

Oklahoma Department of Transportation Grady County US-81 Realignment

[Document subtitle]



Downtown Chickasha, Oklahoma

CFDA No: 20.938

Cover Page

Basic Project Information	
What is the Project Name?	U.S. 81 Realignment
Who is the Project Sponsor?	Oklahoma Department of Transportation
Was an application for USDOT discretionary grant funding for this project submitted previously?	Yes, no funds awarded. Grant application name: Grady County US-81 Realignment INFRA Grant Application
A project will be evaluated for eligibility for consideration for all three programs, unless the applicant wishes to opt-out of being evaluated for one or more of the grant programs.	<input checked="" type="checkbox"/> Opt-out of Mega? <input checked="" type="checkbox"/> Opt-out of INFRA? <input type="checkbox"/> Opt-out of Rural?
Project Costs	
MPDG Request Amount	Exact Amount in year-of-expenditure dollars: \$50,000,000
Estimated Other Federal funding (excl. MPDG)	Estimate in year-of-expenditure dollars: \$82,178,950
Estimated Other Federal funding (excl. MPDG) further detail	Other Federal funding from Federal Formula dollars: \$82,178,950 Other Federal funding being requested from other USDOT grant opportunities?: \$0 From What Program(s)?: _____
Estimated non-Federal funding	Estimate in year-of-expenditure dollars: \$69,685,966
Future Eligible Project Cost (Sum of previous three rows)	Estimate in year-of-expenditure dollars: \$201,864,916
Previously incurred project costs (if applicable)	Estimate in year-of-expenditure dollars: \$48,631,437

Total Project Cost (Sum of 'previous incurred' and 'future eligible')	Estimate in year-of-expenditure dollars: \$250,496,353
Rural: Amount of Future Eligible Costs by Project Type	<p>1) A highway, bridge, or tunnel project eligible under National Highway Performance Program: \$201,864,916</p> <p>2) A highway, bridge, or tunnel project eligible under Surface Transportation Block Grant: \$ _____</p> <p>3) A highway, bridge, or tunnel project eligible under Tribal Transportation Program: \$ _____</p> <p>4) A highway freight project eligible under National Highway Freight Program: \$201,864,916</p> <p>5) A highway safety improvement project, including a project to improve a high risk rural road as defined by the Highway Safety Improvement Program: \$ _____</p> <p>6) A project on a publicly-owned highway or bridge that provides or increases access to an agricultural, commercial, energy, or intermodal facility that supports the economy of a rural area: \$ _____</p> <p>7) A project to develop, establish, or maintain an integrated mobility management system, a transportation demand management system, or on-demand mobility services: \$ _____</p>
Project Location	
State(s) in which project is located	Oklahoma
INFRA: small or large project	Small/Large
Urbanized Area in which project is located, if applicable	N/A
Population of Urbanized Area (According to 2010 Census)	N/A
Is the project located (entirely or partially) in Area of Persistent Poverty or Historically Disadvantaged Community?	<p>APP: Census Tracts 1, 4 and 10</p> <p>HDC: Census Tract 1, 4 and 10</p>
Is the project located (entirely or	<p>Opportunity Zones: Yes, 40051000100</p> <p>Empowerment Zones: No</p>

partially) in Federal or USDOT designated areas	Promise Zones: No Choice Neighborhoods: No
Is the project currently programmed in the: • TIP • STIP • MPO Long Range Transportation Plan • State Long Range Transportation Plan • State Freight Plan	Yes. STIP # 2442804 SFP : Job Piece No. 24428

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1.0 Project Description

1.1 Overview

The Oklahoma Department of Transportation (ODOT) is seeking funding for the realignment of US Highway 81 (US-81), a rural freight corridor located southwest of the Oklahoma City metropolitan area. The Grady County US-81 Realignment Project (Project) will create a new, two-lane, controlled-access facility to create better traffic flow for vehicles that currently use the congested US-81 alignment to pass through downtown Chickasha, Oklahoma.

Upgrading and realigning US-81 will increase transportation safety, assure resiliency along this National Highway System route, enable recovery and revitalization of downtown Chickasha, support the state’s developing clean energy industry, and address long-standing inequities in the area. The goals for the finished Project are to:

- Reduce travel time and delays on the National Highway System;
- improve safety and corridor conditions through Downtown Chickasha, according to traffic analysis;
- provide better access to US-81 and to needed resources and services for underserved communities; and
- offer opportunities for revitalization to adjacent areas along the existing corridor.

The corridor is critical to the local, state and national economy. It is used 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. US-81 serves markets in Canada, Mexico, and domestically within the United States.

Figure 1 - Project Location Map



This Rural Surface Transportation Grant application requests funding for realigning the section of US-81 that currently bisects downtown Chickasha. The new corridor will have design speeds of 65 miles per hour (mph), eliminate 90-degree angle turns, and provide full access control with grade separations at intersecting corridors and rail crossings. **The project is well advanced with final design completed, right of way acquired, and NEPA documents cleared.** Plans and reports are available on the [ODOT US-81 Realignment Grant website](#).

Table 1. US-81 Project Scope of Work

Existing Route through Downtown Chickasha	US-81 Realignment Project
8.5 Miles	8.3 Miles
4-Lane Undivided Facility (with Center Turn Lane)	Access Controlled 2-Lane Facility
14 Signalized Intersections	6 Grade-Separated Interchanges
Two 90-Degree Turns	One Grade-Separated Rail Crossing
30 mph Average	65 mph Average
14-Minute Average Travel Time	7.5-Minute Average Travel Time

1.2 Transportation Challenges and Solutions

The existing US-81 undivided four-lane route through downtown Chickasha is insufficient for oversize trucks to maneuver. Current speeds on this segment through Chickasha are 30 mph, compared to the posted speeds of 70 mph north and south of Chickasha. This outdated segment of the corridor does not currently match the divided four-lane character of US-81 to the south of Chickasha.

Oklahoma is a growing hub for wind energy and ranks second in the nation for installed wind power capacity.¹ With that growth comes windmills which are constructed in sections due to the large size and heavy weight of each component. The pedestal for each windmill is shipped in three segments, weighing up to 24 tons. Each blade is shipped individually as an over-length load, measuring from 170 feet to more than 200 feet. The “nacelle” that sits atop the pedestal can weigh up to 75 tons.

When looking to expand wind energy production in the region, access by ground is an obstacle. The supply chain



¹ <https://stateimpact.npr.org/oklahoma/2018/09/06/oklahoma-wind-farms-mapped/>, Shows the high density of wind farms surrounding the project.

generally starts with most of the parts being manufactured overseas. The parts enter the U.S. through the southern international ports of entry, then travel by oversize trucks on US-81 to the various developing windfarms to the north. Trucks transporting these assemblies on US-81 through downtown Chickasha, encounter a pinch point at the junction with Highway 62 causing delays and safety issues.

US-81 is a lifeline for industry’s estimated 625 “super loads,” which are often restricted from interstate highways.^{2,3} **These loads cause traffic to be impacted through downtown and can create delays for up to 50 minutes.**



In terms of safety and equity, high freight volumes create a hazardous environment for vulnerable roadway users such as pedestrians and bicyclists, as well as diminishes the downtown quality of life in Chickasha. The new alignment will separate freight and high traffic volumes from downtown, creating a safer and more welcoming environment downtown. By default, the new grade-separated alignment will address inequities in crashes; the Project will provide opportunities such as employment and commerce during and after construction; and the finished Project will position downtown for recovery and revitalization.

1.3 Project History

ODOT has recognized the growing need to realign this corridor segment for decades and has already invested \$48.6 million in previously incurred costs for a [feasibility study](#)⁴, preliminary engineering, traffic modeling, environmental studies, stakeholder and public engagement, right-of-way (ROW) acquisitions and the relocation of a toll booth at I-44 by the Oklahoma Turnpike Authority.

- 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.
- 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 alignment and associated interchange locations were selected with public and stakeholder input. The AJR is available on the [Grady County US-81 Realignment](#).

² Based on analysis from ODOT Division 7, City of Chickasha, and Chickasha Police Department Year

³ 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).

⁴ <https://oklahoma.gov/content/dam/ok/en/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.

- 2017: The US-81 Realignment Project’s Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) was signed February 3, 2017. The EA and FONSI are available on the [Grady County US-81 Realignment Grant website](#).
- 2019: All ROW was purchased.
- 2020: The project advanced and completed 90 percent design in June 2020. The design plans are available on the [Grady County US-81 Realignment Grant website](#).
- 2021: Final design plans completed and available on the [Grady County US-81 Realignment Grant website](#).

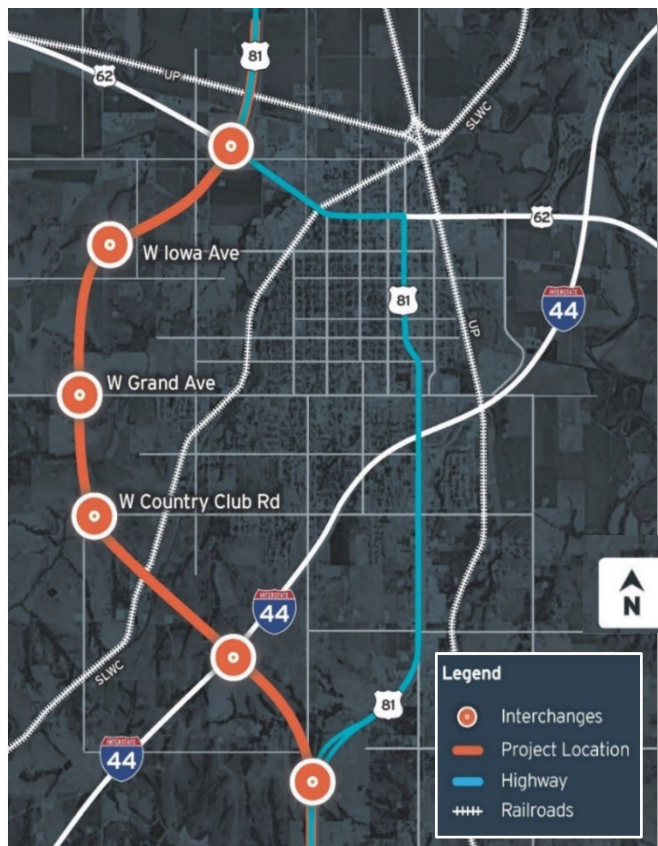
2.0 Project Location

The Project is located in a rural area south of Chickasha and begins where US-81 curves east to become part of the Chickasha street grid. The far northern project location alignment does pass through Census Tracts 1 and 4, boundaries that are considered Areas of Persistent Poverty (APP). Census Tracts 1, 4 and 10 are also considered Historically Disadvantaged Communities (HDC). The study area is within the Chickasaw Indian Territory, along the western border of the jurisdiction.

The realignment will extend US-81 from 1.5 miles north of the US-81 and State Highway 19 west (SH-19) junction to 0.75 miles north of the US-81 and US Highway 62 (US-62) junction and realign US-81 on the west side of the City of Chickasha. The northern limit is located at -97°57'42" W, 35°04'23" N and the southern limit is located at -97°57'09" W, 34°58'30" N.

The existing and recommended Project alignment is shown in Figure 2. This map and other visuals and videos are available on the [ODOT US-81 Realignment Grant website](#).

Figure 2 - Project Realignment Map



3.0 Project Parties

ODOT is the Project sponsor and has decades' experience with receipt and expenditure of federal transportation funds. Partners for this project include the Oklahoma Turnpike Authority (OTA), the City of Chickasha, and Grady County. OTA, a private partner, has already relocated a toll booth (required to facilitate construction of this Project) and has committed to providing an additional \$14.9 million in financial support to include infrastructure improvements at the I-44 interchange. The City of Chickasha and Grady County, municipal partners, will take over maintenance and operations of the former US-81 corridor once the new alignment is open to traffic.

Numerous entities in the region support the Project through formal letters or financial commitments, all of which can be found on the [ODOT US-81 Realignment Grant website](#).

4.0 Grant Funds, Sources and Uses of all Project Funding

ODOT is requesting \$50 million in Rural Grant funds; **25 percent of the future eligible total Project cost**. Additional costs will be covered with \$54.8 million in future state funding (non-federal funds), \$82.2 million in Federal-State formula funds and \$14.9 million from the OTA. Even with the financial support of our private and public partners, **ODOT cannot complete the two-lane Project without federal financial assistance**. Funds from the Rural Grant Program will allow full construction to be complete by the Q1 of 2027. Table 2 includes the total Project costs for the US-81 Realignment Project.

Table 2. Total Project Cost (Previously Incurred and Future Eligible Costs)

	Previously Incurred Expenses	Future Eligible Costs	Percentage of Future Costs	Total Project Cost
ODOT Funds	\$5,140,644	\$54,785,966	27 percent	\$59,926,610
Federal Formula Funds	\$26,490,793	\$82,178,950	41 percent	\$108,669,743
Other Funds	\$17,000,000	\$14,900,000	7 percent	\$31,900,000
Rural Grant Funds	\$ -	\$50,000,000	25 percent	\$50,000,000
Total Project Costs	\$48,631,437	\$201,864,916	100.00 percent	\$250,496,353

Development of the Project is well advanced, having received environmental clearance in 2017, final design completed, and finished right-of-way purchases in 2021.

All future Project cost estimates are based on the most recent design engineering cost estimates. All obligated Rural Grant funding would be used for construction and construction contingency as shown in Table 3.

With design work complete, ODOT is confident that the contingency amounts shown are sufficient to cover the minimal remaining Project risk. ODOT is committed to the Project and should the Project encounter unforeseen costs, ODOT will cover additional costs.

Table 3. Sources and Uses of Funds

	Engineering	Toll Structure	ROW & Utilities	Construction	Contingency
Private Funds (OTA)					
<i>Previously Incurred Cost</i>		\$17,000,000			
<i>Future Cost</i>				\$14,900,000	
State Funds (ODOT) ⁵					
<i>Previously Incurred Cost</i>	\$1,986,940		\$3,153,704		
<i>Future Cost</i>				\$49,307,370	\$5,478,596
Other Federal Funds ⁶					
<i>Previously Incurred Cost</i>	\$11,009,767		\$15,481,026		
<i>Future Cost</i>				\$73,961,055	\$8,217,895
Grant Funds (MPDG)					
<i>Future Cost</i>				\$50,000,000	
Total Previously Incurred Costs	\$12,996,707	\$17,000,000	\$18,634,730		
Total Future Element Costs				\$188,168,425	\$13,696,491

The OTA’s future commitment of \$14.9 million is included in the non-federal future eligible costs for this Project. A letter documenting this funding commitment is uploaded to grants.gov and is available on the [ODOT US-81 Realignment 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.

⁵ State funds will be sourced from a combination of bonding and the Oklahoma ROADS Fund (discussed under Criterion #6 section)

⁶ Source of other federal funds is a combination of FHWA formula funding

A more detailed breakdown of future eligible Project costs is shown in Table 4. A complete Project budget based on the most recent design engineering estimates is included on the [ODOT US-81 Realignment Grant website](#).

Table 4. Future Project Costs and Construction Phasing

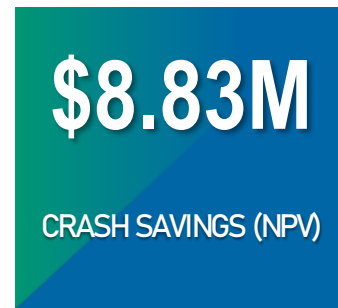
	2022	2023	2024	2025	2026
Grading	\$6,810,053	\$33,810,053	\$33,810,053		
Bridge Construction		\$19,595,151	\$19,595,151	\$19,595,151	
Interchange Construction			\$9,181,055	\$9,181,055	
Surfacing				\$9,181,055	\$27,409,650
Contingency	\$495,693	\$3,887,283	\$4,555,558	\$2,762,851	\$1,995,107
Total Future Project Costs	\$7,305,746	\$57,292,487	\$67,141,816	\$40,720,111	\$29,404,756

5.0 Project Outcome Criteria

5.1 Criterion 1 – Safety

Crash Savings

The Project produces safety savings of \$8.83 million (net present value, NPV). The reduction in costs associated with crashes along existing US-81 using the existing crash rate will experience less crashes due to lower traffic volumes. The realigned US-81 crashes were then estimated utilizing the Grady County, Oklahoma crash rate to determine the number of crashes on the new facility. These two crash predictions were combined and subtracted from the projected no-build number of crashes to determine crash savings each year.



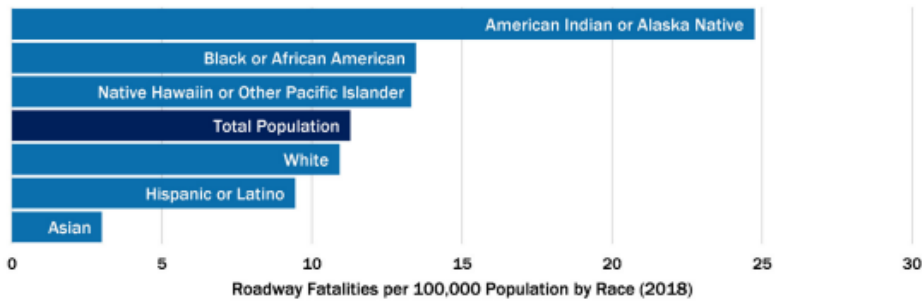
Refer to the BCA Memorandum in the appendices for a breakdown of full crash savings.

The 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 35 mph, compared to the posted and average speeds of 70 mph and 55 mph north and south of Chickasha.

Vulnerable Population

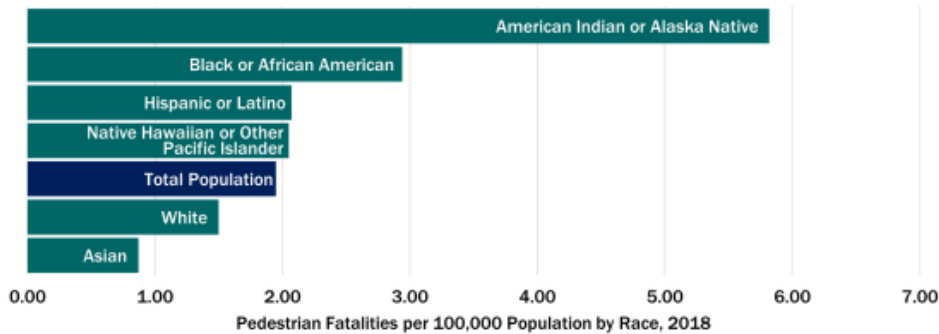
According to data by the Fatality Analysis Report System (FARS), American Indian or Alaska Native communities are shown to be an especially vulnerable population regarding fatal injuries suffered in motor vehicle traffic crashes.

Fatalities impact communities differently...

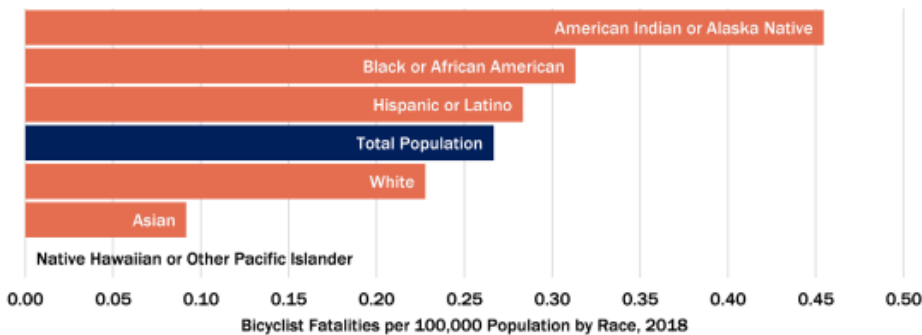


...particularly for people not in a vehicle.

Fatalities Among Pedestrians



Fatalities Among Bicyclists

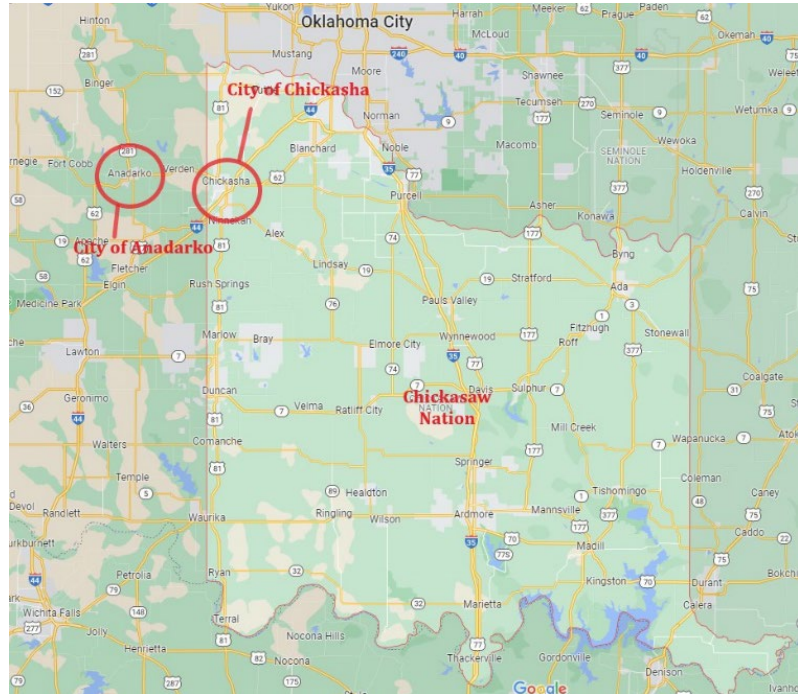


Source: USDOT National Roadway Safety Strategy, [transportation.gov/sites/dot.gov/files/2022-02/USDOT-National-Roadway-Safety-Strategy.pdf](https://www.transportation.gov/sites/dot.gov/files/2022-02/USDOT-National-Roadway-Safety-Strategy.pdf)

The data by FARS is applicable to the exiting US-81 corridor because it is located inside the jurisdiction of the Chickasaw Nation and near the Chickasaw Nation tribal community of Anadarko, which is located outside the Nation’s jurisdiction, as shown the by map below. Realignment of the Project corridor addresses this safety problem by rerouting the alignment away from Chickasha’s city center, establishing controlled access, and creating safer travel between Anadarko and the Chickasaw Nation.

Regular reports of [serious injury](#) and [fatalities](#) along US-81 near Chickasha are documented in local news coverage. The resulting devastation to lives is obvious, while implied are the ripple effects on the Chickasha community in terms of the burden to municipal services such as emergency responders and to healthcare services including Grady Memorial Hospital.

Figure 3 - Indian Communities



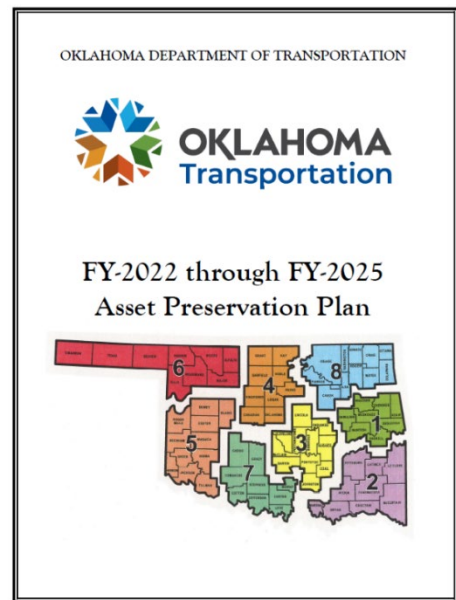
Non-motorized Travelers

The new alignment will help to limit the pass-through traffic through Chickasha. It will also create the opportunity for a road diet on the existing alignment to help calm the traffic in town making it safer for pedestrians.

5.2 Criterion 2 – State of Good Repair

ODOT has estimated full lifecycle costs of the Project, including the maintenance and operating costs for the realigned corridor. Lifecycle cost forecasts use recent maintenance and operating cost analysis of other similar new corridors, in addition to accounting for regular pavement maintenance, rehabilitation/reconstruction projects, annual general maintenance, and contingency in place within ODOT’s maintenance budget based on recent extreme weather conditions from climate change. ODOT’s current budget added \$40 million to prepare for additional maintenance based on more extreme weather (including flooding, tornados, and cold weather events).

Based on these assumptions, the estimated maintenance cost for the new alignment will be \$23.2 million through 2056, **equating to an annual decrease in \$8.4 million in maintenance costs** when compared to the no-build alternative.



The new and old corridor alignment will be maintained in accordance with ODOT’s maintenance schedule. ODOT has a data-driven process to evaluate

their transportation system for the long-term and near-term. ODOT's [Transportation Asset Management Plan](#) outlines a 10-year strategy for managing the state's pavements and bridges. The [Asset Preservation Plan](#) is a three year outlook 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 2056.

ODOT and its partners are confident in the ability to pay for operations and maintenance needs based on the state's recent increases in **dedicated transportation funding**. Additionally, municipal partners are aware of the lifecycle costs on the existing alignment, and therefore, the City of Chickasha and Grady County are accounting for the street maintenance costs in future planning through their general funds. Prior to completion of the US-81 Realignment Project, ODOT will maintain the existing corridor. Upon completion of the Project, the existing segment of the corridor will be decommissioned and transferred to Chickasha and Grady County through a formal highway removal process.

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:

ODOT Transportation Asset Management (TAM)

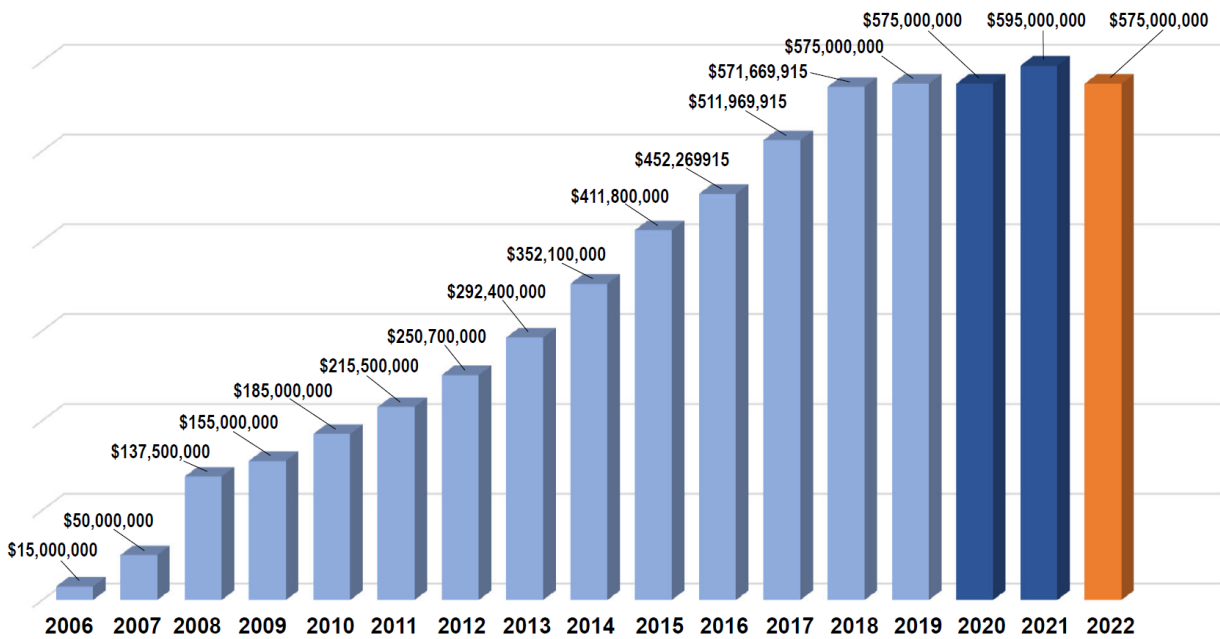
Following construction, US-81 will be included in ODOT's TAM system, built on quality information inputs and disciplined analysis to establish a basis for optimizing expenditures to sustain and improve ODOT's transportation system in an efficient manner.

- In 2016 and 2020, 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. By 2021, the ROADS cap increased to \$595 million.

Illustrated in Figure 4, the commitment since 2006 has built a new annual state commitment of \$575 million in transportation funding. That represents an estimated \$5.3 billion in non-federal revenue commitment during this period. The dark blue bars in 2020 and 2021 depict Covid-19 years, and the increase in 2021 is due to the selling of bonds due to budget shortfalls as described in the text above.

Figure 4 - ODOT Tax Allocations



Source: ODOT Comptroller

5.3 Criterion 3 – Economic Impacts, Freight Movement & Job Creation

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; but, the vital movement of commodities and people on US-81 is impeded by the 8.5-mile-long bottleneck and 90-degree turn chokepoint that the Project will eliminate. 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 (see Outcome 1).

Figure 5 - US-81 Corridor Network



The new facility will provide access to adjacent rural and industrial corridors through construction of six interchanges, as well as two newly constructed grade separated railroad crossings. These interchanges will provide direct access to the western portion of Chickasha that does not exist today. The connectivity from US-81 to these rural and industrial corridors will bring improved access to goods and facilitate economic growth near these interchanges, such as an increase in jobs and construction of new businesses.

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.

State of Oklahoma Economy

- Oklahoma is known for its growing renewable energy production among other industries.
 - 36% of electricity from renewable resources
 - Second in the nation for wind production
 - Provides one-tenth of US total wind production
 - #4 for wheat production in the US
- 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.

5.4 Criterion 4 – Climate Change, Resiliency & the Environment

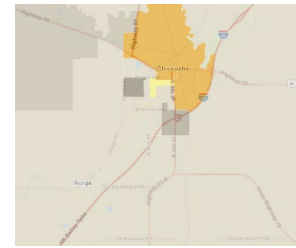
The Project has incorporated climate change and environmental justice (EJ) considerations throughout the planning and design process and will incorporate such considerations in project delivery. While total pollution may not significantly be reduced because of the project, the community of Chickasha, which is considered an APP and HDC, will benefit from reduced air pollutants and noise pollutants in the immediate vicinity as a result of less through traffic.

An EJ Screening shows the Project area encompasses areas of high percentiles (between 80 and 95) for several EJ indexes including ozone, lead paint, NATA diesel PM, NATA respiratory HI, traffic proximity, superfund proximity, Risk Management Plan (RMP) proximity, hazardous waste proximity, and wastewater discharge indicator, shown in the EJ Maps using the EPA EJ Screening and Mapping Tool.⁷ The Project will provide several benefits to surrounding EJ populations, such as:

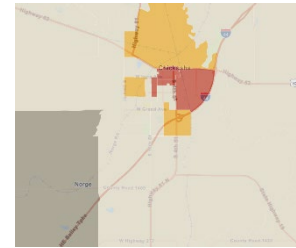
- Safer conditions for multi-modal connectivity
- Separation of through traffic (e.g., freight) and local vehicles
- Improved access to and from the Anadarko area and improved circulation for Chickasha residents
- A more efficient supply chain corridor, thereby supporting the state’s wind energy industry, thereby creating more jobs for the region
- Better disaster preparedness for a region prone to catastrophic weather events

Energy Corridor

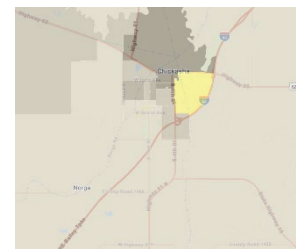
By committing funding to the US-81 realignment, the corridor will gain vital improvements to aid in its continued support for Oklahoma’s renewable energy production. The region is well known for its large wind farms, such as Minco Wind LLC and Redbed Plains. Redbed Plains Wind Farm alone saves more than 176 million gallons of water each year and displaces carbon emissions from fossil fuel power plants, which is a major contributor to climate change. Wind energy also enhances air quality by helping mitigate the health effects



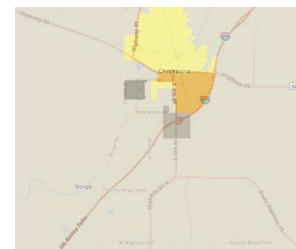
RMP Proximity Count
(State Percentiles)



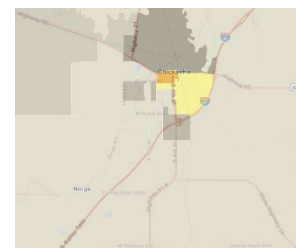
Wastewater Discharge
Indicator (State percentiles)



Ozone
(US Percentiles)



Lead Paint
(State Percentiles)



Traffic Proximity
(State Percentiles)

⁷ EPA’s Environmental Justice Screening and Mapping Tool (Version 2020). Source: <https://ejscreen.epa.gov/mapper/>

of harmful pollutants.⁸ The realignment of the corridor will provide faster and more direct access to windfarms which require OS/OW loads to transport wind turbine components. Additionally, the **US-81 corridor has been nominated as an Alternative Fuel Corridor.**⁹ This will enhance opportunities for drivers to select cleaner vehicles with reliable access to alternate fueling stations. By enhancing this corridor's connectivity, this Project will aid in the opportunity to support the state's environmental goals for use of alternatively fueled vehicles.

Resiliency

The Project assists the state in disaster preparedness and designing for resiliency. This area of Oklahoma is prone to tornadoes and flooding. The US-81 corridor is an alternate route for I-44 and I-35 in the region and utilized for emergency routing when necessary. Traffic was routed to US-81 in 2015 during a major flood event that caused I-35 to close southeast of Chickasha. Traffic was also routed to US-81 as an emergency route due to a tornado that damaged an I-44 bridge. Investment in US-81 will improve the corridor to accommodate traffic impacts and congestion that occur when traffic is diverted to US-81. These enhancements will help create a reliable alternative in the case of extreme weather events, more likely to occur in the future as a result from climate change.

Recycled and Sustainable Materials

Structural steel, which will be utilized for this Project, is a premier green construction material. Its high recycled content and recycling rate exceed those of any other construction material. Over the past three decades, the steel industry has reduced greenhouse gas and overall emissions by 36 percent and increased the water recycling rate of steel production to 95 percent. While numerous legislative and regulatory efforts in recent years have targeted emissions, energy efficiency, and related environmental concerns, the structural steel industry has been proactive in pursuing measures that typically exceed regulatory requirements.¹⁰

⁸ Redbed Plains Wind Farm, Oklahoma. Source: <https://www.edpr.com/north-america/redbed-plains-wind-farm>

⁹ https://www.fhwa.dot.gov/environment/alternative_fuel_corridors/maps/

¹⁰ <https://www.aisc.org/nsba/design-and-estimation-resources/bridge-innovations/>

5.5 Criterion 5 – Equity, Multimodal Options, and Quality of Life

US-81 connects Chickasha to several surrounding communities: El Reno to the north, Marlow and Duncan to the south, and Ninnekah (within the Project area). These surrounding communities have major industries that include health and education, oil and gas, trucking and warehousing, farming, wind energy, and entertainment. The Project aims to improve regional mobility for a historically underserved area, such as better access to job centers, medical centers, churches, food banks, and other resources and opportunities. With the proposed US-81 diversion, city planners will be able to identify new opportunities for land use along the former US-81 alignment.

The Project addresses racial equity through both planning and Project components. The Project’s stakeholder outreach and planning process was focused on ensuring that surrounding tribal population input was sought.

Stakeholder Engagement

[Stakeholder engagement](#) has been an important component during the development and design of the Project. 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, tribal partners, 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** section on the [ODOT US-81 Realignment Grant website](#). ODOT will continue to meet with regional partners and stakeholders throughout the 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.

The [University of Science and Arts of Oklahoma \(USAO\)](#), located in Chickasha, provided key insight about their environmental project farm that would have been impacted by the original alignment. Through coordination with the University, the alignment was shifted to avoid the conflict with the farm. USAO provided a letter of support for this project as part of this application package.

Through development of the latest alignment, the University requested the Project to include an access point for Grand Avenue to provide an exit and direct connection to the University and surrounding businesses. This has also been added to the project.

Quality of Life – Qualitative Improvements

- Improved access for local residents
- Expanded economic development opportunities with new interchanges
- Improved access to jobs, education, and services

At the southern end of the Project, the original proposal was to eliminate access to the east-west 1405 Section Line Road. The businesses located at this removed access were to be purchased and eliminated. However, native and business stakeholder input led the project team to re-establish access and include two twin bridges to carry traffic over 1405 Section Line Road with the inclusion of a frontage road to provide access to Quail Road. The slight modification will help maintain business access to 1405 Road, and ultimately continue to support economic growth for this area.

Project Benefits in the Chickasha Community

The Project will provide several benefits to the EJ populations in Chickasha by removing oversized/overweight (OS/OW) loads traveling through downtown which will create a safer environment for multi-modal connectivity. The Project will assist with temporal changes for better and more appropriate asset utilization and reduce congestion downtown. There will be improved access to the Anadarko area, [which has a local economy driven by agriculture and Native American affairs](#).

Multi-Modal Benefits

The Project helps to mitigate barriers to mobility by diverting heavy truck traffic volumes from downtown to the new alignment. By shifting truck traffic to a less populated area, the quality of life for residents and visitors near the existing route is improved. High volumes of freight and truck traffic are not conducive to Downtown Chickasha and are much better suited for a divided access route. By removing freight and OS/OW loads, the opportunity for road dieting on the existing alignment is more realistic and the downtown Chickasha pedestrian and bicycle environment will be significantly improved.

Hiring from Local Communities

The Project has and will continue to align with the Oklahoma Department of Transportation (ODOT) [Disadvantaged Business Enterprise \(DBE\) program](#). While there is no requirement necessitating local community hiring, the primary businesses that will be affected positively will be earthwork contractors, aggregate suppliers, ready-mix concrete plants, and sod suppliers. It is anticipated that there will be hiring of local personnel and contractors for a wide range of labor categories. ODOT has historically defined projects within eight-mile segments (or smaller) to encourage participation from local, small, and DBE firms.

5.6 Criterion 6 – Innovation Areas

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.

Innovation Area #1: Technology

The Applicant is familiar with the Executive Branch’s emphasis on expanding broadband to rural areas per the [Presidential Executive Order 13821](#). As a continuation of its efforts statewide, ODOT will install fiber and connected vehicle technologies on the proposed realignment.

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.

Innovation Area #2: Project Delivery

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 Rural 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

The partnership and commitment from ODOT and the OTA demonstrate the importance of this Project for Oklahoma. 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. ODOT and its partners are committing \$139.9 million in future eligible non-federal funds (in addition to a previous investment of \$22.1 million).



- ODOT commits to \$125.0 million in local (non-federal) future eligible cost (in addition to a previous investment of \$5.1 million).
- OTA commits to a total private funding commitment of \$31.9 million (\$14.9 million in future eligible Project costs and \$17.0 million from previously incurred eligible Project costs).
- ODOT is requesting \$100,000,000 in Rural Grant funds, 38 percent of the future eligible Project cost.
- The Project boasts an approximate 54 percent local (non-federal) funding share of future eligible Project costs.

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.^{11 12}

OTA has committed to \$14.9M in future financial support to the US-81 Realignment Project.

¹¹ See OTA website: <https://www.pikepass.com/pdf/OTA%20Adopted%20Budget%202020.pdf> page 20.

¹² <http://www.oscn.net/applications/oscn/DeliverDocument.asp?CiteID=89525>

6.0 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 1.61**. A more detailed BCA technical memorandum, as well as the BCA spreadsheet model are uploaded to grants.gov and can also be found on the [ODOT US-81 Realignment Grant website](#). The BCA results are summarized below and in Table 5, expressed in terms of net present value (NPV) and BCR, using a discount rate of seven percent.

Table 5. BCA Summary

Project	US-81 Project
Total Capital Costs (YOE)	\$250,496,353
Total Project Costs (2020\$)	\$194,350,450
Total Net Benefit (2020\$)	\$312,772,304
Benefit Cost Ratio	1.61

- **Total Project Capital Cost: \$250,496,353 (2020\$)**

All costs for the BCA were converted to 2020\$. Total Project costs in year of expenditure equates to \$194,350,450.

- **Operations and Maintenance Costs: \$20,308,615**

Over the course of the Project life cycle (30 years), the Project will save \$23,158,165 in maintenance.

- **Total Project Benefits: \$312,772,304**

Travel time savings produces the largest quantifiable benefit of the US-81 Realignment Project.

7.0 Project Readiness and Environmental Risk

With additional funding from the Rural grant to leverage state and private investment, ODOT commits that **the Project is currently shovel ready and can begin construction upon receipt of Federal Rural Grant dollars, and construction will be complete by Q1 2027**. The sections below provide substantial evidence of the Applicants preparedness.

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. The project team has an extensive history of delivering projects on time and on budget. The recently opened [Kickapoo turnpike in Oklahoma](#) is an example of an expedited schedule and quick construction turnaround. The 21-mile route began construction in January of 2018 and opened to traffic mid-October of 2020.¹³ This is important to note as US-81 is under half of the Kickapoo total route length, which highlights the efficiency that would be associated with the construction of this Project.

¹³ Kickapoo Turnpike. Source: <https://www.drivingforwardok.com/northeast-ok-county-loop>

If ODOT is awarded Rural Grant funding, ODOT will provide schedule incentives for early completion and monitor quality throughout construction in order to ensure the Project achieves the optimal public benefits and meets or exceeds Project schedule and accountability measures (See **Innovation Section**).

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. 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.

7.1 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 90 percent design plans that were complete as of June 2020 and final design completed in 2021. 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. These documents can be found on the [ODOT US-81 Realignment Grant website](#).

7.2 Project Schedule

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

Figure 6 - Project Schedule and Milestones

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	% Complete
Survey	●												100% ✓
Preliminary Engineering	■	■											100% ✓
Environmental Clearance	■	■	■	■									100% ✓
ROW Acquisition			■	■	■								100% ✓
Utility Relocation					■	■	■						100% ✓
90% Design			■	■	■	■							100% ✓
Final Design (100%)						■	■						100% ✓
STIP/TIP Approval							●						100% ✓
Obligate Funds												○	0%
Construction												■	0%
Grading												■	0%
Construct Bridges												■	0%
Construct Roadway												■	0%
Tie In Ramps												■	0%
Construction Completion												○	0%
Project Open to Public												○	0%

7.3 Required Approvals

Environmental Permits and Reviews

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)** was issued on February 3, 2017. 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 and the Project’s FONSI are included in the Reports and Technical Information section on the [ODOT US-81 Realignment Grant website](#).

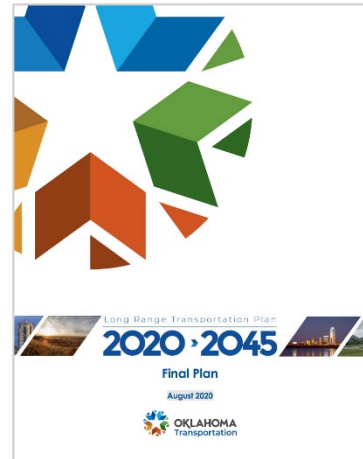
The Environmental Assessment notes that coordination with Federal Aviation Administration (FAA) may be required via FAA Form 7460-1 prior to construction. The Chickasha Municipal Airport is roughly two miles north of the planned realignment. The proposed construction activities will be evaluated regarding 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.

State and Local Approvals and Federal Transportation Requirements Affecting State and Local Planning

The proposed project has received the appropriate approvals and is contained within the appropriate documents described below:

- The Project is consistent with the [2020-2045 Oklahoma Long Range Transportation Plan \(LRTP\)](#) completed in September 2020.

- The [State Transportation Improvement Program \(STIP\)](#) is a financially constrained document and will be amended as the Project progresses. The project included in the STIP is a two-lane realignment. ODOT commits to amend the STIP and any other applicable local planning documents in the event the US-81 Realignment Project is awarded RURAL funding.
- With an accepted Rural award, ODOT will expedite the Project as funding is made available.
- The Project is included in the [Oklahoma Freight Transportation Plan \(2018 – 2022\)](#). 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.
- 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.
- ROW acquisition began at the end 2017 and was completed in mid-2019.
- Utility relocation began in 2018 and was completed in September 2019.
- Final design was completed in late 2021.



Construction on the Project will begin in 2022 and will be completed by the end of 2026 in advance of RURAL 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.

Assessment of Project Risks and Mitigation Strategies

ODOT staff have discussed the Project concept with the Oklahoma Division of FHWA and 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 previous submittals for Federal funding, **all ROW has been secured and ODOT has eliminated that previously identified risk.** Other risks considered are as follows:

Table 6. Project Risks and Mitigation Strategies

Project Risk	Mitigation Strategy	Risk Category
Funding obligations and Cost Overruns	<p>ODOT and local partners have committed sufficient funds to initiate the Project prior to the obligation of funds. Historically, ODOT has met every funding obligation for pervious grant applications. In the unlikely instance that the project incurs cost overruns, contingency funds that have been built into the project will be used. ODOT is prepared to cover additional cost overruns through their program funds. It is important to note that no additional reviews or approvals are needed from State legislature once note of the award has been granted.</p>	Minimal
The Project will require FAA approval	<p>The FAA permit process will ensure that no construction equipment exceeds elevation limitations when located within prescribed distances of an airport, in this case Chickasha Municipal Airport, located just north of the northern terminus of the project. This is a perfunctory check to limit crane heights if applicable.</p>	None
The Project will require USACE 404 permit to begin construction	<p>There are two blue-line mapped streams that are crossed by bridges on this project that will require 404 permit applications, Line Creek and Rock Hollow Creek. Since there are no channel changes, loss of sinuosity of the stream, or notable impacts to these streams due to construction of these bridge structures, the stream crossings will be routine.</p>	Minimal
Weather related events could cause construction delays	<p>The project schedule will include clear communications and documentation regarding rain days, careful management of Project schedule, and early and frequent communication with Project contractors.</p>	Minimal
The Project has an aggressive schedule	<p>The Project is shovel-ready with securing of ROW and the completion of final design plans later this year. ODOT is committing to schedule adherence and will deploy several strategies confirm on-time or ahead of schedule construction and Project completion including incentives for completion of major milestones and disincentives for delay; structure the contract to encourage the use of Accelerated Bridge Construction (ABC) techniques (particularly at the US-81 South and North interchanges and at rail crossings); and organize a dispute resolution team which will provide accelerated resolution to disputes based on a Project specific dispute resolution matrix. With this process strategies in place, ODOT feels confident in committing to the schedule accountability milestones for obligation of funds and construction.</p>	Minimal

Statutory Project Requirements

Table 7. Statutory Selection Requirements

23 U.S.C. 173 Rural	Guidance
(1) The project will generate regional economic, mobility, or safety benefits	Yes; The corridor supports major local economies that produce oil, gas, agriculture, and renewable energy (specifically wind energy). The Project provides connections to historically underserved communities with 6 planned separated grade crossings that will not only reduce travel time but also provide better connectivity to jobs, education and other services.
(2) The project will be cost effective	Yes; RURAL funds provided by this Grant application would allow for construction of the two-lane Project to occur at one time. The BCA provided a BCR value of 1.61 with a total net benefit of \$312,772,304.
(3) The project will contribute to 1 or more of the national goals described under Section 150	Yes; The Project will provide improvements to safety and goods movement with more efficient connections to I-35 and I-40. Safety and congestion are significantly improved in downtown Chickasha because traffic will be diverted to the new alignment. This will improve the quality of life for residents and the downtown community of Chickasha.
(4) The project is based on the results of preliminary engineering	Yes; Activities completed as of submission of the application include: environmental assessments, topographic surveys, metes and bounds surveys, geotechnical investigations, utility engineering, traffic studies, financial plans, revenue estimates, hazardous materials assessments, and engineering estimates of the types and quantities of materials. Final design was completed at the end of 2021.
(5) The project is reasonably expected to begin not later than 18 months after the date of obligation of funds for the project	Yes; ODOT has met every funding obligation in previous grant applications. Final design is complete and the project will begin construction well before the 18 month obligation deadline. No additional reviews or approvals are needed from State legislature once note of the award has been granted.