

Grady County US-81 Realignment INFRA Grant Application

Oklahoma Department of Transportation
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Supporting information can be found at:

https://www.ok.gov/odot/Progress_and_Performance/Federal_Grant_Awards/INFRA_Grants/2020_US-81Chickasha.html



BASIC PROJECT INFORMATION

Project Name: **Grady County US-81 Realignment**
Sponsor: **Oklahoma Department of Transportation**
Was an INFRA application previously submitted?
YES; Previously submitted as Grady County US-81 Realignment (2019) and US-81 Realignment (2018).

PROJECT COSTS

INFRA Request Amount	\$138,396,000
Estimated Federal Funding (excl. INFRA)	\$0
Estimated Non-Federal Funding	\$104,404,000
Future Eligible Project Cost (sum of previous rows)	\$242,800,000
Previously Incurred Project Cost	\$44,091,397
Total Project Cost	\$286,891,397
Are matching funds restricted?	Partial
	US-81/1-44 RAMPS

PROJECT ELIGIBILITY

Approximately how much of the estimated future eligible project costs will be spent on components...	
...on the NHFN?	\$0
...on the NHS?	\$242,800,000
...constituting railway-highway crossing or grade separation projects?	\$13,500,000
...constituting intermodal or freight projects?	\$0

PROJECT LOCATION

State(s) in which project is located:	Oklahoma
Small or large project:	Large
Urbanized area in which project is located:	N/A
Population of urbanized area:	N/A
Located in an Opportunity Zone?	YES - Partially ID: 40037021000

Currently programmed in the:

• TIP	N/A
• STIP	Yes
• MPO LRTP	N/A
• State LRTP	Consistent
• State Freight Plan	Yes



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DEPARTMENT OF TRANSPORTATION

Table of Contents

Executive Summary	1
Project Summary	2
Project Description	3
Project Justification.....	3
Project Benefits.....	4
Funding Request	5
Project Location	5
Project Parties	6
Grant Funds, Sources and Uses of all Project Funding	7
Merit Criteria	8
Criterion #1: Support for National or Regional Economic Vitality	8
Criterion #2: Leveraging of Federal Funding	10
Criterion #3: Potential for Innovation	11
Criterion #4: Performance and Accountability	13
Project Readiness	15
Project Schedule and Milestones	16
Required Approvals.....	16
Assessment of Project Risks	18
Large Project Requirements	19

All supplemental information for this application is provided on the ODOT US-81 INFRA Grant website, https://www.ok.gov/odot/Progress_and_Performance/Federal_Grant_Awards/INFRA_Grants/2020_US-81Chickasha.html. References within this application document are hyperlinked directly to the website, clicking on the highlighted reference will take readers directly to the site.



Downtown Chickasha, Oklahoma

Executive Summary

The US-81 Realignment Project will transform an existing 7.3-mile undivided four-lane section of US-81 through Chickasha, Oklahoma into a seamless four-lane divided facility; matching the character of the existing four-lane divided US-81 south of Chickasha. The US-81 corridor serves as a multi-national freight corridor linking the State of Oklahoma to Canada, Mexico, and domestic markets within the United States. The project is located on this major freight corridor that is vital to transporting supplies, equipment, and products to market.



 **The Grady County US-81 Realignment Project directly addresses all four identified INFRA Grant merit criteria identified in the INFRA grant notice of funding opportunity.**

Merit Criterion #1 Support for National or Regional Economic Vitality

The US-81 corridor is integral for connecting and linking freight movement throughout the country and internationally. US-81 is an important multi-national corridor linking several Midwest mega-regions to Canada and Mexico. The corridor intersects with I-44 in the project area, and I-40 further north in El Reno, just west of Oklahoma City, giving shippers international routes to seaport facilities, domestic markets, and customers around the world. This corridor is a lifeline for companies operating oversized loads, often restricted from operating on interstate highways, that rely on this route.

Merit Criterion #2 Leveraging Non-Federal Funding

The partnership and commitment from the Oklahoma Department of Transportation (ODOT) and Oklahoma Turnpike Authority (OTA) demonstrate the importance of this project for Oklahoma. ODOT is committing \$104.4 million in future eligible cost in addition to a previous investment of \$20.6 million in non-federal funds. This is in conjunction with OTA's private funding commitment of \$14.9 million in future eligible project costs and a previous private investment of \$17.0 million.

Merit Criterion #3 Potential for Innovation

The Project offers innovation in all three identified categories which will improve quality of life for residents, improve performance and accountability measures, and ultimately increase potential for project success. The project will **deploy broadband to surrounding rural areas** and incorporate the use of: **Accelerated Bridge Construction** at the at-grade rail crossings, **offer incentives for early major milestone completions**, and the utilization of **innovative material QA/QC testing techniques**. Finally, the project is supported by **private sector contributions** from the OTA.

Merit Criterion #4 Performance and Accountability

The development of the US-81 Realignment Project is well advanced in all stages of work. ODOT is committed to starting and finishing construction on time and within INFRA requirements. The project will be shovel-ready in late 2020 and begin construction in 2021. ODOT is committing to schedule adherence and will deploy several strategies to confirm on-time or ahead of schedule obligation of funding, beginning of construction, and project completion

The benefits of the US-81 Realignment Project are well aligned with the INFRA merit criteria and the Project is anticipated to deliver a positive **benefit cost ratio (BCR) of 1.92**. ODOT will provide a significant share of local funding and the Project will leverage private sector contributions from the OTA.

Project Summary

The Oklahoma Department of Transportation (ODOT) is seeking funding for a realignment of US Highway 81 (US-81), a rural freight corridor critical to the local, state and national economy. By upgrading and realigning US-81 in Chickasha, Oklahoma to a four-lane divided, fully access controlled highway, transportation safety and freight flow along this National Highway System route will benefit from improved access and eliminated signal delays. Located immediately southwest of the Oklahoma City metropolitan area, the corridor is essential for the transportation of supplies, equipment, and products to support wind energy, oil and gas, military operations, and agricultural industries that sustain people and communities throughout the state and greater Midwest region. The US-81 corridor serves as a multi-national freight corridor linking Oklahoma to Canada, Mexico, and domestic markets.

US-81 is a vital *freight* corridor and important *multi-national* connection.

Upgrading and realigning US-81 in Chickasha, Oklahoma will *improve safety* and *substantially reduce travel times* in the corridor.

Exhibit 1: Project Location Map



The project segment of US-81 follows a portion of the old Chisholm Trail, one of the nation’s early freight transportation corridors. The realignment in Grady County will extend US-81 from the US-81 and State Highway 19 (SH-19) junction to the US-81 and US Highway 62 (US-62) junction, realigning US-81 on the west side of the City of Chickasha. The four-lane existing route through downtown Chickasha includes more than a dozen signalized intersections and two 90-degree right-angle turns that are difficult for freight to maneuver. Current average speeds on this segment of US-81 through Chickasha are 30 mph, compared to the posted and average speeds of 70 mph north and south of Chickasha. This investment will transform this segment of the corridor into a seamless four-lane divided facility, matching the existing four-lane divided character of US-81 south of Chickasha.

ODOT has recognized the growing need to realign this segment of the corridor for decades and has invested in several efforts including traffic modeling, transportation planning, and a feasibility study which reaffirms the need to realign US-81.¹ The 2007 US-81 Corridor Feasibility Study justified the need for a newly aligned route due to the difficulty in accommodating the increasing demand of trucks and other heavy vehicles. Furthermore, there is an ongoing US-81 study north of the project realignment area to make further improvements to US-81.

¹ https://www.ok.gov/odot/documents/OKFreightPlan2018_2022.pdf, p. 82, identifies 8.65 miles of US 81 in Grady County (including the proposed project) as a Critical Rural Freight Corridor.

The 2017 Access Justification Report (AJR) identified the US-81 Realignment as the preferred solution and provided justification for the new alignment and new interchange with the exiting US-81 route. The preferred alternative consists of a new 8.5-mile alignment just west of Chickasha, Oklahoma. The new facility would provide access to adjacent rural and industrial corridors through four interchanges in addition to two new interchanges to connect the new corridor with existing facilities. In conjunction with the AJR, environmental clearance, and other planning efforts, an extensive public participation process was completed. The preferred alignment and associated interchange locations were selected with public and stakeholder input over the course of several public meetings. The goal in selecting the preferred alignment was to minimize social, environmental, and economic impacts while improving safety and traffic flow. The complete 2017 AJR can be found in the **Reports and Technical Information** folder on the [ODOT US-81 INFRA Grant website](#).

Project Description

This INFRA Grant application requests funding for realigning the section of US-81 that currently bisects Chickasha. The new corridor will have design speeds of 65 mph and provide full access control, with grade separated interchanges at intersecting corridors and rail crossings. The preliminary engineering for the project is complete and included in **Reports and Technical Information** folder on the [ODOT US-81 INFRA Grant website](#).

Exhibit 2: US-81 Project at a Glance

Existing Route through Chickasha CBD	US-81 Realignment Project
7.6 Miles	8.5 Miles
4-Lane Undivided Facility (with Center Turn Lane)	Access Controlled 4-Lane Divided Facility
14 Signalized Intersections	6 Grade Separated Interchanges
2 90-Degree Turns	2 Grade Separated Rail Crossings
30 mph Average	65 mph Average
14-Minute Average Travel Time	7.5-Minute Average Travel Time



The US-81 Realignment Project directly addresses all four identified INFRA Grant merit criteria. An in-depth discussion is found in the Merit Criteria Section of the grant narrative.

Project Justification

Project planning and transportation modeling show that the existing US-81 infrastructure is inadequate for the high volumes of current and forecasted traffic.² This project segment of the corridor handles a significant volume of oversized and overweight (OS/OW) loads which supports the energy production occurring in the south-central region of the state.³ Oklahoma ranks second nationally in wind energy production, fourth nationally in natural gas production, and sixth nationally in crude oil production.⁴

² Truck volumes reach as high as 25 percent on some sections of this corridor and the future “no-build” traffic modeling scenario forecasts total traffic volumes on the existing alignment to increase from 21,120 to 33,090 vehicles. The roadway capacity is inadequate for forecasted volumes and existing intersection geometry is inadequate for existing and future freight traffic.

³ Oversized and overweight (OS/OW) loads are trucks whose dimensions and/or weight limits exceed legal limits, and with some exceptions, cannot be split into multiple smaller loads. Superloads are vehicles 16 feet wide by 21 feet high and 18,000 pounds or more. Energy-related businesses in the area/region rely on this type of shipment (including wind energy components, drilling equipment, mining equipment, and agricultural equipment).

⁴ US Energy Information Administration retrieved from <https://www.eia.gov/state/print.php?sid=OK>

Oversized loads cause significant delays as they navigate the existing US-81 route through Chickasha, due to inadequate infrastructure able to handle large amounts of oversized vehicles. These loads cause traffic to be impacted in both directions and can create delays for up to 50 minutes at a time.

The recommended US-81 alignment provides trucks, OS/OW freight, and passenger traffic a corridor that eliminates two 90-degree turns, improves mobility serving local businesses and downtown Chickasha, and eliminates an at-grade crossing at the Union Pacific Railroad line, which regularly delays traffic.

The Project provides better route continuity, improves freight efficiency, and removes conflicts between oversized truck traffic and pedestrians.



Super oversized load on US-81 at Choctaw Avenue

In accordance with the Rural Opportunities to Use Transportation for Economic Success (ROUTES) Initiative, the Project will solve challenges in the rural community of Chickasha, Oklahoma. Project improvements to US-81 improve user access, corridor connectivity, safety of all users, and efficiency of freight movement along the corridor.

Project Benefits

The full project **Benefit Cost Analysis** narrative and spreadsheet model can be found in the **Reports and Technical Information** section on the [ODOT US-81 INFRA Grant website](#). Based on the project Benefit Cost Analysis, the US-81 Realignment project will result in substantial safety and travel improvements. The most significant enhancements are shown in Exhibit 3.

Exhibit 3: US-81 Project Benefits

General Project Benefits

- \$300,838,299 in benefits when discounted at seven percent, with a benefit cost ratio of **1.92**
- Significantly reduced travel time through the project area (14 minutes to 7.5 minutes)
- Expanded economic development opportunities
- Reduced noise in downtown Chickasha

Safety Benefits

- Improved safety through the existing corridor and reduced loss of life, injuries, and damages
- Avoided crashes totalling a benefit of \$56.7M in savings when discounted

Faster Travel

- Improved travel times through the corridor for freight, commercial and residential users
- Significant volume of truck through traffic removed from downtown streets
- Faster emergency response times from reduced congestion and improved access

Funding Request

ODOT is requesting \$138,396,000 in INFRA Grant funds; **57 percent of the future eligible total project cost.** ODOT and private partners have already invested \$44,091,397 in previously incurred costs for preliminary project engineering, environmental studies, and relocation of the Oklahoma Turnpike Authority (OTA) toll booth at I-44, required to facilitate construction of this project. The OTA will contribute \$14,900,000 which will be used for the construction of the access ramps at the new US-81 and I-44 turnpike interchange. This is in addition to OTA’s previous related investment of \$17,000,000 to reconstruct toll facilities on US-81. This public/private partnership will maximize the dollars provided by OTA, which is not funded through any tax dollars. ODOT will contribute an additional \$104,404,000 in future state funding (non-federal funds) to the project. Funding sources are noted in detail in the **Grant Funds, Sources and Uses of all Project Funding** exhibit.

This project is a necessary enhancement to the existing transportation network and is currently included in ODOT’s *8 Year Construction Work Plan*. INFRA funds will allow ODOT to more quickly move the project into construction and begin reducing travel time and hours of frustration for drivers and freight operators. INFRA funds will allow construction completion by the end of 2026. **The US-81 Realignment Project is a top priority for ODOT as it will enhance the vitality of this region open further opportunities in this key energy and agriculture production corridor.**

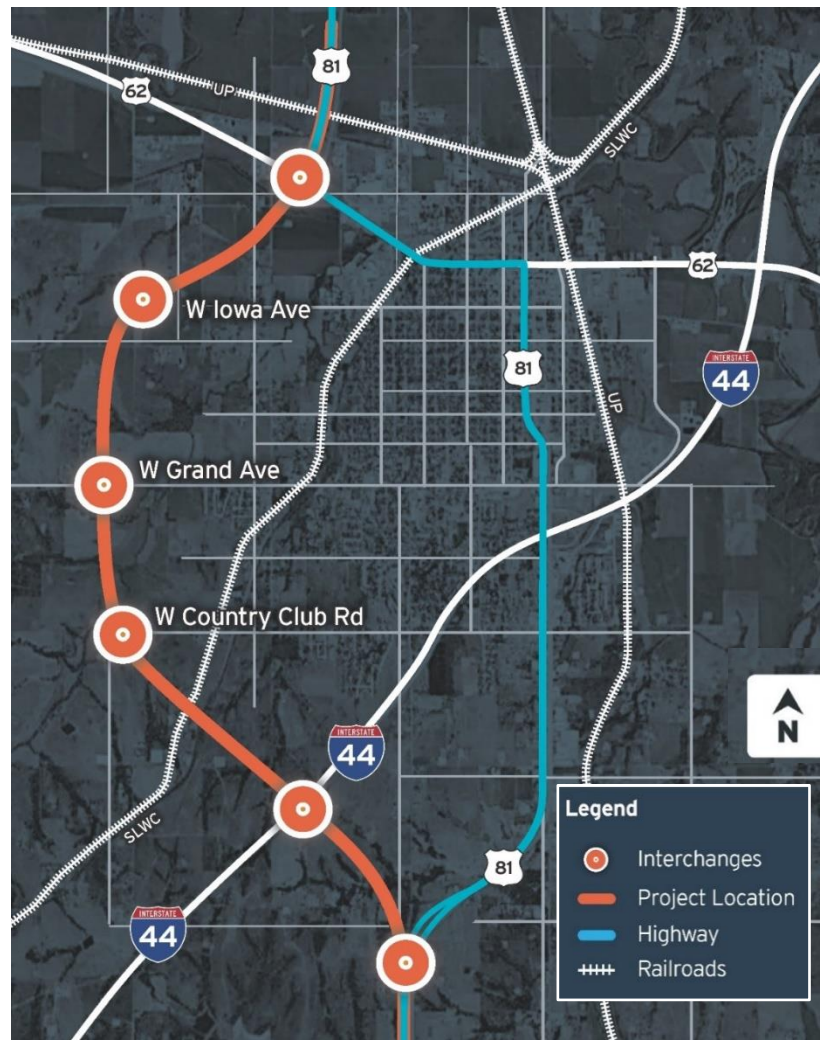
Project Location

The project is located in a rural area south of Chickasha and begins as US-81 curves east to align with the Chickasha street grid. The project then extends north approximately 8.5 miles about one mile north of the US-81/US-62 intersection.

The northern limit is located at - 97°57’53.4256” W, 35°03’36.7944” N and the southern limit is located at - 97°57’09.0567” W, 34°58’44.5278’ N.

The existing and recommended project alignment is shown in Exhibit 4 and included in the **Maps and Graphics** section on the [ODOT US-81 INFRA Grant website](#).

Exhibit 4: Project Overview Map



Project Parties

ODOT is the project sponsor and is committed to improving conditions and safety on Oklahoma’s transportation network. Several districts within ODOT as well as Field District 7 are responsible for coordinating the State’s transportation planning efforts with project partners and municipalities.

OTA, a private partner, will provide an additional \$14.9 million in financial support for the project, which includes the specific infrastructure improvements at the I-44 interchange. The partnership between ODOT and OTA will maximize the benefits of ODOT and the United States Department of Transportation’s (USDOT) dollars. ODOT and OTA have a history of successfully implementing several projects across the state and do not foresee any issues collaborating on this project.

ODOT works closely with many local municipalities, including the City of Chickasha. Once the new alignment of US-81 is fully constructed and open to traffic, the existing corridor through Chickasha will become part of the local road network with the maintenance and operation being transferred to Chickasha and Grady County.

Various entities in the region have shown their support for the project by providing letters of support. These partners include:

- Oklahoma Turnpike Authority
- City of Chickasha
- Association of South Central Oklahoma Governments
- Chickasha Economic Development Council
- University of Science and Arts of Oklahoma
- Standley Systems
- Southwest Oklahoma Regional Transportation Planning Organization
- The Chickasha Nation

The OTA financial commitment and additional regional letters of support can be found in the **Letters of Support** section on the [ODOT US-81 INFRA Grant website](#).

Grant Funds, Sources and Uses of all Project Funding

The partnership and commitment from ODOT and OTA demonstrate the importance of this project for Oklahoma and the state’s emphasis to leverage federal funds with private investment.

Exhibit 5 includes the total project costs for the US-81 Realignment Project. Engineering costs include environmental clearance and design. With design work nearly complete, contingency levels were set at ten percent in accordance with normal ODOT practice and project experience. ODOT is confident that this contingency factor is sufficient to cover the minimal remaining project risk and any potential unforeseen costs. All obligated INFRA funding would be used for construction and construction contingency as shown in Exhibit 5. The exhibit provides a breakdown of sources and uses of funds for each project component. In total, ODOT requests \$138,396,000 in INFRA funding; a total of 57 percent of future eligible project costs. In full, the project will include 43 percent non-federal funding and 57 percent federal funding.

Exhibit 5: Sources and Uses of Funds

	Engineering	Toll Structure	ROW & Utilities	Construction	Contingency
Private Funds (OTA)					
Previously Incurred Cost		\$17,000,000			
Future Cost				\$14,900,000	
State Funds (ODOT)					
Previously Incurred Cost	\$1,326,897		\$2,301,800		
Future Cost				\$80,388,000	\$9,116,000
Other Federal Funds					
Previously Incurred Cost	\$7,981,674		\$15,481,026		
Future Cost					
Grant Funds (INFRA)					
Previously Incurred Cost					
Future Cost				\$124,722,000	\$13,674,000

	Previously Incurred	Future Eligible Costs	Percentage of Future Costs	Total Project Cost
Non-Federal Funds	\$20,628,697	\$104,404,000	43.00%	\$125,032,697
Other Federal Funds	\$2,462,700	\$ -	0.0%	\$23,462,700
Grant Funds	\$ -	\$138,396,000	57.00%	\$138,396,000
Total Project Costs	\$44,091,397	\$242,800,000	100.00%	\$286,891,397

The **OTA commitment of \$14.9 million** is included in the Non-Federal Future Eligible Costs for this project. A letter documenting this funding commitment is included in the **Letters of Support** section on the [ODOT US-81 INFRA Grant website](#). These funds are to be used for the construction of the ramps for the new interchange of the new US-81 alignment and I-44. ODOT will ensure any necessary documentation required by OTA regarding the construction, inspection, and completion of the ramps is provided to OTA. ODOT and OTA have partnered successfully on several highway and bridge projects in the past and their close coordination will continue on this project.

ODOT’s **Certification Statement** regarding availability and commitment of funds is included in the **Certifications and Assurances** section on the [ODOT US-81 INFRA Grant website](#).

Merit Criteria

Criterion #1: Support for National or Regional Economic Vitality

US-81 is an important multi-national corridor linking the Texas, Central Plains, and Midwest mega-regions to the Canadian and Mexican border crossings. The corridor intersects with I-44 in the project area and I-40 further north, giving shippers international north-south and coast-to-coast east-west access to reach seaport facilities, domestic markets, and customers around the world. These connections are crucial to national and regional economic vitality. This project will improve travel time and reliability for regional and national businesses by reducing costs, improving time-to-market, and providing a safer network for all users.

The US-81 corridor is invaluable to major producers of wind energy, oil and gas, and large-scale agricultural production. The corridor currently provides significant contributions to the economic vitality of the region and the entire state, which would only be enhanced by providing the new alignment of the corridor. These industries are particularly important to this region as the oil and gas sector employs almost 20 percent of the state's workforce.⁵ This corridor is a lifeline for these industries and an estimated 625 super loads, often restricted from operating on interstate highways, that use and rely on this route annually.^{6, 7}

State of Oklahoma Economy

- Oklahoma is known for its growing petroleum, electricity, renewable energy, coal and Natural gas production.
 - 8% of the nation's natural gas reserves
 - 5% crude oil reserves
 - 4% renewable wind energy
- Oklahoma's crude oil provides stock for the state's refineries reaching almost 522,000 barrels per calendar day accounting for nearly 3% of total nationwide refining capacity. The highway system in Oklahoma allows for trade of these growing markets; specifically, US-81 which begins in Texas and routes north to Canada. US-81 also intersects with I-40 (east/west) and I-44 (northeast/southeast) reaching additional markets across the country.



⁵ Steven C. Agee Economic Research and Policy Institute, Oklahoma City University Year

⁶ Based on analysis from ODOT Division 7, City of Chickasha, and Chickasha Police Department Year

⁷ Super loads are vehicles 16 feet wide by 21 feet high and 18,000 pounds or more. Energy-related businesses in the area/region rely on this type of shipment (including wind energy components, drilling equipment, mining equipment, and agricultural equipment).

Benefit Cost Analysis

The US-81 Realignment Project substantially supports the national and regional economies by making a critically important improvement for freight and goods movements. Following the USDOT’s guidance for a Benefit-Cost Analysis (BCA), the US-81 Realignment Project generates a **benefit-cost ratio (BCR) of 1.92**. This ratio demonstrates that the generated monetized benefits exceed the project cost. The BCA quantifies several project costs and benefits as summarized in this section. An **Executive Summary Table** of the BCA, the full BCA narrative and spreadsheet model, and the **BCA Executive Summary** can be found in the **Reports and Technical Information** section on the [ODOT US-81 INFRA Grant website](#).

The BCA developed for this INFRA Grant application was evaluated in terms of the following characteristics:

- **Costs** – pre-construction, construction, and annual maintenance costs
- **Economic competitiveness** – time savings and vehicle operating cost savings
- **Safety** – avoided crashes, injuries, property damage, and fatalities
- **Quality of life improvements**

The table and information below present the results of the BCA, expressed in terms of net present value (NPV) and BCR, using a discount rate of 7 percent.

Exhibit 6: BCA Summary

Project	US-81 Realignment Project
Total Capital Costs (2018 Dollars)	\$242,800,000
Total Project Costs (7% Discounted) (2018 Dollars)	\$156,602,863
Total Net Benefit (7% Discounted) (2018 Dollars)	\$300,838,299
Benefit Cost Ratio (7% Discounted)	1.92

- **Total Project Capital Cost: \$242,800,000 (2018\$)**
Total project cost includes engineering, right-of-way (ROW), utilities, construction and contingency categories.
- **Operations and Maintenance Costs: \$35,166,710**
Constructing a new facility will require on-going operations and maintenance costs to ensure a state of good repair on the new US-81 alignment. Over the course of the project life cycle (30 years), the project will incur \$35,166,710 in maintenance.

US-81 Realignment Project Benefits

- **Total Project Benefits: \$300,838,299**
When discounted at seven percent, the US-81 Realignment Project will provide \$300,838,299 in total discounted project benefits. Travel time savings produces the largest quantifiable benefit of the US-81 Realignment Project.
- **Economic Competitiveness Benefits: \$245,562,496**
Travel time reductions will result in a benefit of \$259,257,786 (discounted at seven percent). The US-81 Realignment Project will also produce vehicle operating cost increases that total - \$13,695,290 in disbenefits (discounted at seven percent).

- **Safety Benefits: \$56,657,497**
Cost of crashes, fatalities, and injuries avoided with project benefits totaling \$56,657,497 (discounted at seven percent).
- **Environmental Benefits: -\$1,381,694**
The project will result in environmental and air quality disbenefits from increased pollutants, totaling -\$1,381,694 (discounted at seven percent).⁸
- **Quality of Life Improvements**
In addition to the project benefits quantified in the BCA, the US-81 Realignment Project also provides several qualitative benefits. As noted, the project will improve travel time through the US-81 corridor and improve access for local residents. The project will result in significant time savings through the corridor for residents by removing superloads routed through downtown Chickasha. Finally, the area and region will benefit greatly from expanded economic development opportunities provided by the realignment and new interchanges.

Criterion #2: Leveraging of Federal Funding

Maximizing Non-Federal Funds

ODOT is committing \$104,404,000 in future eligible cost in addition to a previous investment of \$20,628,697 in state funds. This local commitment includes a private investment from OTA which totals \$14,900,000 in future eligible project costs and a previous private investment of \$17,000,000.

ODOT is requesting \$138,396,000 in INFRA Grant funds, 57 percent of the future eligible project cost. The significant leverage contribution from the State of Oklahoma shows the importance of this project, both to the region and to the state. Oklahoma is primarily a rural state with many financial demands, which are particularly acute after the recent downturn in the oil and gas industry. However, because of the importance of this project to the regional and state economy, freight movements, and the safety of those driving this highway, ODOT is prepared to make this significant funding obligation and investment in the corridor.

The OTA receives no tax money to operate its turnpikes. As such, the investment by OTA will not include any taxpayer dollars. In 1992, legislation made available additional motor fuel excise taxes, if necessary, for payment of OTA debt service requirements on OTA's bonds. Since that legislation was enacted in July 1992, OTA has received and immediately remised 100 percent of those funds to ODOT.^{9 10}

US-81 is a high transportation priority. ODOT and OTA are willing to invest in the US-81 Realignment Project absent of local municipal or county funding. Chickasha and Grady County are small rural communities with limited financial resources and do not have the funds necessary to contribute to the project.

**OTA is a primary project partner with a \$14.9M
commitment to the US-81 Realignment Project.**



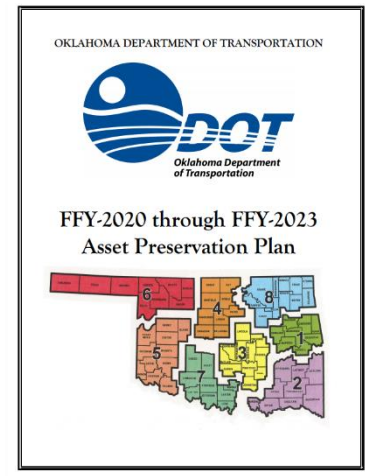
⁸ Disbenefit – a disadvantage or loss resulting from some action; the outcome/result of an action which is perceived to be negative

⁹ See OTA website: <https://www.pikepass.com/pdf/OTA%20Adopted%20Budget%202019.pdf> page 20.

¹⁰ <http://www.oscn.net/applications/oscn/DeliverDocument.asp?CiteID=89525>

Addressing Life Cycle Costs

ODOT maintains a detailed Asset Preservation Plan for existing infrastructure and future transportation improvements within each county. These plans begin with ODOT’s Field District Engineer building on a condition assessment of the highway network based upon their knowledge of the transportation needs and priorities in each district. ODOT’s pavement maintenance schedule for existing US-81 includes pavement preservation projects every seven years and rehabilitation/reconstruction project once between 2019 and 2055 on the existing US-81 corridor. The estimated maintenance costs on this corridor, including annual general maintenance, would be \$51.1 million through 2055.



ODOT will maintain the existing corridor through Chickasha until the realignment project is completed. At that time, the existing segment of the corridor will be decommissioned and transferred to Chickasha and Grady County through a formal highway removal process.

The new corridor alignment will be maintained in accordance with ODOT’s maintenance schedule outlined previously. ODOT has estimated the maintenance and operating costs for the realigned corridor using recent maintenance and operating cost analysis of other similar new corridors. Based on ODOT’s regular pavement maintenance, rehabilitation/reconstruction projects, and annual general maintenance, the estimated maintenance cost for the new alignment will be \$35.2 million through 2055, equating to a decrease in \$15.9 million in maintenance costs.

Criterion #3: Potential for Innovation

Innovative technology, project delivery practices and financing are being deployed to:

- Expand rural 5G broadband access to rural residents and communities;
- Ensure an efficient and on-time completion of the project; and
- Leverage public funds with private-sector transportation investment.

The project offers innovation in all three identified categories which will improve quality of life for residents, improve performance and accountability measures, and ultimately increase potential for project success.

Innovation Area #1: Technology

ODOT is familiar with the Executive Branch’s emphasis on expanding broadband to rural areas per the Presidential Executive Order 13821. ODOT plans to expand broadband statewide and this project area is the ideal candidate for fiber, future roadside technologies, and expansion of broadband deployments.

Innovation Area #2: Project Delivery

The US-81 Realignment Project includes several innovative components and techniques to improve performance and implementation including ITS components and dynamic messaging signs to help manage traffic with travel time information and statewide alerts by implementing and maintaining applications to auto-capture and report safety. Portable dynamic messaging will be used during construction to alert drivers of potential delays. The **US-81 Realignment Project will employ additional innovative strategies to improve project delivery**. Strategies employed will include:

- **Accelerated Bridge Construction (ABC)** – ODOT will encourage the use of ABC techniques, particularly at the rail crossings and the northern and southern most interchanges on the realignment. ABC is a paradigm shift in the project planning and procurement approach to minimize mobility impacts which commonly occur due to on-site construction activities. ODOT will encourage ABC innovative planning, design, materials, and construction methods to improve site constructability, project delivery timeline, and work-zone safety. ODOT also anticipates reduced traffic impacts, on-site construction time and weather-related time delays due to ABC. On-site construction time and mobility impact time (period that traffic flow is reduced due to on-site construction activities) are two performance measures that can be used to gauge the effectiveness of ABC.
- **Incentives and Disincentives** – ODOT will offer incentives for early completion of each major project milestone and implement disincentives for project delay. This will further ensure that the US-81 Realignment Project is implemented on-time and within INFRA schedule requirements. In addition to schedule incentives, ODOT will also offer a cost incentive for enhanced pavement smoothness as a measure of quality construction.
- **Innovative QC/QA Testing Techniques** – ODOT will use innovative techniques such as use of concrete maturity meters and soil settlement plates to help expedite the construction process.

Innovation Area #3: Innovative Financing

ODOT looks for every opportunity to further leverage public funds and taxpayer dollars. OTA, a private partner, will provide \$14.9 million in financial support for the project, which includes the specific infrastructure improvements at the I-44 interchange. The partnership between ODOT and OTA will maximize the benefits of local and USDOT dollars. ODOT and OTA have a history of successfully implementing several projects across the state and do not foresee any issues collaborating on this project.

Criterion #4: Performance and Accountability

With additional funding from the INFRA grant to leverage state and private investment, ODOT anticipates construction complete by the end of 2026. ROW acquisition and utility relocation are complete and final design is anticipated to be complete in late 2020. It is an ODOT priority to have this project shovel-ready in late 2020, well in advance of the statutory deadline. ODOT will ensure that any unexpected delays will not put the funds at risk of expiring before they are obligated.

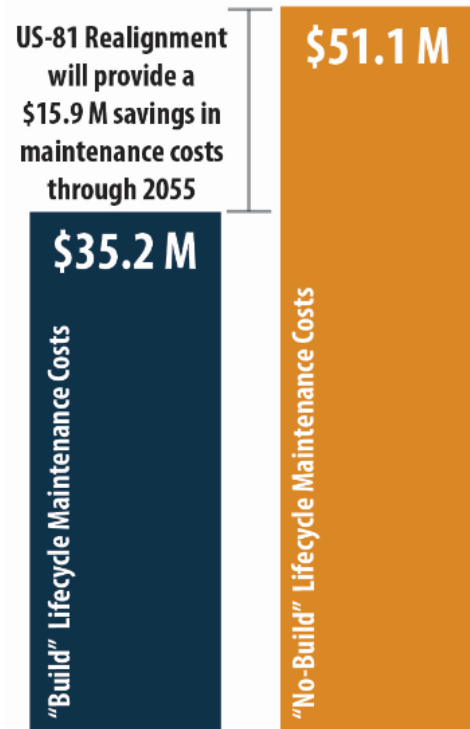
Project Lifecycle Costs

ODOT has assessed the project’s lifecycle costs, estimated at \$35.2 million through 2055. ODOT and its partners anticipate being able to fully address the lifecycle costs of the realignment project. Additionally, municipal partners are aware of the lifecycle costs on the existing alignment and Chickasha and Grady County are accounting for the maintenance costs in future planning. Street maintenance in the City of Chickasha and Grady County is funded through the general fund.

The US-81 Realignment Project is in the STIP (Statewide Transportation Improvement Program), which is the first four years of ODOT's *8 Year Construction Work Plan*. Included in the plan are strategies to ensure success in implementation including detailed schedules, key project components, and detailed budgets which allow ODOT to closely monitor projects. Following construction of the project, the new alignment of US-81 will be included in ODOT’s Transportation Asset Management (TAM) system. ODOT’s TAM system is built on quality information inputs and disciplined analysis which establishes a basis for optimizing expenditures to sustain and improve ODOT’s transportation system in an efficient manner.

ODOT is funded by both state and federal dollars. In 2005, House Bill 1078 passed creating the Rebuilding Oklahoma Access and Driver Safety (ROADS) fund that permanently dedicated state income tax dollars to help supplement the minimal state dollars invested over the previous decades. Oklahoma, like many states, faced budget shortfalls from 2010-2017, resulting in nearly \$800 million in cumulative budget cuts to the transportation system during that period. The Oklahoma Legislature has recognized that cutting transportation funding was not an option and implemented the following countermeasures to partially offset this temporary budget impact:

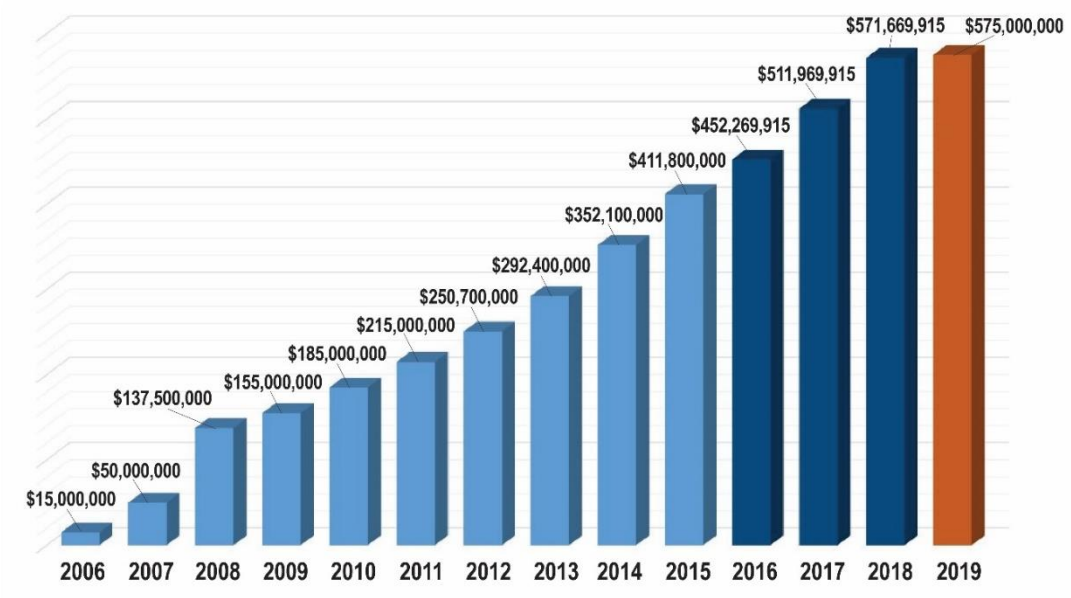
- In 2016, ODOT was authorized to sell \$200 million in bonds to partially offset the budget shortfalls that impacted the transportation budget that year.
- In 2018, for the first time in over 30 years, state lawmakers united to pass a required super-majority (75 percent house and senate) tax increase to boost state revenue that included state motor fuel tax (3 cents on diesel and 6 cents on gasoline). While this revenue was not additive to the ROADS fund allocation, this transportation industry generated revenue was committed



100 percent to ODOT to help ensure that future budget shortfalls would not impact ODOT funding as occurred in 2016 and 2017.

Oklahoma increased dedicated transportation funding by \$163 million in annual state commitment from 2015 to 2018, representing a 40 percent increase to the state’s ROADS fund. However, as illustrated in Exhibit 7, the commitment since 2006 has built a new annual state commitment of \$575 million in transportation funding. That represents an estimated \$3.6 billion in non-federal revenue commitment during this period.

Exhibit 7: ODOT - State Tax Allocations



Source: ODOT Comptroller

Schedule Accountability Measures

The project partners are focused on accountability in project delivery and performance, and ODOT is committed to transparency and quality performance in all projects and operations.

If ODOT is awarded INFRA Grant funding, in order to ensure the project achieves the optimal public benefits and meets or exceeds project schedule and performance accountability measures, ODOT will provide schedule incentives for early completion and monitor quality throughout construction. One additional measure that will be used to ensure quality construction is a measure of pavement smoothness. ODOT will offer an incentive for enhanced pavement smoothness.

To ensure that the US-81 Realignment Project meets project milestones for obligation of funds and project completion, ODOT will structure the project contract to **encourage the use of Accelerated Bridge Construction (ABC) techniques** (particularly at the US-81 South and North interchanges and at rail crossings). ODOT will also employ **incentives for early completion** of each major milestone and **disincentives for delay**. ODOT also plans to employ **innovative material QC/QA testing techniques** such as use of concrete maturity meters and soil settlement plates to help expedite the construction process. **ODOT is committed to obligate funds by the end of 2020, three years in advance of the September 2023 statutory deadline. Furthermore, ODOT is committed to begin construction in Q2 of 2021, well in advance of the March 2025 statutory deadline.**

To support this commitment, ODOT will organize a **US-81 Project Performance Team** comprised of the persons from the design firm, the field district, and local city/county officials who will attend project status meetings and be able to provide the construction team with accelerated answers to the contractor's requests for information. Prior to award of the construction contract, ODOT will organize a **dispute resolution team** which will provide accelerated resolution to disputes based on a project specific dispute resolution matrix. With this process and the previously mentioned strategies including construction incentives and ABC, ODOT feels confident in committing to the schedule accountability milestones for obligation of funds and construction.

Project Readiness

ODOT and project partners have already made significant investments to position the project to proceed as quickly as possible once funding is available. The project's **Environmental Assessment** has been prepared and submitted; and a **Finding of No Significant Impact (FONSI)** has been issued. ODOT has completed preliminary engineering plans and OTA has relocated a toll booth structure on I-44 in 2017 in preparation for project construction. Engineering plans (65% drawings) and the project's FONSI are included in the Reports and Technical Information section on the [ODOT US-81 INFRA Grant website](#).

Technical Feasibility

ODOT has extensive experience designing and constructing projects similar in complexity and scale to the one proposed in this application. The technical feasibility of this project is evidenced by the conceptual preliminary design plans that were 65 percent complete as of October 10, 2017. The preliminary plans are being designed in accordance with FHWA and AASHTO standards. The cost estimates for this project were developed based on estimated quantities and similar projects constructed in the State of Oklahoma.

Project Schedule

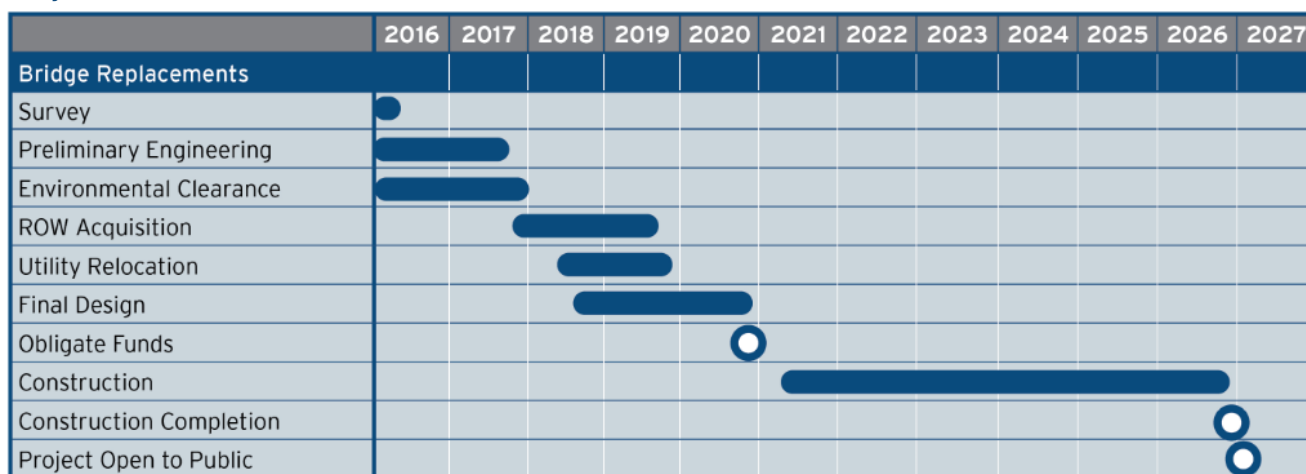
A detailed project schedule that includes all major project milestones has been prepared anticipating INFRA Grant funding. The project schedule shown on the following page and can also be found in the Application section on the [ODOT US-81 INFRA Grant website](#). A summary of the schedule includes:

- State and local planning approvals:
 - The project is consistent with the 2015-2040 Oklahoma Long Range Transportation Plan (LRTP).
 - The State Transportation Improvement Program is a financially constrained document and will be amended as the project progresses.
 - With an accepted INFRA award, ODOT will expedite the project as funding is made available.
- The project is included in the current Oklahoma Freight Transportation Plan (2018 – 2022).
- Environmental study, NEPA documentation, and other environmental reviews and approvals are complete with an Environmental Assessment signed on February 3, 2017. ODOT coordinated with the Federal Aviation Administration (FAA) and the US Army Corps of Engineers on permitting issues and the project received all environmental clearances in early 2018.

- Project design was 70 percent complete as of February 2019, with final design to be completed by late 2020.
- Right-of-way acquisition began at the end 2017 and was completed in mid-2019.
- Utility relocation began in 2018 and was completed in September 2019.
- INFRA funds will be obligated by the end of 2020.
- Construction will begin by (or in advance of) Q2 2021 and complete by the end of 2026.

Construction on the project will begin in 2021 and will be completed by the end of 2026 in advance of INFRA requirements. The primary risk, right-of-way acquisition, has been carried out in accordance with 49 CFR part 24 and other applicable federal regulations and was concluded by August 2019.

Project Schedule and Milestones



Required Approvals

The Environmental Assessment, early coordination with other state and local plans, and commitments to amend the necessary planning documents to advance the realignment project if INFRA funds are awarded puts this project ahead of schedule to meet the INFRA Grant award obligation dates.

Environmental Permits and Reviews

ODOT reasonably expects all environmental approvals and permits necessary for the project to proceed on the timeline specified in the project schedule. The schedule will meet the statutory obligation deadline, including satisfaction of all Federal, state and local requirements. **The US-81 Realignment Project’s Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) was signed February 3, 2017.**

Reviews, Approvals and Permits by Other Agencies

The Environmental Assessment identifies coordination with Federal Aviation Administration (FAA) may be required via FAA Form 7460-1 prior to construction. The Chickasha Municipal Airport is roughly two miles north of the planned realignment. The proposed construction activities will be evaluated regarding the linear extent and volume of potential disturbance to any jurisdictional waters and wetlands to comply with the appropriate Clean Water Act Section 404 permit application made when design plans are finalized.

USDOT Modal Administration Discussions

FHWA was involved with the development of the US-81 Realignment Environmental Assessment and the document was approved by FHWA signature on February 3, 2017.

Public Engagement

During the development of the Environmental Assessment, ODOT and their team held three separate public meetings to obtain input and feedback regarding the realignment. Each public participation event was well publicized and included a meeting with stakeholders representing local residents, businesses, and public organizations, followed by a meeting with the general public.

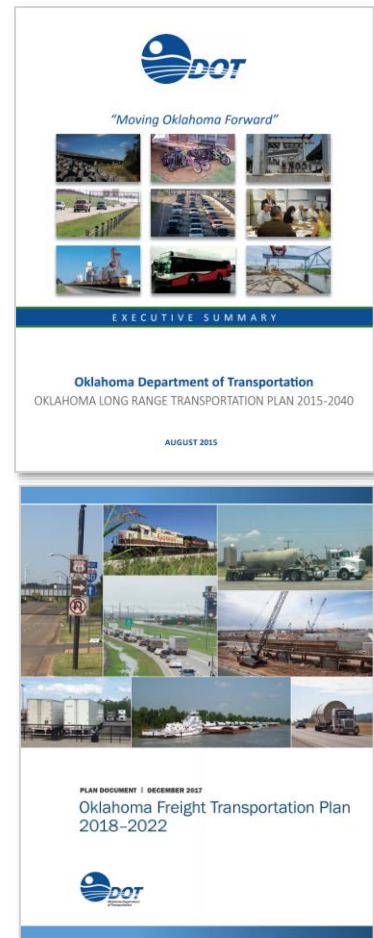
Chapter 5 of the **Environmental Assessment** describes the details of the public engagement process and comments can be found in the **Reports and Technical Information** folder on the [ODOT US-81 INFRA Grant website](#). ODOT will continue to meet with regional partners and stakeholders throughout the design and construction process for this project. In addition, ODOT will establish a project advisory committee and coordinate with emergency services, public works staff, and area businesses, as well as Chambers of Commerce to allow businesses and residents to stay informed about project progress.

State and Local Approvals

The current 2015 – 2040 Oklahoma Long Range Transportation Plan, adopted in August 2015 is a policy document. The project to construct the US-81 realignment to a full access-controlled facility addresses two policies in the LRTP:

- Highway Bridge Policy #3 – Reduce fatalities and serious injuries on Oklahoma highways through appropriate engineering solutions, and
- Highway Bridge Policy #5 – Provide for a safe, efficient and effective National Highway System to improve commercial motor vehicle mobility and connectivity.

ODOT has met with the City of Chickasha and Grady County and the project is supported by these entities and is consistent with local plans and economic development efforts. Based on National Performance Management Research Data Set (NPMRDS), the Oklahoma Freight Transportation Plan: 2018 - 2022 identified US-81 through Chickasha as a top 5 percent freight bottleneck in Oklahoma.



Operational analysis of the proposed realignment shows collisions can be reduced and safety increased through implementation of this project. The project will allow for improved through freight and passenger vehicle traffic, and at the same time enhance the community environment and provide safe and reliable travel options for local residents and businesses.

Federal Transportation Requirements

Currently the right-of-way acquisition and utility projects are in the Statewide Transportation Improvement Program (STIP). ODOT commits to amend the STIP and any other applicable local planning documents in the event the US-81 Realignment Project is awarded INFRA funding.

Assessment of Project Risks

ODOT staff has discussed the project concept with the Oklahoma Division of FHWA and project communication and coordination will continue. To date, no risks have been identified by FHWA staff. ODOT staff have carefully assessed the potential project risks and mitigation strategies. Since ODOT's prior submittal for last year's INFRA opportunity, **all ROW has been secured and ODOT has eliminated that previously identified risk.** Other risks considered are as follows:

- **Inability to obtain permitting approval.** This project requires FAA approval and USACE permitting to begin construction. ODOT does not anticipate either of these approvals will have issues or delays. Mitigation would include early and clear communications with FAA and USACE.
- **Weather related construction delays are possible and difficult to mitigate.** Mitigation would include detailed project scheduling and clear communications and documentation regarding rain days, careful management of project schedule, and early and frequent communication with project contractors before schedule becomes an issue.

Large Project Requirements

Based on the future eligible project costs of \$242,800,000 (total project capital costs remaining), the US-81 Realignment Project exceeds the minimum total project cost categories for the State of Oklahoma and therefore meets the large project size requirement.

REQUIREMENT	REFERENCE
Does the project generate national or regional economic, mobility, safety benefits?	Yes see Pages 1 – 4 and 8 – 10
Is the project cost effective?	Yes see Pages 1, 4 – 5, 7, and 9 – 10
Does the project contribute to one or more of the Goals listed under 23 USC 150? <i>(safety, infrastructure condition, congestion reduction, system reliability, freight movement and economic vitality, environmental sustainability, reduced project delivery delays)</i>	Yes see Pages 1, 8 – 14
Is the project based on the results of preliminary engineering?	Yes PE is 65% complete <i>(plans are on website)</i>
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 see Pages 7, and 13 – 14
Are contingency amounts available to cover unanticipated cost increases?	Yes see Page 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?	Yes See Page 7
Is the project reasonably expected to begin construction not later than 18 months after the date of the obligation of funds for the project?	Yes see Pages 14 and 16

The US-81 Realignment Project will improve safety, freight flow and access to the national freight network providing more efficient connections to I-35 and I-40 linking Oklahoma to Canada, Mexico, and domestic markets. The US-81 corridor is vital for the transportation of supplies, equipment, and products to support wind energy, oil and gas, military operations, and agricultural industries within the state. The project has a BCR of 1.92 with significant benefits including eliminating conflicts of oversize freight loads through downtown Chickasha, safety improvements, and reduction in travel time through the corridor. This project is a critical improvement for the rural project area and the regional economy.