

Economic Impact Analysis for the I-40 and SH-100 Bridge Replacement Bundle at Webbers Falls Project

Oklahoma Department of Transportation

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Glossary

Key Terms	Definition
Economic Impact Analysis	Study that examines the total economic impact of a final demand change on a regional economy.
Economic Impact Area	Geographic area in which the total impact of a final demand change is measured.
Direct Impacts	Jobs and wages impact on industries that are directly purchased because of the Project. In the context of the Project, direct impacts include construction workers hired and equipment necessary to build the Project.
Indirect Impacts	Jobs and wages impact on supporting industries that supply goods and services to the industries directly impacted. In the context of the Project, indirect impacts include raw materials necessary to build the stations and the associated workers necessary to produce the equipment.
Induced Impacts	Jobs and wages impact that result from the increased employment and wages associated with direct and indirect impacts as they ripple through the economy. For instance, the spending of construction workers on meals and consumer goods resulting from their employment constitutes an induced impact.
Total Sales	The total output of economic activity created per dollar spend. It includes all raw materials, wages, taxes, and business profit involved in making the final product in all sectors of the economy to satisfy the new demands resulting from spending.
Gross Domestic Product	The value added of wages, taxes, and business profit combined per dollar spend.
Jobs	The number of full- and part-time job-years associated with each million dollars in spending. Job-years are defined as one job for one person over one year.
Wages	Labor earnings from salaries and income with each dollar spend.

1 Project Description

The Oklahoma Department of Transportation (ODOT) proposes to implement the I-40 and SH-100 Bridge Replacement Bundle at Webbers Falls Project, which will replace two aging, fracture-critical bridges over the Arkansas River and the McClellan-Kerr Arkansas River Navigation System (MKARNS) in Muskogee and Sequoyah Counties. The existing I-40 bridge is approximately 2,003 feet long and carries a major interstate freight corridor, while the SH-100 bridge is approximately 1,928 feet long and provides an important local and regional connection between Webbers Falls and Gore. The replacement I-40 bridge will provide two 12-foot travel lanes in each direction, 4-foot inside shoulders, 10-foot outside shoulders, and 42-inch railings. The SH-100 replacement will provide one 12-foot travel lane in each direction and one 8-foot outside shoulder in each direction, increasing the roadway width from 28 feet to 40 feet, along with 42-inch railings, while reducing the structure from 15 spans to 7 spans and incorporating scour protection, high-performance steel girders, concrete walls between pier columns, and existing dolphin pier protection to improve safety and resiliency.

SH-100 completed NEPA on March 8, 2022, including Section 4(f) and ARPA requirements; final plans are complete and the Project is ready to let, with construction letting currently scheduled for August 2027. Bridge permits are either renewed or completing renewal with the Riverbed Authority, USACE Sections 404 and 408, and the U.S. Coast Guard, with approvals reported to be on schedule for letting. I-40 completed NEPA on August 20, 2025, and applicable Riverbed Authority, Section 404, Section 408, and U.S. Coast Guard permit applications have been submitted and are pending, with approvals also on schedule for letting. Final I-40 plans are expected to be completed by December 2027, with construction letting currently scheduled for 2031 following completion of the SH-100 replacement.

Table 1: Capital Investment Timeline (2026\$ million)

Year	I-40	SH-100	Total
2024	\$0.00	\$2.20	\$2.20
2025	\$2.52	\$0.69	\$3.22
2026	\$2.45	\$0.67	\$3.12
2027	\$10.46	\$0.65	\$11.12
2028	\$38.33	\$0.63	\$38.96
2029	\$37.21	\$0.31	\$37.52
2030	\$18.06	\$10.40	\$28.47
2031	\$0.00	\$13.47	\$13.47
2032	\$0.00	\$13.07	\$13.07
Total	\$109.04	\$42.10	\$151.14

Source: ODOT cost estimate.

The Project's capital investment is expected to occur over a nine-year period from 2024 through 2032. This schedule reflects phased project development and construction activities across the overall bridge replacement bundle, with expenditures distributed over multiple years to support delivery of the full Project. For purposes of the economic impact analysis, the capital investment period is treated as the overall implementation timeframe for the bundled Project rather than separated by individual bridge.

The economic impact analysis compares the economic consequences of the Project (build alternative) to the no build scenario, defined in the following section.

1.1.1 No Build Alternative

Under the No Build Alternative, the I-40 and SH-100 bridge replacements would not be constructed. Accordingly, the Project's construction expenditures and associated short-term economic impacts would not occur. The existing bridges would remain in service subject to continued maintenance, rehabilitation, and eventual load-posting or closure conditions as they deteriorate. Other planned and funded transportation projects in the economic impact area are assumed to proceed independently and are included in both the No Build and Build alternatives so that the analysis isolates the incremental economic impacts attributable specifically to the I-40 and SH-100 Bridge Replacement Bundle at Webbers Falls Project.

1.1.2 Build Alternative

Under the Build Alternative, ODOT would construct the I-40 and SH-100 replacement bridges and implement the associated Project improvements. The analysis therefore measures only the incremental economic impacts attributable to Project implementation, including the economic activity generated by Project construction expenditures and other Project-specific effects, relative to conditions that would occur under the No Build Alternative. Transportation investments and economic activity that would occur regardless of the Project are held constant between the two alternatives and are not attributed to the Project.

2 Economic Impact Analysis

This section details the approach and findings of the economic impact analysis associated with the short-term (temporary) construction impacts as well as long-term (recurring) operating and maintenance (O&M) impacts of the Project. An economic impact analysis, also known as input-output analysis, assesses how different sectors of the economy connect by measuring the effect of an economic event on employment and wages in a defined geography. An economic impact analysis differs from an economic benefits analysis, in which the analysis considers the benefits associated with a project investment and does not assess how the resources used for a project might have been put to alternative beneficial uses.¹

The economic impacts are summarized through employment and wages, measured in terms of direct, indirect, and induced impacts. These are defined as follows:

- **Jobs** – The number of full- and part-time job-years associated with each million dollars in spending. Job-years are defined as one job for one person over one year.
- **Wages**- Labor earnings from salaries and income, with each dollar spent.

¹ BEA RIMS User Guide. Retrieved https://www.bea.gov/sites/default/files/methodologies/RIMSII_User_Guide.pdf

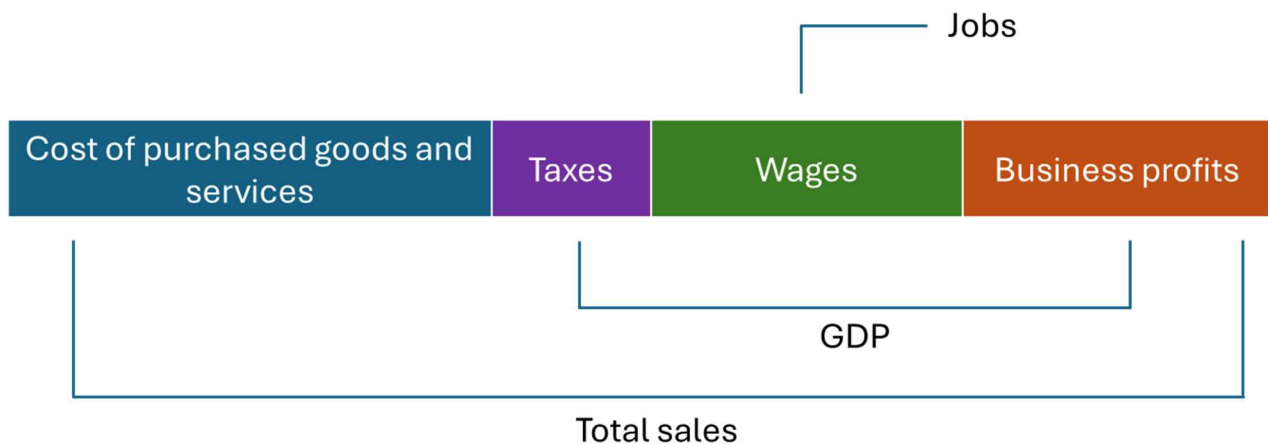
- Direct impacts – jobs and wages impact on industries that are directly purchased because of the Project. In the context of the Project, direct impacts include construction workers hired and the equipment necessary to build the Project.
- Indirect impacts – jobs and wages impact on supporting industries that supply goods and services to the industries directly impacted. In the context of the Project, indirect impacts include raw materials necessary to build the stations and the associated workers necessary to produce the equipment.
- Induced impacts – jobs and wages impact that results from the increased employment and wages associated with direct and indirect impacts as they ripple through the economy. For instance, the spending of construction workers on meals and consumer goods resulting from their employment constitutes an induced impact.

In addition to employment and wages impacts, the economic impact analysis measures total sales and gross domestic product (GDP), which are defined as below:

- Total sales– the total output of economic activity created per dollar spent. It includes all raw materials, wages, taxes, and business profit involved in making the final product in all sectors of the economy to satisfy the new demands resulting from spending.
- Gross domestic product– the value added of wages, taxes, and business profit combined per dollar spent.

Figure 1 demonstrates the relationship between the described economic impacts.

Figure 1: Relationship between economic impacts



2.1 Economic Impact Analysis Methodology

The economic impact analysis uses multipliers from the Bureau of Economic Analysis (BEA) Regional Input-Output Modeling System II (RIMS II). The RIMS II model is used by investors, planners, and elected officials to objectively assess the potential economic impacts of various

projects.² The model produces jobs (full- and part-time) and wages multipliers by industry to demonstrate the linkages between an economic activity and the production of goods and services.

BEA RIMS II Type II multipliers represent the total change in number of jobs and wages that occurs in all industries delivered to final demand by a defined industry in the defined geographic location. In the BEA RIMS II Type II employment multipliers, the final demand employment multiplier represents the total change in number of jobs that occurs in all industries for each \$1 million of output (in 2024\$, the latest year for which multipliers are available) delivered to final demand by the affected industries. Similarly, the final-demand earnings multiplier represents the total dollar change in wages of households employed by all industries for each additional dollar of output (in 2024\$) delivered to final demand by the affected industry.

To isolate the indirect and induced impacts, the analysis uses RIMS II Type I multipliers, which identify the direct and indirect impacts of jobs and earnings per final-demand change, whereas RIMS II Type II multipliers represent the direct, indirect, and induced impacts of jobs and earnings per final-demand change. The analysis takes the difference between jobs and earnings impacts from Type I and Type II multipliers to isolate indirect and induced jobs and earnings. RIMS II further provides final-demand output multipliers, defined as the total change in the value of the affected industry's goods and services produced, and final-demand GDP multipliers

BEA RIMS II multipliers are constructed to reflect the structure of economies in the defined economic impact area, detailed in the following section. The analysis applies the multipliers to construction costs and annual O&M costs to calculate total jobs, wages, total sales, and GDP for the economic impact area. The analysis takes the results of the economic analysis in 2024 dollars and summarizes all findings in 2026 dollars using the White House Office of Management and Budget Gross Domestic Product and Deflators (GDP Deflator).³

2.1.1 Economic Impact Area

To conduct an economic impact analysis, the affected geography (economic impact area) from the economic event must be defined. To conduct the economic impact analysis, the affected geography, or economic impact area, must be defined. The economic impact area extends beyond the immediate I-40 and SH-100 bridge locations because Project construction expenditures can generate economic activity throughout the regional labor and supplier market. For example, construction workers, contractors, material suppliers, and other businesses supporting the Project may be located outside Muskogee and Sequoyah Counties. Accordingly, the geographic scale of the economic impact area reflects the broader regional economy likely to support Project construction.

For this analysis, the economic impact area consists of Wagoner, Muskogee, McIntosh, Haskell, Cherokee, Adair, and Sequoyah Counties in Oklahoma. These seven counties are treated as a

² BEA RIMS User Guide. Retrieved https://www.bea.gov/sites/default/files/methodologies/RIMSII_User_Guide.pdf

³ Whitehouse Office of Management and Budget, Table 10.1 – Gross Domestic Product and Deflators Used in the Historical Tables: 1940-2028, retrieved <https://www.whitehouse.gov/omb/budget/historical-tables/>.

single aggregated regional economy for the RIMS II analysis and represent the Project's anticipated construction labor and supplier market.

A table summarizing the jurisdictions in the economic impact area is shown in Table 2.

Table 2: Jurisdictions in Economic Impact Area

State	Jurisdiction Classification	Name
Oklahoma	County	Wagoner County
	County	Muskogee County
	County	McIntosh County
	County	Haskell County
	County	Cherokee County
	County	Adair County
	County	Sequoyah County

2.2 Construction Impacts

Construction of the Project would support the local economy through the hiring of personnel, renting equipment, and procurement of materials for the duration of the capital investment period, affecting the local labor and manufacturing markets. During construction, specialized labor from throughout the region would be engaged, leading to an increase in employment. In addition, construction-related goods would be purchased, many of which would come from the region. These activities would provide direct, indirect, and induced impacts for the local economy.

Using RIMS II, this section estimates jobs and wages impacts resulting from construction of the Project. The multipliers are constructed to reflect the economic structure of the local economy of Muskogee and Sequoyah Counties and adjacent jurisdictions, as described under the Economic Impact Area presented in Table 2 above. The multipliers are applied to the estimated construction cost to estimate short-term construction impacts. The BEA RIMS II multipliers used in this report represent the most updated version available at the time this analysis was prepared.

The construction cost breakdown was calculated by applying the professional services and construction shares from the BCA cost estimates to the total Project capital cost. Based on the cost estimate ratios for both I-40 and SH-100, professional services account for approximately 4 percent of total capital costs and construction accounts for approximately 96 percent. These ratios were applied to the combined Project total to allocate \$6.67 million to professional services and \$144.47 million to construction in 2026 dollars.

Table 3: Capital Costs (2026\$ millions)

Capital Costs	Costs
Professional, scientific, and technical services	\$6.67
Construction	\$144.47
Total	\$151.14

To isolate the Project's economic impacts on the affected area, the analysis distinguishes resources new to the economy from those that would be spent in the region regardless of the implementation of the Project (e.g., funds that would be allocated to other transportation

construction projects in the region). Since the full amount of capital investment is dedicated solely to this Project — and would not otherwise be spent on other projects in the region — the analysis attributes all associated economic impacts to this investment. As a result, the analysis applies the total capital cost of the Project, representing the maximum potential construction-related impact.

shows the breakdown of capital costs in 2026 dollars. The construction infrastructure and professional services values served as the basis for estimating construction spending impacts. Construction costs include construction expenditures and contingencies; professional services costs include administrative and overhead costs.

The construction cost breakdown was calculated by applying the professional services and construction shares from the BCA cost estimates to the total Project capital cost. Based on the cost estimate ratios for both I-40 and SH-100, professional services account for approximately 4 percent of total capital costs and construction accounts for approximately 96 percent. These ratios were applied to the combined Project total to allocate \$6.67 million to professional services and \$144.47 million to construction in 2026 dollars.

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Table 4 on the following page displays the final-demand multipliers for the relevant industries associated with the implementation of the Project in the economic impact area. Final-demand multipliers, otherwise referred to as the impact resulting from the purchase of goods and services, are expressed in terms of employment, wages, total sales, and GDP. The employment impacts are expressed in job-years (jobs), which are defined as one job for one person for one year and rounded to the nearest 10.⁴

For example, three job-years are equal to three people performing one job for one year, or one person performing one job for three years. The BEA RIMS II employment multipliers represent the total change in number of jobs that occurs in all industries for each \$1 million of output (in

⁴ RIMS II User Guide. Pg 2-11. https://www.bea.gov/sites/default/files/methodologies/RIMSII_User_Guide.pdf

2024\$). Wages, total sales, and GDP multipliers represent the additional impact per dollar change in final demand.

Table 4: Economic Impact Area Employment, Wages, Total Sales, and GDP Multipliers for Construction

Industry	Employment (number of jobs)	Wages (2024\$)	Total Sales (2024\$)	GDP (2024\$)
Professional, scientific, and technical services	9.3034	0.5714	1.4147	0.9179
Construction	6.9151	0.4082	1.4872	0.8124

Source: BEA RIMS II

2.2.1.1 Short-Term Employment Impacts

The economic impacts in terms of jobs from investment of the Project are shown in Table 5. Jobs are shown in job-years (i.e., one job year is one job for one person over one year). Total construction employment impacts are estimated at 1,003 jobs, as presented in Table 5. Over the 9-year capital investment period, this translates to 192 annual jobs.

Table 5: Short-Term Construction Employment Impacts (Jobs-years)

Industry	Total	Direct	Indirect	Induced
Professional, scientific, and technical services	59	42	4	12
Construction	944	612	152	180
Total	1,003	654	156	192

2.2.1.2 Short-Term Earning Impacts

Table 6 displays the economic impacts in terms of wages from the construction of the Project. Because the BEA RIMS II multipliers are benchmarked against 2024 economic conditions (the latest year for which BEA RIMS II multipliers are available), the analysis adjusts capital costs to 2024 dollars using the GDP Deflator to calculate wages impacts. After conducting the multiplier analysis, the analysis adjusted wages impacts back to 2026 dollars using the GDP Deflator. Total construction wages impacts are estimated at \$62.62 million.

Table 6: Short-Term Construction Wages Impacts (2026\$ millions)

Industry	Total	Direct	Indirect	Induced
Professional, scientific, and technical services	\$3.81	\$3.05	\$0.22	\$0.53
Construction	\$58.81	\$41.94	\$8.64	\$8.23
Total	\$62.62	\$44.99	\$8.86	\$8.76

2.2.1.3 Short-Term Total Sales and GDP Impacts

Table 7 summarizes the additional total sales resulting from the increase in purchases of goods and services and the GDP to the economic impact area resulting from the construction of the Project. Total sales and GDP are estimated at \$223.70 million and \$123.16 million, respectively.

Over the 9-year capital investment period, this translates to \$42.61 million and \$23.46 million in total sales and GDP.

Table 7: Short-Term Total Sales and GDP Impacts (2026\$ millions)

Industry	Total Sales	GDP
Professional, scientific, and technical services	\$9.43	\$6.12
Construction	\$214.26	\$117.04
Total	\$223.70	\$123.16

2.3 Long-Term (Recurring) Operations and Maintenance Impacts

Implementation of the Project service would support jobs and wages because of ongoing annual O&M expenditures to maintain the bridges. These impacts are recurring annual impacts that would continue through the life of the Project. The O&M costs of maintenance and operating labor associated with the Project represent the direct impacts within the economic impact area. Table 8 on the following page presents the breakdown of annual O&M costs in 2026 dollars.

Table 8: Annual Operations and Maintenance (2026\$ millions)

O&M Costs	Costs
Annual operations and maintenance	\$0.47

The wages of these newly hired sector employees would translate into a proportional increase in consumer demand as these workers purchase goods and services in the region. A further increase of new employment across a variety of industrial sectors and occupational categories is expected as employers hire to meet this increase in local consumer demand. This impact represents the Project's potential induced impact. Finally, the hiring created due to the provision of supplies to the Economic Impact Area represents the indirect impacts associated with the Project. Table 9 displays the employment and wages multipliers for the industries required for O&M activities.

Table 9: Economic Impact Area Employment, Wages, Total Sales and GDP Multipliers for O&M Activities

Industry	Employment (number of job-years)	Wages (2024\$)	Total sales (2024\$)	GDP (2024\$)
Other transportation and support activities	14.3802	0.5238	1.4116	0.9122

Source: BEA RIMS II

2.3.1.1 Long-Term Employment Impacts

Table 10 presents the economic impacts in terms of jobs from the Project. The Project positively impacts industries associated with the Project's O&M and resultFs in 6 jobs annually through its operational life.

Table 10: Long-Term O&M Employment Impacts (Job-years)

Industry	Total	Direct	Indirect	Induced
Other transportation and support activities	6	5	0	1
Total	6	5	0	1

2.3.1.2 Long-Term Earning Impacts

The economic impacts in terms of wages from the O&M of the Project result in wages of \$0.25 million (2026\$) and are shown in Table 11.

Table 11: Long-Term O&M Wages Impacts (2026\$ million)

Industry	Total	Direct	Indirect	Induced
Other transportation and support activities	\$0.25	\$0.20	\$0.02	\$0.03

2.3.1.3 Long-term Total Sales and GDP Impacts

Table 12 summarizes the additional total sales resulting from the increase in purchases of goods and services and the GDP to the economic impact area resulting from the construction of the Project. Total sales and GDP are estimated at \$0.67 million and \$0.43 million annually over the operational life of the Project.

Table 12: Long-Term Total Sales and Value-Added Impacts (2026\$ million)

Industry	Total Sales	GDP
Other transportation and support activities	\$0.67	\$0.43

3 Conclusion

The Project is expected to bring several positive economic impacts, including increased jobs and wages to the economic impact area. The Project's \$151.1 million (2026\$) investment would support 1,003 jobs in construction activities and generate \$62.6 million (2026\$) in wages. The Project would generate \$223.7 million (2026\$) in total sales and \$123.2 million (2026\$) in GDP.

Upon implementation of the Project, recurring O&M activities to maintain the Project are estimated to result in approximately 6 jobs and \$0.25 million (2026\$) in annual wages. O&M activities would produce an annual \$0.67 million (2026\$) in total sales and \$0.43 million (2026\$) in GDP.