Bridge Investment Program: Large Bridge Grant Narrative

CROSSROADS-OF-AMERICA: Replacing Bridges on I-35/I-240 in Oklahoma City

August 1, 2024

Grant Request:	Total Project Cost:
$61,250,000	**$122,500,000**

Daniel Nguyen, P.E., MBA
Director of Project Delivery
dnguyen@odot.org

OKLAHOMA Transportation

Contents

I. Basic Project Information

Project Description

The Oklahoma Department of Transportation (ODOT) requests $61,250,000 in Bridge Investment Program (BIP), Large Bridge Project Grant funds for the Crossroads of America: Replacing Bridges on I-35/I-240 in Oklahoma City Project (Project). The Project will overhaul a critical crossroad for the movement of people and goods. ODOT will replace the current outdated infrastructure with a safer, multilevel interchange featuring dedicated interstate ramps, frontage road turnaround lanes, and service roads for improved access to city streets. The Project will modernize the existing interchange and replace the structurally deficient I-240 bridge that runs over I-35. The Project will address safety issues by constructing new ramps and increasing merging distances, ensuring compatibility with current and anticipated traffic volumes. Furthermore, the transformation will alleviate congestion, improve operational challenges, and replace outdated elements with infrastructure that meets current standards to provide safer mobility and connections to job opportunities for a disadvantaged community that faces high transportation cost burdens. ODOT has adopted an innovative and strategic approach to the comprehensive reconstruction of this interchange, with a projected full buildout anticipated by 2028, well in advance of all Fiscal Year 2025 BIP expenditure deadlines.

Transportation Challenges

The Project aims to eliminate a crucial freight bottleneck in Oklahoma City, located within the National Highway Freight Network and Strategic Highway Network. I-35 is a major freight thoroughfare and is the roadway carrying the most truck traffic in the state of Oklahoma. Capacity issues on I-35 are a priority for ODOT identified in the state's **Forward 35 Plan**. The I--240 bridge has been rated as "Poor" and Structurally Deficient as of the most recent (2022) inspection; in addition, the existing pier locations reduce shoulder widths along I--35 (not meeting current geometric design standards), which results in the bridge's being listed as "Functionally Obsolete." The I-35/I-240 interchange design is outdated, consisting of too few lanes for accelerating and decelerating, and exit and entrance ramp loops that are challenging to safely operate through. Increasing development around the interchange has led to an increase in population and daily activity, resulting in greater traffic volumes. When paired with the bridge's outdated design and poor condition, the growth in traffic volume contributes to unsustainable congestion and unsafe driving conditions for all users.

The Project will improve mobility and access for local and regional traffic and freight, commuters, residents, and businesses. The enhanced mobility is expected to decrease travel times for freight on I-35 through Oklahoma City, consequently facilitating smoother supply chain movement because of reduced congestion and more predictable travel times. In the opening year for the Project, about 5.7 million freight trips will use the Project area, as described in the **Benefit-Cost Analysis (BCA) Memo**. In addition, the Project area falls within a Historically Disadvantaged Community, and residents will experience enhanced and fair access to good-paying jobs with the lower congestion, as well as improvements in air quality because of reduced emissions.

Advancing Bridge Investment Program Goals

This Project is fully aligned with the BIP objectives. The Project anticipates substantial infrastructure enhancements; it will improve transportation efficiency and reliability of the movement of people and freight through an important corridor. The Project will also enhance safety for commuters and reduce the number of bridges in poor condition in the National

Bridge Inventory within the next 3 years by replacing a bridge currently in poor condition. Additionally, the Project is expected to stimulate economic growth and facilitate the movement of goods and people, thereby contributing to regional prosperity. Within the broader context, the I-35/I-240 interchange serves as a vital component of ODOT's efforts to fortify the state's transportation infrastructure while supporting nationwide efforts to bring bridges into a state of good repair.

Project History and Future Phase

The I-35/I-240 bridge needs significant upgrades and repairs because of its age, outdated design, and poor condition. ODOT has already committed $140 million to the interchange's overall six-phase development. Two phases are complete (Phase 1 and 1A), which included the work in the southwestern quadrant. Phase 1B began construction on June 5, 2023, and includes work to complete the frontage road system. Funding requested in this application will go toward subsequent construction phases (Phases 2 through 4 – **Figure 1**), which are set to commence construction in 2026. Final Design is complete for Phases 2–3, and 90% design is complete for Phase 4 with an anticipated design completion in August 2024.

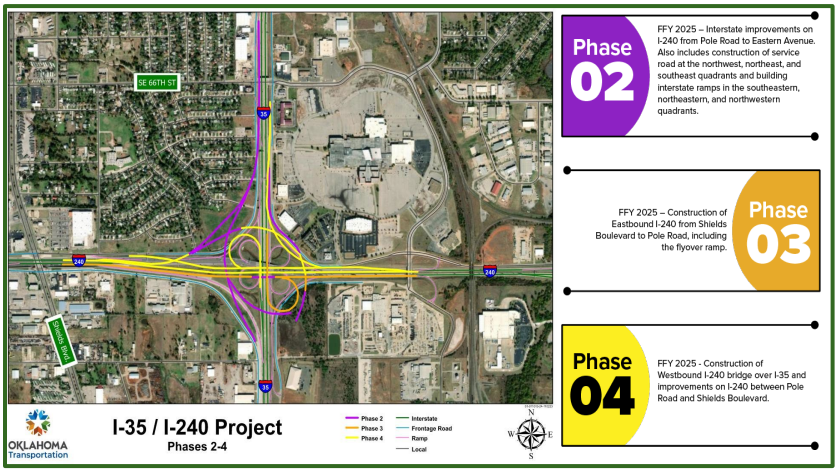


Figure 1. I-35/I-240 Interchange improvements

With BIP funding, these phases will be combined into a single, streamlined Project rather than delivered separately as originally planned, supporting an innovative model that will save costs and speed project delivery.

Figure 1 shows the specific improvements that will be included in each phase of the Project. The proposed bridge will be perpendicular over I-35, which is an adjustment to the bridge orientation that will require reconfiguring the roadway approaches on either end of the bridge to smooth out the existing horizontal curvature, accommodating ease in design and fabrication/construction methods.

Project Location

The Project is in southern Oklahoma City, Oklahoma County. The existing interchange will be upgraded to a three-level, semi-directional partial cloverleaf interchange along I-35, from SE 66th to SE 82nd and along I-240 from Santa Fe Avenue to Eastern Avenue (**Figure** 2). The bridge connects to I--240

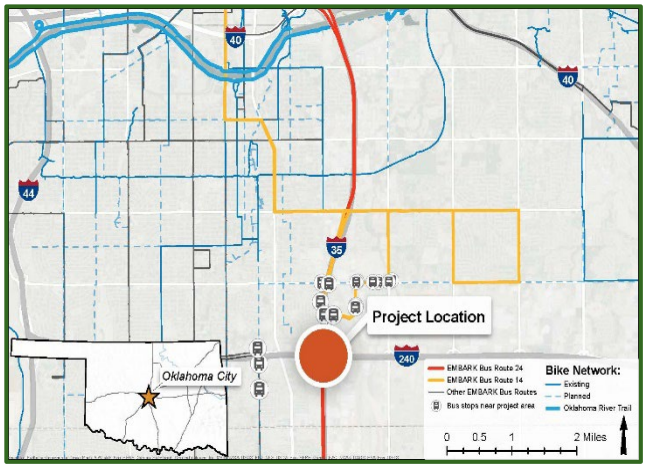


Figure 2. Project Location and Transportation Networks

running east toward Fort Smith, Arkansas, and west toward Lawton, and to I-35, which runs north and south toward downtown Oklahoma City and Dallas, Texas. The interchange is a major hub for connecting surrounding cities such as Moore, Norman, and Midwest City, Oklahoma, to the heart of Oklahoma City, including surrounding transit connectivity and bicycle infrastructure. The Project is within the district of the Association of Central Oklahoma Governments Metropolitan Planning Organization.

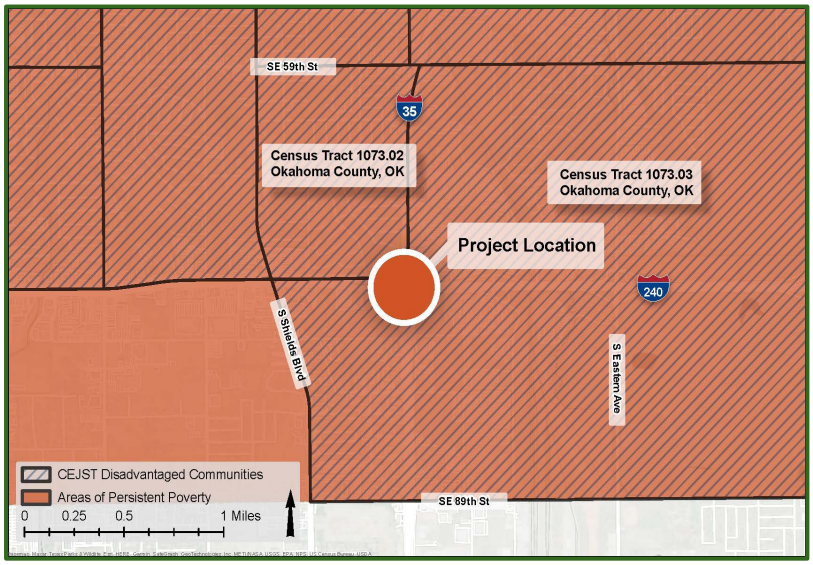


Figure 3. Project Location, Areas of Persistent Poverty, and Historically Disadvantaged Communities

Two census tracts are within the Project area (1073.02 and 1073.03), as shown on **Figure 3.** Both census tracts are classified as Areas of Persistent Poverty, according to the U.S. Department of Transportation (USDOT) criteria. In the 5-year period from 2014 to 2018, the poverty levels for 1073.02 and 1073.03 were 22.6% and 29.1%, respectively.

According to the Climate and Economic Justice Screening Tool (CEJST), the Project is in a Historically Disadvantaged Community. Many factors make the Project area a Historically Disadvantaged Community, according to the USDOT Equitable Transportation Community (ETC) Explorer. This includes the high cost of transportation. In the census tracts where the Project is located, the average household spends around 25% of their household income on transportation, which equates to about $11,000 a year. The median household income is between $36,000 and $38,000, indicating a high-cost burden of transportation. Also, according to Federal Highway Administration (FHWA) data from the 2020 census, the Project is in an urbanized area with an urbanized area population of greater than 200,000.

The Project is expected to have a strong, positive effect on the functioning and growth of the economy in this disadvantaged community. The Project supports a major connector between multiple interstates and will improve access to thousands of local jobs as well as educational opportunities and daily destinations for adjacent disadvantaged communities. In addition, the bridge will improve traffic flow at a location where the estimated cost of congestion is $10,000 to $20,000 per day according to the Oklahoma State Freight Plan, which identifies this location as a critical freight bottleneck.

Lead Applicant

As the Project sponsor, ODOT has the technical capacity to successfully deliver the Project, along with decades of experience with receipt and expenditure of federal transportation funds. ODOT has the technical expertise and resources dedicated to the Project to provide quality control throughout implementation, keep the public informed of the Project's progress, and confirm the Project meets all federal requirements. ODOT has a successful track record collaborating with various entities, including local governments and tribal nations, to deliver projects to construct, improve, and maintain Oklahoma's transportation infrastructure.

ODOT has also received hundreds of millions of dollars in federal discretionary funding and has experience managing large and complex projects funded in part by USDOT.

ODOT has a commitment to improving its bridge conditions. From 2004 to 2021, Oklahoma improved from 49th to 5th in the nation for highway bridge condition. The agency's 8-year plan marks the continuation of ODOT's commitment to improving bridges at risk of becoming structurally deficient. The plan addresses 290 bridges currently at risk of becoming structurally deficient. This Project will align with ODOT's progress to date of addressing safety and capacity improvements.

Other Public and Private Parties

No additional public or private parties will be involved in delivering the Project. ODOT has previously collaborated with the South Oklahoma City Chamber of Commerce, the City of Oklahoma City, and Oklahoma Gas & Electric, and ODOT's experience collaborating with these and other entities will facilitate project preparation and address complementary infrastructure needs in the vicinity as needed, ensuring the Project's overall success.

No private or non-private entity will receive a direct and predictable financial benefit if the Project is selected for award.

Additional Eligibility Requirements

Maintenance Commitment

ODOT will uphold the maintenance of the constructed bridge in alignment with the organization's **Transportation Asset Management Plan (TAMP),** which is discussed in the **Asset Management Plan** section. In addition to the TAMP, ODOT's comprehensive $500 million Asset Preservation Plan strategically targets issues pertaining to bridges, roadways, and accessibility. Leveraging funding support from the state legislature through the ODOT Rebuilding Oklahoma Access and Driver Safety (ROADS) initiative, ODOT has successfully reduced the number of structurally deficient bridges on Oklahoma highways. The commitment to ensuring that fewer than 1% of bridges in Oklahoma are structurally deficient has resulted in a remarkable reduction, from 1,068 in 2006 to 49 by 2023.

ODOT will allocate the funding for the Project's maintenance costs through their dedicated maintenance fund. The anticipated annual net maintenance expenses for the Project are estimated at $50,000 per year. The significant rehabilitation costs are projected to reach $15 million over 20 years in the absence of the Project. However, with the Project's implementation, these rehabilitation costs are reduced to $7.5 million, leading to substantial savings of $7.5 million.

Bike and Pedestrian Accommodation

For safety reasons, bicycle or pedestrian paths within the interchange itself cannot be accommodated, and bicyclists and pedestrians are not allowed to operate at either end of the bridge. Therefore, bicycle and pedestrian infrastructure is not included as a component of the Project. However, the Project will still meet bicycle and pedestrian requirements at the terminal locations.

The nearby Oklahoma River Trails, situated north of the interchange along the picturesque Oklahoma River, offer a desirable option for cyclists and pedestrians and connect to internal roads (**Figure 2**). These trails serve as a valuable resource for those looking to explore the area on foot or by bike. The Project will alleviate traffic congestion surrounding the interchange, making it easier for residents to access these nearby trails conveniently.

Furthermore, ODOT has created an **Active Transportation Plan**. The initiative garnered extensive public engagement, with 893 survey responses and the participation of 170 individuals in online workshops. Additionally, ODOT's recently developed **Strategic Highway Safety Plan** is notable for incorporating the pioneering Vulnerable Road User Assessment, signifying a substantial stride toward bolstering road safety. ODOT has also implemented an educational campaign, **Watch for me OK**, to raise awareness of roadway safety and educate the public on how to stay safe when traveling on Oklahoma roads using any mode.

Asset Management Plan

The following three objectives identified in **ODOT's TAMP** are aligned and consistent with the Project:

- Infrastructure Preservation—Preserve and maintain the condition of Oklahoma's multimodal transportation system in a state of good repair through risk-based, data-driven decision-making processes. See **State of Good Repair**.
- Safety and Mobility—Ensure a safe and secure transportation system for all users and facilitate the movement of people and goods while improving connectivity. See Safety and Mobility.
- Economic Vitality—Provide a reliable multimodal transportation system for people and goods that coordinates with land development patterns, strengthens communities, and supports a healthy and competitive Oklahoma economy. See **Economic Competitiveness and Opportunity and Equity and Quality of Life**.

II. National Bridge Inventory Data

The Project bridge (National Bridge Inventory [NBI] Number 14493) carrying I-240 over I-35 is currently structurally deficient (latest inspection date in August 2022). According to the NBI, the superstructure condition received a rating of 4 – Poor, whereas both the deck condition and superstructure condition received a rating of 5 – Fair (At-Risk). Project **NBI data** are available in the attached Excel template for further insight.

III. Project Budget – Grant Funds, Sources, and Uses of all Project Funding

The total cost of the Project is $122,500,000, as shown in **Table 1**. This does not include previously incurred costs, which are shown in **Table 2**. The total cost includes Phase 2 through Phase 4, which will be combined into a single Project with the availability of BIP funds to streamline Project delivery and save costs.

The cost of the Project includes 6% for construction management activities and a 20% contingency, both based on the engineer's estimate. Project cost estimates are based on final design for Phases 2–3 and 90% design for Phase 4.

Table 1. Cost by Project Phase

JP No.	Description	Engineer's Estimate	Construction Management (6%)	Contingency (20%)	Cost
09032(06)	I-35 @ the I-240 Junction (Phase 2) Reconstruct Interchange	$38,888,900	$2,333,320	$7,777,780	$49,000,000

JP No.	Description	Engineer's Estimate	Construction Management (6%)	Contingency (20%)	Cost
09032(07)	I-35 @ the I-240 Junction (Phase 3) Reconstruct Interchange SMC 90/10	$14,777,780	$886,664	$2,955,556	$18,620,000
09032(08)	I-35 @ the I-240 Junction (Phase 4) Reconstruct Interchange	$43,555,555	$2,613,334	$8,711,111	$54,880,000
			Estimated Total Project Cost	$122,500,000	

Previously incurred costs are shown in **Table 2**.

Table 2. Previously Incurred Costs

Item	Federal	State	Total
ROW and Utilities	$38,326,670	$6,121,000	$44,447,670
Previous Construction	$95,936,256	$900,000	$96,836,256
Engineering	$7,676,758	$1,919,189	$9,595,947

The estimated total Project cost of $122,500,000 is for construction activities only, including a 20% contingency. ODOT is requesting $61,250,000 in BIP funds, 50% of the total Project cost for Phase 2 through Phase 4, as shown in **Table 3** and on **Figure 4**.

Table 3. Sources and Uses of Funds by Component (Including Percent Share)

JP No.	Description	BIP Funds (50%)	Other Federal Funds (25%)	Non-Federal Funds (25%)	Cost (100%)
09032(06)	I-35 @ the I-240 Junction (Phase 2) Reconstruct Interchange	$24,500,000	$12,250,000	$12,250,000	$49,000,000
09032(07)	I-35 @ the I-240 Junction (Phase 3) Reconstruct Interchange SMC 90/10	$9,310,000	$4,655,000	$4,655,000	$18,620,000
09032(08)	I-35 @ the I-240 Junction (Phase 4) Reconstruct Interchange	$27,440,000	$13,720,000	$13,720,000	$54,880,000
TOTAL		**$61,250,000**	**$30,625,000**	**$30,625,000**	**$122,500,000**

ODOT will allocate an additional $30,625,000 (25%) from other federal funds. These other federal funding sources include formula programs such as the Surface Transportation Block Grant, the National Highway Performance Program, and the Bridge Formula Program. The remaining $30,625,000 (25%) of Project funding will come from a local match that ODOT will contribute using ROADS funds. A complete breakdown of the costs and percentages are shown on **Figure 4** and in **Table 3**.

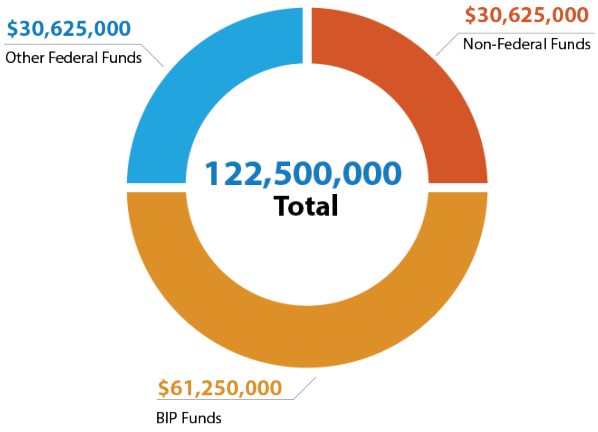


Figure 4. Sources of Funds

The inclusion of BIP funding is instrumental in advancing the Project's completion. Rather than waiting for funding in each phase, the BIP funds enable simultaneous progress

across all phases, enhancing overall Project efficiency and ensuring a more seamless and timely completion.

The cost breakdown by each cost classification used on the Standard Form 424C is shown in **Table 4**. Costs for Project Inspection Fees have been included in the Total Project Costs. In addition, a substantial contingency of $19,444,447 is included to prevent delay in case of cost overruns.

Table 4 Breakdown by Standard Form 424C Cost Categories

Cost Classification	Total Cost	Costs Not Allowable	Total Allowable Costs
Project Inspection Fees	$5,833,318	N/A	$5,833,318
Construction	$97,222,235	N/A	$97,222,235
Subtotal	$103,055,553	N/A	$103,055,553
Contingencies	$19,444,447	N/A	$19,444,447
Total Project Costs	$122,500,000	N/A	$122,500,000

IV. Merit Criteria

State of Good Repair

Improving the Condition of a Bridge in Poor Condition

Figure 5. Current Pavement Condition

The I-35/I-240 bridge needs significant upgrades and repairs because of its age, outdated design, and poor condition. As of the 2022 inspection date, the overall bridge condition was rated "Poor," and the bridge was determined to be Structurally Deficient. The inspection conducted in August 2022, as documented in the **ODOT Bridge Inspection Report**, revealed numerous instances of moderate to large delamination on each cap in several areas. Consequently, the reduction in substructure condition resulted in the bridge's Structural Deficiency rating. This, as well as the superstructure and deck elements' being At Risk in terms of condition assessment, has led to the need for reconstruction.

The original I-35 bridge was constructed in 1959 and later reconstructed in 1981 to repair various components, widen the structure, and replace the deck. In addition to the bridge's being rated as "Poor" and Structurally Deficient as of the 2022 inspection, the existing pier locations reducing shoulder widths along I--35 (not meeting current geometric design standards) result in the bridge's being listed as "Functionally Obsolete." This condition presents a safety risk and will be remedied by the Project.

Furthermore, the pavement condition is notably poor, as evident from visible cracks and spalling (**Figure 5)**. According to the 2022 Bridge Inspection Report, the bridge deck showcases spalls and patches in the westbound lanes, along with extensive areas of asphalt patching identified at the western end of the span (**Figure 6**). Addressing these issues promptly is crucial to enhancing safety and providing a smoother driving experience for commuters.

Figure 6. Existing Bridge Condition

Transportation Network Efficiency and Mobility of Goods

The bridge's current pier spacing limits mobility for both people and goods passing through this critical corridor for freight and access to opportunities. Work to overhaul the interchange is a necessity because of inadequate capacity caused by the bridge's current pier spacing, poorly spaced access, substandard bridge and ramp configurations, and accommodation for future traffic projections.

Although I-35 is vitally important to the state of Oklahoma in many ways, its importance for freight traffic in particular cannot be overstated. I-35 carries the highest volume of truck traffic in the state, with more than 8,000 trucks traversing the interstate daily, linking Oklahoma to neighboring states Texas and Kansas and connecting Mexico to Canada. ODOT is actively updating **programming** to address future needs for this busy corridor, a key player in interstate mobility, economic development, and freight traffic in the central United States.

Similarly, I-240 is an essential connector for citizens of the Oklahoma City Metropolitan Area because it provides access to major employers and destinations such as Tinker Air Force Base, the largest single-site employer in Oklahoma, and Will Rogers World Airport. If the I-240 bridge over I-35 shuts down for any reason, it would not only interrupt local and regional traffic in south Oklahoma City but also disrupt interstate and international commerce. These two Interstate Strategic Highway Network routes play a crucial role in the U.S. economy, defense, and mobility. Therefore, replacing the bridge before the poor condition worsens or becomes load-posted is crucial for the communities and economies of Oklahoma, the region, and the nation.

The Project design includes improvements to modernize the infrastructure to provide more efficient mobility for people and goods. Traffic will exit the interstate before approaching a crossroad to avoid congestion caused by slowing speeds or last-minute lane changes of exiting vehicles. Clear and straightforward signs will be posted to avoid congestion and collisions from directional confusion. Speed and spacing guidelines will be followed for freeway ramps and entrances so approaching vehicles do not disrupt the flow of traffic on the interstate. The proposed bridge will be perpendicular over I-35, which is an adjustment to the bridge orientation that will require reconfiguring the roadway approaches on either end of the bridge to smooth out the existing horizontal curvature, accommodating ease in design and fabrication/construction methods.

This Project will address projected threats to future transportation network efficiency by reconstructing an interstate interchange with outdated geometrics, which includes replacing a structurally deficient bridge. Although the current bridge is at the end of its useful life, the replacement bridge will bolster the structural and functional resiliency of this interchange for decades to come, with ODOT aiming for the newly constructed bridge to have a 75-year service life.

Geometric Design Improvement

The Project aims to transform the existing interchange into a contemporary urban design, as the cloverleaf, once suitable in the 1970s, is now outdated and ineffective. The new bridge layout will feature a three-level, partial cloverleaf interchange system designed to facilitate smooth and consistent driver performance. This design adheres to guidelines and design criteria in the latest edition of the American Association of State Highway and Transportation Officials' (AASHTO) *A Policy on Geometric Design of Highways and Streets*. The existing design has deficient acceleration and deceleration lanes, along with tight radii in exit and entrance loop ramps (**Figure 7**). The Project addresses these issues by ensuring all entrance and exit ramps are well designed, providing safe and acceptable merge and diverge lengths throughout the interchange area. Additionally, the Project includes two new loop ramps—I-240 eastbound to I--35 northbound and I-240 westbound to I-35 southbound—aiming to enhance traffic flow. Further improvements include right exits and entrances only, maintaining single exits (except for eastbound I-240, which requires two exits for northbound and southbound I-35 movements). The design also includes two directional flyovers that facilitate seamless northbound I-35 to westbound I-240 and southbound I-35 to eastbound I-240 movements. Overall, the proposed design is poised to improve traffic operations on the interstate highways, fostering a more harmonious and efficient interaction with adjacent interchanges.

Figure 7. Existing Bridge

Resilience Elements

Seismic activity across the state has increased in frequency since the early 2010s, and the new bridge is designed to endure these ever more common seismic events. Additionally, ODOT has recently changed their bridge inspection response following seismic activity. Previously, ODOT bridge inspection crews would inspect all bridges within a certain radius of an earthquake epicenter, with the radius determined simply from the magnitude of the earthquake. In 2017, ODOT began using ShakeCast to generate a bridge inspection priority order based on factors such as proximity to the epicenter, bridge condition and age, and U.S. Geological Society seismic data. ShakeCast has enabled ODOT to enact a faster, more pinpointed response targeting the bridges most susceptible to damage caused by earthquakes.

Reducing Maintenance Costs

The anticipated annual net maintenance expenses for the Project are estimated at $50,000 per year. The significant rehabilitation costs are projected to reach $15 million in 2023 dollars over 20 years in the absence of the Project. If the existing bridge is not entirely replaced with a new structure, substantial rehabilitation efforts would be needed within a decade. Replacing this

bridge with one that meets current design standards defers major repair and rehabilitation costs into future years. The Project is expected to save over $7 million in planned repair and rehabilitation work on the roadway and bridge.

Consistency with Asset Management Plan

One of the major asset management objectives found in the **ODOT TAMP** is to improve and maintain bridge condition levels on the state highway system. From 2004 to 2021, Oklahoma improved from 49th to 5th in the nation for highway bridge condition. This Project aims to build on ODOT's success and continue addressing bridges that are structurally deficient or are at risk of becoming structurally deficient. The Project bridge condition had been classified as "Fair" until the most recent inspection in 2022, when it became classified as "Poor" after the substructure condition rating dropped. Additionally, reconstructing this structurally deficient bridge is consistent with one of the TAMP's key performance indicators to achieve and sustain less than 1% structurally deficient bridges.

Safety and Mobility

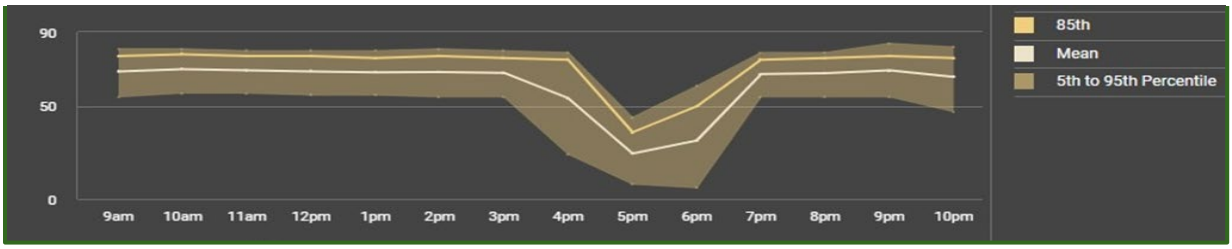
The I-35/I-240 interchange suffers from outdated design, including an inadequate number of lanes for accelerating and decelerating and tight turns on looped exit and entrance ramps. The surrounding area has seen continuous development over the last decade, which has contributed to population growth and a significant increase in traffic within the interchange. Greater traffic volume and inefficient design have contributed to the interchange's issues in recent years, with 2,585 reported crashes from 2012 to 2021 in the Project area, or almost one collision per day. The Project will address these concerns to dramatically improve safety and mobility on the roadway.

Significantly Reduces Fatalities or Serious Injuries and Targets Known Safety Problems

The Project is expected to avoid 4 fatalities, 713 injuries, and 2,169 instances of property damage resulting from vehicle collisions over the 20-year analysis period as determined by the **benefit-cost analysis**. Because of the high average daily traffic (ADT) and current roadway configuration, there have been frequent collisions at this location. In 2020, the high-volume I--35/I-240 interchange's reported ADT was 99,100 (ODOT Bridge Inspection Report [NBI No. 14493]).

Table 5 outlines the types of collisions during this period. The main type of collision on the interchange was rear-end (front-to-rear) collisions, which account for 1,676 of the 2,585 crashes during this period. Of the 1,676 rear-end crashes, 387 caused injuries. One of the main reasons rear-end collisions occur on freeways is because of high levels of congestion; for example, these crashes occur when traffic attempting to merge onto the interstate is forced to stop when other drivers are attempting to exit. These unsafe weaving zones are a result of the limited spacing between adjacent loop ramps. These rear-end crashes have lasting effects on the operational performance of traffic traveling throughout the interchange. As shown on **Figure 8**, during a severe crash that occurred along I--35 northbound in December 2021 at 4:00 p.m., traffic speeds in the northbound direction dipped 40 miles per hour (mph), and the effects of queuing and speed reduction persisted for 3 hours after the collision. The figure shows traffic speed over time in mph, including mean mph (white), the 85th percentile (yellow), and 5th to 95th percentile (brown).

Figure 8. Streetlight Data Analysis of I-35 Northbound Collision



Congestion is a concern at this location, and the Project will address congestion by increasing merging areas. Because there is direct correlation between Oklahoma City's growing population and the continuously increasing ADT, it is imperative to reconstruct and improve the interchange to accommodate usage and improve safety.

Table 5. Total Crashes 2012 to 2021

Collision Type	Fatal	Injury	Property Damage
Rear-End (front-to-rear)	0	387	1,289
Head On (front-to-front)	0	1	0
Right Angle (front-to-side)	0	5	5
Angle Turning	0	0	5
Other Angle	0	0	0
Sideswipe, Same Direction	0	72	373
Sideswipe, Opposite Direction	0	0	3
Fixed Object	5	101	215
Pedestrian	0	0	1
Pedal Cycle	0	0	0
Animal	0	2	0
Overturn/Rollover	0	45	27
Vehicle-Train	0	0	0
Other Single Vehicle Crash	0	4	5
Other	0	5	35
Totals	**5**	**622**	**1,958**

Protects Non-Motorized Users from Safety Risks

Transit riders living and working near the Project area will benefit from improved safety and reduced congestion resulting from the Project. Although bicycles and pedestrians are not included within the interchange or along the interstates for safety reasons, improved travel times and traffic flow through the interchange could decrease traffic on local streets surrounding the interchange, allowing pedestrians and cyclists to more safely access daily destinations on local streets, as discussed in **Equity and Quality of Life**.

Mobility of People and Freight

The Project seeks to enhance mobility, efficiency, and reliability in the movement of both people and freight by reducing congestion and improving traffic flow with the proposed design. The Project aims to provide faster and more predictable commutes while benefiting the movement of goods, including freight transported in large trucks. These improvements can boost the local and regional economy at this critical crossroads by reducing transportation delays and supporting a safer, more productive transportation system. This improved traffic

flow is anticipated to contribute to a robust and thriving economy in Oklahoma City, enhancing access to local and regional labor markets as well as recreational venues.

A Build versus No-Build analysis indicates the Project will reduce average annual vehicle hours traveled by 25,600 for automobiles and by 2,200 for trucks. The Project will reduce average annual person hours traveled by 42,700 for automobiles and by 2,200 for trucks. The total number of vehicle trips and related vehicle miles traveled will be comparable for both the Build and No-Build scenarios. Consequently, no anticipated difference is expected in the person miles traveled in the Project area. Refer to the **BCA Memo** for more details.

The Project's design aims to eliminate a critical freight bottleneck in Oklahoma City, located within the National Highway Freight Network and Strategic Highway Network. The enhanced mobility is expected to decrease travel times for freight on I-35 through Oklahoma City, consequently facilitating smoother supply-chain movement because of reduced congestion and more predictable travel times. As shown on **Figure 9**, I-35 has the greatest truck volume in the state; therefore, it is critical to eliminate operating hindrances caused by capacity restrictions. The Project will remove these deterrents by meeting design standards.

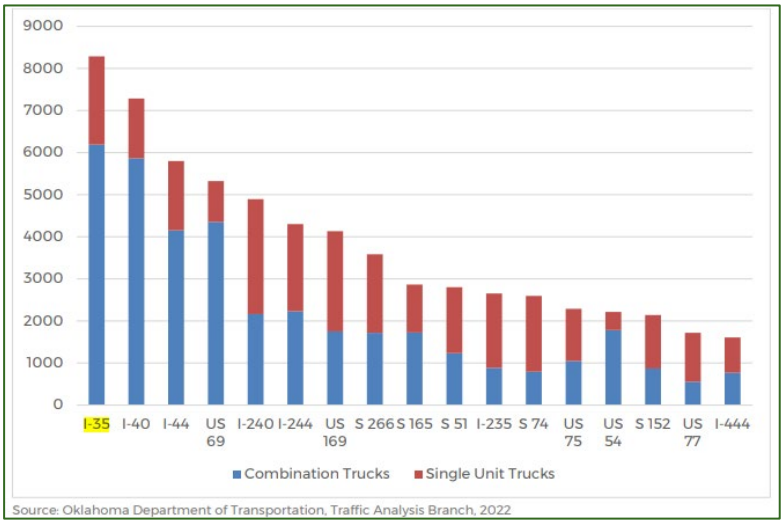


Figure 9. Major Oklahoma Truck Traffic Highways (2021)

Economic Competitiveness and Opportunity

The Project supports a strong and growing economy by serving as a major connector between multiple interstates and providing access to thousands of local jobs for Oklahomans across the region. I-35 is a major north-south corridor, whereas I-240 is an essential connector for residents of the Oklahoma City Metropolitan Area. The improved traffic flow resulting from the Project is anticipated to contribute to a robust and thriving economy in Oklahoma City, enhancing access to local and regional labor markets as well as recreational venues. These two Interstate Strategic Highway Network routes play a crucial role in the U.S. economy, defense, and mobility. The Build versus No-Build results demonstrate that the Project will improve mobility and access for local and regional traffic and freight, commuters, residents, and businesses. Refer to the **Benefit-Cost Analysis** for more details. Given the Project area falls within a Historically Disadvantaged Community, residents can also anticipate enhanced and fair access to good-paying jobs.

Freight and Supply-Chain Improvements

The I-35/I-240 interchange is critical to the local and national economy. In 2017, the movement of goods by truck accounted for 48% of Oklahoma's domestic transportation by tonnage and supported the Oklahoma economy in exporting 1.6 million tons of commodities worth $5.5 billion, while receiving $12 billion worth of imported **commodities**. In the opening year for the Project, about 3.4 million freight trips will use the Project area, as described in the **BCA Memo**. Over the 20-year analysis period in the BCA, the Project will see an average of over

19,000 freight trips per day. I-35 carries the most truck traffic in the state, providing a direct connection to Mexico to the south through Texas, and to Minnesota to the north through six states. I-240 provides interchange connection to I-40, which spans the country east and west, and to I-44, which connects to the Midwest.

Locally, this interchange, providing access to I-240, serves as a critical interstate connection for Oklahomans traveling in and around the region. Accessing employment opportunities drives Oklahoma's economy, and the Project will support economic opportunity for Oklahomans, as this interchange and associated interstates are used to access many of the area's largest employment centers. **Figure 10** identifies some of the key employers relative to the Project and the interstates that connect to the I-35 and I-240 interchange area.

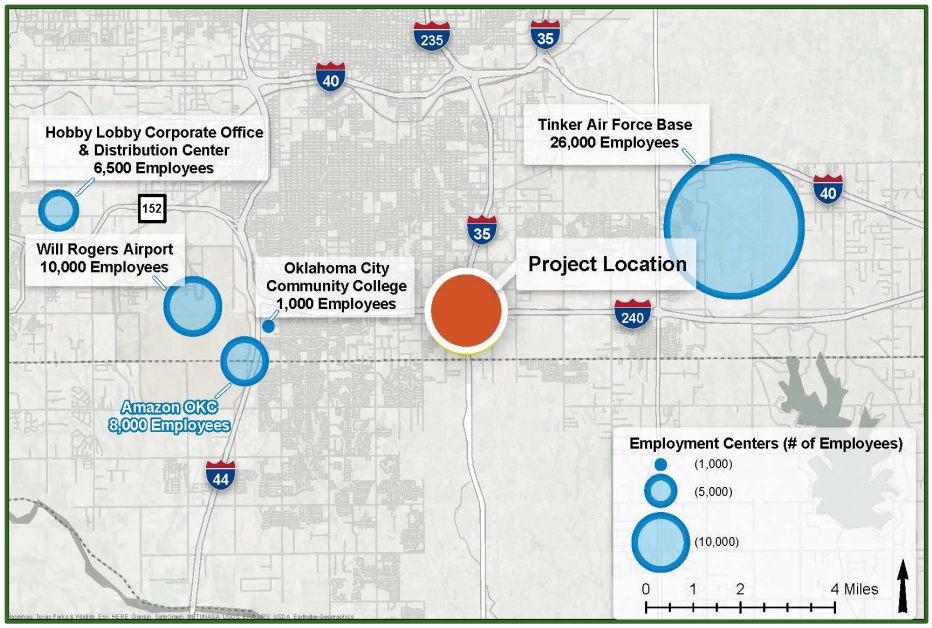


Figure 10. Key Employment Centers

Anticipated Improvements and Benefits

A safe, reliable, well-performing interstate network is critical to maintaining Oklahoma's local economy and its contribution to the national economy. The I-35/I-240 interchange design, however, is outdated, consisting of too few lanes for accelerating and decelerating and exit and entrance ramp loops that are challenging to safely operate through. Increasing development around the interchange has led to an increase in population and daily activity, resulting in greater traffic volumes. When paired with an outdated design, this growth in volume contributes to unsustainable traffic congestion and unsafe driving conditions for all users. **Table 6** provides a basic level-of-service (LOS) analysis using capacity.

Table 6. Basic Freeway Analysis (Existing and Proposed Design) Level of Service Using Capacity

Freeway Direction of Travel	Location	LOS (Existing, 2013)	LOS (No Build, 2040)	LOS (Build, 2040)
		AM/PM Peak Hour	AM/PM Peak Hour	AM/PM Peak Hour
I-35 Northbound	South of SE 89th St.	v/c = 0.97-0.79	v/c = 1.02-0.99	E/E
I-35 Northbound	North of On Ramp from SE 89th St.	v/c = 0.79-0.65	v/c = 0.86-0.82	D/D
I-35 Northbound	South of SE 59th St.	E/D	E/E	E/E
I-35 Southbound	South of SE 59th St.	D/E	E/E	E/E
I-35 Southbound	South of Off Ramp to SE 66th St.	E/D	E/E	D/D
I-35 Southbound	North of SE 89th St.	C/D	D/D	D/D

Freeway Direction of Travel	Location	LOS (Existing, 2013)	LOS (No Build, 2040)	LOS (Build, 2040)
		AM/PM Peak Hour	AM/PM Peak Hour	AM/PM Peak Hour
I-35 Southbound	South of SE 89th St.	v/c = 0.79-0.97	v/c = 1.02-1.04	E/E
I-240 Eastbound	West of Shields Blvd.	C/D	E/F	C/D
I-240 Eastbound	East of Pole Rd.	D/D	F/F	B/C
I-240 Westbound	East of Pole Rd.	C/C	D/E	C/C
I-240 Westbound	East of Shields Blvd.	C/C	C/D	C/C

The Project's goal is to redevelop the interchange using current standards, featuring a three-level, partial cloverleaf interchange system designed to facilitate smooth, reliable, and predictable performance for drivers. The design will follow or exceed the guidelines and design criteria in the latest edition of AASHTO's *A Policy on Geometric Design of Highways and Streets* and include features such as improved lane distribution, auxiliary lanes, and route connectivity. The design will deploy proper interchange form that reduces weaving movements within the interchanges, providing right-only exits and entrances.

The Project also proposes two loop ramps: I-240 eastbound to I-35 northbound and I-240 westbound to I-35 southbound. ODOT anticipates increased mobility, reduced congestion, and safer conditions for drivers with the development of the new ramps by separating merging movements, controlling speeds to adjust to traffic flow, and supporting consistent vehicle speeds for all drivers. **Table 7** compares the existing LOS of eight traffic movements with the proposed design LOS.

Table 7. The 2040 Level of Service – Eight Primary Movements, Existing and Proposed Design

The Eight Primary Movements			Existing Conditions	Proposed Design
Diverging	Merging		LOS AM/PM Peak Hour Diverging---(Merging)	
I-35 Northbound	to	I-240 Eastbound	E/E---(E/E)	D/C---(B/A)
		I-240 Westbound	F/F---(F/F)	D/C---(C/D)
I-35 Northbound	to	I-240 Eastbound	B/C---(E/F)	C/C---(B/A)
		I-240 Westbound	E/F---(E/F)	C/C---(C/D)
I-240 Eastbound	to	I-35 Northbound	E/F---(F/F)	C/C---(E/E)
		I-35 Southbound	F/F---(F/F)	A/B---(v/c < 1)
I-240 Westbound	to	I-35 Northbound	C/D---(E/E)	B/B---(D/D)
		I-35 Southbound	F/F---(B/C)	B/B---(D/D)

Supporting a Strong Economy and Labor Market

The Project supports a strong and growing economy by serving as a major connector between multiple interstates and providing access to thousands of local jobs for Oklahomans across the region. In addition, the construction spending from the Project will support an estimated 84 professional services job-years and 1,316 construction job-years. ODOT has a comprehensive plan to promote equal opportunity and ensure those opportunities are distributed equitably, including removing barriers to hiring and preventing harassment on work sites. The plan

demonstrates action to create an inclusive environment with a commitment to equal opportunity, including the following:

- Affirmative efforts to remove barriers to equal employment opportunity above and beyond complying with federal law
- Proactive partnerships with the U.S. Department of Labor's Office of Federal Contract Compliance Programs to promote compliance with EO 11246 Equal Employment Opportunity requirements
- No discriminatory use of criminal background screens and affirmative steps to recruit and include those with former justice involvement, in accordance with the Fair Chance Act and equal opportunity requirements
- Efforts to prevent harassment based on race, color, religion, sex, sexual orientation, gender identity, and national origin
- Training on anti-harassment and third-party reporting procedures covering employees and contractors
- Maintaining robust anti-retaliation measures covering employees and contractors

ODOT uses FHWA Required Contract Provisions (FHWA-1273) to ensure all contractors, subcontractors, vendors, and materials suppliers who hold federal or federal-aid contracts of $10,000 or more do not discriminate in employment and contracting. FHWA-1273 provisions incorporate civil rights provisions, including nondiscrimination, non-segregated facilities, equal employment opportunity and affirmative action requirements, minimum wage rates, payroll certifications, and Occupational Safety and Health Administration accident prevention and jobsite safety.

ODOT Contract Compliance Division implements and oversees the **ODOT Disadvantaged Business Enterprise (DBE) Program** and the Unified Certification Program for USDOT-funded recipients, assuring compliance with 49 *Code of Federal Regulations* (CFR) Part 26. Both consultants and construction contractors are required to meet the stated DBE commitments. The ODOT Contract Compliance Division conducts reviews of contractors and subcontractors at any time to verify compliance. In addition, ODOT requires the verbatim attachment of Appendices A and E of the Title VI Program Manual to all federally assisted contracts. The appendices specifically and directly address the nondiscrimination efforts required.

Climate Change, Sustainability, Resiliency, and the Environment

The Project will reduce greenhouse gas emissions from the transportation sector by reducing congestion and idling vehicles on the roadway that has the highest volume of **truck traffic** in the state of Oklahoma and is within disadvantaged communities that face **high rates of asthma** (above the 90th percentile nationwide). The reconstruction of the I-35/I-240 interchange will reduce air pollution and greenhouse gas emissions by improving safety and reducing travel time throughout the interchange. The Project is expected to result in higher throughput speeds for vehicles from less congestion during peak hours, resulting in an average reduction in total travel time of over 47,000 vehicle hours per year. From 2012 to 2021, there were a total of 2,585 reported collisions in the Project area. Each of these crashes can cause traffic to back up or even come to a complete stop for extended periods of time. Avoided congestion from reduced collisions will result in a reduction in annual fuel consumption by an average of 4,500 gallons. By rebuilding this outdated cloverleaf interchange to a safer, more efficient design, a significant reduction of collisions and an increase in vehicular flow are expected, which will help eliminate some of the negative environmental impacts to the surrounding communities caused by slow-moving and idling vehicles.

The Project is not expected to change the number of vehicle miles traveled in the Project area, but the change in travel speed in the No Build and Build scenarios allows vehicles to consume fuel more efficiently. The change in travel speed is largely due to the improvement in traffic flow and the reduction in traffic congestion related to roadway crashes. The emissions factors by vehicle travel speed vary by emissions type, and the standardized social costs of vehicle emissions vary by year. With the Project's improvement of connectivity between the I-35 and I--240 highways and local arterial roadways, future users would likely be able to take more direct routes to complete their trips, further avoiding vehicle emissions. The attached **BCA Narrative** contains additional detail on emissions benefits.

Finally, the Project includes the use of warm mix asphalt, which results in reduced greenhouse gas emissions and better working conditions with lower exposure to harmful air quality. The benefits of this technology are detailed in the **Innovation** section.

Improving Resiliency of At-Risk Infrastructure

Seismic activity across the state has increased in frequency since the early 2010s, and the new bridge is designed to endure these ever more common seismic events, as discussed in the **State of Good Repair** section.

Evidence-based climate resilience measures, including upgrades to existing drainage structures and new drainage structures, have been incorporated into the Project. The proposed bridge replacement and overall interchange reconstruction present noteworthy resiliency improvements compared with the existing condition. In addition to the pronounced risk posed by poor infrastructure conditions, the Project area also faces risks from many natural hazards, as outlined by the Federal Emergency Management Agency National Risk Index. According to the National Risk Index, both census tracts surrounding the I-35/I-240 interchange, 401091073.02 and 401091073.03, are at relatively high to very high risk for hail, heat waves, and tornadoes. These weather events, combined with structurally deficient infrastructure, can present serious impacts to the health, safety, mobility, and resiliency of the regional and national transportation system. The impact of these natural weather events was factored into the design of the new bridge and interchange.

Addressing Disproportionate Impacts on Disadvantaged Communities

Two census tracts surround the I-35/I-240 interchange; both are classified as disadvantaged because they meet more than one burden threshold and the socioeconomic threshold. In fact, both tracts face a particularly high economic burden because they are both above the 95th percentile for low-income residents, according to the CEJST. In addition, residents in the census tract just northwest of this interchange experience asthma rates in the 95th percentile (**Source:** *EPA EJ Screen*

Figure 11) and heart disease rates in the 94th percentile. Residents living adjacent to the interchange to the south and east experience asthma and heart disease rates at similarly high rates (91st and 93rd percentiles, respectively).

The Project will improve safety and mobility for these low-income communities that use I-35 and I-240 to access central Oklahoma City; job opportunities at major employers such as Tinker Air Force Base and the Will Rogers International Airport; educational opportunities at institutions such as the Oklahoma City Community College; and daily destinations, including parks, healthcare facilities, schools, and grocery stores. In addition, the Project will reduce congestion at the interchange, leading to a reduction in air pollution in the adjacent communities, which face high levels of asthma and heart disease. Alleviating traffic congestion leading to and through the interchange will result in fewer detours onto adjacent, local streets,

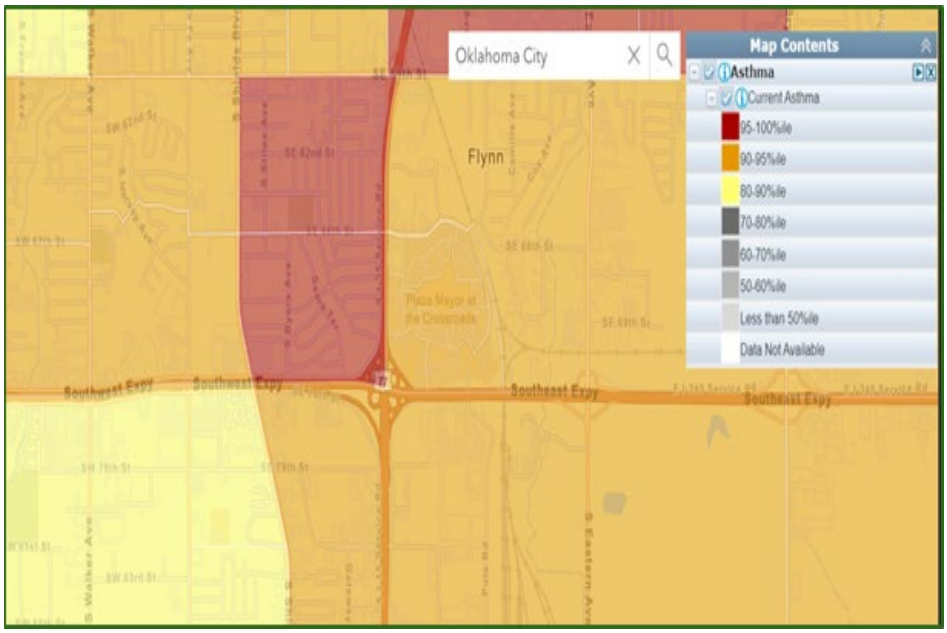
improving air quality for adjacent communities and neighborhoods. This is especially critical given the high rates of asthma in the community. The resulting reduction in pollution could improve health outcomes in these communities.

Equity and Quality of Life

Project Benefit to Other Transportation Options

Although bicycles and pedestrians are not included within the interchange or along the interstates for safety reasons, there are clear benefits to improving transportation choices with the development of a safer, more reliable interchange. Refer to **Figure 12**, which shows the local bus network, as well as the existing and future bike network within the study area. Improved travel times and traffic flow through the interchange could potentially decrease traffic on local streets surrounding the interchange, allowing residents to more easily access daily destinations using local streets, including by walking, biking, and using a mobility device.

Transit riders living and working near the Project area will benefit from improved safety and reduced congestion resulting from the Project. Embark, the Oklahoma City public transit agency, operates two bus routes through and around this interchange. A safer and more reliable interchange will improve transit performance by reducing route travel times and also improve system performance by reducing delays and potentially missed connections with other Embark bus routes. Improved transit performance will allow residents of the surrounding disadvantaged communities to better access jobs and daily destinations through affordable bus transportation. Embark Route 24 uses I-35 to operate as an express route from Norman, Oklahoma, to downtown Oklahoma City to north Oklahoma City. Route 24 will better maintain its on-time performance with safer and improved traffic flows that will result from this Project. Embark Route 14 also operates around the interchange and within the Project area, running on I-35 just north of the interchange and on adjacent, local streets. Congestion that originates from the interchange affects the rest of the transportation network and the way transit operates, as well as the transportation on local streets around the interchange. With better performance for this bus route, students, area residents, and workers who commute between the Project area and Norman will have improved access to educational opportunities, employment, and other destinations.



Source: EPA EJ Screen

Figure 11. Asthma Rates in Census Tracts Surrounding Project Area

Improving Access to Daily Destinations for Disadvantaged Communities

The Project will improve access to daily destinations (**Figure 12**), including jobs, educational opportunities, medical appointments, essential services, entertainment events, and parks and recreation opportunities, by reducing traffic congestion and improving travel times for transit riders as well as drivers. The Project supports public transportation operations, resulting in more efficient bus service to these destinations, which will be especially critical for the low-income and disadvantaged communities surrounding the Project area.

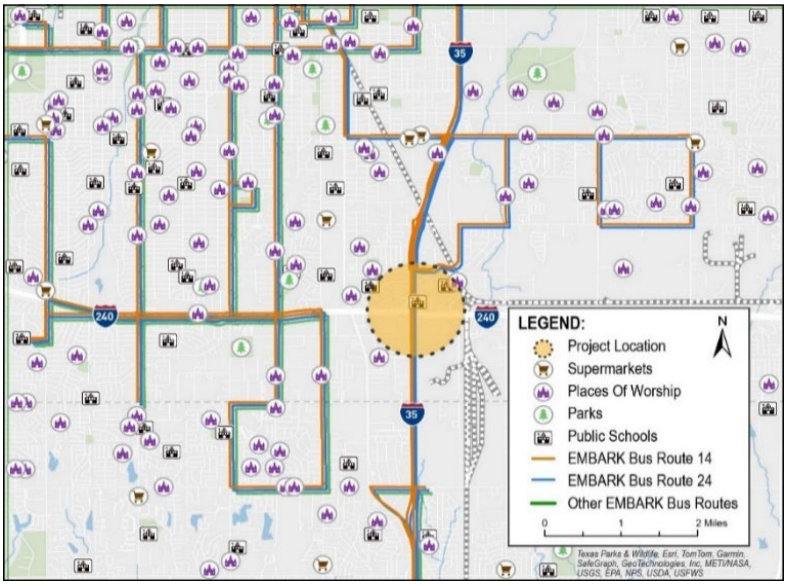


Figure 12. Access to Daily Destinations

The Project will improve mobility of people and goods and expand access by improving interstate system operations. The Project will address a critical freight bottleneck to better connect disadvantaged communities in the Project area to opportunities throughout the region. The Project will improve access to daily destinations—to jobs, educational opportunities, medical appointments, essential services, entertainment events, and parks and recreation opportunities—by reducing traffic congestion and improving travel times. It will also improve safety by reducing the number of vehicle crashes. The Project supports public transportation operations, resulting in more efficient bus service to these destinations, which will be especially critical for the low-income and disadvantaged communities surrounding the Project area.

Project Public Engagement

Extensive community engagement has addressed environmental justice in the planning stage and will continue to do so during Project delivery. ODOT is committed to employing meaningful community engagement strategies that involve and incorporate diverse input for Project planning and decision making. ODOT also understands that, because of this Project's magnitude, successful community engagement will require an understanding of the surrounding community demographics, strong relationships with affected communities, an understanding of the communities' wants and needs, broad community representation, tailored engagement techniques for each community, and accessible documentation of the communities' impacts on decisions.

ODOT has completed a variety of public outreach efforts for this Project dating back to the early 2000s. More recent outreach has included the following:

- Public meeting attended by 70 people who asked questions and commented on traffic congestion, safety, Project schedule, funding, noise, and health concerns from construction activities
- Public meeting announcement that included date, time, and location, as well as background information providing Project detail and context for attendees
- Written comment from community members

- Agency comment from Oklahoma Conservation Commission, Oklahoma Water Resources Board, and the Oklahoma Tourism and Recreation Department
- South Oklahoma City Chamber of Commerce and local business written comment and feedback

Outreach is ongoing, and because the Project area is within both an Area of Persistent Poverty and Historically Disadvantaged Community, ODOT will be especially attentive to the needs of these communities and has a robust plan for continuing to engage the surrounding communities and responding with appropriate mitigation solutions. In addition to following public involvement requirements within Title 23 of the CFR, ODOT's engagement and outreach efforts align with USDOT's six key features of public involvement outlined in the USDOT's ***Promising Practices for Meaningful Public Involvement in Transportation Decision-Making*** guide.

Innovation

Innovative Technology

The Project will incorporate warm mix asphalt into the paving aspects of the construction. Warm mix asphalt is a proven technology that can offer the following benefits:

- Reduce paving costs
- Extend the paving season
- Improve asphalt compaction
- Allow asphalt mix to be hauled longer distances
- Improve working conditions by reducing exposure to fuel emissions, fumes, and odors and reduce greenhouse gas emissions

Innovative Project Delivery

The Project presents a unique avenue for innovation by bundling various components of the bridge improvement (broken into Phases 2, 3, and 4). This innovative approach accelerates delivery, reduces costs, and increases efficiency by merging multiple project components into a single contract. Project bundling streamlines design, contracting, and construction, creating value for the agency, contractors, and public. By considering allowable administrative costs, **bundling will result in a 15% overall cost savings each for Phases 2, 3, and 4 of the Project** compared with not bundling, as shown in **Table 8**. Although the first phase necessitates payment, subsequent phases will benefit from this reduction. In total, bundling enables substantial cost and time savings during three out of the four phases. Combining these distinct phases streamlines the entire process, allowing for the issuance of a single construction contract.

This consolidated approach stands in contrast to the traditional method of staggering work across multiple projects and relying on the periodic availability of regular state and federal funding. The traditional approach often involves delays, as each phase must wait for the allocation of funds, leading to prolonged project timelines. In contrast, the Project's strategy of bundling multiple components accelerates the construction timeline and minimizes the overall Project duration. This not only expedites the completion of the interchange improvements but also contributes to substantial cost savings, making the Project more efficient and financially prudent.

Table 8. Summary of Benefits of Bundling Projects

Cost Savings	Bundling projects allows for economies of scale, reducing overall costs by streamlining administrative processes.
Efficiency	Combining multiple projects into a single contract simplifies management, design, and construction.
Accelerated Delivery	Bundling accelerates project timelines by eliminating delays associated with waiting for funding allocations for each phase.
Risk Mitigation	A consolidated approach minimizes risks related to project coordination, scheduling, and unforeseen challenges.
Improved Quality	By bundling, agencies can attract more experienced contractors, resulting in better quality work.
Enhanced Collaboration	Bundling fosters collaboration among stakeholders, leading to better decision-making and project outcomes.

In addition, ODOT will incentivize contractors who deliver construction ahead of schedule and are able to open bridges and roadways to traffic earlier than anticipated through the "No Excuses Bonus" innovative Project delivery approach. This approach includes a substantial completion incentive valued at 5 to 10% of the contract and smaller incentives for internal milestones tied to key Project elements. The No Excuses Bonus encourages contractors to proactively address challenges and unforeseen issues, minimizing delays. The bonus contributes to expediting project completion, benefiting both agencies and the public.

Finally, ODOT has implemented e-contracting agency-wide to streamline the entire contract process and deliver projects more quickly. By digitizing paperwork, automating workflows, and ensuring real-time collaboration, ODOT can achieve greater efficiency. Additionally, e-contracting reduces errors, enhances transparency, and contributes to substantial cost and time savings.

Innovative Financing

In addition to bundling projects to result in significant cost savings of 15% per phase, the State of Oklahoma has taken an innovative approach to addressing the nationwide funding gap resulting from diminishing gas tax revenue. The **Oklahoma ROADS Fund** that makes up the local funding portion for the Project is partially funded by the gas tax. ODOT has performed a **road user charge study** to research how decreasing revenue from the gas tax will affect funding to identify alternative funding streams and ensure that this Project and all Oklahoma transportation projects continue to have a sustainable funding source to support the state of good repair of Oklahoma roadways in future years.

V. Benefit-Cost Analysis

A benefit-cost analysis (BCA) was conducted for the Project for submission to USDOT as a requirement of the Fiscal Year 2023 to 2026 BIP Large Bridge Project. The analysis was conducted in accordance with the benefit-cost methodology outlined by USDOT in the ***Benefit-Cost Analysis Guidance for Discretionary Grant Programs*** published in December 2023. The analysis period corresponds to 26 years, which includes 6 years of construction and 20 years of benefits after the first full year of operations begins in 2029.

The capital cost for the Project is expected to be $152.7 million in year-of-expenditure dollars, which includes $5.4 million in design, engineering, and environmental services; $24.8 million in right-of-way (ROW) acquisition; and $122.5 million in construction. Adjusted for inflation, the total Project cost is $135.1 million in undiscounted 2022 dollars. Using a discount rate of 3.1%, the capital costs are valued at $120.0 million in 2022 dollars. Net operations and maintenance

costs are projected to average $48,400 per year in undiscounted 2022 dollars over the analysis period. Over the 20-year operations period, the net operations and maintenance costs total $1.0 million in undiscounted 2022 dollars, or $0.6 million when discounted at 3.1%. Additionally, because of the deferral of planned rehabilitation work into future years, the Project generates cost savings of $7.3 million in undiscounted 2022 dollars over the analysis period, or $5.3 million when discounted at 3.1%.

The Project is expected to generate benefits valued at $177.4 million in discounted 2022 dollars using a 3.1% discount rate; the value of carbon dioxide emissions is discounted at a rate of 2%. The construction of the additional ramps and flyovers, and the replacement of the existing bridge will increase available capacity while facilitating the movement of personal vehicles and freight trucks through the I-35/I-240 interchange. In addition to enabling better operational performance of vehicle traffic, the proposed improvements are expected to reduce the risk of fatalities, injuries, and property damage associated with vehicle collisions. These impacts result in an overall Project net present value of $57.3 million and a benefit-cost ratio of 1.48. As such, the Project is expected to generate economic benefits that outweigh its costs. The BCA results are summarized in **Table 9**, and detailed analysis can be found in the attached BCA Memo.

Table 9. Summary of Benefit-Cost Analysis Results

BCA Metric	Monetized Value (Undiscounted)	Monetized Value (Discounted)
Total Benefits	$308,271,000	$177,379,000
Total Costs	$135,054,000	$120,049,000
Net Present Value	$173,217,000	$57,330,000
Benefit-Cost Ratio	2.28	1.48

VI. Project Readiness and Environmental Risk

Technical Feasibility and Technical Competency

ODOT began evaluating the interchange as early as 1988 for potential improvements. ODOT has completed various studies involving the Project since, including **The Preliminary Design Study for I-35/I-240 (1988), Functional Plan Report for the I-35/I-240 Interchange (2002), an Environmental Assessment (EA) (2005) and subsequent reevaluations (2013, 2015), and an Access Justification Report (AJR) (2015)**.

The AJR was a request to FHWA for an access revision to the I-35/I-240 interchange in Oklahoma County. The AJR justifies the proposed improvements, showing how they are truly needed for this interchange because of the lack of proper acceleration and deceleration lanes, exit and entrance loop ramps with tight radii, and substantial traffic growth caused by development and linkage to major employment centers in the area. By evaluating traffic operational analyses and the existing collision rate, the AJR affirms traffic growth and design deficiencies have all contributed to the problems this interchange has experienced in recent years.

The EA was developed to show not only the environmental impacts of the reconstruction to the interchange but also the social and economic impacts. The document complies with the National Environmental Policy Act of 1969 (NEPA). A noise study was also conducted as part of the EA. The main purpose of the noise study was to determine the noise impacts and the possible mitigations to these impacts from the proposed interchange improvements. Environmental impacts considered in this assessment were as follows: water quality, wetland impacts, threatened or endangered species, and others.

The Project was designed in accordance with ODOT's ***2019 Standard Specifications for Highway Construction***, ***2019 Roadway Design Standards***, ***2009 Bridge Standards***, ***2009 Traffic Standards***, and other design documents developed by ODOT, AASHTO, and FHWA.

Basis for Cost Estimate

Costs estimates for the Project were based on the final design plans for Phases 2 and 3 and the 90% preliminary design plans for Phase 4. The estimates include a 20% contingency because of the Project's complexity and importance to the state and National Highway Freight Network.

Technical Capacity

As the Project sponsor, ODOT has the technical capacity to successfully deliver the Project, along with decades of experience with receipt and expenditure of federal transportation funds. ODOT has received hundreds of millions of dollars in federal discretionary funding and has experience managing large and complex projects funded in part by USDOT. These include projects funded through Better Utilizing Investments to Leverage Development, Competitive Highway Bridge Program, Infrastructure for Rebuilding America, Rebuilding American Infrastructure with Sustainability and Equity, and Transportation Investment Generating Economic Recovery grants.

Furthermore, ODOT manages a large portfolio of federal funds programmed within the **FFY-2024 through FFY-2031 Construction Work Plan**. This $8.8 billion program, the largest construction workplan in state history, annually reprioritizes projects based on available state and federal appropriations and is currently 60% federally funded.

ODOT obligates all required construction funding before advertising a project for construction and again before awarding a contract for construction. In addition, ODOT has consistently seen a contract growth of less than 3%, which is covered by other formula federal funds or Oklahoma State ROADS funds.

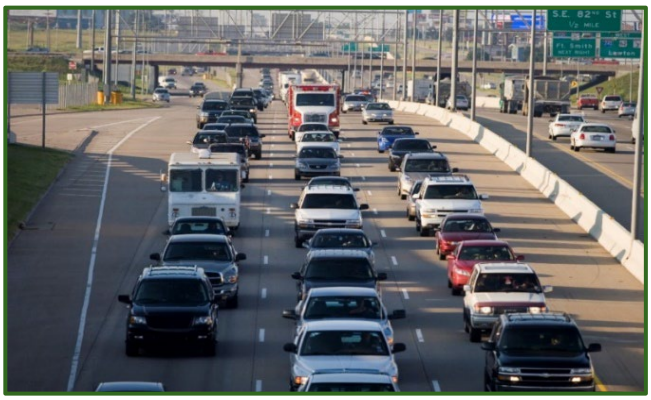


Figure 13. Congestion at the current interchange

Project Schedule

Figure 14 shows the Project schedule and outlines major milestones. ODOT is on track to obligate funds well in advance of the USDOT statutory deadline for the BIP Grant and will begin construction quickly after obligation of grant funds. NEPA has been completed for the Project; an EA was conducted in 2003, and a reevaluation was completed in December 2015. The ROW has been acquired for the Project, with most of the ROW acquisition taking place between 2004 and 2006 and final ROW acquisition completed in 2017. No additional ROW is required for the Project. Utility coordination has also been completed for the Project as of February 2023, including coordination with all affected utilities. Permitting is complete for all project phases. All state and local approvals have been obtained. Project letting will be in September 2025. Project construction will begin in January 2026 and will be complete in spring 2028.

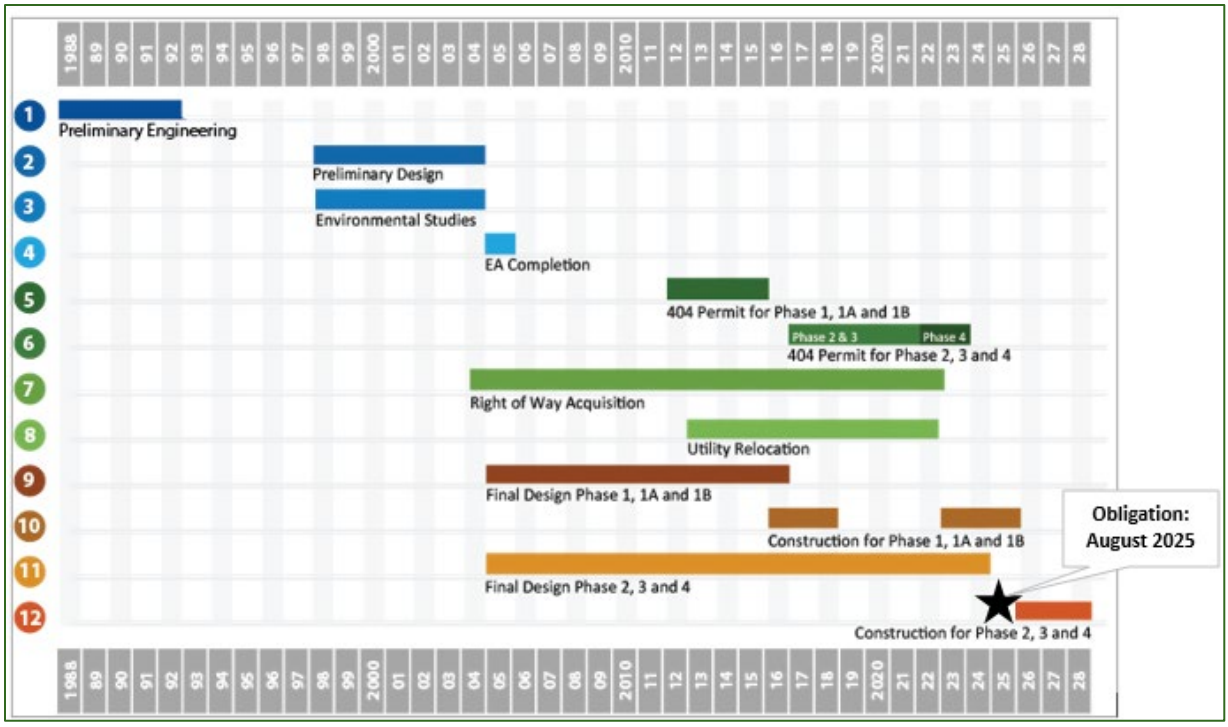


Figure 14. Project Schedule

Required Approvals

Environmental Permits and Reviews

All environmental work for the Project has been completed, with an EA completed in September 2005 and reevaluations completed in 2013 and 2015. The **most recent reevaluation** was completed December 1, 2015. EPA CWA 404 Permits have been acquired all project phases.

State and Local Approvals

The Project is included on page 18 of the FFY-2024 through FFY-2031 Construction Work Plan as I-35 @ the I-240 Junction Phase 2: 09032(06), Phase 3: 09032(07), and Phase 4 09032(08) Reconstruct Interchange. No additional state or local approvals are anticipated for the Project.

In addition, the Project is listed in the FFY 2024–2027 Statewide Transportation Improvement Program (**JP #0903206**, **JP #0903207**, and **JP #0903208**) and the **Association of Central Oklahoma Governments Transportation Improvement Program (09032(06))**. ODOT completed an **AJR** for the Project in 2015.

Federal Transportation Requirements Affecting State and Local Planning

The Project is included in relevant state and local transportation plans, including the ODOT **FFY-2024 through FFY-2031 Construction Work Plan,** as described in the **State and Local Approvals** section. In addition, the Project is listed in the **FFY 2024–2027 Statewide Transportation Improvement Program** (JP #0903208, JP #0903207, and JP #0903206).

The Project is also included on page 6-14 of the **Oklahoma Freight Transportation Plan, 2023-2030**, which identifies I-35 as the roadway with the highest volume of truck traffic in Oklahoma.

Assessment of Project Risks and Mitigation Strategies

ODOT has considered the following Project risks and put mitigation strategies in place to prevent potential delays:

- **Cost Overruns**: Construction prices, including costs of materials and labor, have been trending upward in recent years with inflation. Cost estimates include the most recent escalation factors to accommodate the foreseeable increases. ROW has been acquired already, limiting the impacts of inflation and risk of cost overruns for this Project. ODOT's construction estimates contain a 20% contingency allowing for a margin of increase.
- **Procurement**: The risk of procurement delays will be reduced by bundling the remaining phases into a single Project, allowing ODOT to streamline the procurement process and potentially issue a single construction contract.

VII. Administration Priorities and Departmental Strategic Plan Goals

Safety

The Project includes substantial safety benefits by bringing an outdated interchange that currently sees an average of **0.7 collisions per day** up to modern design standards. The upgraded interchange will remove the limitations known to contribute to collisions while simultaneously replacing a bridge listed as structurally deficient on the NBI, avoiding additional potential safety risks from disrepair. Specific safety benefits and improvements are outlined in detail in **Safety and Mobility**. The Project will not negatively affect the overall safety of the traveling public; ODOT follows strict safety protocols in construction projects, and upgrades to the roadway will improve safety for the traveling public, as the new bridge layout will feature a three-level, partial cloverleaf interchange system designed to facilitate smooth and consistent driver performance and reduce the risk of collisions.

Climate Change and Sustainability

The Project will reduce greenhouse gas emissions from the transportation sector by reducing congestion and idling vehicles on the roadway that has the highest volume of **truck traffic** in the state of Oklahoma and is within disadvantaged communities that face **high rates of asthma** (above the 90th percentile nationwide). Evidence-based climate resilience measures, including upgrades to existing drainage structures and new drainage structures, have been incorporated into the Project. Extensive **community engagement** has addressed environmental justice in the planning stage and will continue to do so during Project delivery. ODOT has **completed an EA** and received a Finding of No Significant Impact (FONSI), indicating the Project avoids adverse environmental impacts to water quality, wetlands, and endangered species. The Project also addresses **disproportionate negative impacts on disadvantaged communities** by reducing congestion and the resulting air pollution in census tracts identified as disadvantaged in the CEJST.

Equity

The Project will include an equity assessment to evaluate how the Project will create proportional impacts and remove transportation-related disparities to populations within the Project area. As a preliminary step, the CEJST and USDOT ETC explorer have been consulted, and a preliminary analysis of the burdens faced by adjacent communities has been conducted. Further analysis and impact assessments will be conducted as part of the Project. Meaningful public engagement will take place throughout the Project lifecycle; this approach has been outlined in **Equity and Quality of Life**. The Project will connect Americans to good-paying jobs

at critical job centers in the region and improve access to resources for Americans throughout the region and nation by reducing supply-chain bottlenecks at a critical crossroads. The Project will also dramatically improve safety and transit speeds at a congested interchange with a bridge on the NBI that has been found to be in poor condition, which will help residents of adjacent disadvantaged communities reach essential services and daily destinations.

Workforce Development, Job Quality, and Wealth Creation

The Project, a major infrastructure initiative, requires a diverse range of skilled workers, from engineers to construction laborers, and is set to generate significant employment opportunities, contributing to local economic growth (see details in **Economic Competitiveness and Opportunity**). ODOT's commitment to equitable employment includes exceeding federal equity laws, ensuring compliance with Equal Employment Opportunity standards, inclusive recruitment, and strong anti-harassment measures, along with training and robust anti-retaliation policies for employees and contractors.

In support of DBE firms, the Project incorporates strategies for nondiscrimination and actively promotes local DBE firms in state contracts, adhering to Oklahoma law that requires justifying the selection of non-local companies unless they present the lowest bid.

Furthermore, the state of Oklahoma has **103 registered apprenticeship programs**, overseen by the U.S. Department of Labor, which are pivotal to enhancing workforce skills, particularly in key sectors like transportation. The Project could leverage and benefit from the state's workforce development initiatives, particularly in terms of employing skilled workers from apprenticeship programs and contributing to local economic growth through job creation and infrastructure improvement.

VIII. DOT Priority Considerations

The Project aligns with USDOT Priority Considerations by targeting the improvement of a bridge currently rated in poor condition and identified as structurally deficient in the 2022 inspection. Although the bridge's original geometric design standards met the requirements at the time of construction, they no longer conform to current standards. For example, the existing pier locations of the bridge reduce shoulder widths along I-35 and fail to meet current geometric design standards. This inadequacy has led to the bridge's being classified as "Functionally Obsolete." Furthermore, the existing design is an outdated, full cloverleaf interchange connecting the high-volume I-35 and I-240 in Oklahoma City. The proposed redesign adheres to AASHTO's *A Policy on Design Standards* and ensures the inclusion of the eight primary basic movements essential for a system interchange. This includes the careful design of all entrance and exit ramps to guarantee safe merging and diverging; details are provided in **Safety and Mobility**. In terms of project readiness, the Project has advanced to a stage where it is poised for the next phase of delivery. The Project has obtained a FONSI, signaling readiness for construction funding. However, there is a necessity for contractor coordination, which is currently pending. Although Project development is fully accomplished, the awaiting factors for Project delivery include securing funds.