



SH-74 OVER I-35 BRIDGE IN MCCLAIN CO.

Replacing I-35 Bridge to
Enhance Freight
and Connectivity
in McClain County, OK

*FY 2023 / 2024 BRIDGE
INVESTMENT PROGRAM*

MARCH 19, 2024



OKLAHOMA
Transportation

TABLE OF CONTENTS

- I. BASIC PROJECT INFORMATION 1**
 - Project Description1
 - BIP Goals3
 - Community Impact4
 - Project Location5
 - Lead Applicant6
 - Project Parties6
 - Additional Eligibility Requirements6

- II. NATIONAL BRIDGE INVENTORY DATA7**

- III. PROJECT BUDGET8**

- IV. MERIT CRITERIA 10**
 - Criterion #1: State of Good Repair 10
 - Criterion #2: Safety and Mobility..... 11
 - Criterion #3: Economic Competitiveness
and Opportunity 12
 - Criterion #4: Climate Change, Sustainability, Resiliency,
and the Environment..... 14
 - Criterion #5: Equity and Quality of Life 16
 - Criterion #6: Innovation..... 17

- V. BENEFIT-COST ANALYSIS 18**

- VI. PROJECT READINESS AND ENVIRONMENTAL RISK 19**
 - Technical Feasibility and Technical Competency..... 19
 - Project Schedule 20
 - Required Approvals..... 20
 - Environmental Permits & Reviews..... 20
 - State and Local Approvals..... 21
 - Right of Way (ROW) Acquisition Plan 21
 - Federal Transportation Requirements Affecting State and Local Planning... 21
 - Assessment of Project Risks and Mitigation Strategies..... 22

- VII. ADMINISTRATION PRIORITIES23**

- VIII. DOT PRIORITY SELECTION CONSIDERATIONS.....25**



I. BASIC PROJECT INFORMATION

Project Description

The Oklahoma Department of Transportation (ODOT) is formally requesting a sum of \$6,814,720 from the Bridge Investment Program (BIP) grant initiative for the replacement of the SH-74 Bridge over I-35 in Goldsby, Oklahoma. The replacement of this McClain County bridge, which is currently in poor condition, is vital for the integrity and functionality of the I-35 corridor in Central Oklahoma. The existing bridge is both structurally deficient due to deterioration of the deck and functionally obsolete due to narrow (2-foot wide) shoulders provided for SH-74 on the bridge.

The bridge replacement project will widen the deck to allow for adequate shoulder widths to improve safety across the bridge. The bridge replacement will also raise the structure and increase the pier spacing to increase vertical and horizontal clearances along I-35 and horizontal clearance on SH-74. To date, approximately \$1,151,040 has been spent on Preliminary Design and Right-of-Way / Utilities Relocation on the Goldsby Bridge project.

FIGURE 1: Project Vicinity Map



FIGURE 2: Bridge Comparison—Existing vs Proposed



EXISTING

- Structurally Deficient Bridge
- SH-74: 2-12' lanes with 2' shoulders
 - Functionally obsolete shoulders
- I-35: 2-12' lanes per direction with 8' outside shoulders under bridge
- Bridge piers do not provide adequate horizontal clearance to accommodate a 3rd lane for I-35 or additional ramp length



PROPOSED

- Full Bridge Reconstruction with additional horizontal and vertical clearances for I-35 and SH-74 traffic
- SH-74: 2-12' lanes with 8' shoulders
- I-35: Widened to provide 3-12' mainline lanes and a 4th lane enabling increased acceleration and deceleration for ramps



The section of I-35 in question is slated for expansion, increasing its capacity to three lanes in each direction. I-35 is a major north-south, cross-country interstate highway, stretching from Laredo, TX to Duluth, MN. I-35 is the largest single north-south truck freight corridor in the central United States. The corridor acts as an economic engine for Oklahoma, the Chickasaw Nation, Texas, and the United States, facilitating trade and connectivity between the Oklahoma City area and the Dallas/Fort Worth region. I-35 is on the National Highway Freight Network (NHFN) and is classified as part of the Primary Highway Freight System (PHFS), which consists of a network of highways identified as the most critical highway portions of the U.S. freight transportation system. I-35 has the highest volume truck traffic in the state according to the [Oklahoma State Freight Plan](#).

This section of I-35 is within the central core of the state, carrying high overall traffic volumes and a large percentage of trucks. The 2022 average annual daily traffic (AADT) on I-35 at the Goldsby bridge was over 64,000 vehicles per day (vpd), which is expected to grow to over 100,000 vpd by 2052 ([Oklahoma Transportation – Forward 35](#)). Due to the high traffic volumes and truck traffic, ODOT has prioritized widening I-35 to six lanes (3 lanes in each direction) throughout the central core. The 2022 AADT on the SH-74 Goldsby bridge was 6,600 vpd, which is expected to grow to 10,400 vpd by 2050 ([ODOT Traffic Counts](#)).

Along I-35 in 2022, over 64,000 cars and trucks used this section of I-35 each day. Those drivers will consistently be impacted by decreasing mobility as the years go by. In 2052, daily traffic is expected to exceed 100,000 vehicles per day with 20 percent of traffic consisting of heavy trucks. This information has led ODOT to identify this section in need of immediate improvements to mitigate capacity issues.

BIP Goals Met

The BIP stated goals for this grant program emphasize the importance of safety, efficiency, and reliability of movement, in addition to improving the conditions of bridges, and leveraging non-Federal funding for eligible projects. **The SH-74 Bridge at Goldsby meets all three of the BIP goals** and supports ODOT's emphasis of bridge improvements along the I-35 core corridor.

Improve the Safety, Efficiency, and Reliability of Movement of People and Freight over Bridges

- The replacement of the Goldsby bridge at this location not only improves safety, but also increases capacity, efficiency, and reliability of operational and multimodal needs in the area. As described throughout, the existing bridge does not support the future expansion of I-35. Traffic demand on I-35 is anticipated to increase substantially due to local and regional developments. This increased development will increase traffic volumes in and around the project area.

- By replacing the Goldsby bridge, this project encourages additional and more rapid deployment of other future developments adjacent to the I-35 corridor in central Oklahoma.

Improve the Condition of Bridges

- The Goldsby bridge was built in 1959 at a time when bridges were constructed with a 50-year design life. Currently, the bridge is beyond the intended design life.
- The Goldsby bridge is Structurally Deficient. The deck is rated as poor, the superstructure is rated as fair, and the substructure is rated as satisfactory. The current configuration does not allow for the ultimate 6-lane section of I-35.

Provide Financial Assistance that Leverages and Encourages Non-Federal Contributions.

- Several sources will be used to leverage federal funding support including state fuel tax, state vehicle registration fee, and general sales and use tax.

Community Impact

As a critical north-south corridor, the I-35 Goldby Bridge Project will replace the existing bridges that do not have sufficient traffic capacity to meet current and future demand. The project will provide a safe connection with sufficient capacity and will improve mobility for all users on this core I-35 corridor. Future traffic volumes will far exceed the capacity of the existing bridge. Increased capacity and additional shoulder width will improve the reliability of the structure. The additional lanes and additional shoulder width will also increase the safety of the facility, as it would provide better access for emergency services and allow incidents to be cleared away more quickly.

The I-35 Goldsby Bridge Project is located on one of the largest truck freight corridors in the central United States. The bridge replacement project will enhance the transportation flow of goods, services, and people through the region. The project has a direct effect on the supply chain and on freight delivery due to limited traffic capacity. The economic impact of potential bottlenecks or delays is high and impacts inflation and overall product delivery. Replacing the I-35 Goldsby bridge increases mobility for truck and people movement and improves supply chain logistics.

Project Location

Located approximately 5 miles south of Norman and 12 miles north of Purcell, Goldsby is located along I-35 in predominantly rural, non-urbanized McClain County. The SH-74 Bridge over I-35 (referred to herein as the Goldsby Bridge) is composed of two 12-foot lanes in each direction with 2-foot shoulders. The proposed replacement of the SH-74 Goldsby bridge will feature two 12-foot travel lanes and 8-foot outside shoulders and will align with the ODOT program standards on I-35, allowing for three 12-foot travel lanes and 10-foot inside and outside shoulders both northbound and southbound. This design is structured to accommodate the anticipated future capacity requirements of the core I-35 corridor.

FIGURE 3: Project Location



The project location is not within the bounds of an Area of Persistent Poverty, Historically Disadvantaged Community, or 2020 Census-designated Urbanized Area. However, the bridge is the primary route to a McClain County census tract (4001.02) identified as a Historically Disadvantaged by the Climate & Economic Justice Screening Tool.

Lead Applicant

The Oklahoma Department of Transportation (ODOT) is the lead applicant for the I-35 Goldsby Bridge Project. ODOT routinely receives and expends Federal-aid highway program funds under Title 23, U.S.C. ODOT has a successful history of partnering with other agencies including local governments and tribal nations to complete projects. While ODOT typically oversees the construction of these projects, other entities may contribute funding or be responsible for maintenance of certain elements after construction is complete.

Other Public and Private Parties

In the proposed project for the replacement of the SH-74 Goldsby bridge, ODOT is the primary and sole responsible party. ODOT will oversee and manage all aspects of the project, ensuring compliance with relevant standards and regulations. There are no other public or private entities involved in the delivery of this project.

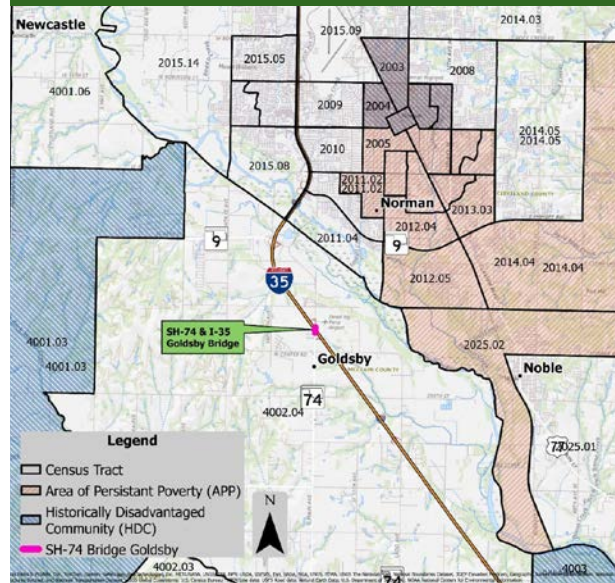
Furthermore, it is important to note that no private or non-private entities will receive a direct and predictable financial benefit from the completion of this project. The project is solely a public infrastructure endeavor, designed to improve transportation efficiency and safety. It does not involve or benefit any specific private corporations or non-public entities. The focus remains entirely on enhancing public infrastructure for the wider community's benefit.

Additional Eligibility Requirements

The existing SH-74 structure does not provide the necessary accommodations for pedestrians or cyclists to safely traverse over I-35. Widening the shoulders on SH-74 from 2 feet to 8 feet in width will enable pedestrians and bicyclists cross the bridge over I-35 without having to use the vehicular lanes.

ODOT is responsible for maintenance for on-system facilities throughout the state, including over 30,000 lane-miles. As such, ODOT has a \$500M 4-Year Asset Preservation plan which is both federally and state funded to address pavement and bridge condition throughout the state.

FIGURE 4: APP/HDC Vicinity Map



II. NATIONAL BRIDGE INVENTORY DATA

The NBI data table and the most recent inspection report are available in the supporting documents. The Goldsby Bridge (NBI 14496) carries SH-74 over I-35 in McClain County, Oklahoma. The structure was built in 1959 and is composed of 4 steel spans (50', 2-83' continuous, 50') at a significant skew. The bridge is considered Structurally Deficient due to the condition of the Deck, which is rated as a 4 (Poor) on the most recent NBI inspection report. The bridge is also considered Functionally Obsolete due to inadequate shoulders (2' wide) along SH-74.

The deck exhibits significant cracking and leaching that is visible from the underside. In particular, the soffit overhang on the outside edges is deteriorated, with visible efflorescence and stains from corroded reinforcing steel. The cracks in the concrete deck have allowed for the infiltration of water and deicing salts, which then have access to the steel girders and substructure. The superstructure of the bridge is rated as 5 (Fair), due to the associated damage to the girders, diaphragms, and bearing assemblies. The girders have been previously patch repaired using bolted and welded cover plates. Drop-in panels have been installed under the spans directly over I-35. These panels are typically used to prevent debris from falling onto live traffic.

The top of the deck has been treated with an asphalt overlay. This overlay hides some of the underlying damage to the concrete deck, but the driving surface itself exhibits some deterioration. The asphalt was installed on top of deck joints at the abutments and piers, and is now showing cracking and pop-outs.



III. PROJECT BUDGET

ODOT is requesting \$6.81M in BIP funding for construction of this critical highway grade-separation bridge (80% of construction costs). Non-Federal funds will be utilized to pay for over \$1.70M of the construction costs (20% of construction costs). The State of Oklahoma is committed to funding the construction and maintenance of infrastructure in Oklahoma. Several sources will be used to leverage federal funding support including state fuel tax, state vehicle registration fee, and general sales and use tax.

The requested BIP funding is entirely for construction costs. No other Federal grant funds will be used for this Project.

TABLE 1: Project Budget

		GOLDSBY BRIDGE	
			Sub-total
PROJECT DEVELOPMENT <small>(Previously Incurred)</small>	Design	\$728,640	\$728,640
	Right of Way & Utilities Relocation	\$422,400	\$422,400
			TOTAL \$1,151,040
	BIP Funds	\$0	\$0
	Other Federal Funds	\$575,520	\$575,520
	Non-Federal Funds	\$575,520	\$575,520
		TOTAL \$1,151,040	
CONSTRUCTION COSTS	Construction	\$7,040,000	\$7,040,000
	E&C	\$422,400	\$422,400
	Contingency	\$1,056,000	\$1,056,000
			TOTAL \$8,518,400
	BIP Funds	\$6,814,720	\$6,814,720
	Other Federal Funds	\$0	0
	Non-Federal Funds	\$1,703,680	\$1,703,680
		TOTAL \$8,518,400	

REPLACING I-35 BRIDGE TO ENHANCE FREIGHT AND CONNECTIVITY

FY 2023 / 2024 BRIDGE INVESTMENT PROGRAM

Previously incurred (project development) costs for the Goldsby Bridge total over \$1.1M. This includes design and environmental permitting costs. All environmental reviews and permitting will be complete prior to obligation of any BIP funds; current environmental clearance is expected to be received by the end of 2024.

The table below shows a detailed breakdown of funding for the Goldsby Bridge.

A contingency of 15 percent is included in the estimate, as the construction cost estimate is based on preliminary design. This contingency allows for inflation and future labor and supply chain-driven cost increases.

The BIP grant funding will expedite construction of the SH-74 bridge over I-35 by an estimated 3 to 5 years, saving a significant amount on major bridge rehabilitation that would be needed without the grant funding. The reconstruction of this bridge will open up additional space to expand I-35 to six lanes, which has been established as a key ODOT program funding priority to meet continuously increasing traffic demands on I-35. The additional space will also enable significant safety improvements to the SH-74 interchange area by allowing for longer acceleration and deceleration lanes to meet criteria for the I-35 southbound exit and northbound entrance ramps.



IV: MERIT CRITERIA

Criterion #1: State of Good Repair

Currently, the SH-74 Goldsby bridge has less than desired vertical/horizontal clearances. SH-74 has only 28 feet of width from curb to curb at the bridge. I-35 under SH-74 has 16.08 ft of vertical clearance and 10 feet and 13.75 feet of right and left horizontal clearance, respectively.

The 2022 average annual daily traffic (AADT) on I-35 at the Goldsby bridge was over 64,000 vehicles per day (vpd), which is expected to grow to over 100,000 vpd by 2052 ([Oklahoma Transportation – Forward 35](#)). Due to the high traffic volumes and truck traffic, ODOT has prioritized widening I-35 to six lanes (3 lanes in each direction) throughout the central core. The 2022 AADT on the SH-74 Goldsby bridge was 6,600 vpd, which is expected to grow to 10,400 vpd by 2050 ([ODOT Traffic Counts](#)).

I-35 NB and SB provide two 12-foot lanes in each direction with 4-foot inside shoulders and 10-foot outside shoulders. Improvements are needed to provide adequate traffic capacity and to improve roadside safety conditions. ODOT has prioritized widening I-35 in the core area to three lanes in each direction, with 10-foot wide minimum inside and outside shoulders. The replacement of the Goldsby bridge will meet a critical long-term ODOT programming priority with additional lanes and shoulder width, and it will enable I-35 to meet future capacity demands.

The Goldsby bridge was originally constructed in 1959 at a time when bridges were constructed with a 50-year design life. The volume of freight traffic and oversized loads could not have been anticipated during the initial design of the bridge. The bridge is now beyond its intended design life. The bridge replacement project upgrades the vertical and horizontal clearances to current design standards. The replacement of the bridge not only improves safety, but also increases capacity, efficiency, and reliability of operational and multimodal needs in the project area.

The SH-74 bridge was constructed prior to today's modern construction advancements and larger truck sizes. The proposed design will eliminate vulnerable features of the current bridge, such as inadequate vertical clearance and other aspects of the existing design that need attention.

The Goldsby bridge deck is rated as "Poor", the superstructure is rated as "Fair", and the substructure is rated as "Satisfactory" on the most recent NBI inspection report. These ratings flag this bridge as Structurally Deficient under national bridge rating criteria. The deck of the Goldsby bridge is in such a condition that there is sheet metal in place to keep the deck material from falling onto I-35 underneath. Further, the current configuration does not allow for the ultimate 6-lane section of I-35. By replacing the existing bridge structure, another structurally deficient bridge will be removed from the National Inventory.





Based on the condition forecast tool on FHWA’s Long-Term Bridge Performance (LTBP) Portal, the superstructure is at risk of falling into the “Poor” condition in year 2024. The substructure is in better condition and is not projected to fall into “poor” condition until 2049. The no build condition requires \$8,388 annually versus \$9,675 annually for the build condition. The no build condition requires maintenance amounts of \$83,879 and \$629,090 every 10 and 20 years, respectively. The build condition requires \$96,750 in maintenance costs every 15 years. Over the next 20 years, the no build condition requires a total of \$335,514 for maintenance costs versus \$290,250 for maintenance costs for the build condition.

Criterion #2: Safety and Mobility

The Goldsby bridge over I-35 had one crash reported over a 5-year period from 2017 to 2021. A vehicle sideswiped the bridge. It was not an injury crash and resulted in property damage only. The Town of Goldsby is considered ‘Transportation Insecure’ by the USDOT’s Equitable Transportation Community (ETC) Explorer Tool. Ranking in the 84th and 85th percentiles respectively, Goldsby is considered disadvantaged for two sub-criteria: ‘Transportation Access’ and ‘Transportation Safety’. The new bridge will provide wider shoulders, increasing from 2 feet to 8 feet. This will provide a safety benefit by allowing greater clear zone for vehicles to recover and correct before having a collision. The number of crashes is expected to decrease by 29% according to the Federal Highway Administration (FHWA) Crash Modification Factor (CMF) Clearinghouse (CMF #5285).

The installation of new bridge structures will increase the existing 16’-1” vertical clearance to a minimum vertical clearance of 17’-6. The additional vertical clearance will better accommodate tall trucks and decrease the risk of a truck collision with the bridge itself. Additional horizontal clearance is provided as well, increasing the width from the edge of lane to edge of bridge pier

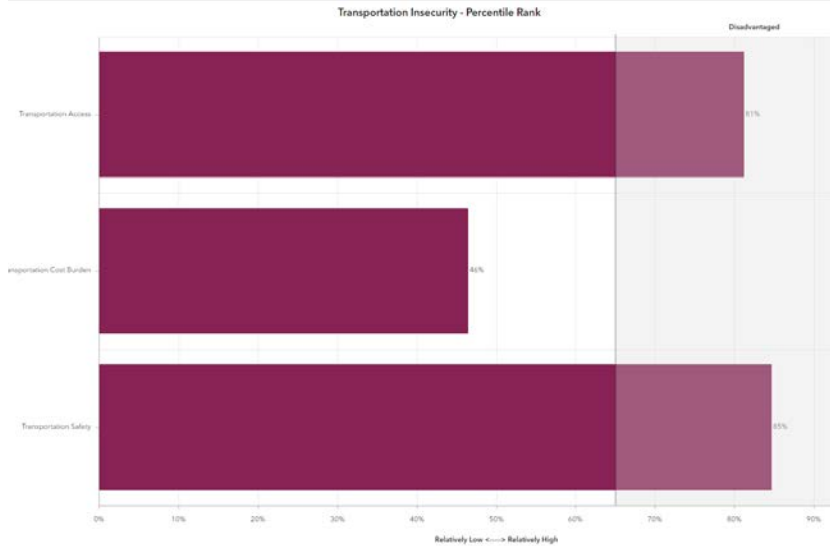


protection, especially for large and/or over-sized trucks. The additional horizontal clearance will allow for the widening of I-35 which will help alleviate traffic congestion on I-35. The widening will reduce crashes as compared to heavy peak period congestion on existing I-35.

Rear-end crashes and sideswipe crashes are well-correlated with traffic congestion. The I-35 widening enabled by the completion of this project will help alleviate much of this traffic congestion and should also cut down on crashes directly attributable to interstate congestion.

The new bridges will provide a wider inside shoulder on I-35, increasing from 3 to 10 feet, which will provide a safety benefit by allowing greater clear zone for vehicles to recover and correct their vehicles to potentially avoid a collision after departing the lane. The additional inside and outside shoulder widths will enable stalled or crashed vehicles to clear the thru lanes. The number of crashes is expected to decrease by more than 2% according to the Federal Highway Administration (FHWA) Crash Modification Factor (CMF) Clearinghouse (CMF #4231).

FIGURE 5: Transportation Insecurity—McClain Co.

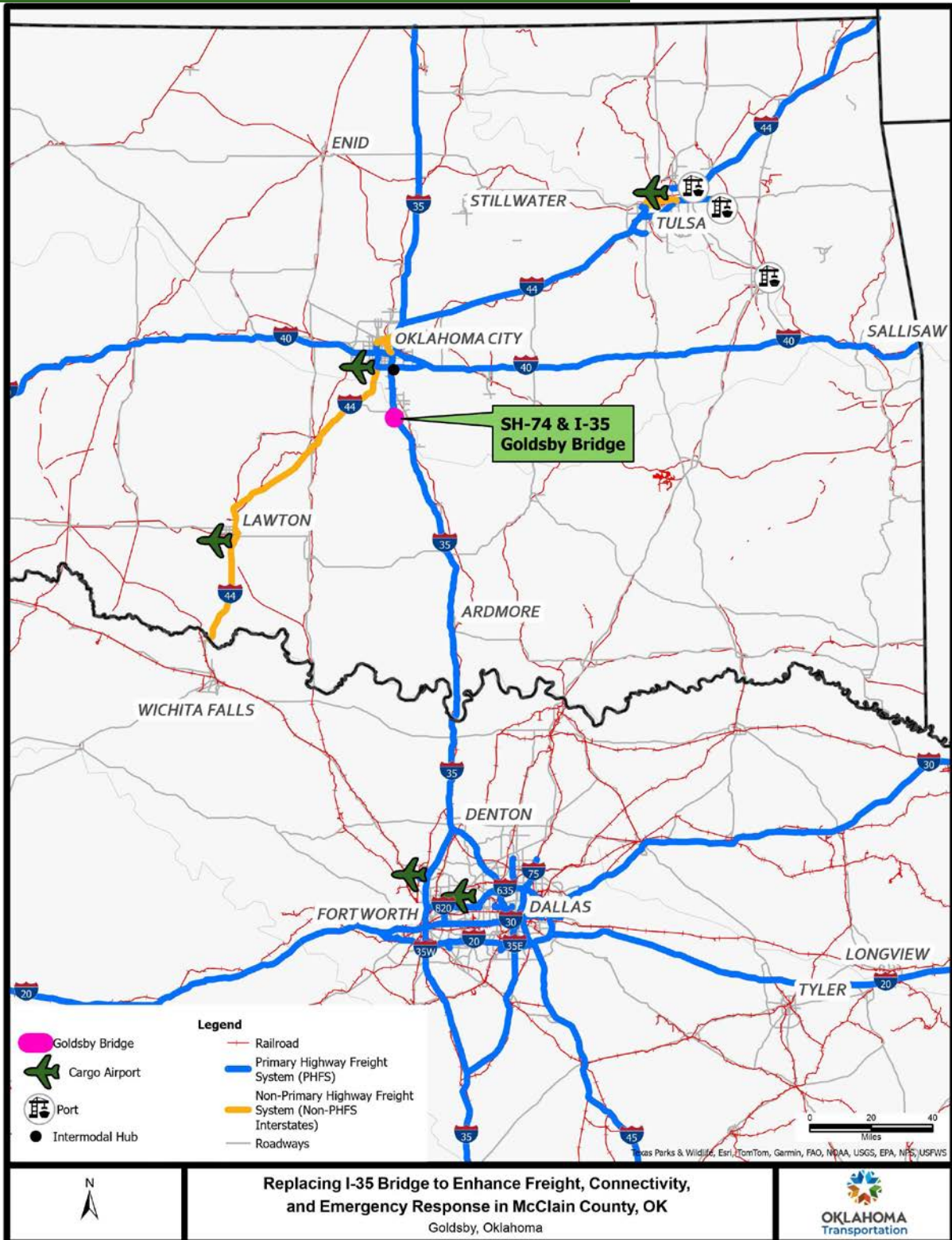


Source: experience.arcgis.com/experience/0920984aa80a4362b8778d779b090723/page/ETC-Explorer---National-Results/

Criterion #3: Economic Competitiveness and Opportunity

I-35 is the highest traffic north-south truck freight corridor in the central United States. It traverses six states and is on the NHS and NHFN. Furthermore, the Oklahoma State Freight Plan identifies I-35 as a Primary Highway Freight System (PHFS). In Oklahoma City, I-35 intersects two other major east-west freight corridors, I-40 and I-44, and is the backbone to major economies because of the transportation flow of goods, services, and people. The corridor provides critical transportation outlets for intercontinental goods movement, linking west and east ports to major urban centers throughout the United States, Mexico, and Canada.

FIGURE 6: Regional Multimodal Freight Map



The Goldsby Bridge Project is one potential bottleneck area in Oklahoma which has a direct effect on the supply chain and on freight delivery due to limited traffic capacity. The economic impact of potential bottlenecks or delays is high and impacts inflation and overall product delivery. Replacing the Goldsby bridge will increase mobility for truck and people movement and improves supply chain logistics.

McClain County is one of the two fastest growing counties in Oklahoma – having grown 31% over its 2010 population in just the past 12 years. As the overall population and additional opportunities for employment grow in the greater Oklahoma City metropolitan area and around Norman, the number of McClain County residents relying on I-35 has continued to grow as well. Many McClain County residents rely on I-35 to get to work and key shopping destinations to meet their basic needs. The I-35 Goldsby Bridge Project will provide increased connectivity for multiple destinations in the region by allowing for increased capacity for through traffic on northbound and southbound I-35 and SH-74. I-35 provides access to important cities in the state of Oklahoma, including Ardmore, Pauls Valley, Purcell, Norman, Moore, Oklahoma City, and Edmond. Oklahoma City and Norman, located just north of Goldsby, have many employers, educational institutions, retail centers and leisure activities, which contribute to the high traffic volumes in the central core area.

Through the utilization of BIP funds, ODOT strives to support the creation of high-quality job opportunities for Oklahomans. The State of Oklahoma currently has 193 registered apprenticeship programs, overseen by the US Department of Labor, which are pivotal to enhancing workforce skills, particularly in key sectors like transportation. ODOT is exploring leverage the state's workforce development initiatives, particularly in utilizing existing apprenticeship programs and contributing to local economic growth thorough job creation and infrastructure improvement. To train and place workers from underrepresented populations, ODOT has launched a Small Enterprise Training (SET) Program to facilitate increased participation in construction contracting opportunities by Oklahoma's small businesses. SET will offer free training to Oklahoma-based companies that meet National Small Business Administration (SBA) size guidelines and are actively pursuing ODOT contracting opportunities. SET's goal is to assist certified DBE's, DBEs, and other small businesses currently involved in or interested in expanding their operations, in the road construction industry. These workshops will help to increase the participants' business expertise and their capacity to acquire and perform contracts both in the public and private sectors. The training program will include technical subjects such as bidding and estimating costs in addition to business skills like networking and using social media as an outreach tool.

Through the DBE Supportive Services Program, ODOT is increasing efforts to improve the viability of existing firms by offering tailored assessments, specific training and technical assistance. Related activities include recruitment of DBE firms with concentration on underutilized minority groups and underutilized areas of work, aiding in business development, increasing contract



success opportunities, and improving overall DBE performance. ODOT will target recruiting efforts toward areas of subcontracting previously underrepresented by the existing DBE population such as bridge repair and painting. By increasing the pool of certified DBEs in areas of work not currently performed by DBEs, ODOT forecasts that the availability of DBEs for subcontracting will increase. ODOT has training facilities across the state that will provide workers the opportunities for necessary pre-employment training. The main training center is centrally located in Oklahoma City and trainings are also provided at each district office. This effort will help reduce barriers to entry for employees across the state.

Lastly, As documented in the 2023 ODOT DBE Manual, ODOT has instituted equity-focused policies related to project procurement and construction to ensure equity in the overall project delivery and implementation. The mission of ODOT's Contract Compliance Division (CCD) is to ensure equal employment opportunity within ODOT, to level the playing field for DBE by providing full and meaningful participation opportunities in ODOT's federally funded highway projects and to plan, implement and provide guidance to prevent discrimination in federal aid programs and activities. ODOT CCD implements and oversees the ODOT DBE Program and the Unified Certification Program for USDOT funded recipients, assuring compliance with 49 CFR Part 26. Both consultants and construction contractors are required to meet the stated DBE commitments. ODOT CCD conducts reviews of contractors and subcontractors at any time to ensure compliance.

The existing bridge at Goldsby does not have sufficient capacity to accommodate the anticipated traffic demand. The adjacent communities of Norman, and the southern Oklahoma City metro area have many industrial manufacturing sites with a significant employment base and large distribution centers. These locations and job opportunities provide a good living wage for residents looking for long-term employment. Growth in these areas will continue to contribute to increased traffic volumes and further support the need for the I-35 expansion.

Furthermore, without necessary improvements, the Oklahoma Department of Transportation (ODOT) will be compelled to implement progressively stringent measures to maintain the bridge's operational status and safety. Such measures are expected to incur significant costs and will not effectively resolve the documented safety concerns. Additionally, as detailed in the Benefit-Cost Analysis, the No-Build Scenario would necessitate a closure of the bridge for essential deck repairs in 2045. This would lead to traffic diversion on SH-74 and an escalation in travel-related expenses along I-35.

Criterion #4: Climate Change, Sustainability, Resiliency, and the Environment

The Project addresses climate change through the reduction of emissions from motor vehicles and by providing facilities for bicycles and pedestrians that do not exist today. The ETC Explorer

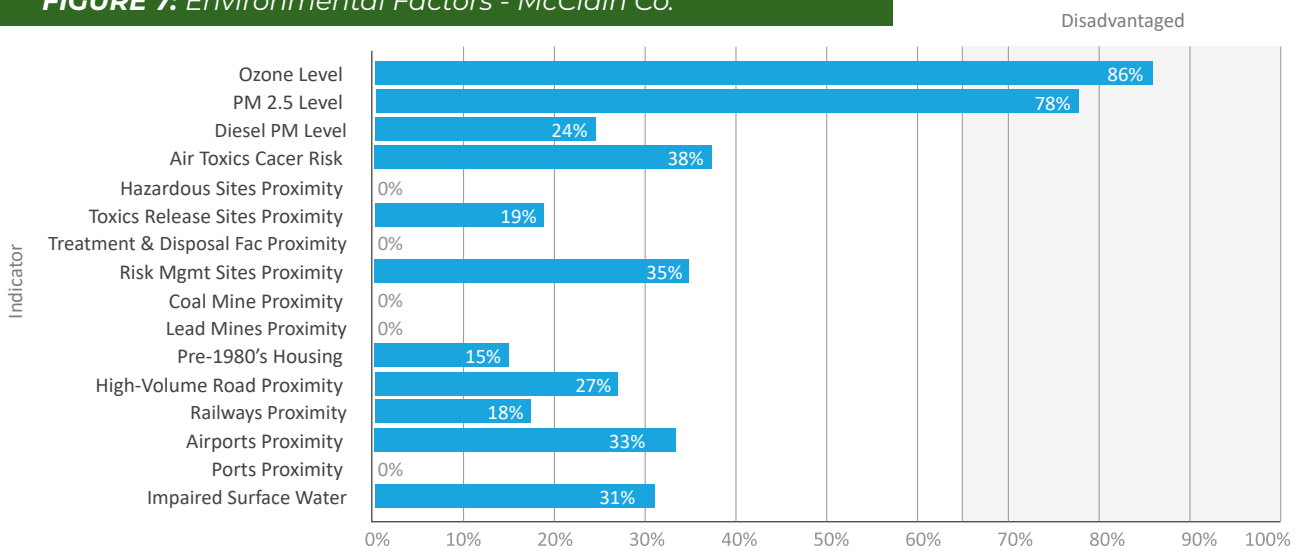


REPLACING I-35 BRIDGE TO ENHANCE FREIGHT AND CONNECTIVITY

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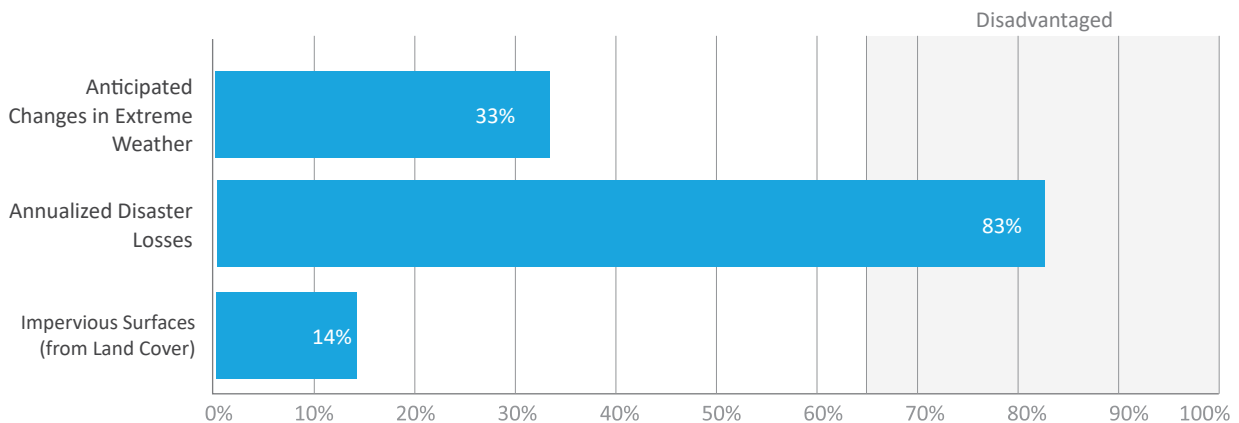
tool notes McClain County being environmentally burdened and considered disadvantaged for Ozone and PM 2.5. With traffic volumes are projected to grow significantly by 2050, if there are no improvements to the Goldsby bridge, traffic operations will worsen to LOS F. These stop and go conditions will increase air pollution as vehicles spend more time idling. The new bridge will bring air quality improvements to McClain County and offer safer pedestrian and cyclists accommodations in the area that promote healthier, active travel. Replacement of the project bridge will also allow for much needed I-35 capacity improvements reducing transportation inefficiencies on I-35 that exacerbate air quality related environmental burdens.

FIGURE 7: Environmental Factors - McClain Co.



Source: experience.arcgis.com/experience/0920984aa80a4362b8778d779b090723/page/ETC-Explorer---National-Results/

FIGURE 8: Climate & Disaster Risk Burden—McClain Co.



Source: experience.arcgis.com/experience/0920984aa80a4362b8778d779b090723/page/ETC-Explorer---National-Results/

According to the ODOT 2045 Long Range Transportation Plan, Oklahoma has experienced a significant increase in the risk of seismic activity since 2009, in addition to severe weather-related events. Some areas in Oklahoma have higher chances of experiencing seismic events and damaging shaking. This is consistent with the ETC Tool identifying Goldsby as ‘disadvantaged’ (83rd percentile) for Annualized Disaster Losses.

To aid in the state’s resiliency efforts, the project bridge is to be designed in accordance with the latest AASHTO Specifications for Bridge Design. Modern design specifications rely on regional seismic and wind distribution maps to provide site-specific data to help engineers design structures with local design conditions in mind. This adherence to updated standards will ensure that the bridge is better equipped to withstand extreme events. By incorporating these advanced design requirements, the new structure will not only meet current engineering standards but also help to provide a robust and secure solution to address future environmental challenges and safety concerns.

Criterion #5: Equity and Quality of Life

The Goldsby Bridge Project will improve the quality of life for local, regional, and national users. As a vital north-south corridor, the new bridge will provide a safe viable mode that can provide sufficient capacity for current and future demand and will improve mobility for all users. Future traffic volumes of over 100,000 vpd far exceed the capacity of the existing 4-lane facility. The increased capacity of the new bridge will improve reliability, congestion, and traffic flow, as well as the new design of 3 lanes and 10 ft shoulders will provide a safer roadway and more space for emergency services to complete incident management.

From the beginning of the Project, ODOT has engaged multiple partners and stakeholders for planning and public involvement. These included the town of Goldsby, McClain County, Federal Highway Administration (FHWA), ACOG, and public citizens. The planning for the bridge project included outreach to community organizations, residents, and business leaders in the surrounding areas to talk about the project, review alternatives, and discuss the advantages and disadvantages of the project.

McClain County has four Census Tracts (4002.01, 4002.02, 4003, and 4003) that are classified as Historically Disadvantaged and/ or an Area of Persistent Poverty according to the USDOT mapping tool. The project will benefit these areas not only by increasing capacity and flow of traffic in the region to jobs, services, training, and other essential needs, but also the project will increase access to the transportation network for these populations.

The current SH-74 structure fails to offer adequate facilities for pedestrians and cyclists to safely cross over I-35. By expanding the shoulders on SH-74 from their existing 2 feet to a width of 8 feet, it will be possible to provide a dedicated space for pedestrians and bicyclists. This enhancement will allow them to traverse the bridge over I-35 without the need to utilize the vehicular lanes, thereby enhancing safety for all bridge users including pedestrians and bicyclists.



Criterion #6: Innovation

ODOT is constantly working to improve current processes and increase efficiency for construction and safety. Utilizing new technology and improved construction practices are significant factors in making these improvements.

Intelligent transportation systems (ITS) will be utilized during construction and will include elements like dynamic messaging signs that can be connected to communications infrastructure. The messaging sign will communicate with drivers and provide alerts due to incidents, congestion, or special roadway conditions. Cameras will also be provided with the signage to help monitor traffic through the construction area.

ODOT is committed to exploring Accelerated Bridge Construction (ABC) techniques, which combine innovative planning, materials, designs, and construction methods to reduce construction-related impacts, thereby minimizing overall construction completion times. By utilizing ABC methods, such as design using prefabricated materials (such as pre-cast deck panels), or allowing the use of stay-in-place forms, the construction process for the project may be streamlined, reducing on-site construction requirements. ABC is critically important for minimizing congestion and traffic delays along the I-35 corridor throughout construction.

3D digital project plans will be required by ODOT for these project components in order to expedite project construction and minimize errors and issues encountered during the construction process. The 3D digital plans will be provided to the contractor, including the existing ground and proposed digital 3D surfaces. Contractors can utilize state-of-the-art GPS controlled automated equipment throughout construction. This greatly reduces human error when establishing grades and elevations and increases efficiency for the entire earthwork portion of construction.

ODOT has directed the design of this project to limit right-of-way (R/W) and utility impacts, which simplifies the NEPA process to expedite environmental studies and permitting. ODOT has been systematically evaluating the entire 125-mile I-35 corridor in the south half of the state to determine where it makes sense to widen to the inside, to the outside, or a mixture of both. Interstate-over bridges, side-road over bridges, overall cost effectiveness, existing median widths and conditions, outside clear zone conditions, right-of-way constraints, environmental constraints, and utility issues are all part of these vital, holistic interstate widening decisions. These decisions then filter into the final design phase of the project as development work proceeds toward construction.

Other innovative construction techniques that will be utilized for this project include warm mix asphalt construction considerations, workzone management, and Traffic Incident Management Strategies into the construction documents. This will reduce workzone delays and secondary crashes.



V: BENEFIT-COST ANALYSIS

A Benefit-Cost Analysis (BCA) has been completed for this Bridge Investment Program (BIP) Grant application. All monetary values in the BCA, including costs, are expressed in constant 2022 dollars. The general parameters and assumptions used in the BCA can be found in the BCA Technical Memo.

The BCA model used aligns with USDOT’s methodology outlined in the [Benefit-Cost Analysis Guidance for Discretionary Grant Programs](#), conducting a 20-year operational evaluation for the bridge. Detailed data and calculations are available in the accompanying BCA model and narrative, utilizing the [Bridge Investment Program Benefit-Cost Analysis Tool](#) v.1.0.4 and its corresponding User Manual.

The project anticipates generating **\$66,353,103** in discounted benefits against **\$10,409,552** in discounted capital costs, with a 3.1 percent real discount rate, resulting in a commendable **Benefit/Cost Ratio of 6.37**. ODOT seeks \$6,814,720 in BIP funding to support this initiative. Results are summarized in **Table 2**.

In addition to quantifiable benefits, the project will also deliver qualitative benefits such as improved travel time reliability and emergency service response. The expected decrease in travel times will facilitate smoother vehicle flow, benefiting both personal and commercial travel across I-35 and SH-74.

TABLE 2: SUMMARY OF BCA OUTCOMES, MILLIONS OF DOLLARS IN 2022

Category	Goldsby Bridge (NBI: 14496) Benefits	Percent of Total Benefits
Safety	\$6,772	0.01%
Travel Time	\$31,389,212	47.31%
VOC	\$25,239,214	38.04%
CO2 Emissions	\$6,204,354	9.35%
Non-CO2 Emissions	\$689,050	1.04%
Other Environmental	\$28,594	0.04%
Maintenance	\$45,538	0.07%
Residual Value	\$2,750,369	4.15%
Total Benefits	\$66,353,103	100%
Total Discounted Costs	\$10,409,552	
BCR	6.37	
Net Present Value (NPV)	\$55,943,551	



VI. PROJECT READINESS AND ENVIRONMENTAL RISK

Technical Feasibility and Technical Capacity

The Oklahoma Department of Transportation maintains a Title VI Implementation Plan in accordance with the Civil Rights Act of 1964 and FHWA guidelines. This plan includes active steps that ODOT takes to ensure equitable treatment and participation, as well as procedures for filing a complaint and reviewing complaints. ODOT’s Civil Rights Division administers and oversees the department’s Title VI, ADA, DBE, and Contractor Compliance programs.

The project is subject to ODOT design and construction specifications, and the design is required to comply with ODOT’s Roadway Design Manual, Drainage Manual, and other standards. The ODOT team will work with the local community to ensure any concerns are documented and evaluated during the design process to mitigate any negative impacts that are discovered.

The ODOT project management team are familiar with the risk management guidance published by FHWA and have followed those guidelines and best practices for The Project. Cost estimate reviews have been coordinated with FHWA, ODOT, and the consultant team for the project with the most up-to-date information to identify and manage potential risks for the project. Cost estimate contingencies, appropriate for the relative level of design completion, have been included since the beginning of the project’s design.

Project Schedule

As shown below, construction is expected to begin in the fourth quarter of 2026, shortly after obligation of funds. ODOT is working towards ensuring timely obligation of funds for the BIP Grant ahead of the USDOT statutory deadline. The schedule shows the start and completion dates for design, environmental approvals, right-of-way acquisition, utility relocations, and construction.

Preliminary engineering, environmental, and right-of-way acquisition and utility relocation has already begun on the project. Preliminary engineering and environmental is projected to be completed by the third quarter of calendar year 2024. It is estimated that Plans, Specifications, and Estimates (PS&E) will be completed in the first quarter of calendar year 2026. The project schedule confirms that the BIP funds would be able to be obligated in advance of the FY 2023 September 30, 2026 deadline and expended well in advance of the September 30, 2031 deadline.



The Oklahoma Pollution Discharge Elimination System (NPDES) requirements for discharges to surface waters. The contractor will obtain the OKR10 permit for Construction Stormwater and prepare any needed Stormwater Pollution Prevention Plan (SWPPP) prior to construction.

Right-of-Way Acquisition Plan

Right of way acquisition will be limited to the minimum amount of property required to construct the Goldsby Bridge project. Given that the proposed project is more expansive than what exists today, some right-of-way acquisition is anticipated. All acquisitions will be completed in a timely manner in accordance with 49 CFR part 24, 23 CFR part 710, ODOT Acquisition Branch Index of Procedures, and other applicable requirements. Acquisition will not involve any structures and will not require any relocations. In most cases the acquisition will consist of a small amount of property from large agricultural parcels which will cause little to no community disruption and will not affect community cohesion. Given the small number of affected landowners, right-of-way acquisition is anticipated to be complete within three months.

Federal Transportation Requirements Affecting State and Local Planning

Elements of this project have been included in the 2022-2025 STIP. This includes the ROW and UT projects. The construction project is currently outside of the window of the current and proposed new STIP (2024-2027), but will be brought in as needed. This project is outside of the ACOG TMA and does not need to be included in the ACOG TIP.

ODOT will coordinate project design and management upon BIP grant award and will advance this project in the ODOT 8-year work plan and add it to the Statewide TIP. ODOT is in close coordination with McClain County and the Town of Goldsby regarding this critical bridge project, even though no relevant local planning approvals are required to move the project forward.

Assessment of Project Risks and Mitigation Strategies

During early planning stages ODOT worked with engineering and design consultants to assess uncertainties and project risks associated with the project and develop potential avenues for mitigation in order to ensure effective and efficient use of funding and timely completion of construction. A Risk Assessment matrix, below, was utilized to identify economic conditions and construction markets as the greatest risk to the project. Recommended mitigation tactics, including bidder attraction practices, are identified below.

FIGURE 10: Risk Mitigation Strategies

RISK	RISK LEVEL (1 LOW – 5 HIGH)	MITIGATION STRATEGY
Procurement Delays	3	Manage design and clearance and permitting processes concurrently to reduce time from award to bidding.
Economic Conditions/ Construction Market Price Drivers	4	Increase reach of RFPs and bid sourcing to wider, regional area to encourage competition.
Real Estate Acquisition Costs	2	Necessary Acquisitions are projected to be minimal; communication and engagement with property owners may mitigate potential increases.
Environmental Uncertainties	2	Schedules for clearance and permitting were developed to reflect the most recent review timelines for similar regional projects.

VII. ADMINISTRATION PRIORITIES

The Goldsby bridge project aligns seamlessly with the DOT administration priorities and departmental strategic plan. These critical infrastructure assets play a pivotal role in facilitating regional connectivity and promoting economic growth. As part of ODOT’s commitment to enhancing transportation networks, this grant empowers us to address the structural deficiencies of the Goldsby bridge, ensuring the safety and efficiency of the I-35 vital transportation corridor.

One of ODOT’s priorities is to invest in sustainable and resilient infrastructure that withstands the test of time and contributes to the overall well-being of our Oklahoma communities. The proposed improvements to the Goldsby bridge encompasses state-of-the-art engineering solutions, aimed at increasing capacity, lifespan and reducing maintenance costs. By securing this grant, we align with the DOT vision for a robust, modern, and reliable transportation system.

The Bridge Improvement Program grant will directly contribute to achieving USDOT departmental strategic goals. The enhanced structural integrity of the Goldsby bridge will not only elevate safety standards but also optimize traffic flow, addressing congestion and minimizing disruptions for freight and commuters. In securing this grant, we are not just repairing bridges; we are investing in the future prosperity and sustainability of our communities.

Through the utilization of BIP funds, ODOT strives to support the creation of high-quality job opportunities for Oklahomans. The State of Oklahoma currently has 193 registered apprenticeship programs, overseen by the US Department of Labor, which are pivotal to enhancing workforce skills, particularly in key sectors like transportation. ODOT is exploring leverage the state's workforce development initiatives, particularly in utilizing existing apprenticeship programs and contributing to local economic growth thorough job creation and infrastructure improvement. To train and place workers from underrepresented populations, ODOT has launched a Small Enterprise Training (SET) Program to facilitate increased participation in construction contracting opportunities by Oklahoma's small businesses. SET will offer free training to Oklahoma-based companies that meet National Small Business Administration (SBA) size guidelines and are actively pursuing ODOT contracting opportunities. SET's goal is to assist certified DBE's, DBEs, and other small businesses currently involved in or interested in expanding their operations, in the road construction industry. These workshops will help to increase the participants' business expertise and their capacity to acquire and perform contracts both in the public and private sectors. The training program will include technical subjects such as bidding and estimating costs in addition to business skills like networking and using social media as an outreach tool.

Through the DBE Supportive Services Program, ODOT is increasing efforts to improve the viability of existing firms by offering tailored assessments, specific training and technical assistance. Related activities include recruitment of DBE firms with concentration on underutilized minority groups and underutilized areas of work, aiding in business development, increasing contract success opportunities, and improving overall DBE performance. ODOT will target recruiting efforts toward areas of subcontracting previously underrepresented by the existing DBE population such as bridge repair and painting. By increasing the pool of certified DBEs in areas of work not currently performed by DBEs, ODOT forecasts that the availability of DBEs for subcontracting will increase. ODOT has training facilities across the state that will provide workers the opportunities for necessary pre-employment training. The main training center is centrally located in Oklahoma City and trainings are also provided at each district office. This effort will help reduce barriers to entry for employees across the state.

Lastly, As documented in the 2023 ODOT DBE Manual, ODOT has instituted equity-focused policies related to project procurement and construction to ensure equity in the overall project delivery and implementation. The mission of ODOT's Contract Compliance Division (CCD) is to ensure equal employment opportunity within ODOT, to level the playing field for DBE by providing full and meaningful participation opportunities in ODOT's federally funded highway projects and to plan, implement and provide guidance to prevent discrimination in federal aid programs and activities. ODOT CCD implements and oversees the ODOT DBE Program and the Unified Certification Program for USDOT funded recipients, assuring compliance with 49 CFR Part 26. Both consultants and construction contractors are required to meet the stated DBE commitments. ODOT CCD conducts reviews of contractors and subcontractors at any time to ensure compliance.



VIII. DOT PRIORITY SELECTION CONSIDERATIONS

The Goldsby Bridge Project supports DOT Priority Considerations. The project meets all three areas of BIP goals and supports ODOT’s emphasis on the I-35 core corridor bridge improvements project. The SH-74 bridge deck is currently in poor condition with additional structural elements at risk of falling into poor condition over the next 3 years. With a construction year of 1959, the design did not anticipate for the traffic volumes or truck loads currently traversing over and underneath the structure. Furthermore, the outdated design is increasing overall O&M costs.

Without BIP funding, the project may not move forward toward reconstruction. Significant bridge rehabilitation efforts will be required in the next 20 years to keep the bridge serviceable, including a complete redecking of the bridge at a minimum.

With environmental review scheduled to be completed in the third quarter of 2024, the project will readily advance to the next stage of project development (PS&E) within 12 months of the environmental phase.

