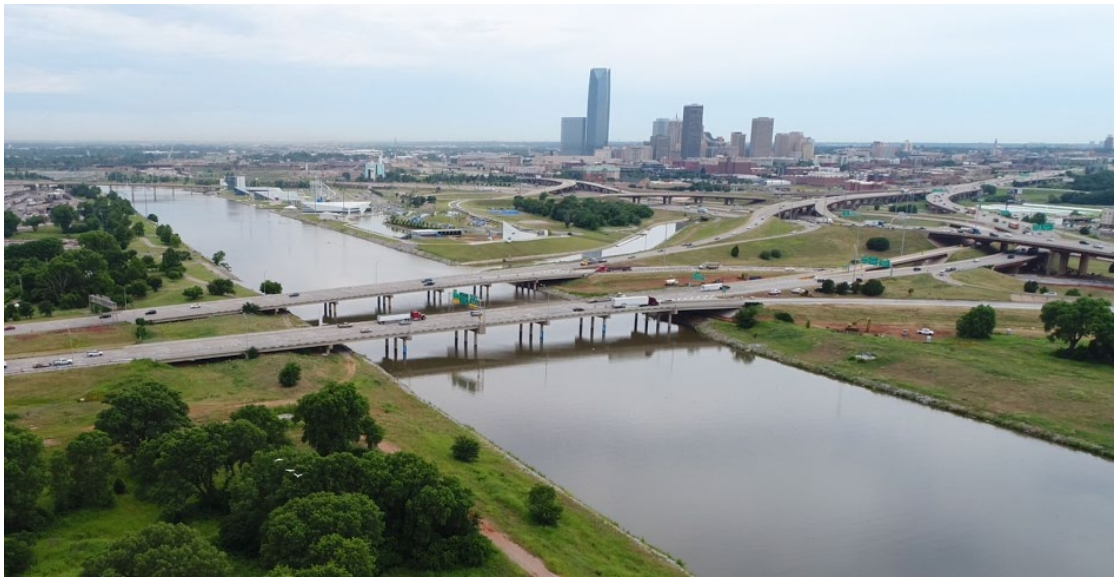
Bridging the Gap: Multimodal Connections on I-35 over the Oklahoma River

Oklahoma Department of Transportation

Multimodal Project Discretionary Grant Application

August 21, 2023



MEGA DATA PLAN

OKLAHOMA Transportation

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Mega Data Plan

The Oklahoma Department of Transportation (ODOT) is committed to collecting and analyzing performance indicators to measure the impacts of the I-35 river bridge replacement project which includes the construction of two new mainline bridges on I-35, a new I-35 ramp bridge spanning the Oklahoma River and rehabilitating the I-35 bridge over the Stillwater Railroad (**Component 1**). The Project also includes a separate "shared use" multimodal bridge will be constructed west of the I-35 SB bridge, and it will connect to the recently constructed Oklahoma River trail system on both sides of the river (**Component 2**). The information provided in this Plan identifies the performance indicator, method in which the data will be collected, the performance target that ODOT strives to achieve compared to the baseline condition, and the timeline for collecting and analyzing the data. These targets build on the performance measures developed for ODOT's MAP-21 Performance Measures dashboard, available here.

Outcome Criterion: Safety

ODOT recorded an average of 2.0 fatalities and 11.0 serious injuries per year at the I-35/I-40 interchange (the project area) in its Highway System Collision Listing from 2012 to 2021. Based on the Crash Reduction Factors for the Project, it is anticipated that a total collision reduction of between 45 percent (bridge) and 48 percent (roadway) should occur through the Project extents.

Table 1. Performance Measures and Targets for Safety

Measure	Baseline	Target
Number of fatalities	2.0	1.1
Number of serious injuries	11.0	6.1

SOURCE: ODOT

ODOT will collect data in its crash database up to five years after significant construction tasks have been completed. Data will be compiled at an annual rate over the 5-year period to be compared to the pre-construction 5-year collision rates.

Outcome Criterion: State of Good Repair

Prior bridge maintenance improvements have improved the bridges from previously being rated as Structurally Deficient (SD), but over time, continued wear has put the bridges at risk of becoming SD again. In the 2022 NBI bridge inspection report, the deck, superstructure, and substructure had a condition rating of 5 (Fair). If any of the three ratings were to decrease to a rating of 4 (Poor), the bridges would become SD. ODOT understands that if the bridges are not replaced it may threaten future transportation network efficiency, mobility of goods and people, and regional and local economic growth and thus included this Project in the eight-year Construction Work Plan (CWP) and scheduled for construction in 2028.

Table 2. Performance Measures and Targets for State of Good Repair

Measure	Baseline	Target
Bridge Deck Condition	5	7
Bridge Superstructure Condition	5	7
Bridge Substructure	5	7

SOURCE: ODOT

ODOT conducts regular inspections every two-years of bridges to assess their condition, as required by the NBI program. The results of these inspections are included in ODOT's reporting to FHWA and included in the NBI.

Outcome Criterion: Economic Impacts, Freight Movement, and Job Creation

This Project addresses one of the worst freight bottlenecks in Oklahoma as identified in the 2023-2030 Oklahoma Freight Transportation Plan. FHWA's 2019 analysis indicates that the daily cost of congestion at the Project location bottleneck could be as high as $80,000 per day or nearly $30 million annually. The 2022 Truck Travel Time Reliability (TTTR) on the I-35 NB and SB bridges was 2.36 and 4.33, which is rated as poor. ODOT's TTTR Interstate target is 1.33 and the current statewide average TTTR is 1.27. Additional information on the TTTR is in the **Transportation Challenges** section in the **Project Description**.

Table 3. Performance Measures and Targets for Economic Impacts, Freight Movement, and Job Creation

Measure	Baseline	Target
Travel Time Reliability - Northbound	1.28	1.49
Travel Time Reliability - Southbound	1.74	1.49
Truck Travel Time Reliability - Northbound	2.36	1.49
Truck Travel Time Reliability - Southbound	4.33	1.49

SOURCE: ODOT

ODOT collects Level of Travel Time Reliability (LOTTR) and Truck Travel Time Reliability (TTTR) data as part of the National Performance Management Research Data Set.

Outcome Criteria: Climate Change, Resiliency, and the Environment; and Equity, Multimodal Options, and Quality of Life

ODOT has collaborated with stakeholders in the Project area to determine that a multimodal bridge is an excellent way to protect the environment, support active transportation, and support local communities and businesses in the Project area. Since there is currently no pedestrian or bike crossing on this section of the river, there is not a baseline value for the

target. In addition, many of the adjoining areas, such as the OKANA Resort, are still under construction, and the development of these areas may have a significant impact on the number of pedestrians and cyclists using the multimodal bridge. Therefore, ODOT will work with the City of Oklahoma City to identify appropriate targets for pedestrians and cyclists using the multimodal bridge.

Table 4. Performance Measures and Targets for Climate Change, Resiliency, and the Environment; and Equity, Multimodal Options, and Quality of Life

Measure	Baseline	Target
Pedestrians using multimodal bridge	Not Available	To Be Determined
Bikers using multimodal bridge	Not Available	To Be Determined

ODOT will include a system of automated counters to measure the number of people walking and biking on the multimodal bridge. In addition, ODOT will conduct surveys of people using the multimodal bridge to determine the environmental and equity impacts of the Project. The survey will include a question on what mode of transportation the respondent would have used if the bridge was not available, to determine if the presence of the multimodal bridge leads residents to change modes away from cars (environment) or if allows them to access destinations that they would otherwise not be able to access without a car (equity). The survey will also include demographic questions to determine if the multimodal bridge serves residents of the local area equitably.

Outcome Criterion: Innovation

ODOT plans several innovative elements of the construction and funding process, including use of Intelligent Transportation Systems (ITS), 3D digital project plans, Accelerated Bridge Construct (ABC), a “No Excuses Bonus” for early delivery of the project, and funding partnerships, as listed in the Outcome Criteria Narrative. While these methods will not relate to long-term performance measures, they will result in on-time and on-budget delivery of the project.

Reporting

Based on a projected completion of June 2029, ODOT will submit a project outcomes report that compares the baseline data to quarterly project data for the duration of 2034.