Multimodal Project Discretionary Grant Application

CROSSROADS-OF-AMERICA:

Replacing Bridges on I-35/I-240 in Oklahoma City

Project Description

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

1. Project Description

The Oklahoma Department of Transportation (ODOT) requests $61,250,000 in Multimodal Project Discretionary Grant (MPDG) INFRA/Mega 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 ODOT will replace the current outdated infrastructure with a safer, multilevel interchange featuring dedicated interstate ramps, frontage road turnaround lanes, and service roads for improved access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 Furthermore, the transformation will alleviate congestion, improve operational challenges, and replace outdated elements with infrastructure that meets current standards to provide safer mobility and connections to job opportunities for a disadvantaged community that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 INFRA and Mega FY25–FY26 expenditure deadlines.

1.1 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. The I-35/I-240 interchange design is outdated, consisting of too few lanes for accelerating and decelerating, and exit and entrance ramp loops that are challenging to safely operate through. I-35 is a major freight thoroughfare and is the roadway carrying the most truck traffic in the state. Capacity issues on I-35 are a priority for ODOT identified in the Forward 35 Plan. Increasing development around the interchange has led to an increase in population and daily activity, resulting in greater traffic volumes. 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 bridges being listed as “Functionally Obsolete.” When paired with this outdated design and poor condition of the bridge, 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 Project’s design aims to eliminate a crucial 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.

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. In the opening year for the Project, about 5.7 million freight trips will use the Project area, as described in the BCA Memo.

1.2 Statement of Work and Project History

PROJECT HISTORY

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).

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.

CURRENT DESIGN STATUS

Final Design is complete for Phases 2–3, and 90% design is complete for Phase 4 with an anticipated design completion in August 2024. With MPDG 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.

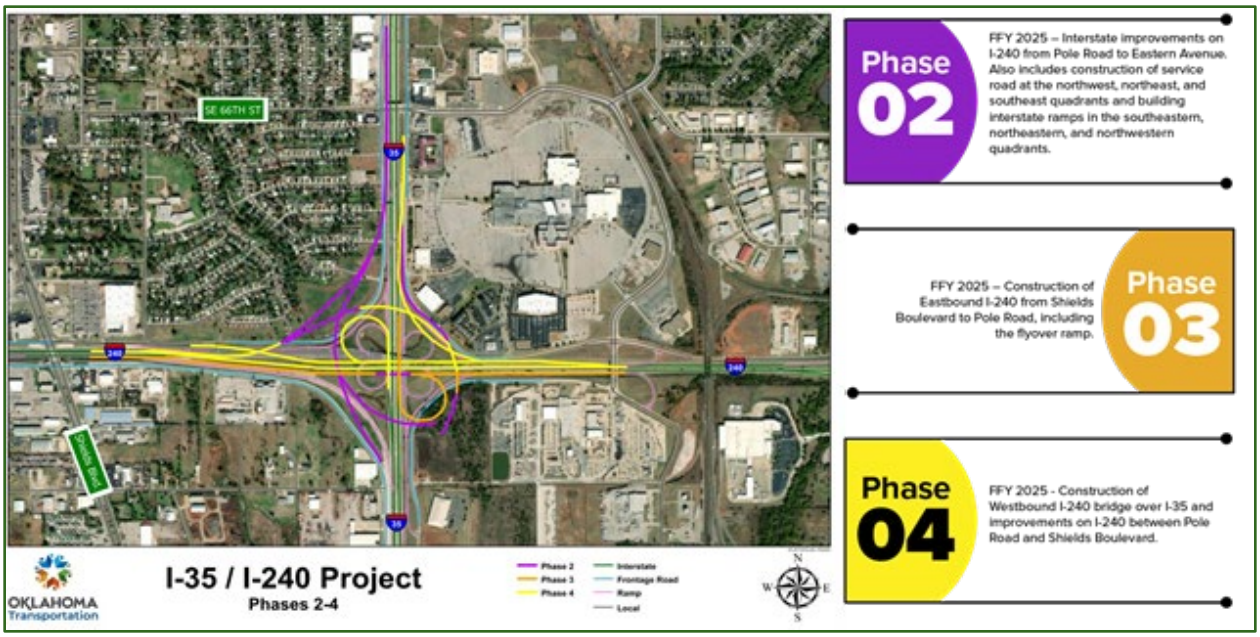
TECHNICAL AND ENGINEERING ASPECTS OF THE PROJECT

The I-35/I-240 bridge needs significant upgrades and repairs because of its age, outdated design, and poor condition. The AJR was a request to the Federal Highway Administration (FHWA) for an access revision to the I-35/I-240 interchange in Oklahoma County. The AJR justifies the proposed improvements 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. After evaluating traffic operational analyses and considering the existing accident rate, the AJR affirms traffic growth and design deficiencies have all contributed to the problems this interchange has experienced in recent years.

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.

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, American Association of State Highway and Transportation Officials, and FHWA.

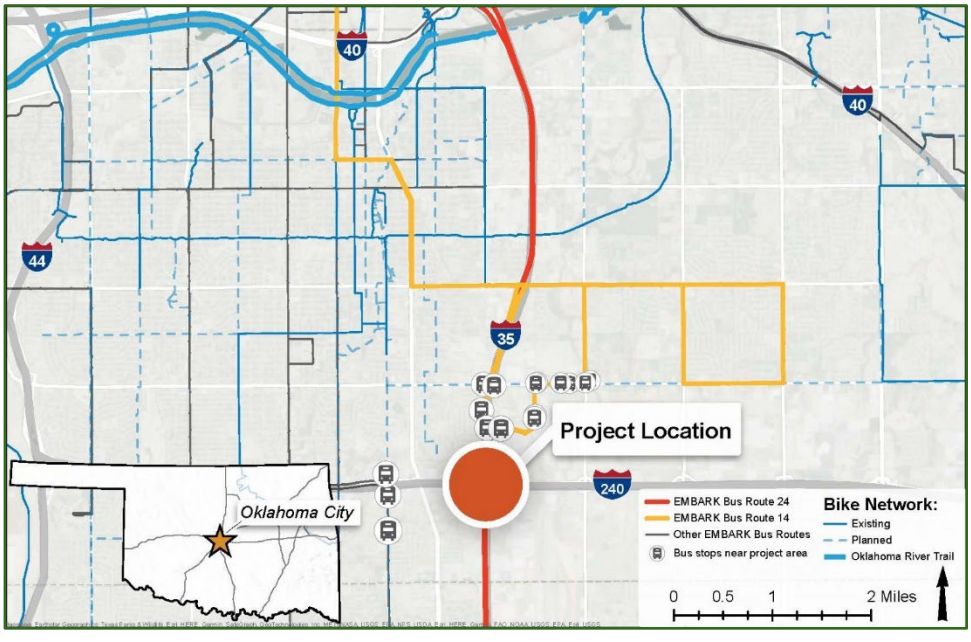
Figure 1. I-35/I-240 Interchange Improvements



Project Location

The Project is in southern Oklahoma City, Oklahoma, in 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 running east toward Fort Smith, Arkansas, and west

Figure 2. Project Location

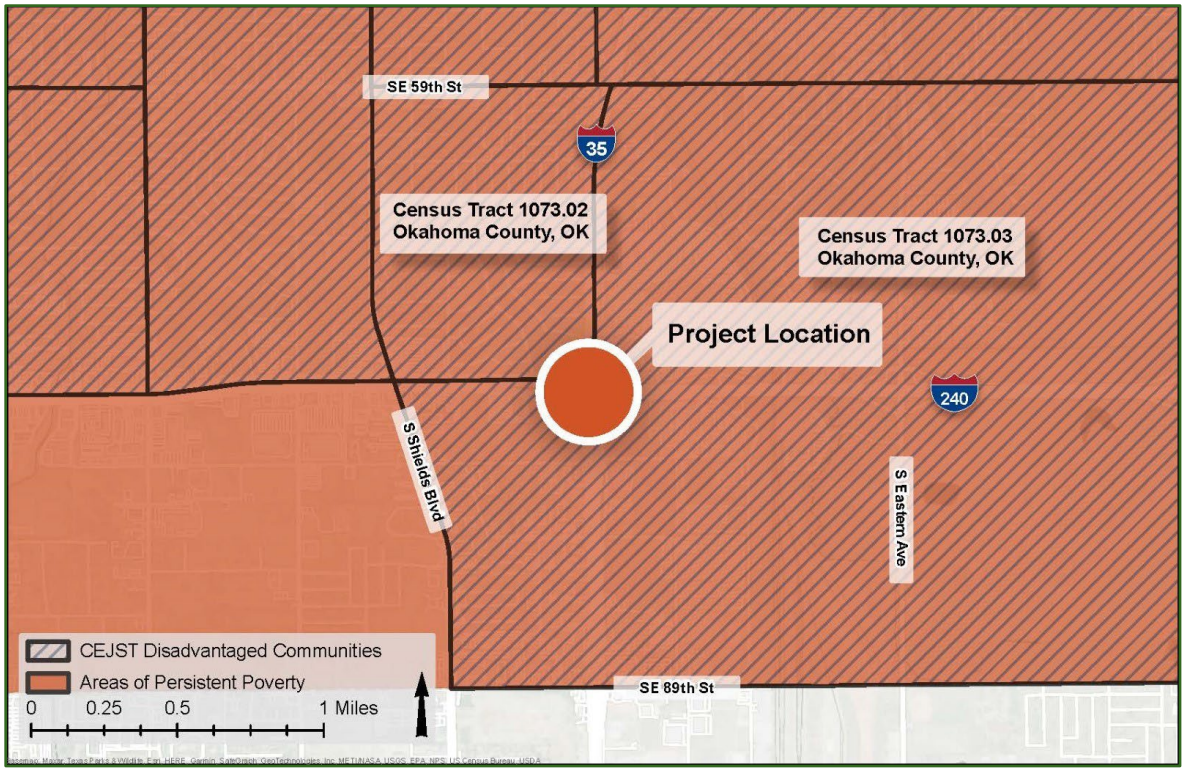


toward Lawton, and to I-35, which runs north and south toward downtown Oklahoma City and Dallas, Texas. The interchange is a major hub for connecting surrounding cities such as Moore, Norman, and Midwest City, Oklahoma, to the heart of Oklahoma City, including surrounding transit connectivity and bicycle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

Two census tracts occur within the Project area (401091073.02 and 401091073.03), as seen 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. All Project funds, including MPDG, other federal, and non-federal funds, will be spent in these census tracts.

According to the Climate and Economic Justice Screening Tool, 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 Explorer. This includes the high cost of transportation. The average household in the Project-area tract 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 to $38,000, indicating a high cost burden of transportation. According to FHWA data from the 2020 census, the Project is in an urbanized area with an urbanized area population of greater than 200,000.

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



1.3 An Ideal MPDG Project for a Disadvantaged Community

Table 1. Project Outcome Criteria and Project Benefits

MPDG Project Outcome Criteria	How this Project Addresses the MPDG Project Outcome Criteria
Safety	The upgraded interchange will remove the limitations known to contribute to collisions while simultaneously replacing a bridge listed as Structurally Deficient on the National Bridge

MPDG Project Outcome Criteria	How this Project Addresses the MPDG Project Outcome Criteria
	Inventory (NBI), avoiding additional potential safety risks from disrepair. The Project is expected to avoid 4 fatalities, 712 injuries, and 2,170 instances of property damage resulting from vehicle collisions over the 20-year analysis period.
State of Good Repair	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. The Project is expected to save over $7 million in planned repair and rehabilitation work on the roadway and bridge.
Economic Impacts, Freight Movement, and Job Creation	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. 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.
Climate Change, Resiliency, and the Environment	The new bridge is designed to withstand seismic events, which have become more common throughout Oklahoma, and incorporates evidence-based climate resilience measures. In addition, the project will reduce congestion and use Warm Mix Asphalt to limit emissions.
Equity, Multimodal Options, and Quality of Life	A safer and more reliable interchange will improve transit performance by reducing route travel times; reducing congestion will improve air quality for the surrounding disadvantaged communities, which face high asthma rates.
Innovation	Bundling will result in a 15% overall cost savings each for Phases 2, 3, and 4 of the Project.