cost savings which are included as benefits for BCA purposes.

Description of Project Benefits Included in the BCA

Three primary categories of benefit have been captured by the BCA: reduced motor vehicle crashes, travel delay savings, and life cycle cost savings. Other categories of benefit which the I-44 and US 75 Corridor Improvement Projects are anticipated to deliver, such as reduced congestion at key bottlenecks and improved reliability for passengers and freight have not been included in the analysis due to time and data limitations.

Crash Reductions: Because much of the I-44 and US 75 Corridor Improvement Projects involve reconfiguring the complex network of US 75 and I-44 interchanges and approach lanes and roadways to the interchanges, a significant share of the benefits anticipated will be reduced vehicular collisions and improved pedestrian safety. To estimate these likely impacts, a detailed data list of all collisions that occurred throughout the I-44 and US 75 Corridor Improvement Projects limits between the years 2014 and 2018 were collected, by severity. Levels of severity were measured across a scale of 1 to 5, including fatal crashes, injury crashes of three degrees of severity, and property-damage-only crashes. These levels of severity are assumed to be roughly equivalent to KABCO scale measurements.

During the five years (covering full calendar years 2014 through 2018), the following count of crashes was obtained from ODOT:

- 408 PDO (property damage only)
- 201 Injury Severity 2 (least severe)
- 134 Injury Severity 3
- 25 Injury Severity 4
- 5 Fatal (including 1 pedestrian fatality)

Based on these data, combined with annual vehicle miles traveled (VMT) measured across the project, accident rates were calculated (crashes per million VMT) and applied to ODOT's estimates of project-wide VMT in the future, and a baseline of total anticipated crashes without the I-44 and US 75 Corridor Improvement Projects was calculated for the entire project horizon of 25 years, through the year 2050. Next, the FHWA's Crash Modification Factor database was consulted to obtain the most applicable Crash Reduction Factor (CRF). This search yielded a most relevant CMF of 55 percent (and thus a CRF of 45 percent). The selected CMF/CRF is obtained from research involving the safety effects of replacing cloverleaf interchanges with directional lanes. The relevant CMF was then applied to the future stream of No-Build crashes (by category of severity) to obtain estimates of reduced annual crashes over the study period.

The I-44 and US 75 Corridor Improvement Projects will generate significant savings in the human costs of crashes. Over the 25 years, it is estimated that about 15 lives will be saved, and another 77 serious injury-crashes will also be avoided.

Travel Delay Savings: ODOT has provided an analysis of travel delay reductions based on the application of the VISSIM traffic simulation model to a future 2045 build year. The model simulated the effects of the I-44 and US 75 Corridor Improvement Projects (WP 2, 3, and 5). Based on estimates provided by ODOT, the BCA analysis assumes that 75 percent of the total

VISSIM delay reductions due to the entire I-44 and US 75 corridor improvements can be attributed to WPs 2, 3 and 5. Delay savings for years before 2045 were reduced based on the anticipated compound annual growth rates (CAGR) in VMT projected for the corridor of about 1.5 percent per year. For the years after 2045, delay was correspondingly increased by the same CAGR. In 2045, approximately 1,200 hours of delay would be saved by the I-44 and US 75 Corridor Improvement Projects each workday, covering am and pm peak periods combined.

Life Cycle Cost Savings: As noted, there are significant differences in non-routine maintenance, bridge repair and rehab costs, and bridge damage costs. Under the No-Build, ODOT engineers estimate \$52 million have been and will be spent for non-routine roadway and bridge maintenance, compared with \$8.5 million for the Build (i.e., with the I-44 and US 75 Corridor Improvement Projects). With the previously noted exception of the \$9.1 million in costs already spent, these represent significant future life cycle cost savings, which are included as benefits for BCA purposes.

Project Benefits Not Included in the BCA

Due to time and data limitations, the analysis does not include secondary benefits of reduced congestion, over and above the estimated reduction in travel delay itself. Severe bottlenecks and driving under highly congested conditions, which characterize several of the ramp and ramp approach roadways of the interchange, generally introduce significant unreliability into travel decision making, often necessitating that drivers build in added buffer time to their trips. It also involves inventory cost for truck shipping, due to that unreliability. In addition, delay for trucks as measured in the BCA does not include any inventory costs to the freight itself; truck delay is measured strictly in terms of average driver wages, utilizing the most current DOT guidance for BCAs.

No significant changes in VMT are anticipated as a result of the I-44 and US 75 Corridor Improvement Projects; accordingly, there are no changes in vehicle operating and maintenance costs and emissions measured for BCA purposes. Since some significant bottlenecks will be alleviated, and average speeds through the system will increase during am and pm peak periods, it is probable that emissions

Table 5: BCA Results

BENEFIT-COST	AMOUNT
Discounted Capital Costs (Millions \$2018)	\$109.45
Facilities Residual Value Undiscounted	\$0.00
Discounted Present Value of Capital Costs incl. Residual	\$109.45
Total Discounted Costs	\$109.45
Total Discounted Benefits - Total (millions \$2018)	\$145.56
Travel delay cost savings	\$55.21
Accident reduction benefits	\$80.05
Life cycle maintenance and bridge rehab/repair savings	\$10.30
Benefit-Cost Ratio	1.33
Net Present Value	\$36.11

and vehicle operating costs of fuel would both fall somewhat, but probably not by a significant amount.

BCA Results

Based on the assumptions, methodology, and other information presented above, the project yields a Benefit-Cost Ratio of 1.33 and a Net Present Value of \$36.1 million. The results are summarized in **Table 5**.

REGIONAL BENEFITS

The components of the I-44 and US 75 Corridor Improvement Projects are expected to generate wide-ranging benefits for passenger and commercial vehicles. Benefits include improved safety, more efficient and faster movement of goods and people, reduced congestion and emissions from vehicle queues and bottlenecks at interchange locations. Because WPs 2, 3 and 5 comprise an essential core element of the overall I-44 and US 75 corridor improvements, benefits that result from the remaining work package, including increased capacity along these two major highways, will be accelerated through INFRA funding of the subject project.

A significant share of the benefits measured in the BCA, such as reduced life cycle costs, crash reductions, and travel delay savings, will accrue to residents, businesses, government entities, and organizations located in the Tulsa metro region and the State of Oklahoma. Increasing job opportunities and improving business performance (including in rural areas of the state) are particularly important for regional economic well-being, as Oklahoma has historically lagged other states in measures of economic well-being such as per capita and median household income. There are also substantial national economic benefits, particularly related to the significant volumes of interstate truck freight moving through the corridor, a major national crossroad of commerce. In addition, the Project benefits waterborne interstate commerce, as it provides improved access to the Port of Catoosa, a major inland water port.

The I-44 and US 75 Corridor Improvement Project will enhance the metropolitan Tulsa regional economy, the second-largest metro area in Oklahoma and a fast-growing center of employment within the state and region. In 2018, Tulsa-area employment grew 39 percent faster than the state and 47 percent faster than U.S. employment. Tulsa's real gross product grew 6.9 percent, while Oklahoma *and* the U.S. grew at 4.4 percent and 2.9 percent, respectively.¹

ECONOMIC VITALITY BENEFITS

Results of the BCA prove that the I-44 and US 75 Corridor Improvement Projects will have national, regional, and local benefits that contribute to economic vitality. This leads to several beneficial outcomes, some of which are monetized as part of the BCA and others which are more qualitative. **Table 6** lists how the I-44 and US 75 Corridor Improvement Projects measurable benefits contribute to the overall economic vitality of the United States.

¹ Tulsa Regional Chamber of Commerce, <http://www.growmetrotulsa.com/business-attraction/relocation-data/economic-profile>

Table 6: Economic Vitality Benefits

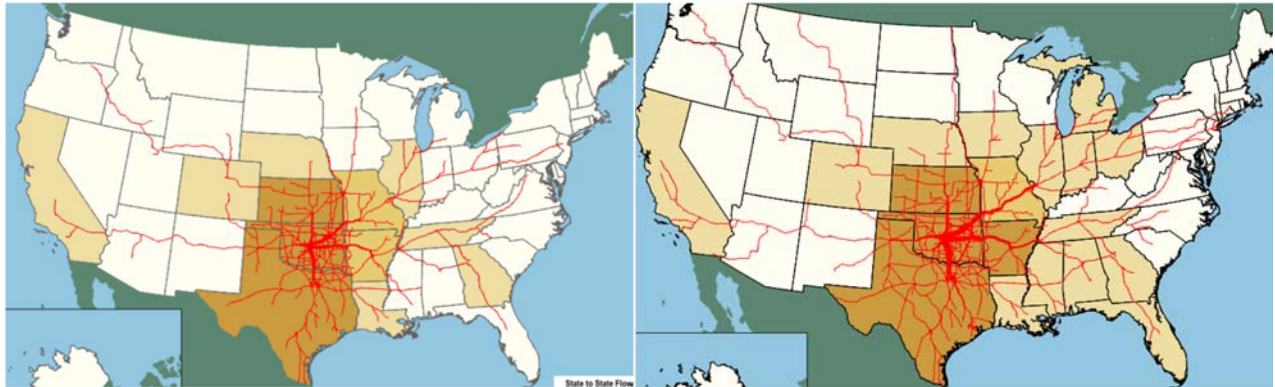
Project Benefits	Economic Vitality Metric
<ul style="list-style-type: none"> Eliminates bottlenecks in the freight supply chain. Reduces delay and improves reliability for trucks and the movement of time-sensitive goods. The project will eliminate approximately 350,000 hours of excess vehicle delay over the life of the project; of that about 35,000 hours will be truck vehicle hours. 	<ul style="list-style-type: none"> I-44 (part of Primary Highway Freight System) plays a key role in the freight network of Oklahoma and the south-central U.S. The project will reduce congestion on this key freight corridor, expand access to markets and contribute to the region and the nation’s economic competitiveness. Oklahoma freight flows are primarily through the state and therefore improvements on this segment will benefit goods movements nationwide. About 10 percent trucks out of total vehicle volume through the project limits. Tulsa home to several freight-generating businesses and is also expanding energy and tech economy.
<ul style="list-style-type: none"> Improves access to major national intermodal facilities. 	<ul style="list-style-type: none"> Facilitates delivery to and from the Port of Catoosa in Tulsa, a major hub in the McClellan-Kerr Arkansas River Navigation System (MKARNS). It enhances the national goods movement network and provides more modal choice and efficiency.
<ul style="list-style-type: none"> Enhances safety 	<ul style="list-style-type: none"> Eliminates approximately 15 fatalities and about 75 serious injury accidents over the life of the project.
<ul style="list-style-type: none"> Replaces aging critical transportation infrastructure. 	<ul style="list-style-type: none"> Over \$100 million will be saved in future bridge and other rehab costs for aging facilities, saving taxpayer dollars. Replacing aging infrastructure sends strong signals to business that the region is doing well and can provide a good environment for business investment and expansion.

Sustain or Advance National or Regional Economic Development

Figure 7 illustrates that I-44 and US 75 corridors, plays a key role in the Oklahoma Freight Network and the south-central United States. I-44 is part of the national Primary Highway Freight Network, and improvements to I-44 and US 75 corridors will reduce congestion on this key freight network – which enhances access to markets and contributes toward the region’s and nation’s economic competitiveness. Oklahoma freight flows are primarily *through* the state, and improvements on this segment of interstate will benefit shipping and goods movement nationwide.



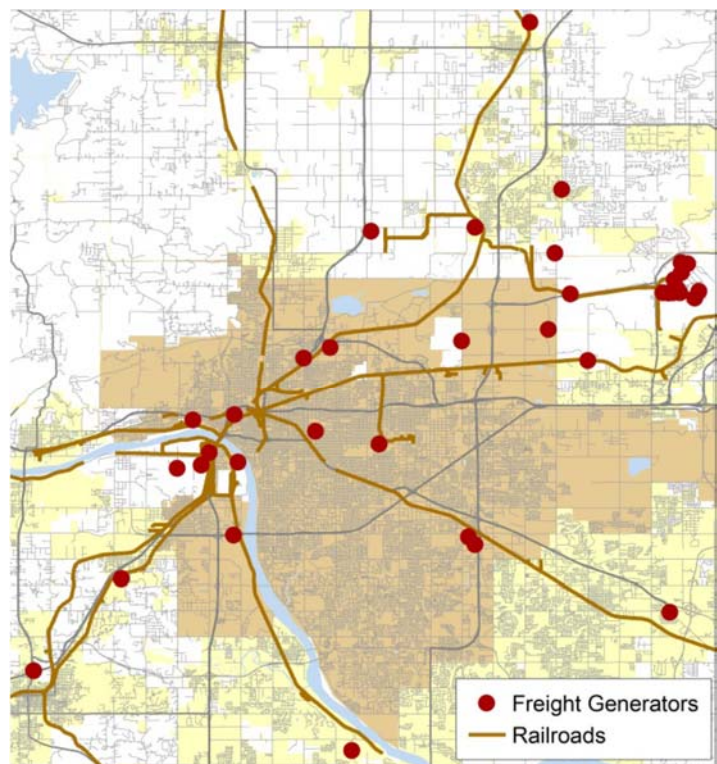
Figure 7: Major Truck Flows to, From, and Within Oklahoma (2010-2040)



The economic outcomes generated by the different project components improve the connectivity between home and workplaces and between production and consumption sites. At the same time, they increase the competitiveness of the United States by increasing efficiency in the movement of goods along the I-44 corridor. Travel time savings will be realized by passenger vehicles, which will be able to take advantage of higher average speeds compared to those experienced in the no-build scenario, in which the I-44 and US 75 Corridor Improvement Projects does not occur. Truck drivers will also benefit and save time as well. It is estimated that 14 percent of the traffic on I-44 in the study corridor is composed of trucks.

As **Figure 8** indicates, Tulsa is home to several significant freight-generating businesses. Several, including a large beverage bottling plant and a major oil refinery, are located adjacent to or within just a few miles of the I-44 and US 75 corridors. For many more, the corridors are a significant route to and from the south and west. As the figure also indicates, many of these generators are along rail lines, and in some cases, intermodal freight transfers occur between rail and truck. The Tulsa Port of Catoosa, located to the east and north, supports barge, rail, and truck freight modes. The I-44 and US 75 Corridor Improvement Projects support local, regional and national freight movements to and from these vital centers.

Figure 8: Major Freight Generators and Rail Lines



Projected increases in area population support the need for the project. **Table 7** summarizes forecasted population growth trends for the region and study area, which are in the 25 to 30-percent range between 2010 and 2040. These population growth assumptions underlie the travel-demand forecasting that supports the need for the project. To accommodate the anticipated population growth, improvements must be made along the I-44 and US 75 corridor.

Table 7: Forecasted Population Growth Trends

	2010	2040	% INCREASE
Tulsa MSA	937,478	1,195,66	27.5%
Tulsa County	605,127	754,740	24.7%

Source: Oklahoma Department of Commerce

Reduce Barriers Separating Workers from Employment

I-44 and US 75 is also a critical link in the Tulsa intercity transportation network. In a network with limited river crossings, I-44 carries local and regional traffic to work, school, and other important destinations. The I-44 and US 75 Corridor Improvement Projects will provide additional capacity and improved mobility for the citizens of Tulsa. Ultimately, the I-44 corridor will provide better circulation and access to US 75, nearby community facilities, such as churches, schools, and the city library, and to the surrounding neighborhoods.

FREIGHT AND GOODS MOVEMENT & THE ROUTES INITIATIVE

I-44 is part of the National Highway Freight Network (NHFN) and the corridor plays a key role in the Oklahoma Freight Network. Consistent with Rural Opportunities to Use Transportation for Economic Success (ROUTES), the I-44 and US 75 Corridor Improvement Projects will strengthen the ability of rural communities to access national and international trade markets. While Tulsa is a freight generator, many more use the corridor from the south and west. Improvements to this section of the NHFN deliver greater safety and travel time reliability that supports economic development throughout the region.

LEVERAGE FEDERAL FUNDING

ODOT will leverage \$35.4 million in federal taxpayer dollars and will commit \$59 million in non-Federal funding, a greater share than the 20 percent minimum threshold to qualify for INFRA grants. ODOT strives to be a good steward of public resources and will demonstrate the I-44 and US 75 Corridor Improvement Projects importance to Oklahoma by committing as much in state funds as necessary. The \$70.5 million in requested 2020 INFRA funds are justified by the project’s 1.33 benefit/cost ratio; also, by accelerating a project that would otherwise need to be completed over a much longer timescale the 2020 INFRA funding will save Oklahoma and federal taxpayers millions of dollars in avoided construction cost inflation.

The federal share of ODOT's \$5.9 billion FY 2020-2027 [8 Year CWP](#) is 50 percent, much lower than the 80 percent share on federal-aid projects. In addition to the 8 Year CWP, ODOT administers the \$877 million, 5-Year County Improvements for Roads and Bridges (CIRB) program, intended to improve off-system roads and bridges in Oklahoma's cities and counties. The federal share of the CIRB program is 15 percent, with 78 percent coming from the state CIRB fund and the remaining 7 percent from tribes and other sources. Therefore, the overall federal share of ODOT's total program expenditures is roughly 45 percent.

POTENTIAL FOR INNOVATION

ACCELERATED DEPLOYMENT OF INNOVATIVE TECHNOLOGY

ODOT will deploy Intelligent Transportation Systems (ITS) to ensure work zones on the I-44 and US 75 are safe and that drivers are informed about travel times during the project.

Radar, cameras DMS Boards and Probe Data will be used to monitor travel speed, congestion and incident management. These will be deployed beginning 0.5 to 1.0 miles in advance of the project and extend through the work zone. These will be used to provide real-time information to drivers, including travel time travel information and traffic detours during incident management events.

USE OF INNOVATIVE PERMITTING, CONTRACTING, AND OTHER PROJECT DELIVERY PRACTICES

ODOT will make use of No Excuses Bonuses on the I-44 and US 75 Corridor Improvement Projects, including a substantial completion incentive 5 percent to 10 percent of the contract with internal milestones included for key project elements.

Also, ODOT will make use of the e-Construction and Project Bundling innovations outlined in the Every Day Counts Initiative. The I-44 and US 75 Corridor Improvement Projects will be bundled into one construction contract to achieve overall project savings. E-Construction methods will include mobile inspection and video monitoring and reporting of construction progress.

INNOVATIVE FINANCING

In 2018, the Oklahoma State Legislature enacted House Bill 1010XX, which raised the state's motor fuel taxes on gasoline and diesel by three and six cents per gallon, respectively. According to the Oklahoma Tax Commission, the increased gasoline tax was estimated to generate \$52.0 million annually and the increased diesel tax was estimated to generate \$53.0 million annually. A combined 95.5 percent of these revenues are credited to the Rebuilding Oklahoma Access and Driver Safety (ROADS) Fund created Title 69, Section 1521, Oklahoma Statutes.²

House Bill 1014XX of 2018 reduced general-purpose tax revenue to ODOT by the amounts attributable to the House Bill 1010XX tax increases and redirected certain Oklahoma Vehicle

² From the HB 1010XX fiscal impact statement.

<http://www.oklegislature.gov/BillInfo.aspx?Bill=HB1010&Session=172X>

License and Registration Act from the General Revenue Fund to the ROADS Fund. The net impact of House Bills 1010XX and 1014XX was to increase state revenue to ODOT generated from the ownership or operation of a motor vehicle by \$194.0 million per year and to reduce transfers of general-purpose state revenue to ODOT by the same amount.³

PERFORMANCE AND ACCOUNTABILITY

ACCOUNTABILITY MEASURES APPLICANT IS WILLING TO IMPLEMENT OR HAVE IMPLEMENTED

ODOT commits to start construction by March 29, 2024, and complete construction by December 31, 2026. ODOT acknowledges that non-performance of these deadlines subjects it to forfeit or return of awarded funds as specified in Criterion #4 of Section D.2.b.v. of the Notice of Funding Opportunity.

LIFECYCLE COSTS

ODOT Staff has projected that operations and maintenance (O&M) costs for the I-44 and US 75 Corridor Improvement Projects will total \$8.5 million through 2060. Projected no-build O&M costs to 2060 are \$40.5 million, including \$18.0 million for projected maintenance and rehabilitation costs for I-44 and US 75 corridor improvements, \$20.2 million in bridge rehabilitation costs, and \$0.6 million in projected bridge damage repair costs.

ODOT submitted its [Transportation Asset Management Plan](#) (TAMP) to FHWA on June 30, 2019, and FHWA approved it on August 29, 2019. ODOT's dedication to asset management and its adherence to the TAMP will ensure adequate resources to maintain the I-44 and US 75 Corridor Improvement Projects for the next 30 years.

VI. PROJECT READINESS

TECHNICAL FEASIBILITY

Planning, creating and delivering complex multi-phased projects is a project delivery method that ODOT has relied upon and excelled at for many years. Large capital projects, especially those on interstate facilities demand a reasoned approach when completed in segments. A well thought out approach to the phasing and sequencing of the individual projects, construction contracts and all facets of the project's interaction with the community is necessary. ODOT has completed a similar set of projects on I-44 just east of WP 2, 3, and 5 of the I-44/US 75 interchange, improving five interchanges and investing more than \$300 million over eight years. That work was completed on schedule and within budget. The team engaged by ODOT to complete this project has expertise in dealing with large multi-phase capital projects up to and including an urban mega-project, thus maximizing the opportunities for success.

³ From the HB 1014XX fiscal impact statement: http://webserver1.lsb.state.ok.us/cf_pdf/2017-18%20SUPPORT%20DOCUMENTS/impact%20statements/fiscal/senate/HB1014XX%20ENR%20FI.PDF



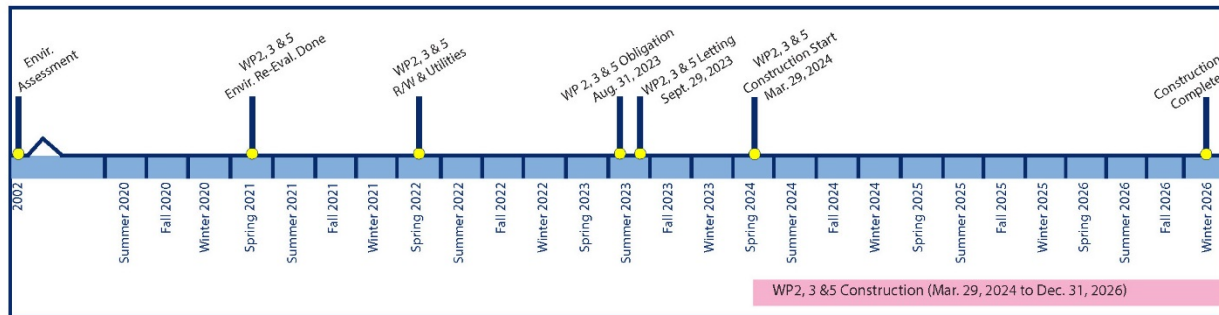
As noted, ODOT has an extensive history of delivering multi-phase projects of a similar nature to the I-44 and US 75 Corridor Improvement Projects. ODOT understands that success in a project of this magnitude starts with a well-reasoned plan for moving forward. As such, ODOT commissioned a [Preliminary Engineering \(PE\) Study](#) to be completed for the corridor. The PE Study was completed in September 2018 and includes information specifically developed for I-44 from I-244 to the Arkansas River, of which the interchange with US 75 is the most substantial component. Subsequently, ODOT proceeded with WP 1, as funded under the 2018-2019 INFRA grant. A team of consulting engineers has recently been assembled under the direction of the ODOT Project Management Division and is engaged in delivering final plans for the I-44 and US 75 Corridor Improvement Projects (WP 2, 3, 4 and 5).

PROJECT SCHEDULE

As shown in **Figure 9**, ODOT has been proceeding with improvements within this critical corridor for years and remains committed to completing these final projects to update one of the last original interstate pavement sections in Tulsa.

ODOT will open bids and commence construction on WP 1 this summer (2020) and WP 1 will be completed in the Winter 2022. The re-evaluation of the original Environmental Assessment (EA) of the corridor is ongoing and will be completed by Spring 2021. Right-of-way acquisition and utility relocations are programmed in the 8 Year CWP to commence in 2022. The obligation of funds for letting and construction of the I-44 and US 75 Corridor Improvement Projects (WP 2, 3, and 5) will occur on August 31, 2023, with letting scheduled for September 29, 2023. Construction is anticipated to start on March 29, 2024, and be completed on December 31, 2026.

Figure 9: Project Schedule



REQUIRED APPROVALS

ENVIRONMENTAL PERMITS AND REVIEWS

The NEPA clearance process for the I-44 and US 75 Corridor Improvement Projects is ongoing. An Environmental Assessment completed in June 2002 for US 75 originally covered the work within this interchange and ODOT previously utilized their programmatic agreement with FHWA to update and clear the environmental processes for the associated WP 1. A re-evaluation of the 2002 EA is currently underway by ODOT to provide clearance for the projects in this

application and is scheduled to be completed by Spring 2021. A significant portion of the update, including data collection and compilation, noise study, socioeconomic and environmental justice review, initial site assessment and other pertinent studies, have already been completed. However, ODOT is awaiting additional information as the consultant team develops design plans to capture the most current and accurate data possible before finalizing the re-evaluation.

The I-44 and US 75 Corridor Improvement Projects contain span bridges and a box over Mooser Creek as well as a bridge widening and redecking of the I-44 bridges over the Arkansas River. These will require coordination with the U.S. Army Corps of Engineers (USACE) for securing Section 404 permits. However, permitting for these projects is expected to be minimal and likely limited to Section 404 Nationwide permits. USACE is familiar with ODOT's efforts and expectations within this corridor. Coordination with the USACE has already taken place with the efforts associated with WP 1, which was previously permitted under a Nationwide permit. Additionally, it should be noted that ODOT has agency liaisons in place at the USACE as well as the U.S. Fish and Wildlife Service, which greatly accelerate and improve the consistency of permitting reviews. ODOT expects to complete the environmental review and permitting process for the I-44 and US 75 Corridor Improvement Projects under its traditional process.

STATE AND LOCAL APPROVALS

The City of Tulsa and Tulsa County, in addition to the Indian Nations Council of Governments (INCOG), which is the Metropolitan Planning Organization (MPO) for the Tulsa metropolitan area, have all provided [support letters](#) for the I-44 and US 75 Corridor Improvement Projects. These agencies, and the public they represent, recognize that the I-44 and US 75 Corridor Improvement Projects will ultimately reduce congestion and improve access throughout the area as a result of extensive outreach, coordination and public engagement efforts by ODOT since 2002. INCOG has already included WP 1, partially funded by a prior INFRA grant, in its current [Transportation Improvement Program](#) (TIP). Due to the community support established for the I-44 and US 75 Corridor Improvement Projects, all State and Local approvals will be readily obtained.

STATE AND LOCAL PLANNING

INCOG TIP: The INCOG TIP is a financially constrained document listing the projects to be authorized for funding in the near term. INCOG has already included WP 1 in the TIP and has committed to amending the TIP when funding is made available.

Statewide Transportation Improvement Program (STIP): The [ODOT STIP](#) incorporates the first four years of the ODOT 8 Year CWP. As such, WP 1 is already incorporated into the STIP for funding in 2020. ODOT commits that the new STIP will be developed with provisions for WP 1 in 2020, right-of-way and utility relocation for the interchange in 2022 and construction in 2023.

Long Range Transportation Plan (LRTP): The current [ODOT LRTP 2015-2040](#) is a policy document that supports preserving and improving the condition of highways as well as

providing a safe and effective National Highway System. These policies directly connect to, and support, the I-44 and US 75 Corridor Improvement Projects. ODOT is in the process of developing the 2020-2045 LRTP and the vision and goals of the plan are consistent with the objective of the reconstruction of this interchange – improved safety and reliability of the transportation system.

ASSESSMENT OF PROJECT RISKS AND MITIGATION STRATEGIES

ODOT deals with risks daily on the extensive transportation network and associated projects throughout Oklahoma. Potential risks and mitigation strategies to minimize the potential impact of those risks are as follows:

Risks:

- a. Contamination risk due to prior industrial use.
 - i. According to researched databases, there are 22 hazardous waste sites within or adjacent to the study area. This number of sites is expected in a large urban corridor and none are anticipated to have significant impediments to construction.
- b. Leaking Underground Storage Tank (LUST) sites
 - i. According to petroleum storage tank databases, there are 13 storage tank sites within or adjacent to the project area, three of which are LUST sites. However, available records indicate the LUST cases in the study area have been closed, implying levels of contaminants are at or below levels considered appropriate for the site by the Oklahoma Corporation Commission (OCC).

Mitigation Strategies:

For the risks noted above, ODOT has a well-defined, successful approach for addressing potential contamination and LUST sites. Locations, where these issues may arise, are identified and included within the construction plans as “Areas of Environmental Concern” to put the contractor and their employees on alert that the potential exists for encountering contamination. Notes provide them direction on items to be watchful for and practices for when they are discovered. ODOT retains several on-call consultants qualified to remediate any encountered contamination. These consultants respond immediately, and work is completed in such a way as to minimize any impact to the construction contractor as well as avoiding potential exposure for the public or contractor employees.

c. Cost and schedule

ODOT has established the anticipated costs of the three WPs contained within this application. The three work packages total \$163.9 million and are broken down as follows:

- i. Work Package 2 (Opinion of Probable Construction Cost \$ 56.0 million)
- ii. Work Package 3 (Opinion of Probable Construction Cost \$48.8 million)
- iii. Work Package 5 (Opinion of Probable Construction Cost \$59.1 million)



ODOT has placed these projects into the [8 Year CWP](#) with right-of-way acquisition and utility relocation funding commitment of over \$20 million set aside in 2022. Letting the construction contracts for WP 2 and 5 is currently set for 2027 within the 8 Year CWP. However, ODOT remains committed to adjusting the current schedule to meet the INFRA grant requirements that project funds are obligated by September 30, 2023. ODOT commits to ensuring this occurs as part of the annual process of rebalancing the 8 Year CWP. ODOT undertakes this rebalancing of the plan every year to keep estimates accurate, account for project progress, address changes in needs and maintain fiscal responsibility. Currently, ODOT has final designs under contract for the I-44 and US 75 Corridor Improvement Projects. This will allow ODOT to remain committed to adjusting the current schedule if funding becomes available through the INFRA grant process.

d. Delay of adjacent/involved projects

ODOT is letting WP 1 in summer 2020 which allows this package to be completed and open to traffic by 2023. This clears the interchange to allow the I-44 and US 75 Corridor Improvement Projects (WP 2, 3, and 5) to be tied and let to construction in 2023 and completed in 2026 should INFRA grant funds be received. This also allows a single contracting team to phase these packages together allowing for significant time and costs savings compared to letting the WPs separately in staggered years.

e. Earthquakes

Earthquakes have been a concern to ODOT for the impact on its facilities over the past 5-10 years. This is especially true for bridges after any magnitude 3.0 or greater event. However, the State of Oklahoma has instituted significant changes to the drilling activities which has greatly diminished the number of earthquakes in Oklahoma. All structures have seismic designs incorporated for this region of the country.

f. Economic downturn/employment changes

Economic issues are a constant consideration in state funding, but Oklahoma has made tremendous strides since 2006 to ensure increased transportation funding. The construction industry has responded robustly with joint ventures and A+B contracts to guarantee project completion commitments. ODOT has a tremendous record of timely delivery of major projects such as I-44/US 75 over the past decade.

g. Inability to secure Right-of-Way

ODOT Right-of-Way Division performed a planning-level analysis to determine an approximate cost for right-of-way acquisition. All ROW estimates include a 20 percent contingency to account for administrative and miscellaneous items such as corrals, sheds, and other ancillary structures.

ODOT follows all the FHWA policies and federal laws regarding securing right-of-way for federal aid projects. As such, if landowners are unwilling to successfully negotiate, ODOT can, as a last resort, utilize the eminent domain process to secure necessary rights-of-way for the project.

h. Inability to secure permits

The proposed US 75 bridges over Mooser Creek, as well as the proposed I-44 bridge improvements over the Arkansas River, were not calculated as impacts to the watercourses under either alternative since these will be span bridges and should not greatly affect the stream. However, Section 404 permits will likely be required for these activities.

Permitting for these projects is expected to be minimal, limited to a Section 404 Nationwide permit. Coordination with the USACE has already begun and the USACE has indicated no issues. ODOT has agency liaisons in place at the USACE as well as the U.S. Fish and Wildlife Service, which greatly accelerate and improve the consistency of permitting reviews. ODOT expects to complete the environmental review and permitting process for the I-44 and US 75 Corridor Improvement Projects under its traditional process.

i. Weather-related construction delays

The past few years have offered challenges to the construction industry with major rain events and subsequent flooding. ODOT is now seasoned in working closely with contractors to renegotiate project time while still delivering the project within projected time constraints. History has shown weather can work both ways as contractors may allow winter downtime in their bids and then get a mild winter which can accelerate their completion date.

j. Proximity of Turkey Mountain

The City of Tulsa Parks and Trails has a unique and wonderful asset called Turkey Mountain. This is an urban wilderness located southeast of the I-44 and US 75 Corridor Improvement Projects as depicted in **Figure 10**. The City is in the process of creating the Turkey Mountain Master Plan.

The I-44 and US 75 Corridor Improvement Projects in WP 3 offer tremendous partnership opportunities with ODOT and the City of Tulsa to allow both a safe, efficient interchange and

Figure 10: Turkey Mountain Amenities Adjacent to Project Area





the access to and from the Turkey Mountain Urban Wilderness. Turkey Mountain has recently received donated land from the Kaiser Foundation and the timing of the Master Plan combined with the transportation improvements is perfect.

VII. LARGE/SMALL PROJECT REQUIREMENTS

1. *Does the project generate national or regional economic, mobility, or safety benefits?*

Yes. Results of the BCA prove that the I-44 and US 75 Corridor Improvement Projects will have national, regional, and both local and regional benefits that contribute to economic vitality. Based on ODOT estimates, the BCA analysis assumes that 75 percent of the total delay reductions due to the entire I-44 and US 75 corridor improvements can be attributed to WPs 2, 3 and 5. The I-44 and US 75 Corridor Improvement Projects will generate significant savings in human costs of crashes. Over the 25 years, it is estimated that about 15 lives will be saved, and another 77 serious injury-crashes will also be avoided. [Cross-reference to economic benefits]

2. *Is the project cost-effective?*

Yes. The project components for which ODOT is requesting INFRA funding have a benefit/cost ratio of 1.33 [Cross-reference to BCA]

3. *Does the project contribute to one or more of the Goals listed under 23 U.S.C. 150?*

Yes. This project will:

- Achieve a significant reduction in traffic fatalities and serious injuries on all public roads through modernizing the I-44/US 75 interchange and incorporating safety infrastructure on roadways and bridges.
- Maintain the highway infrastructure asset system in a state of good repair through capital improvements and asset management.
- A significant reduction in congestion on the National Highway System through Interstate widening and modernizing the I-44/US 75 interchange.
- Improve the efficiency of the surface transportation system by easing a significant chokepoint on the National Highway System.
- Improve the National Highway Freight Network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development through delivering greater safety and travel time reliability through a major urban interchange.
- Enhance the performance of the transportation system while protecting and enhancing the natural environment through congestion-related emission reductions and enhancing connectivity to Tulsa's Turkey Mountain Urban Wilderness Area, which borders the project location.



4. *Is the project based on the results of preliminary engineering (PE)?*

Yes. The [PE Study](#) was completed in September 2018. The following are complete: topographic surveys, traffic studies, financial plans, and general estimates of the types and quantities of materials. The following are nearing completion: Environmental Assessment (Fall 2020), metes and bounds surveys, geotechnical investigations, hydrologic analysis, utility engineering, and hazardous materials assessment.

5. *With respect to non-Federal financial commitments, does the project have one or more stable and dependable funding or financing sources to construct, maintain, and operate the project?*

Yes. Non-federal funds to construct, maintain and operate the I-44 and US 75 Corridor Improvement Projects will come from Oklahoma's state transportation funds. The principal funding sources for these funds are the state's motor fuel excise taxes on gasoline, diesel, compressed natural gas, liquefied natural gas, and other special fuels, as well as annual vehicle registration fees.

6. *Are contingency amounts available to cover unanticipated cost increases?*

Yes. ODOT's budgetary figures for each of the work package include a 15 percent contingency.

7. *Is it the case that the project cannot be easily and efficiently completed without other Federal funding or financial assistance available to the project sponsor?*

Yes. It is ODOT policy to consolidate its apportionments of federal highway funding into a relatively small number of relatively large projects; however, the magnitude of the I-44 and US 75 Corridor Improvement Projects is beyond ODOT's ability to complete in a compact timeframe. As noted in the Leverage Federal Funding section, ODOT will leverage federal taxpayer dollars by committing a greater share of non-Federal funding (\$59 million or 36 percent of the total project cost) than the 20 percent minimum threshold to qualify for INFRA grants. ODOT strives to be a good steward of public resources and will demonstrate the project's importance to Oklahoma by committing as much in state funds as possible.

8. *Is the project reasonably expected to begin construction not later than 18 months after the date of obligation of funds for the project?*

Yes. Each of the three work packages will commence construction within 18 months of the obligation of funds. The obligation of funds for letting and construction of the I-44 and US 75 Corridor Improvement Projects will occur on August 31, 2023, with letting scheduled for September 29, 2023. Construction is anticipated to start on March 29, 2024 and be completed on December 31, 2026.