

FY 2022 Bridge Investment Program (BIP) Bridge Projects

Application Template

This FY 2022 BIP Application Template is provided to assist project sponsors who intend to apply for a Bridge Project FY 2022 BIP grant. Interested eligible applicants should read the FY 2022 BIP Notice of Funding Opportunity (NOFO) in its entirety and especially where noted in this application template to submit eligible and competitive applications.

Basic Project Information

Provide a narrative for the below items on basic details pertinent to the project, including project name, description, location, involved parties, etc. Items in this section will be used to determine grant program eligibility as detailed in Section C of the NOFO.

Project Name	Replacing I-35 Bridges to Enhance Freight, Multimodal Connectivity & Mobility in the American Heartland
---------------------	--

Eligibility Criteria

Project Description (Replacement, Rehabilitation, Preservation, or Protection projects, including bridge bundling and NBIS culvert replacement and rehabilitation)	<p>The Oklahoma Department of Transportation (ODOT) is requesting \$18,560,000 from the Bridge Investment Program (BIP) grant program to replace the I-35 northbound (NB) and southbound (SB) bridges in Purcell, OK. The bridge replacements, referred as the ‘Project’ throughout this grant application template, will be incorporated into a larger interchange project which will construct new on and off ramps and a bicycle-pedestrian path for multimodal connections in the corridor.</p> <p>I-35 is a major north-south, cross-country interstate highway, stretching from Laredo, TX to Duluth, MN. I-35 is also the largest single north-south truck freight corridor in the central United States. It traverses six states and is on the National Highway System (NHS) and the National Highway Freight Network (NHFN). I-35 has the highest volume truck traffic in the state according to the Oklahoma State Freight Plan.</p>
BIP Request Amount (minimum grant award is \$2.5 million):	Exact amount in year-of-expenditure dollars: \$18,560,000

Total Project Cost (total project cost cannot exceed \$100 million for Bridge Projects):	Estimate in year-of-expenditure dollars: \$37,120,000
Applicant:	The State of Oklahoma Oklahoma Department of Transportation Point of Contact: Daniel Nguyen Project Management Division Manager (405) 522-3618 dnguyen@odot.org
Maintenance Commitment	ODOT will maintain the new I-35 bridges over SH-74 in accordance with ODOT's Transportation Asset Management Plan (2019 to 2028) . Maintenance costs will be funded by ODOT through their dedicated maintenance fund. https://oklahoma.gov/content/dam/ok/en/odot/programs-and-projects/transportation-programs/ODOT%20TAMP%2020190829.pdf
Bike and Pedestrian Accommodation required by 23 U.S.C. 217(e)	A new bicycle-pedestrian path will be constructed to promote intermodal connections in the corridor. This bridge replacement project, once completed, will meet the demands for multimodal connections that do not exist today and are not being served.

Additional Project Information

List State(s) in which the project is located:	Oklahoma
Does the project serve an urban or rural community?	The project serves a rural community and is within the city of Purcell, with a 2020 Census population of 6,651. The bridges are located 14 miles south of the Oklahoma City metro area.
List all Project Co-Applicants:	None

Identify the Lead Applicant (who will also be the applicant responsible for administration of BIP funds if application is selected, and the point of contact for the application)	Oklahoma Department of Transportation Point of Contact: Daniel Nguyen Project Management Division Manager (405) 522-3618 dnguyen@odot.org
Was an application for USDOT discretionary grant funding for this project previously submitted?	No.
Is the project located (entirely or partially) in Federal or USDOT designated areas?	No, this project does not fall into any Federal or USDOT designated areas.

National Bridge Inventory Data

For each bridge on the project, fill out the NBI data in the following form. For projects with multiple bridges, including those utilizing bridge bundling, this table should be duplicated and populated with data for each individual bridge. This data is used to support and verify statements made about the project in other sections in this application template, as noted in Section D.2.d.II of the NOFO. Data, format, and coding information can be downloaded from [Download NBI ASCII files - National Bridge Inventory - Bridge Inspection - Safety Inspection - Bridges & Structures - Federal Highway Administration \(dot.gov\)](#):

Identification

Item 1 – State Code & Name	406 Oklahoma
Item 8 – Structure Number	4405 1252EX
Item 5A – Record Type	Route on Structure
Item 3 – County Code & Name	44 McClain
Item 6 – Feature Intersected	S.H. 74 Under
Item 7 – Facility Carried	I-35
Item 16 - Latitude	35°01'47.30"
Item 17 – Longitude	97°22'32.66"

Classification

Item 112 – NBIS Bridge Length	Long Enough
Item 104 – Highway System of Inventory	On the NHS
Item 26 – Functional Classification	01 Rural Interstate
Item 110 – Designated National Network	On Interstate STRAHNET
Item 21 – Maintenance Responsibility	01 State Highway Agency
Item 22 – Owner	01 State Highway Agency

Age and Service

Item 27 – Year Built	1967
Item 106 – Year Reconstructed	2017
Item 42 – Type of Service	Highway
Item 28A – Lanes on the Structure	2
Item 29 – Average Daily Traffic	14,950
Item 109 – Average Daily Truck Traffic	36%
Item 19 – Bypass, Detour Length	0.1 mi.

Structure Type and Material

Item 43 – Structure Type, Main	Steel / Stringer/Girder
--------------------------------	-------------------------

Condition

Item 58 – Deck Condition	9 – Excellent
Item 59 – Superstructure Condition	9 – Excellent
Item 60 – Substructure Condition	7 – Good
Item 61 – Channel and Channel Protection	N/A (NBI)
Item 62 – Culverts	N/A (NBI)

Geometric Data

Item 49 – Structure Length	106.96 ft
Item 50 – Curb of Sidewalk Widths	0.00 ft
Item 51 – Bridge Roadway Width, curb-to-curb	38.06 ft
Item 52 – Deck Width, out-to-out	39.70 ft
Item 32 – Approach Roadway Width	38.00 ft
Item 47 – Inventory Route, Total Horizontal Clearance	37.73 ft

Item 53 – Minimum Vertical Clearance over Bridge Roadway	99.99 ft
Item 54 – Minimum Vertical Under clearance	Hwy beneath structure: 14.73 ft
Item 55 – Minimum Lateral Under clearance on Right	Hwy beneath structure: 2.63 ft
Item 56 – Minimum Lateral Under clearance on Left	Hwy beneath structure: 0.00 ft <i>** reported in the IR</i>

Load Rating and Posting

Item 70 – Bridge Posting	5 – At/Above Legal Loads
Item 41 – Structure Open, Posted, or Closed to Traffic	A – Open, No Restriction

Appraisal

Item 113 – Scour Critical Bridges	N – Not over Waterway
-----------------------------------	-----------------------

Inspections

Item 90 – Inspection Date	9/2/2021
---------------------------	----------

Identification

Item 1 – State Code & Name	406 Oklahoma
Item 8 – Structure Number	4405 1252WX
Item 5A – Record Type	Route on Structure
Item 3 – County Code & Name	44 McClain
Item 6 – Feature Intersected	S.H. 74 Under
Item 7 – Facility Carried	I-35
Item 16 - Latitude	35°01'47.30"
Item 17 – Longitude	97°22'33.95"

Classification

Item 112 – NBIS Bridge Length	Long Enough
Item 104 – Highway System of Inventory	On the NHS
Item 26 – Functional Classification	01 Rural Interstate
Item 110 – Designated National Network	On Interstate STRAHNET
Item 21 – Maintenance Responsibility	01 State Highway Agency
Item 22 – Owner	01 State Highway Agency

Age and Service

Item 27 – Year Built	1967
Item 106 – Year Reconstructed	2017
Item 42 – Type of Service	Highway
Item 28A – Lanes on the Structure	2
Item 29 – Average Daily Traffic	15,100
Item 109 – Average Daily Truck Traffic	36%
Item 19 – Bypass, Detour Length	0.1 mi.

Structure Type and Material

Item 43 – Structure Type, Main	Steel / Stringer/Girder
--------------------------------	-------------------------

Condition

Item 58 – Deck Condition	9 – Excellent
Item 59 – Superstructure Condition	9 – Excellent
Item 60 – Substructure Condition	7 – Good
Item 61 – Channel and Channel Protection	N/A (NBI)
Item 62 – Culverts	N/A (NBI)

Geometric Data

Item 49 – Structure Length	106.96 ft
Item 50 – Curb of Sidewalk Widths	0.00 ft
Item 51 – Bridge Roadway Width, curb-to-curb	38.06 ft
Item 52 – Deck Width, out-to-out	39.70 ft
Item 32 – Approach Roadway Width	38.00 ft
Item 47 – Inventory Route, Total Horizontal Clearance	37.73 ft
Item 53 – Minimum Vertical Clearance over Bridge Roadway	99.99 ft
Item 54 – Minimum Vertical Under clearance	Hwy beneath structure: 14.73 ft
Item 55 – Minimum Lateral Under clearance on Right	Hwy beneath structure: 2.63 ft
Item 56 – Minimum Lateral Under clearance on Left	Hwy beneath structure: 0.00 ft ** reported in the IR

Load Rating and Posting

Item 70 – Bridge Posting	5 – At/Above Legal Loads
Item 41 – Structure Open, Posted, or Closed to Traffic	A – Open, No Restriction

Appraisal

Item 113 – Scour Critical Bridges	N – Not over Waterway
-----------------------------------	-----------------------

Inspections

Item 90 – Inspection Date	9/2/2021
---------------------------	----------

Project Selection Criteria

Provide narrative response how the project responds to the project selection criteria in Section E.1.b of the NOFO. In responding to project selection criteria, refer to statutory selection criteria included in Section E of the NOFO and address them in the appropriate project selection criteria.

<p>Criteria #1: State of Good Repair</p>	<p>The Project NB and SB bridges have a structural appraisal rating of 2, which is defined as Intolerable, requiring a high priority of replacement due to the vertical/horizontal under clearance. The vertical clearance is 14.75 feet for the northbound bridge and 14.73 feet for the southbound bridge. This rating condition indicates the need for high priority replacement. Although both bridges are rated 9-Excellent, according to the 2021 NBI bridge inspection report, they are Functionally Obsolete (FO) due to the SH-74 vertical clearance and shoulder widths under the bridge. In the near-term (within three years), the two bridges will not move out of the FO rating until the bridges are replaced.</p> <p>The 2020 average annual daily traffic (AADT) on both bridges is 28,508 vehicles per day (vpd), which is expected to grow to:</p> <ul style="list-style-type: none"> • 31,475 vpd by 2025 – LOS D • 40,086 vpd by 2045 – LOS F <p>The average daily truck traffic is currently 34 percent, which means that nearly 10,000 trucks per day cross the two bridges. According to ODOT traffic Level of Service (LOS) projections, the bridges currently operate at LOS C, moving to LOS D in 2025, and worsen to LOS F in 2034. The projected traffic volumes for the I-35 core corridor, including Purcell, discussed above will have a significant bottleneck if these bridges only serve two lanes per direction.</p> <p>The I-35 NB and SB bridges provide two 12-foot lanes in each direction with 4-foot inside shoulders and 10-foot outside shoulders. Because the Purcell bridges are located within the ODOT-defined core area of I-35, improvements are needed to provide adequate traffic capacity on both the NB and SB bridges. ODOT’s plan is to widen the I-35 corridor in the core area to 3 lanes in each direction, with 10-foot wide inside and outside shoulders. Also, the existing bridges do not allow for accommodations of bicycle and pedestrian movements along SH-74 under the bridges. The replacement of these two existing bridges will meet a critical long-term ODOT plan priority with additional lanes and shoulder width, meeting the core I-35 corridor future capacity demands.</p> <p>The NB and SB bridges were built in 1967 at a time when bridges were constructed with a 50-year design life. Currently, both bridges are beyond the intended design life. The bridges were rehabilitated and are in good condition according to the 2021 NBI bridge inspection report. For both bridges, the deck and superstructure had a condition rating of 9 (Excellent), while the substructure had a condition rating of 7 (Good).</p>
---	--

The Project will move the bridges out of the Functionally Obsolete category and upgrade the vertical and horizontal clearances to current design standards. The replacement of both NB and SB bridges at this location improves safety, and also increases capacity, efficiency, and reliability of operational and multimodal needs in the project area. The bridges do not have adequate traffic capacity, nor adequate vertical clearance, which combined with increased emergency response times and additional travel time in the event of a complete shut-down of the bridges, are important safety issues.

The addition of a bicycle-pedestrian path to the project provides multimodal connections for residents and visitors to the Purcell area. Thus, the Purcell bridge project assists in the safety and efficiency of truck/auto movement and accommodates alternative modes of transportation for bicycle and pedestrian traffic in Purcell. This Project contributes to the State of Good Repair criteria by providing a six-lane set of bridges with sufficient capacity to meet anticipated future traffic demand and geometry consistent with today's design standards. The Project will also add accommodation for bicycles and pedestrians at SH-74 where none exists today. The new structure will have a design life of 75 years and will remove a bridge with deficient horizontal and vertical clearances.

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. ODOT uses United States Geological Service's (USGS) ShakeCast program to identify potential areas for high chance of shaking damage. The heatmap shown below indicates areas in Oklahoma with lower to higher chances of experiencing seismic events and damaging shaking. The City of Purcell has a 2%-5% change of damage. The environment plays a vital role to ODOT and the City of Purcell; as such, the I-35 new access intersection will be constructed in an environmentally sustainable manner in compliance with NEPA. The I-35 Purcell Bridge Project will provide long-term resiliency to extreme weather events.

The I-35 Purcell bridges were built prior to today's modern construction advancements. The proposed design will eliminate vulnerable features of the current bridges, such as inappropriate vertical clearance and other aspects of the design that need attention. While the bridges have held up well, it is important to consider they are past their design life expectancy. Residents of the City of Purcell and other nearby communities need new

	<p>and reliable access, not only for shorter emergency response time, but also to create the connection of their communities to commerce and tourist economy since this new interchange will connect I-35 traffic directly to the heart of the City of Purcell businesses. This interchange is also expected to connect to other future developments adjacent to the I-35 corridor in Purcell. Growth continues to spread in the project area with a late 2022 opening of a new hospital in the area and immediately adjacent to the Project area is a 400-unit planned residential development.</p>
<p>Criteria #2: Safety</p>	<p>The Project study area, as defined in the July 2022 Access Justification Report (AJR), had 315 crashes reported over a 5-year period from 2015 to 2019. Possible injury crashes made up 19% of total crashes, 64% of crashes were property damage only (PDO), 2% were serious injury crashes and no fatal crashes were reported in the study period.</p> <p>Rear-end crashes (33%) and sideswipe crashes (17%) correlate well with traffic congestion. By widening I-35 and adding the expanded shoulder with this Project will help alleviate much of this traffic congestion and should also cut down on crashes due to congestion on the interstate.</p> <p>The new bridges will provide a wider inside shoulder, increasing from 3 to 10 feet, which will provide a safety benefit by allowing greater clear zone for vehicles to correct. The number of crashes may decrease by more than 2% according to the Federal Highway Administration (FHWA) Crash Modification Factor (CMF) Clearinghouse (CMF #4231).</p> <p>The Project will add vertical clearance on SH-74, increasing the existing 14'-9" vertical clearance to a minimum vertical clearance of 17'-6". Additional horizontal clearance is provided as well, increasing the width from the edge of lane to edge of bridge pier protection from 3 feet to 10 feet. The expanded clearances will decrease the probability of crashes with bridge-related infrastructure, especially for tall, large, or over-sized trucks, in addition to decreasing the risk of a truck collision with the bridge itself.</p>

<p>Criteria #3: Mobility and Economic Competitiveness</p>	<p>The Project NB and SB bridges had 2020 average annual daily traffic (AADT) on both bridges at 28,508 vehicles per day (vpd), with the average daily truck traffic at currently 34 percent, which means nearly 10,000 trucks per day cross the two bridges.</p> <p>Future development near the project site includes the late 2022 opening of a new hospital in the area and immediately adjacent to the Project is a 400-unit planned residential development. The Project also connects I-35 directly to the heart of the City of Purcell businesses and to other future developments in Purcell. The new bridges will provide direct access to the north end of the Purcell and provide increased mobility throughout the city.</p> <p>Without improvements to the I-35 Purcell bridges, the LOS is anticipated to worsen to LOS E in the next three years and LOS F by 2034 and result in significant congestion. The new bridges will improve safety and LOS, and remove bottlenecks created by the two-lane bridges.</p> <p>The I-35 corridor is the largest single north-south truck freight corridor in the central United States; it provides critical transportation outlets for intercontinental goods movement, linking west and east ports to major urban centers throughout the United States, Mexico, and Canada. The Purcell Bridges Project is one potential bottleneck area and has a direct impact on the economy. The current economic impact of these bottlenecks or delays is high and impacts inflation and overall product delivery. Replacing the I-35 Purcell bridges increases mobility for truck and people movement and improves supply chain logistics.</p> <p>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 Purcell bridges.</p>
--	---

<p>Criteria #4: Climate Change, Resiliency, and the Environment</p>	<p>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. Traffic volumes are projected to grow significantly by 2050. If there are no improvements to the I-35 Purcell bridges, traffic operations will worsen to LOS F, which will be severe congestion. Stop and go conditions will increase air pollution as vehicles spend more time idling.</p> <p>The new bridges will bring air quality improvements to the entire Oklahoma City urbanized area and offer additional connections to potential trails in the Purcell area that promote healthier, active travel.</p> <p>A 2018 Reconnaissance Report was completed for ODOT for the I-35 Purcell bridges. The report addressed the project area, including identifying the minority population and low-income population census tracts. The US Census Bureau 2016-2020 ACS 5-year estimates report 14 percent minority population in Purcell and 13 percent of the Purcell population are below poverty income levels. The I-35 Purcell bridges project will provide additional access to jobs, services, and opportunities for all population groups, including disadvantaged populations.</p> <p>In the previous State of Good Repair Section, the resiliency of the Project was discussed in detail. 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. The city of Purcell has a 2%-5% change of damage. ODOT and the city of Purcell will incorporate advanced design concepts to support long-term resiliency to extreme weather events.</p>
--	--

<p>Criteria #5: Equity, Partnership, and Quality of Life</p>	<p>The I-35 Purcell Bridges Project will improve the quality of life for local, regional, and national users. As a vital north-south corridor, the new bridges 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 40,000 vpd far exceed the capacity of the existing 2 lane NB and SB facility. The increased capacity of the new bridges 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.</p> <p>The Project also includes accommodations for bicycle and pedestrian facilities. The new facilities provide an opportunity to connect to the future Purcell trail network with links to neighborhoods, medical services, downtown, and higher education campuses.</p> <p>A 2019 Feasibility Study was conducted by the city of Purcell to discuss different alternatives for the bridge project. Due to the COVID-19 pandemic and potential increased outbreaks, the Public Open House meetings were held virtually in January and February 2021. The Public Open House materials included a project handout, presentation, interactive project map, interactive survey and project alternatives. A total of 123 written comments/ questions were received during the virtual meetings, which were incorporated into the final design, as appropriate.</p> <p>From the beginning of the Project, the city of Purcell, ODOT, and FHWA engaged multiple partners and stakeholders for the planning of the project. These included the city of Purcell, ODOT, McClain County, Federal Highway Administration (FHWA), and ACOG. The planning for the bridges project including outreach to community organizations, residents, and business leaders in Purcell and the surrounding areas to talk about the project, review alternatives, and discuss the advantages and disadvantages of the project locations. This included the Purcell urban area and surrounding rural areas. A website was organized by ODOT for access to information about the project, in Spanish and English, at any time.</p> <p>Comments received during the Feasibility Study were diverse and covered a range of topics from locations and impacts on neighborhoods, access points, schedule, and cost of project.</p> <p>There are two Census Tracts in the project area (4002.02 and 4003). The I-35 Purcell project is not located within an Area of Persistent Poverty; however, both Census Tracts classify as Historically Disadvantaged Communities 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</p>
---	---

	project will increase access to the transportation network for these populations.
Criteria #6: Innovation	<p>The Project has opportunities for innovation in the project financing, design, and coordination of both bridges into a larger project, taking advantage of cost savings and economies of scale. The city of Purcell, ODOT, and FHWA incorporated innovative financing by bundling this replacement bridges project with the full interchange project. In addition, the city of Purcell and ODOT provided an overmatch for funding this project, which was creative use of local and state funds.</p> <p>Other innovative construction techniques include the requirement of Work-zone Management and Traffic Incident Management strategies into the construction documents.</p>

Project Costs

Provide information detailing the costs associated with the project. These costs will be used to determine eligible award amount, how the project supports financial goals of the program, and other factors. More information on this section can be found in Section D.2.d.III of the NOFO.

BIP Request Amount	\$18,560,000
Estimated Total of Other Federal funding (excluding BIP Request)	None
Estimated Other Federal funding (excluding BIP) further detail	None
Estimated non- Federal funding	\$18.56M Oklahoma state funding <u>\$ 4.89M City of Purcell (considered ineligible costs)</u> \$18.56M - Non-Federal match for the project (50%)
Future Eligible Project Cost (Sum of BIP request, Other Federal Funds, and non-Federal Funds, above.	\$37,120,000
Previously incurred project costs (if applicable)	\$0
Total Project Cost (Sum of ‘previous incurred’ and ‘future eligible’	\$37,120,000
If more than one bridge, will bridge bundling be used to deliver the Project?	Yes, two bridges are included, and the two new bridges are part of a larger full interchange project at the site.
If proposed project utilizes bundling, Cost of Unbundled Projects	Greater than \$37,120,000
Amount of Future Eligible Costs by Project Type	\$37,120,000 Bridge 1 Replacement - \$18,560,000 Bridge 2 Replacement - \$18,560,000

A 10 percent contingency is built into the future project costs.

Benefit-Cost Analysis

Benefit Cost Analysis– Submit the requested information in Section D.2.d.V for the DOT to conduct a review of the benefit-cost analysis for the project and provide a summary of the analysis.

The 30-year benefit-cost analysis (BCA) for the proposed project identifies numerous quantified benefits that are anticipated to be realized. The BCA was conducted in accordance with the methodologies outlined in the USDOT March 2022 “Benefit-Cost Analysis Guidance for Discretionary Grant Programs” document. The BCA was largely based on the assumptions provided by ODOT from the July 2022 Access Justification Report (AJR). Although the benefit-cost ratio is estimated to be less than 1.0, it does not diminish the need for improvements, nor account for all benefits that will be realized with the proposed project. Summary table indicates the benefit-cost categories for consideration with the Project.

In particular, the addition of a bicycle/pedestrian path to the Project provides multimodal connections for residents and visitors to the Purcell area which accommodates alternative modes of transportation for increased mobility. No facilities exist today. The new facilities offer Purcell residents and visitors an opportunity for an increased quality of life. The Project provides a multimodal link for the future trail network in Purcell.

Benefit-Cost Category	Present Value at 7%/3%* Discount Rate
Travel Time Savings	\$3,990,611
Vehicle Operating Cost Savings	(\$157,216)
Emissions Savings	(\$27,851)
Safety Benefits	\$1,026,664
Pedestrian Improvement Benefits	\$2,025
Cycling Improvement Benefits	\$575
Health Benefits	\$11,257
Emergency Services Benefits	\$9,696,706
Operations & Maintenance Savings	\$187,387
Residual Value	\$865,419
Total Benefits	\$15,595,579
Estimated Capital Costs	\$28,680,329
Benefit-Cost Ratio	0.54

**All benefits and costs are discounted at 7% except for CO2 emissions, which are discounted at 3% per USDOT BCA Guidance (March 2022).*

Project Readiness and Environmental Risk

Project Readiness and Environmental Risk – Submit the requested information in Section E.2.b.iii for the DOT to conduct a review of the project readiness and environmental risk criteria for the project and provide a summary. If project includes multiple bridges, indicate the information for each bridge included in the application and what impact would occur on the timeframes if the project were unbundled.

Other Federal Funding and Non-Federal Funding Secured	Yes
NEPA Status – Indicate if the determination will likely be the result of a Categorical Exclusion (CE), (EA), or (EIS)	<p>FHWA reviewed the Environmental Assessment report and decided the Project can move forward as a Documented Categorical Exclusion (DCE). The NEPA status report for the Project is submitted as additional reference documentation. The summary of NEPA decisions is provided below.</p> <ul style="list-style-type: none"> • The (DCE) Justification was signed/approved by FHWA 6/16/2022. • Draft DCE and attachments submitted for review 6/30/2022. • Received comments 7/1/2022. • Returned revised DCE 7/5/2022. <p>The Project is ready for the steps needed to move to the next stage of the project within the 12 months of the Finding of No Significant Impacts (FONSI). The Project is currently at 65 percent design and will move to construction quickly upon the obligation of funds. All real property and right-of-way acquisition necessary for the project will be completed in a timely manner in accordance with federal regulations.</p>

<p>Is the project currently programmed in the:</p> <ul style="list-style-type: none"> *TIP *STIP *MPO Long Range Transportation Plan *State Long Range Transportation Plan 	<p>Yes, the Project is currently programmed in partner planning documents.</p> <ul style="list-style-type: none"> • Statewide Transportation Improvement Program FFY 2022-2025 (https://oklahoma.gov/content/dam/ok/en/odot/stip/STIPPRO_FULL.pdf) • Consistent with the 2020-2045 Oklahoma Long Range Transportation Plan (https://static1.squarespace.com/static/5cd1d280f9df7d00015c6297/t/5f5bbbb6785a5f69c44e3d04/1599847366823/Oklahoma+2045+LRTP+Final+August+2020.pdf), and the • Association of Central Oklahoma Governments (ACOG) Long Range Transportation Plan (ENCOMPASS-2045-Final-Plan-Summary.pdf (acogok.org))
<p>Is right-of-way acquisition necessary?</p>	<p>Yes</p> <ul style="list-style-type: none"> • Planned Start of Right-of-Way Acquisition Date: 2023 thru 2024 • Planned Completion of Right-of-Way Acquisition Date: 2024

<p>Right-of way acquisition considerations.</p>	<p>The city of Purcell, FHWA, and ODOT completed the 2019 Feasibility Study for the Project, after the 2018 ODOT Reconnaissance Report collecting data for the two bridges and immediate adjoining properties. An Alternatives Analysis was conducted in 2021 reviewing side design options. These preliminary documents provided background data feeding into the 2022 AJR. These planning studies are required to continue final design for the project site. Prior to the AJR, ODOT conducted virtual Public Open Houses in January/ February 2021 to give an opportunity to residents, businesses, and visitors to give input on the project. The purpose and need for the project were identified and guided the planning and design documents.</p> <p>The city of Purcell completed the AJR in July 2022 and is in the process of completing the National Environmental Protection Act (NEPA) process to receive approval for a new interchange on I-35 at SH-74. A full AJR will be submitted after the completion of the NEPA process for final approval.</p> <p>Throughout the project planning process, the agencies followed Title VI procedures and developed a public participation plan. The Title VI analysis included collecting and evaluating data on minority populations in the affected area, ensuring meaningful opportunities for public comment from Title VI protected populations, and evaluate and mitigate any potential disparate impacts of project components.</p> <p>The above data are from the Environmental Protection Agency’s EJ Screen tool and used to determine the percent of the population in the affected Census Tract for people of color or low income. The two impacted Census Tracts, combined, are in the 37th percentile for both People of Color and Low-Income populations.</p> <p>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 new interchange will increase access to the transportation network for these populations.</p>
<p>Design Status</p>	<ul style="list-style-type: none"> ● Planned or Actual Start of Preliminary Design Date: 2020 ● Planned or Actual Completion of Preliminary Design Date: 2022 ● Planned or Actual Start of Final Design Date: 2022 ● Planned or Actual Completion of Final Design Date:2024
<p>Anticipated Construction Start Date:</p>	<p>2025</p>

Anticipated Project Completion Date:	2026
<p>The Project is ready for the steps needed to move to the next design stage. ODOT anticipates the final decision for the FONSI in September 2022; thus, allowing the next phases to begin for final design.</p> <p>The Project is currently at 65 percent design and will move to construction quickly upon the obligation of funds. All real property and right-of-way acquisition necessary for the project will be completed in a timely manner in accordance with federal regulations.</p> <p>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.</p> <p>ODOT and the city of Purcell project management team are familiar with the risk management guidance published by FHWA and have followed those guidelines and best practices for this I-35 Purcell Bridges 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.</p>	

Project Priority Considerations

Project Priority Considerations: Does the application support any of the DOT Priority Considerations – Bridge Projects listed in Section E.2.b of the NOFO? If the applications supports one or more of the considerations for the FY22 submissions, describe which consideration(s) is supports and how. In the discussion below, reference to previous sections in which additional information was detailed to support the consideration(s).

The Project is ready to proceed to the next stage within the 12 months of the Finding of No Significant Impacts (FONSI), which ODOT anticipates receiving the FONSI in September 2022. The next stage is to begin the final design of the project.

The project is currently at 65 percent design and will move to construction quickly upon the obligation of funds. All real property and right-of-way acquisition necessary for the project will be completed in a timely manner in accordance with federal regulations.

The I-35/Purcell Bridges Project schedule and budget supports the 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 emphasis of safety, efficiency, and reliability of movement, in addition to improving the conditions of bridges, and leveraging non-Federal funding for eligible projects are priority areas for this project.

In addition, the I-35 Purcell Bridges Project is not a project solely for culvert replacement/rehabilitation, but for 2 replacement bridges on I-35, the largest north-south truck freight corridor in the central United States.



OKLAHOMA DEPARTMENT OF TRANSPORTATION

Replacing I-35 Bridges to Enhance Freight, Multimodal Connectivity & Mobility in the American Heartland

SEPTEMBER 2022

CONTENTS

I. Basic Project Information - Description, Location, and Parties	3
II. National Bridge Inventory Data	8
III. Project Costs - Grant Funds, Sources, and Use of All Project Funding	9
IV. Project Outcome Criteria	10
V. Benefit-Cost Analysis	15
VI. Project Readiness and Environmental Risk.....	16
VII. Project Priority Considerations	18
Other Submission Requirements	

I. BASIC PROJECT INFORMATION - DESCRIPTION, LOCATION, AND PARTIES

Project Overview

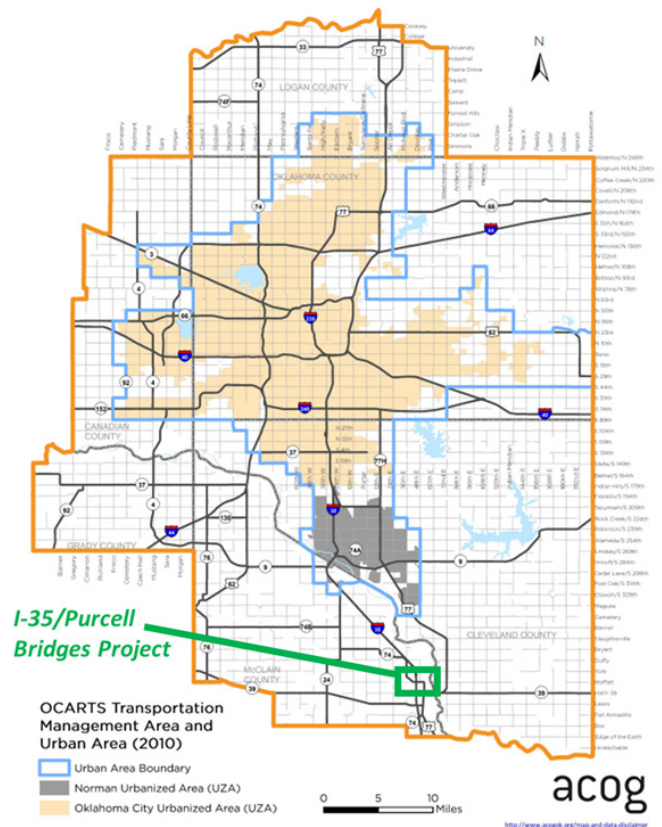
The Oklahoma Department of Transportation (ODOT) is requesting \$18,560,000 from the Bridge Investment Program (BIP) grant program to replace the I-35 northbound (NB) and southbound (SB) bridges in Purcell, OK. Purcell is in central Oklahoma and the county seat of McClain County, south of Oklahoma City. The bridge replacements, referred as the 'Project' throughout the grant, will be incorporated into a larger interchange project which will construct new on and off ramps and a bicycle-pedestrian path for multimodal connections in the corridor.



I-35 is a south, cross-country interstate highway, stretching from Laredo, TX to Duluth, MN. I-35 is also the largest single north-south truck freight corridor in the central United States. It traverses six states and is on the National Highway System (NHS) and the National Highway Freight Network (NHFN). I-35 has the highest volume truck traffic in the state according to the Oklahoma State Freight Plan.

The section of I-35 near the City of Purcell includes five miles of I-35. The proposed interchange is located within the city limits of Purcell, OK, at SH-74 (Grant St.), approximately 30 miles south of Oklahoma City, OK.

This bridge project along I-35 is within the central core of the state, carrying high overall traffic volumes and a large percentage of trucks.



The 2020 average annual daily traffic (AADT) on both bridges is 28,508 vehicles per day (vpd), which is expected to grow to 31,475 vpd by 2025 and 40,086 vpd by 2045, respectively. The average daily truck traffic is currently 34 percent, which means that nearly 10,000 trucks per day cross the two bridges. 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, including the Purcell area.

The I-35 NB and SB bridges provide two 12-foot lanes in each direction with 4-foot inside shoulders and 10-foot outside shoulders. Because the Purcell bridges are located within the ODOT-defined core area of I-35, improvements are needed to meet the capacity for both the NB and SB bridges. The ODOT program states the bridges in the core area will be widened to 3 lanes in each direction (Purcell Bridges have 2 lanes in each direction) with 10-foot wide inside and outside shoulders (Purcell Bridges have 4-foot inside shoulders). Also, the existing bridges do not allow for accommodations of bicycle and pedestrian movements along SH-74 under the bridges. The replacement of these two existing bridges will meet the ODOT program standards with additional lanes and shoulders, which will also meet the core I-35 corridor future capacity demands.

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 I-35 Purcell Bridge project at SH-74 meets all three of the BIP goals and supports ODOT's emphasis of bridge improvements in the I-35 core corridor.

SAFETY, EFFICIENCY, AND RELIABILITY OF MOVEMENT OF PEOPLE AND FREIGHT GOAL

- The replacement of both NB and SB bridges at this location improves safety, and also increases capacity, efficiency, and reliability of operational and multimodal needs in the project area. As described above, the two existing bridges do not meet the ODOT program standards in number of lanes and inside shoulder width needed to mitigate future capacity issues. 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 NB and SB bridges, this project encourages additional and more rapid deployment of other future developments adjacent to the I-35 corridor in Purcell. Growth continues to spread in the project area with a late 2022 opening of a new hospital in the area and immediately adjacent to the project area is a 400-unit planned residential development.
- The addition of a bicycle-pedestrian path to the project provides multimodal connections for residents and visitors to the Purcell area. Thus, the Purcell bridge project assists in the safety and efficiency of truck/auto movement and accommodates alternative modes of transportation for bicycle and pedestrian traffic in Purcell.

IMPROVE BRIDGE CONDITION

- The Project NB and SB bridges have a structural appraisal rating of 2, which is defined as Intolerable, requiring a high priority of replacement due to the vertical/horizontal under clearance - 14.75ft (NB bridge) and 14.73ft (SB bridge). The next category below 2 is bridge closure; thus, re-enforcing the high priority for this Purcell project. Although both bridges are rated a 9-excellent, according to the 2021 NBI bridge inspection report, they are rated functionally obsolete (FO) due to the SH-74 vertical clearance and should widths underneath the bridge. The bridges do not have adequate traffic capacity, nor the vertical clearance to serve current traffic demand.

The I-35 Purcell Bridge project meets ALL three of the BIP goals.

- The NB and SB bridges were built in 1967 at a time when bridges were constructed with a 50-year design life. Currently, both bridges are beyond the intended design life. In 2017, the bridges were rehabilitated and are in good condition according to the 2021 NBI bridge inspection report. For both bridges, the deck and superstructure had a condition rating of 9 (Excellent), while the substructure had a condition rating of 7 (Good).
- The Purcell bridges project moves the bridges out of the functionally obsolete category by correcting SH-74 vertical and horizontal clearances to current design standards and it prepares I-35 for the future by adding much needed traffic capacity.

LEVERAGE NON-FEDERAL FUNDING

- The I-35 Purcell Bridges Project has been a coordinated effort among the city of Purcell, ODOT, City of Oklahoma City, McClain County, Federal Highway Administration (FHWA), and the Association of Central Oklahoma Governments (ACOG) for many years. Purcell is part of the Oklahoma City Area Regional Transportation Study (OCARTS) area. As shown in the accompanied maps, the location of this project is an important part of the southern I-35 core corridor for ODOT.
- ACOG partner communities, including the city of Purcell, completed the Metropolitan Transportation Plan (Encompass 2045) which identified the needs and priorities for the metro region. The city of Purcell and ODOT understand the importance of leveraging local and state dollars to bring additional federal funding into the state of Oklahoma and maximize all resources. The city is funding the design fees, Right of Way (ROW) and utility relocations, with previously incurred costs of approximately \$1.39M, including preliminary engineering surveys, environmental, and preliminary design. The project is at 65 percent design. Future costs for the city are \$3.5M, for a total of \$4.89M (12%) local investment. For the purposes of this BIP Grant application, the city costs are considered ineligible (\$4.89M).
- The total project cost for this Purcell Bridges Project is \$42,010,000. The total project eligible BIP project costs are \$37.12M and ODOT is requesting \$18.56M (50%) from the BIP grant program to complete the project. **Local and state funding will overmatch and provide approximately 50 percent to cover the remaining project costs.**

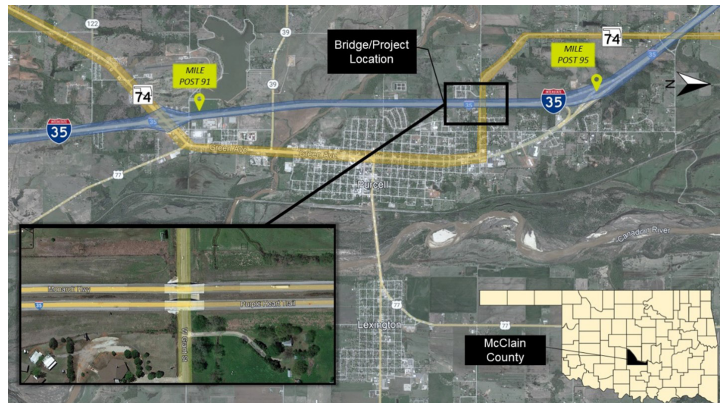
Detailed Project Description

I-35 stretches from Laredo, TX to Duluth, MN and serves as a critical link in the State's transportation network, connecting the Red River at the Texas border to the Kansas state line near the town of Braman in Kay County. 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 Purcell, have many employers, educational institutions, retail centers and leisure activities, which contribute to the high traffic volumes in the central core area.

The Project is located at the crossing of I-35 and SH-74/Grant Street. Existing conditions present lack of access to I-35 between milepost 91 and 95 near Purcell with no southbound connection to I-35 on the north end of Purcell.

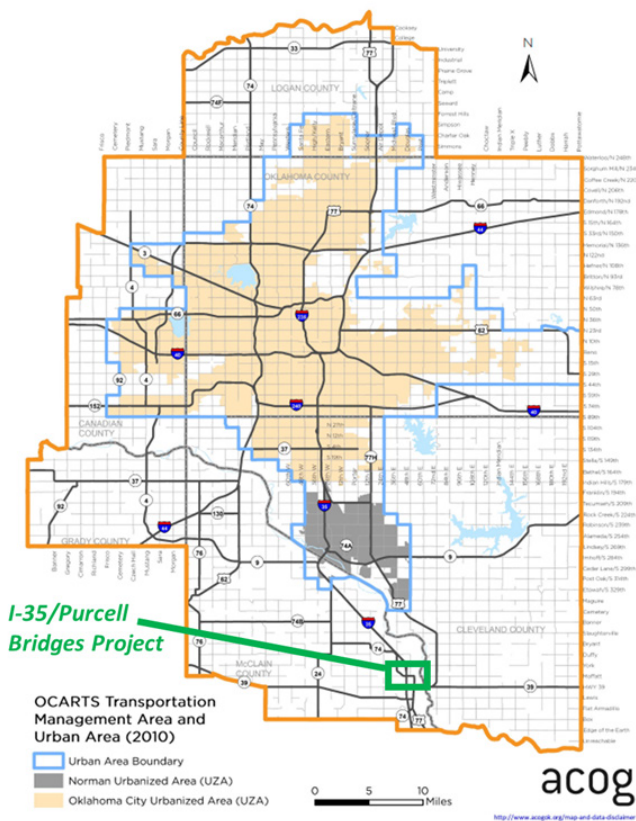
A Feasibility Study was completed in early 2019 by EST, Inc. (EST) to identify a set of alternatives to carry forward for further study. In response to the purpose and need for this project, it was concluded the most practical location for seeking new access to I-35 would be at the existing SH-74 (Grant Street) crossing. Today the project is at 65 percent design stage.

In July 2022, EST also prepared for the City of Purcell an Access Justification Report (AJR) for the I-35 interchange access at SH-74 (West Grant Street). A full diamond interchange at SH-74 with access in all four directions was identified in the AJR as the preferred alternative to mitigate the challenges under existing conditions. For geometric and capacity reasons, this alternative requires the replacement of the I-35 bridges over SH-74 and includes improving the section of SH-74 between North Green Ave to a point north and west of the intersection with 220th Street.



As stated in the AJR, the primary purpose of the proposed full diamond interchange is to reduce delay, improve emergency vehicle access to I-35, and reduce response times to incidents on I-35 by providing additional access to the Interstate at SH-74 (Grant Street) in Purcell. This new access to I-35 will improve the transportation system connectivity, increase local accessibility to and from the regional transportation network, improve overall regional mobility, support the continued growth of the community of Purcell, and for the first time, immediate access to the north end of Purcell. By completing the bridges and interchange work simultaneously, economies of scale will be gleaned from a cost standpoint and avoidance of construction delays for two different projects.

The AJR reported emergency response time to incidents on I-35 is delayed by the lack of access to I-35 between milepost 91 and 95 near Purcell under existing conditions. The existing I-35 interchange at Green Avenue does not include southbound I-35 connections, which prohibits access to the northern area of Purcell from southbound I-35, which further limits emergency response time to and from incidents on I-35. This bridge project will enhance access and improve access.



Source: https://www.acogok.org/wp-content/uploads/2020/12/FFY_2020-2023_OCARTS-TIP_November_2020.pdf

Connections to Existing Transportation Infrastructure

The Project will provide increased connectivity for multiple destinations in the region, along with increased capacity and safety for through traffic on I-35 and SH-74. The Project will improve overall mobility across the city network, which was an important factor expressed at the 2020 Public Open Meetings, which focused on reviewing alternatives for the site, especially for emergency services and access to the new hospital. As indicated earlier, when the bridges were built in 1967, the design did not include a southbound connection to I-35 on the north end of Purcell. With the increased traffic today, the lack of access decreases mobility for all users.

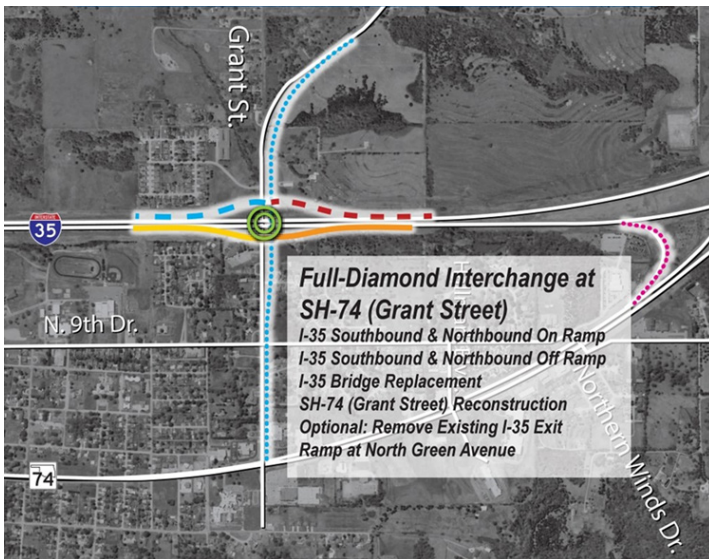
The Project is also a vital connection point for the Oklahoma Toll Authority (OTA) turnpike network. The OTA's 15-year long-range plan addresses ongoing highway infrastructure needs and accessibility to communities along the OTA corridors. The OTA Plan identifies Purcell as a major node in the proposed South Extension Turnpike and the I-35 Purcell NB and SB bridges are essential to the project. The proposed South Extension Turnpike expands the mobility of the southeast Oklahoma City metro area by providing greater access to local communities, including the city of Purcell.

Community Impact

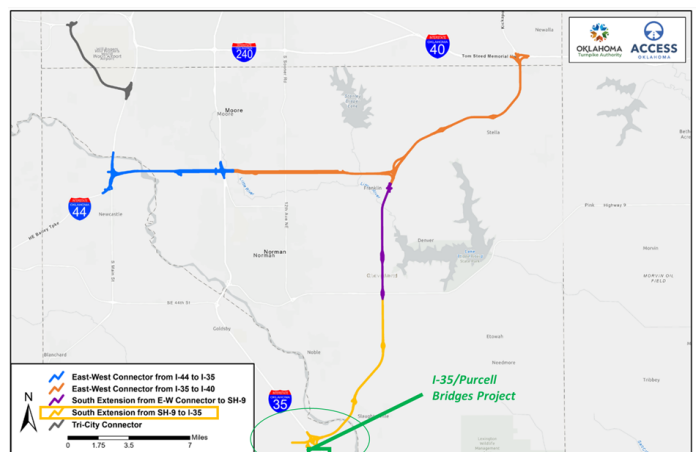
One unique aspect of the Project is the tremendous community impact the bridges will offer to the city of Purcell, the surrounding communities, and the Oklahoma metro area.

The Project will provide, for the first time, access to the north end of the City of Purcell and a secondary main entrance into the community from both northbound and southbound I-35, which is not in place today. As mentioned previously, in 2022, a new hospital will open immediately adjacent to the project area. This access allows emergency services quicker access to incidents along I-35 and to the hospital. As a critical north-south corridor, the Project will replace the two existing bridges which do not meet current and future traffic demand. It will also provide a safe connection with sufficient capacity and will improve mobility for all users in the core I-35 corridor. Future traffic volumes will far exceed the capacity of the existing bridges and reliability will be improved with increased capacity, as well as the additional shoulder width to provide a safer facility allowing incidents to be cleared away more quickly and emergency services better and quicker access.

The Project provides access, for the first time, to the north Purcell community, increasing connectivity and multimodal access for residents and visitors.



Source: <https://oklahoma.gov/odot/citizen/newsroom/2021/november/preferred-alternative-announced-for-future-i-35-interchange-at-s.html>



Source: https://www.accessoklahoma.com/_files/ugd/7181a5_5041bb7ffe7846f5b87c1c4448a841d4.pdf

A final critical component of the new bridges is providing accommodation for bicycles and pedestrians, where none exists today. The new bicycle and pedestrian facilities provide a link into Purcell to access critical services, jobs, training, and also provide a recreational link to the future Purcell trail network.

The 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. The project has a direct effect on the supply chain and on freight delivery due to limited traffic capacity and Functionally Obsolete status due to under bridge vertical clearance. The economic impact of potential bottlenecks or delays is high and impacts inflation and overall product delivery. Replacing the I-35 Purcell bridges increases mobility for truck and people movement and improves supply chain logistics.

ODOT Coordination with FHWA

The Oklahoma Department of Transportation is the lead applicant for the 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. The city of Purcell is an active partner in the project and understands the importance of leveraging local and state dollars to bring additional federal funding into the state of Oklahoma and maximize all resources. The city is funding the design fees, ROW and utility relocations. Approximately \$4.9M will be incurred by the city to complete preliminary engineering surveys, environmental, and preliminary design. The Project is at 65 percent design stage.

ODOT has a successful history of partnering with other agencies including local governments and tribal nations to complete projects.





II. NATIONAL BRIDGE INVENTORY DATA

The I-35 Purcell Bridges Project includes two bridges on I-35 traversing over SH-74. Both bridges were built in 1967, rehabilitated in 2017, and consist of steel girder sections. Both bridges are 106.96 ft long with a bridge roadway width from curb-to-curb of 38.06 ft. They have a deck width, outside-to-outside of 39.70 feet each, and an approach roadway width of 38.00 ft each. The minimum vertical under clearance is 14.75 ft (NB bridge) and 14.73 ft (SB bridge).

The Project NB and SB bridges have a structural appraisal rating of 2, which is defined as Intolerable, requiring a high priority of replacement due to the vertical/horizontal under clearance. The next category below 2 is bridge closure; thus, re-enforcing the high priority for this Purcell project. Although both bridges are rated a 9-excellent, according to the 2021 NBI bridge inspection report, they are rated functionally obsolete (FO) due to the vertical clearance. The bridges do not have adequate traffic capacity, nor the vertical clearance to serve current traffic demand.

The NB and SB bridges were built in 1967 at a time when bridges were constructed with a 50-year design life. Currently, both bridges are beyond the intended design life. The bridges also present inadequate vertical clearance over SH-74.

In 2017, the bridges were rehabilitated and are in good condition according to the 2021 NBI bridge inspection report. For both bridges, the deck and superstructure had a condition rating of 9 (Excellent), while the substructure had a condition rating of 7 (Good).

The Purcell bridges project improves the condition of the NB and SB bridges, but most importantly moves the bridge out of the functionally obsolete category for Oklahoma bridges and corrects the vertical/horizontal clearance to current design standards.

- 406 Oklahoma structure number 4405 1252EX0
 - This northbound bridge consists of two lanes carrying an Average Daily Traffic (ADT) of 14,950 with 36% of that being the Average Daily Truck Traffic. According to the National Bridge Inventory- Bridge and Safety Inspection on 9/2/2021, the deck and superstructure condition are both rated at a 9 (Excellent) while the substructure is rated at a 7 (Good).
- 406 Oklahoma structure number 4405 1252WX
 - This southbound bridge consists of two lanes carrying an ADT of 15,100 with 36% of that being the Average Daily Truck Traffic. According to the National Bridge Inventory- Bridge and Safety Inspection on 9/2/2021, the deck and superstructure condition are both rated at a 9 (Excellent) while the substructure is rated at a 7 (Good).

III. PROJECT COSTS -GRANT FUNDS, SOURCES, AND USE OF ALL PROJECT FUNDING

The Project is a coordinated effort among many partners – the city of Purcell, ODOT, and FHWA, who understand the importance of leveraging local and state dollars to bring additional federal funding into the state of Oklahoma and maximize all resources.

The city of Purcell is funding the design fees, Right of Way (ROW) and utility relocations. Approximately \$1.39M has been incurred by the city to complete preliminary engineering surveys, environmental services, and preliminary design. To complete the

design and purchase ROW, an additional \$3.05M will be paid by the city. All \$4.89M of the city-funded costs are considered ineligible for the purposes of this BIP grant application. The Project is at 65 percent design stage. The total project cost for the Project is \$42.01M. The total eligible cost for the project is \$37.12M and ODOT is requesting \$18.56M (50%) from the BIP grant program to complete the project. ODOT state funding will overmatch and provide approximately 50 percent to cover the remaining project costs. A 10 percent contingency is built into the future project costs.

ODOT will utilize \$18.56M Oklahoma State funds and \$4.89M from the City of Purcell to fund the \$42.01M of the project. The remaining \$18.56M is being requested from the BIP grant program. The ODOT funding has been allocated and is available upon award of the BIP grant award.

The table below shows the previously incurred costs and future costs of the I-35 Purcell Bridge Project.

	Local Match - Ineligible Costs		Total Non-Federal Funding and Percent		Other Federal Funds		BIP Grant	Total Federal Funding and Percent	Total Bundle Cost
	Previously Incurred	Future	Previously Incurred	Future	Previously Incurred	Future	Future		
Surveys	\$100,000	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$100,000
Environmental	\$90,000	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$90,000
Design	\$600,000	\$300,000	\$-	\$-	\$-	\$-	\$-	\$-	\$900,000
ROW	\$600,000	\$3,200,000	\$-	\$-	\$-	\$-	\$-	\$-	\$3,800,000
Const., Eng., Inspect	\$-	\$-	\$-	\$18,560,000	\$-	\$-	\$18,560,000	\$18,560,000	\$37,120,000
TOTAL	\$1,390,000	\$3,500,000	\$-	\$18,560,000	\$-	\$-	\$18,560,000	\$18,560,000	\$42,010,000
Total Eligible Costs			\$-	\$18,560,000	\$-	\$-	\$18,560,000	\$18,560,000	\$37,120,000
%	NA	NA	0%	50%	0%	0%	50%	50%	100%



IV. PROJECT OUTCOME CRITERIA

The following sections discuss the Project and how the project meets the required criteria for the BIP grant. When the new bridges are constructed, all current design criteria will be in place and the new bridges will be able to accommodate future traffic demand, improve the efficiency and reliability of the movement of people and freight, increase resiliency, and provide bicycle and pedestrian accommodations. This Project meets each of the BIP goals and is anticipated to be highly responsive to USDOT’s selection criteria.

Criterion #1: State of Good Repair

The Project NB and SB bridges have a structural appraisal rating of 2, which is defined as Intolerable, requiring a high priority of replacement due to the vertical/horizontal under clearance. The next category below 2 is bridge closure; thus, re-enforcing the high priority for this Purcell project. Although both bridges are rated a 9-excellent, based on the physical conditions of the deck and superstructure, according to the 2021 NBI bridge inspection report, they are rated functionally obsolete (FO) due to the vertical clearance. In the near-term (within three years), the two bridges will not move out of the FO rating until the bridges are replaced.

The 2020 average annual daily traffic (AADT) on both bridges is 28,508 vehicles per day (vpd), which is expected to grow to 31,475 vpd by 2025 and 40,086 vpd by 2045, respectively. The average daily truck traffic is currently 34 percent, which means that nearly 10,000 trucks per day cross the two bridges.

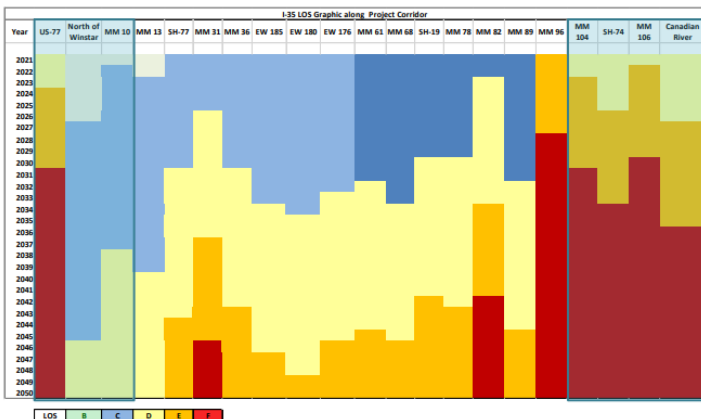
According to ODOT traffic Level of Service (LOS) projections, the bridges currently operate at LOS C, moving to LOS D in 2025, and worsen to LOS F in 2034. The projected traffic volumes for the I-35 core corridor, including Purcell, discussed above will have a significant bottleneck if these bridges only serve two lanes per direction.

The I-35 NB and SB bridges provide two 12-foot lanes in each direction with 4-foot inside shoulders and 10-foot outside shoulders. Because the Purcell bridges are located within the ODOT-defined core area of I-35, improvements are needed to provide adequate traffic capacity on both the NB and SB bridges.

ODOT’s plan is to widen the I-35 corridor in the core area to 3 lanes in each direction, with 10-foot wide inside and outside shoulders. Also, the existing bridges do not allow for accommodations of bicycle and pedestrian movements along SH-74 under the bridges. The replacement of these two existing bridges will meet a critical long-term ODOT plan priority with additional lanes and shoulder width, meeting the core I-35 corridor future capacity demands.

The NB and SB bridges were built in 1967 at a time when bridges were constructed with a 50-year design life. Currently, both bridges are beyond the intended design life. The bridges were rehabilitated and are in good condition according to the 2021 NBI bridge inspection report. For both bridges, the deck and superstructure had a condition rating of 9 (Excellent), while the substructure had a condition rating of 7 (Good).

The Project improves the condition of the NB and SB bridges and significantly extends the useful life of the two structures. The bridge replacement project moves the bridges out of the functionally obsolete category and upgrades the vertical and horizontal clearances to current design standards. The replacement of both NB and SB bridges at this location improves safety, and also increases capacity, efficiency, and reliability of operational and multimodal needs in the project area. The bridges do not have adequate traffic capacity, nor adequate vertical clearance, which combined with increased emergency response times and additional travel time in the event of a complete shut-down of the bridges, are important safety issues.



Source: <https://oklahoma.gov/content/dam/ok/en/odot/federal-grants/mpdg/2022/Priority-Improvements-for-the-I-35-Corridor/project-information/2.Narrative.pdf>

The addition of a bicycle-pedestrian path to the project provides multimodal connections for residents and visitors to the Purcell area. Thus, the Purcell bridge project assists in the safety and efficiency of truck/auto movement and accommodates alternative modes of transportation for bicycle and pedestrian traffic in Purcell.

This project contributes to the State of Good Repair criteria by providing a six-lane set of bridges with sufficient capacity to meet anticipated future traffic demand and geometry consistent with today's design standards. The Project will also add accommodation for bicycles and pedestrians at SH-74 where none exists today. The new structure will have a design life of 75 years and will remove a bridge with deficient horizontal and vertical clearances.

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. ODOT LRTP reports that between 2016 and 2017, 911 earthquakes M3+ were recorded. ODOT uses United States Geological Service's (USGS) ShakeCast program to identify potential areas for high chance of shaking damage. ODOT has also assisted with prioritizing bridge inspections promptly after a seismic event.

The accompanying heatmaps show areas in Oklahoma with lower to higher chances of experiencing seismic events and damaging shaking. The City of Purcell has a 2%-5% change of damage.

The environment plays a vital role to ODOT and the City of Purcell; as such, the I-35 new access interchange will be constructed in an environmentally sustainable manner in compliance with NEPA. The I-35 Purcell Bridge Project will provide long-term resiliency to extreme weather events.

The I-35 Purcell bridges were built prior to today's modern construction advancements. The proposed design will eliminate vulnerable features of the current bridges, such as inappropriate vertical clearance and other aspects of the design that need attention. While the bridges have held up well, it is important to consider they are past their design life expectancy. Residents of the City of Purcell and other nearby communities need new and reliable access to not only shorter emergency response time, but also to create the connection of their communities to commerce and tourist economy since this new interchange will connect I-35 traffic directly to the heart of the City of Purcell businesses. This interchange is also expected to connect to other future developments adjacent to the I-35 corridor in Purcell. Growth continues to spread in the project area with a late 2022 opening of a new hospital in the area and immediately adjacent to the Project area is a 400-unit planned residential development.

Figure 6-10. Oklahoma Area Seismicity and Chance of Damaging Shaking

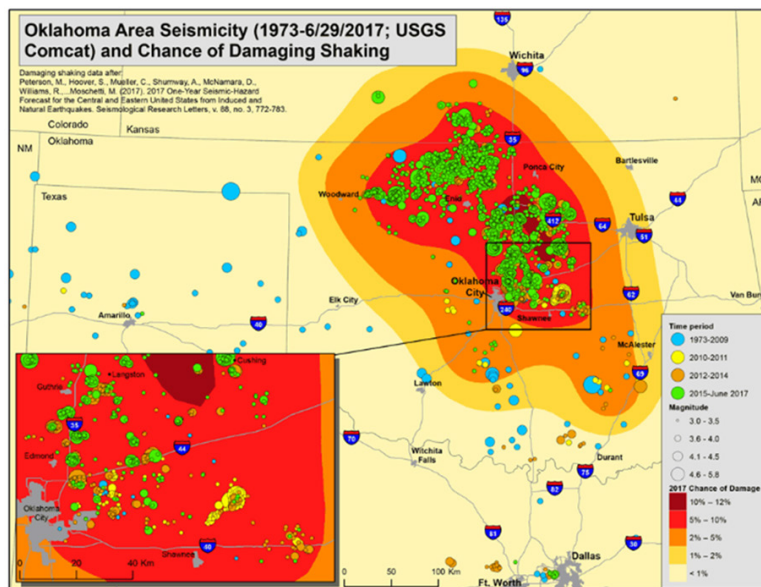


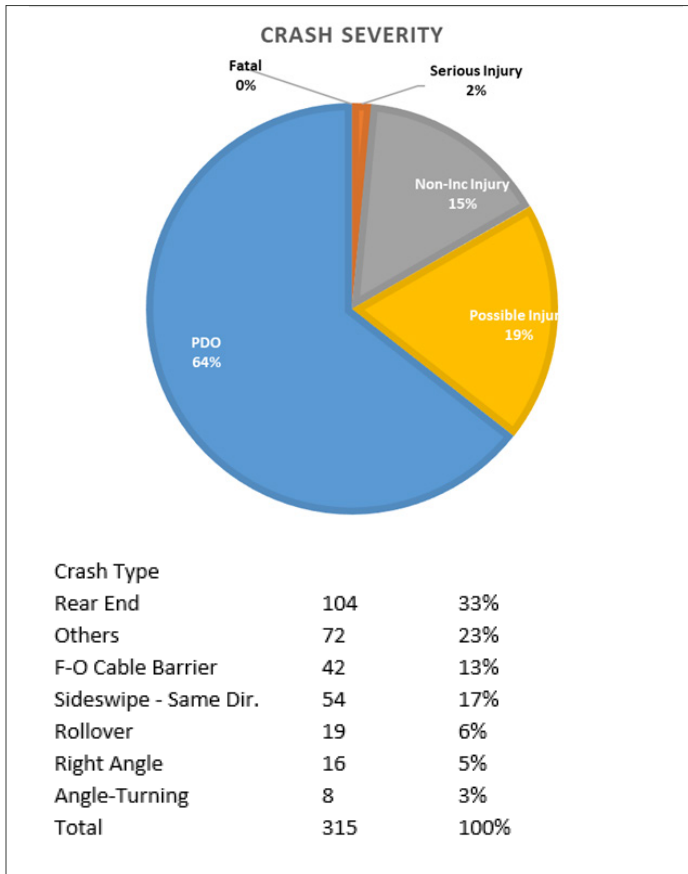
Image Source: U.S. Geological Survey (2017)

Source: <https://static1.squarespace.com/static/5cd1d280f9df7d00015c6297/t/5f5bbbb6785a5f69c44e3d04/1599847366823/Oklahoma+2045+LRTP+Final+August+2020.pdf>

Criterion #2: Safety

The I-35 study area as defined in the AJR had 315 crashes reported over a 5-year period from 2015 to 2019. Rear-end crashes, collisions with cable barrier, and sideswipes in the same direction accounted for 63% of the total crashes.

Injury crashes made up 17% of the crashes, an additional 19% were possible injury crashes, and the remaining 64% of crashes were property damage only (PDO), with no fatal crashes in the study period.



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

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 correct. The number of crashes may be expected to decrease by more than 2% according to the Federal Highway Administration (FHWA) Crash Modification Factor (CMF) Clearinghouse (CMF #4231).

With the new bridges, additional vertical clearance is provided on SH-74, increasing the existing 14'-9" vertical clearance to a minimum vertical clearance of 17'-6". Additional horizontal clearance is provided as well, increasing the width from the edge of lane to edge of bridge pier protection from 3 feet to 10 feet.

These additional clearances will decrease the probability of crashes with bridge and bridge-related infrastructure, especially for large or over-sized trucks. The additional vertical clearance will better accommodate tall trucks and decrease the risk of a truck collision with the bridge itself.

Criterion #3: Mobility and Economic Competitiveness

The Project NB and SB bridges had 2020 average annual daily traffic (AADT) on both bridges at 28,508 vehicles per day (vpd), with the average daily truck traffic at currently 34 percent, which means nearly 10,000 trucks per day cross the two bridges. Future development near the project site includes the late 2022 opening of a new hospital in the area and immediately adjacent to the Project is a 400-unit planned residential development. This project also connects I-35 traffic directly to the heart of the City of Purcell businesses and to other future developments adjacent to the I-35 corridor in Purcell. The new bridges will provide direct access to the north end of the Purcell and provide increased mobility throughout the city.



Without improvements to the I-35 Purcell bridges, the LOS is anticipated to worsen to LOS E in the next three years and LOS F by 2034 and result in significant congestion. The new bridges will improve safety and LOS, and remove bottlenecks created by the existing 2 lane NB and 2 lane SB bridges.

I-35 is the largest single north-south truck freight corridor in the central United States. It traverses six states and is on the NHS and NHFN. 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. The I-35 Purcell Bridges 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 and Functionally Obsolete status due to under bridge vertical clearance. The economic impact of potential bottlenecks or delays is high and impacts inflation and overall product delivery. Replacing the I-35 Purcell bridges increases mobility for truck and people movement and improves supply chain logistics.

As discussed in Criteria #1, State of Good Repair, the existing I-35 Purcell bridges do 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 Purcell bridges.

Criterion #4: Climate Change, 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. As discussed in the previous section and the State of Good Repair, traffic volumes are projected to grow significantly by 2050. If there are no improvements to the I-35 Purcell bridges, traffic operations will worsen to LOS F, which will be severe congestion. Stop and go conditions will increase air pollution as vehicles spend more time idling.

The I-35 Purcell new bridges will bring air quality improvements to the entire Oklahoma City urbanized area and the project also offers additional connections to potential trails in the Purcell area that promote healthier, active travel.

A Reconnaissance Report was completed in 2018 for ODOT for the I-35 Purcell bridges. The report addressed the project area, including identifying the minority population and low-income population census tracts.

The US Census Bureau 2016-2020 ACS 5-year estimates report 14 percent minority population in Purcell and 13 percent of the Purcell population are below poverty income levels. The I-35 Purcell bridges project will provide additional access to jobs, services, and opportunities for all population groups, including disadvantaged populations.

In the previous State of Good Repair Section, the resiliency of the I-35 Purcell Bridge Project was discussed in detail. 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. The city of Purcell has a 2%-5% change of damage. ODOT and the city of Purcell will incorporate advanced design concepts to support long-term resiliency to extreme weather events.



Criterion #5: Quality of Life

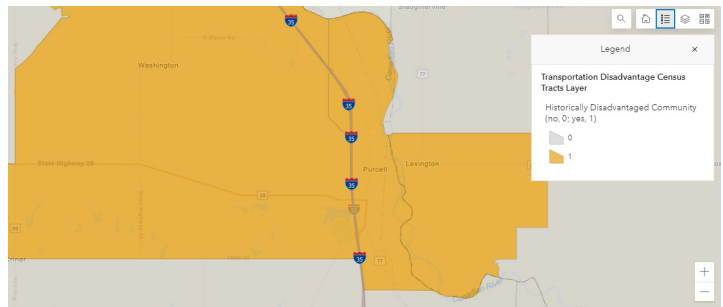
The I-35 Purcell Bridges Project will improve the quality of life for local, regional, and national users. As a vital north-south corridor, the new bridges will provide a safe viable mode that can provide sufficient capacity for current and future demand and will improve mobility for all users. Future traffic volumes of over 40,000 vpd far exceed the capacity of the existing 2 lane NB and SB facility. The increased capacity of the new bridges 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.

The Project also includes accommodations for bicycle and pedestrian facilities. The new facilities provide an opportunity to connect to the future Purcell trail network with links to neighborhoods, medical services, downtown, and higher education campuses.

A Feasibility Study was conducted by the city of Purcell in 2019 to discuss different alternatives and move forward with further study. Due to the COVID-19 pandemic and potential increased outbreaks, the Public Open House meetings were held virtually in January and February 2021. The Public Open House materials included a project handout, presentation, interactive project map, interactive survey and project alternatives. A total of 123 written comments/questions were received during the virtual meetings. The website below provides additional information that was incorporated into the next phases of the design.

[I-35 Interchange Public Meeting](#)

From the beginning of the Project, the city of Purcell, ODOT, and FHWA engaged multiple partners and stakeholders for the planning of the project. These included the city of Purcell, ODOT, McClain County, Federal Highway Administration (FHWA), and ACOG. The planning for the bridges project including outreach to community organizations, residents, and business leaders in Purcell and the surrounding areas to talk about the project, review alternatives, and discuss the advantages and disadvantages of the project locations. This included the Purcell urban area and surrounding rural areas. A website was organized by ODOT for access to information about the project, in Spanish and English, at any time.



A. State ↑	B. County	C. Census Tract Name	E. APP - COUNTY Meets ...	F. APP - CENSUS TRACT ...	G. HDC - CENSUS TRACT ...
Oklahoma	McClain County	Census Tract 4001.01	No	No	No
Oklahoma	McClain County	Census Tract 4001.02	No	No	No
Oklahoma	McClain County	Census Tract 4002.01	No	No	No
Oklahoma	McClain County	Census Tract 4002.02	No	No	Yes
Oklahoma	McClain County	Census Tract 4003	No	No	Yes
Oklahoma	McClain County	Census Tract 4004	No	No	No

Comments received during the Feasibility Study were diverse and covered a range of topics from locations and impacts on neighborhoods, access points, schedule and cost of project.

There are two Census Tracts in the project area (4002.02 and 4003). While the I-35 Purcell project is not located within an area of Persistent Poverty, both Census Tracts classify as Historically Disadvantaged Communities 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 by increasing access to the transportation network for these populations.

Criterion #6: Innovation

The Project has opportunities for innovation in the project financing, design, and coordination of both bridges into a larger project, taking advantage of cost savings and economies of scale. The city of Purcell, ODOT, and FHWA incorporated innovative financing by bundling this replacement bridges project with the full interchange project. In addition, the city of Purcell and ODOT provided an overmatch for funding this project, which was creative use of local and state funds.

Other innovative construction techniques include the requirement of Work-zone Management and Traffic Incident Management strategies into the construction documents. This will reduce work-zone delays and secondary crashes.

V. BENEFIT-COST ANALYSIS

The 30-year benefit-cost analysis (BCA) for the proposed project identifies numerous quantified benefits that are anticipated to be realized. The BCA was conducted in accordance with the methodologies outlined in the USDOT March 2022 “Benefit-Cost Analysis Guidance for Discretionary Grant Programs” document. The BCA was largely based on the assumptions provided by ODOT from the July 2022 Access Justification Report (AJR). Although the benefit-cost ratio is estimated to be less than 1.0, it does not diminish the need for improvements nor accounts for all benefits that will be realized with the proposed project.

In particular, the addition of a bicycle/pedestrian path to the Project provides multimodal connections for residents and visitors to the Purcell area which accommodates alternative modes of transportation for increased mobility. No facilities exist today. The new facilities offer Purcell residents and visitors an opportunity for an increased quality of life. The Project provides a multimodal link for the future trail network in Purcell.



Benefit-Cost Category	Present Value at 7%/3%* Discount Rate
Travel Time Savings	\$3,990,611
Vehicle Operating Cost Savings	(\$157,216)
Emissions Savings	(\$27,851)
Safety Benefits	\$1,026,664
Pedestrian Improvement Benefits	\$2,025
Cycling Improvement Benefits	\$575
Health Benefits	\$11,257
Emergency Services Benefits	\$9,696,706
Operations & Maintenance Savings	\$187,387
Residual Value	\$865,419
Total Benefits	\$15,595,579
Estimated Capital Costs	\$28,680,329
Benefit-Cost Ratio	0.54

*All benefits and costs are discounted at 7% except for CO2 emissions, which are discounted at 3% per USDOT BCA Guidance (March 2022).

VI. PROJECT READINESS AND ENVIRONMENTAL RISK

The city of Purcell, ODOT, and FHWA began planning for the I-35 Purcell Bridges Project in 2018 with a Feasibility Study, followed by the 2018 ODOT Reconnaissance Report collecting data for the two bridges and immediate adjoining properties. An Alternatives Analysis was conducted in 2021 reviewing side design options. These preliminary documents provided background data feeding into the 2022 AJR. These planning studies are required to continue final design for the project site. Prior to the AJR, ODOT conducted virtual Public Open Houses in January/February 2021 to give an opportunity to residents, businesses, and visitors to give input on the project.

The purpose and need for the project were identified and guided the planning and design documents. The city of Purcell and ODOT studied several alternatives for the site. The city of Purcell completed the AJR in July 2022 and is in the process of completing the National Environmental Protection Act (NEPA) process to receive approval for a new interchange on I-35 at SH-74. A full AJR will be submitted after the completion of the NEPA process for final approval.

The AJR included a summary of the Alternatives Analysis study, and the Proposed Action is a new, full movement, diamond interchange.

The city of Purcell seeks from ODOT a favorable determination of safety, operations, and engineering acceptability for a new, full movement, diamond interchange to I-35 at SH-74 (West Grant Street) within the city of Purcell, Oklahoma.

The I-35 Purcell Project Schedule is shown below.

The schedule provides a high-level timeline for the necessary activities for the I-35 Purcell Bridges Project. The project is ready for the steps needed to move to the next stage of the project within the 12 months of the Finding of No Significant Impacts (FONSI). The Project is currently at 65 percent design and will move to construction quickly upon the obligation of funds. All real property and right-of-way acquisition necessary for the project will be completed in a timely manner in accordance with federal regulations.

ODOT anticipates the final decision for the FONSI in September 2022; thus, allowing the next phases to begin for final design.

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.

Task	Year								
	2018	2019	2020	2021	2022	2023	2024	2025	2026
Feasibility Study	X	X							
Reconnaissance Data Collection		X							
Surveys		X							
Environmental				X	X				
Design				X	X	X	X		
ROW						X	X		
Construction								X	X

Tract 40087400202,40087400300, OKLAHOMA, EPA Region 6 (Population: 15,290)

Environmental Justice Indexes

Pollution and Sources

Socioeconomic Indicators

[Unselect All]

Demographic Index

People of Color

Low Income

Unemployment Rate

Linguistically Isolated

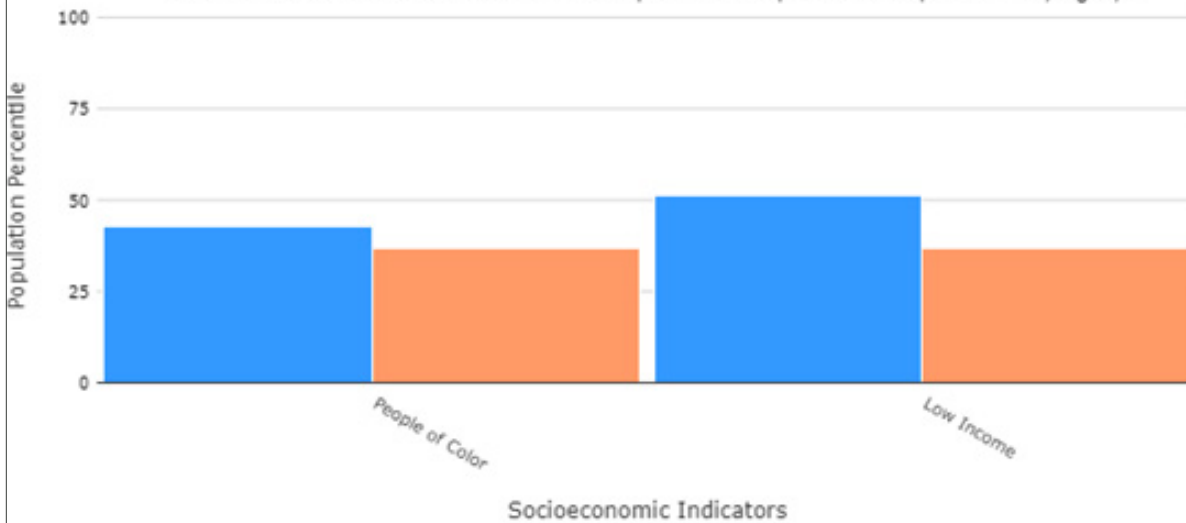
Less Than High School Education

Under Age 5

Over Age 64

State Percentile Regional Percentile USA Percentile

Socioeconomic Indicators for the Selected Area Compared to All People's Block Groups in the State/Region/US



ODOT has followed Title VI procedures as established in the Plan throughout the duration of the project. This included collecting and evaluating data on minority populations in the affected area, ensuring meaningful opportunities for public comment from Title VI protected populations, and evaluate and mitigate any potential disparate impacts of project components.

In support of this analysis, the Environmental Protection Agency's EJ Screen tool was used to determine the percent of the population in the affected Census Tract for people of color or low income. Compared to the state of Oklahoma, the two impacted Census Tracts combined are in the 37th percentile for both the People of Color and Low-Income populations.

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 Project is included in the ACOG LRTP, the statewide transportation improvement program (STIP) and the transportation improvement program (TIP). The project has broad public support, including support from impacted communities. The project is consistent with other local and regional planning documents.

ODOT and the city of Purcell project management team are familiar with the risk management guidance published by FHWA and have followed those guidelines and best practices for this I-35 Purcell Bridges 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.



VII. PROJECT PRIORITY CONSIDERATIONS

The I-35/Purcell Bridges Project supports the 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 emphasis of safety, efficiency, and reliability of movement, in addition to improving the conditions of bridges, and leveraging non-Federal funding for eligible projects are priority areas for this project. In addition, the I-35 Purcell Bridges Project is not a project solely for culvert replacement/rehabilitation, but for 2 replacement bridges on I-35, the largest north-south truck freight corridor in the central United States.

The emphasis of safety, efficiency, and increased multimodal activity, in addition to improving the conditions of bridges, and leveraging non-Federal funding for eligible projects are priority areas for this project.

