



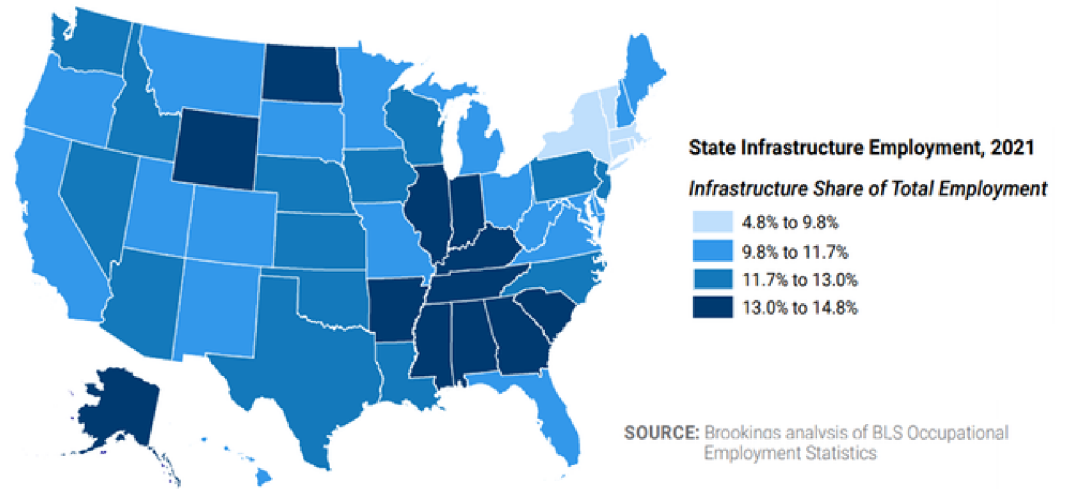
# Economic Impact of Missouri Infrastructure Investments



Missourians for  
Transportation  
Investment

Missourians for Transportation Investment recently analyzed the economic impacts of road and bridge construction. Multipliers created by the U.S. Bureau of Economic Analysis from the Regional Input-Output Modeling System, known as RIMS II were obtained. Type II multipliers were used, which include direct, indirect, and induced impacts. The U.S. Bureau of Economic Analysis explains the RIMS II model in this manner:

Infrastructure share of total employment by state, 2021



*The Regional Input-Output Modeling System (RIMS II), a regional economic model, is a tool used by investors, planners, and elected officials to objectively assess the potential economic impacts of various projects. This model produces multipliers that are used in economic impact studies to estimate the total impact of a project on a region.*

*The idea behind the results of RIMS II is that an initial change in economic activity results in other rounds of investment—for example, building a new road will lead to increased production of asphalt and concrete. The increased production of asphalt and concrete will lead to more mining. Workers benefiting from these increases will spend more, perhaps by eating out at nicer restaurants or upgrading cars or appliances. [1]*

Table 1. Type II Total Final-Demand Multipliers - Missouri

Industry	Output (dollars)	Earnings (dollars)	Employment (jobs/\$1 million)
Transportation structures and highways and streets	\$2.0445	\$0.5396	9.8955

Source: Regional Input-Output Modeling System (RIMS II), Regional Product Division, Bureau of Economic Analysis. Multipliers are based on 2020 data.

Table 1 outlines the 3 multipliers that are used in estimating economic impacts of the sector “Transportation structures and highway and streets”. These multipliers can be interpreted as follows:

**1** For every dollar Missouri invests in transportation infrastructure, \$2.05 of economic activity occurs. This number represents the value of goods and services purchased by the private sector to complete infrastructure projects and the additional household spending.

**2** Missouri residents earn 54 cents for every dollar that Missouri invests in transportation.

**3** Roughly 10 jobs are created and supported for every \$1 million that is spent.







Using the multipliers above, MFTI assumed a 5-year, \$1 billion dollar road/bridge project. Dividing the total over that time span, we arrive at \$200 million per year. Using that figure, Table 2, on page 4, represents the sustained economic activity over 5 years on an annual basis.

According to the National Bureau of Economic Research, adding 10 miles of an additional roadway lane generates economic benefits between \$10 to \$20 million. In some cases, depending on the location and populations or density, some areas are estimated to be in excess of \$500 million. [2]

In a recent analysis of Virginia road and bridge investment, a \$2 billion investment stimulated \$4.6 billion of goods and services and supports 36,390 jobs. This same study cites the U.S. Department of Transportation Federal Highway Administration estimates that every \$1 billion invested in highway construction yields 27,823 jobs. Of that total, 13,861 are considered direct jobs for on-site construction and direct and indirect suppliers, and 13,962 jobs are induced. [3]

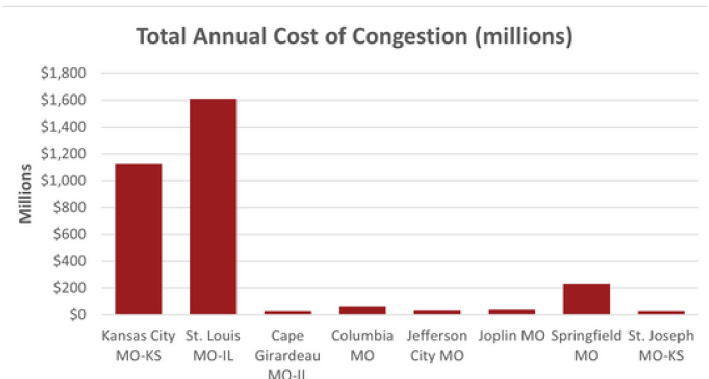
The American Road & Transportation Builders Association did a similar study in the State of Kansas. In their work, an annual \$264 million increase in highway and bridge investment resulted in \$594.3 million in additional economic output, over 5,000 jobs and \$171 million in wages for Kansas residents. [4]

Some of the economic benefits of road and bridge investment include the following:

-  Better transportation systems make it easier for Missouri residents to get to work and assist businesses in hiring employees from a larger geographic area.
-  Better transportation systems reduce costs for manufacturing and production facilities through both obtaining goods and services for manufacturing and experiencing lower costs in moving their products to market. According to the National Bureau of Economics Research and New York University, over the period 1950 to 1989, U.S. industries realized production cost savings averaging 18 cents annually for each dollar invested in the road system. [5]
-  The design, construction and maintenance of transportation infrastructure in Missouri supports approximately 79,000 full-time jobs across all sectors of the state economy. Approximately 1.3 million full-time jobs in Missouri in key industries like tourism, retail sales, agriculture and manufacturing are completely dependent on the state’s transportation network. [6]
-  Drivers and businesses see a number of economic benefits as a result of additional highway and bridge investment. The average return to every dollar invested on highways and bridges is \$5.20, which takes the form of lower maintenance costs, fewer delays, improved safety and less congestion. [7]
-  By investing in roads and bridges, we reduce the costs to the average motorist, thus allowing for more money for discretionary spending. By increasing capacity, congestion and wait times are reduced. In a recent report by the Texas Transportation Institute, St. Louis (\$986), Kansas City (\$961), and Columbia (\$452) incurred significant annual costs per commuter due to congestion. St. Louis leads the state in total cost of congestion at \$1.6 billion, followed by Kansas City at \$1.1 billion.
-  Infrastructure jobs play an important role in Missouri’s economy. The Brookings Institute estimates that Missouri infrastructure jobs comprise 9.8% to 11.7% of the total state employment. However, Missouri lags behind every single bordering state in this statistic. And infrastructure occupations pay wages that are 30% higher for workers at lower income levels, which supports more equitable career pathways. [8]

Urban Area	Annual Hours of Delay Per Commuter	Total Annual Cost of Congestion (millions)	Annual Cost of Congestion Per Commuter
Kansas City MO-KS	50	\$1,125	\$961
St. Louis MO-IL	46	\$1,610	\$986
Cape Girardeau MO-IL	18	\$27	\$377
Columbia MO	20	\$63	\$452
Jefferson City MO	22	\$33	\$468
Joplin MO	21	\$41	\$470
Springfield MO	34	\$231	\$746
St. Joseph MO-KS	14	\$27	\$315

Source: Texas Transportation Institute 2021 Urban Mobility Scorecard.



Source: Texas Transportation Insitutue 2021 Urban Mobility Scorecard

In reviewing the numbers in Table 2, we can estimate that a 5-year road/bridge project totaling \$1 billion in costs will generate and support:

- \$408.9 million in estimated economic activity on an annual basis in the state of Missouri.
- Each year, an additional \$107.9 million in estimated household income would occur for residents of Missouri.
- The project would support an estimated 1,979 jobs each year for 5 years.
- The total economic activity generated over 5 years would be more than \$2 billion.
- For the 5-year period that the project is being built, Missouri household income would see an increase of \$539.6 million.

**Table 2. Economic impacts of \$200m in Missouri infrastructure spending on an annual basis**

Initial Amount	Economic Output	Earnings	Jobs Supported /Created
\$200,000,000	\$408,900,000	\$107,920,000	1,979

Source: Regional Input-Output Modeling System (RIMS II), Regional Product Division, Bureau of Economic Analysis.

MFTI took these impacts and conducted further analysis to determine where this economic activity would take place. Those results are listed below in Table 3.

**Table 3. Economic Impact of \$200 Million in Highway and Bridge Construction Investment in Missouri**

Industry	Impact on Economic Output	Jobs Supported/Created
Agriculture, forestry, fishing, and hunting	\$1,940,000	15
Mining, quarrying, and oil and gas extraction	\$4,260,000	8
Utilities	\$5,060,000	5
Construction	\$201,560,000	861
Durable goods manufacturing	\$35,400,000	126
Nondurable goods manufacturing	\$22,760,000	48
Wholesale trade	\$20,420,000	61
Retail trade	\$11,120,000	121
Transportation and warehousing	\$10,280,000	62
Information	\$7,180,000	20
Finance and insurance	\$13,380,000	43
Real estate and rental and leasing	\$18,460,000	125
Professional, scientific, and technical services	\$14,280,000	73
Management of companies and enterprises	\$4,900,000	18
Administrative and waste management services	\$5,860,000	66
Educational services	\$1,740,000	24
Health care and social assistance	\$15,360,000	117
Arts, entertainment, and recreation	\$1,660,000	23
Accommodation	\$1,300,000	11
Food services and drinking places	\$4,880,000	73
Other services	\$7,080,000	69
<b>Total economic/jobs impact</b>	<b>\$408 million</b>	<b>1,979</b>

Source: Regional Input-Output Modeling System (RIMS II), Regional Product Division, Bureau of Economic Analysis

- [1] RIMS II An essential tool for regional developers and planners. [https://www.bea.gov/sites/default/files/methodologies/RIMSII\\_User\\_Guide.pdf](https://www.bea.gov/sites/default/files/methodologies/RIMSII_User_Guide.pdf)
- [2] New Estimates of the Benefits of U.S. Highway Construction, National Bureau of Economic Research, Morgan Foy. <https://www.nber.org/digest/apr19/new-estimates-benefits-us-highway-construction>
- [3] The Economic Impact of Highway & Bridge Construction Investment in Virginia, Dr. Alison Black. [https://vbtva.com/resources/docs/artba\\_virginia\\_report\\_final.pdf](https://vbtva.com/resources/docs/artba_virginia_report_final.pdf)
- [4] The Economic Impact of an Annual \$264 Million Increase in Kansas Highway and Bridge Construction Investment, Dr. Alison Black. [https://www.artba.org/wp-content/uploads/2014/03/ARTBA\\_Kansas\\_Economic\\_Impact\\_Report\\_March\\_2017.pdf](https://www.artba.org/wp-content/uploads/2014/03/ARTBA_Kansas_Economic_Impact_Report_March_2017.pdf)
- [5] Productivity and the Highway Network: A Look at the Economic Benefits to Industry from Investment in the Highway Network. M. Ishaq and Theofanis P. Mamuneas. <https://trid.trb.org/view.aspx?id=478570>
- [6] Key facts about Missouri's surface transportation system. TRIP. [https://tripnet.org/wp-content/uploads/2020/04/TRIP\\_Fact\\_Sheet\\_MO.pdf](https://tripnet.org/wp-content/uploads/2020/04/TRIP_Fact_Sheet_MO.pdf)
- [7] The Economic Impact of an Annual \$264 Million Increase in Kansas Highway and Bridge Construction Investment, Dr. Alison Black.
- [8] Seizing the U.S. Infrastructure Opportunity: Investing In Current And Future Workers. Brookings Metro. Joseph W. Kane. [https://www.brookings.edu/wp-content/uploads/2022/12/InfraJobsUpdate\\_final.pdf](https://www.brookings.edu/wp-content/uploads/2022/12/InfraJobsUpdate_final.pdf)

*This report was written by Jeff Glenn, Executive Director of Missourians for Transportation Investment and Morgan Mundell, President & CEO of the American Council of Engineering Companies. Economic analysis by Morgan Mundell.*

*MFTI would like to make a special acknowledgement to Dr. Alison Black, Senior Vice President & Chief Economist of the American Road & Transportation Builders Association, who provided counsel and guidance on the writing of this report.*