

**Facilitating Economic Growth:  
The Impact of a \$600 Million  
Increase in Minnesota's  
Annual Highway & Bridge  
Capital Outlays**



# ABOUT THE AUTHOR

This research was conducted by a team led by Dr. Alison Premo Black, vice president of policy and chief economist for the American Road & Transportation Builders Association in Washington, D.C., with significant contributions by Lital Shair. Dr. Black, who earned her PhD. in Economics at The George Washington University in the Nation's Capital, also holds an M.A. in International Economics and Latin American Studies from the Johns Hopkins School of Advanced International Studies. She graduated magna cum laude from Syracuse University, where she was a member of Phi Beta Kappa and the Golden Key Honors Society, with majors in International Relations, Latin American Studies and Spanish. Since joining ARTBA in 2000, Dr. Black has led teams and authored over 75 studies examining state transportation funding and investment patterns.

# TABLE OF CONTENTS

4	<b>Executive Summary</b>
6	<b>Minnesota’s Transportation Construction Industry</b>
7	Characteristics of the Minnesota Transportation Construction Network
9	Statewide Impacts of Increasing Minnesota’s Annual Highway & Bridge Capital Investment
11	<b>Long Run Impacts: The Return on Investment That Keeps Recurring</b>
15	Economic Benefits Well Documented
17	<b>The Economic Impacts of Increasing Minnesota’s Annual Highway and Bridge Investment by \$600 Million on 19 of the State’s Major Industry Sectors</b>
18	Agriculture, forestry, fishing, and hunting
19	Mining
20	Utilities
21	Construction
22	Manufacturing
23	Wholesale trade
24	Retail trade
25	Transportation and warehousing
26	Information
27	Finance and insurance
28	Real Estate, rental, and leasing
29	Professional, scientific, and technical services
30	Management of companies and enterprises
31	Administrative and waste management services
32	Educational services
33	Health care and social assistance
34	Arts, entertainment, and recreation
35	Accommodation and Food Services
36	Other services
37	<b>Methodology and Sources</b>

On the cover: I-35W Bridge in Minnesota.



# EXECUTIVE SUMMARY

This report examines how a \$600 million increase in public investments in Minnesota's highway and bridge infrastructure will stimulate business activity and government revenues throughout the state. This investment would be in addition to current state and local government highway and bridge capital outlays, estimated to be \$2.53 billion annually. This includes \$1.27 billion in investments by the Minnesota Department of Transportation (MnDOT) on state and local roads and an additional \$1.27 billion in outlays by local governments. In this analysis we assume that the \$600 million increase in spending has ramped up over time and the annual program of ongoing work for all Minnesota highway and bridge construction projects, which includes spending from federal, state and local revenue sources, is valued at \$3.13 billion.

We utilized the sophisticated "Regional Input-Output Modeling System" (RIMS II) developed by the U.S. Department of Commerce to track the complex money flows and interactions that occur between the state's diverse business sectors. This, in tandem with data from the U.S. Census Bureau's "County Business Patterns" report, allows us to forecast how an additional \$600 million sustained annual investment in transportation construction work would impact the output of 19 key business sectors within the state.

The results show the unique and synergistic nature of transportation capital investments—how they trigger immediate economic activity that creates and sustains jobs and tax revenues, yet yield long-lived capital assets that facilitate economic activity for many decades to come by providing access to jobs, services, materials and markets.

Most importantly, the results strongly suggest that such an investment should be a fundamental component of any plan to grow the state's economy and boost its future competitiveness in regional, national and international markets.

A sustained \$600 million annual increase in highway and bridge construction work in Minnesota will:

- Boost the state's total economic output by \$1.45 billion, to \$564.21 billion. That is a return of over \$2.40 for every \$1 in spending.
- Create and sustain an additional 12,238 jobs throughout the state's economy, with a total annual payroll of \$455 million.

This report provides:

- A quantification and monetization of the immediate economic impacts of increased highway and bridge investment across Minnesota, specifically on economic output, Gross State Product, earnings, employment and tax revenues.
- A concise, current economic profile of the Minnesota transportation construction industry and the state's infrastructure network.
- An analysis of the long-term benefits of increased Minnesota highway and bridge investment, including reduced congestion and facilitation of increased economic activity by Minnesota businesses.
- A review of relevant economics literature to illustrate the positive relationship between increased highway and bridge investment and economic growth.
- An economic "snapshot" of 19 key business sectors in the state and how they would be impacted by a sustained \$600 million increase in annual state transportation construction investment.

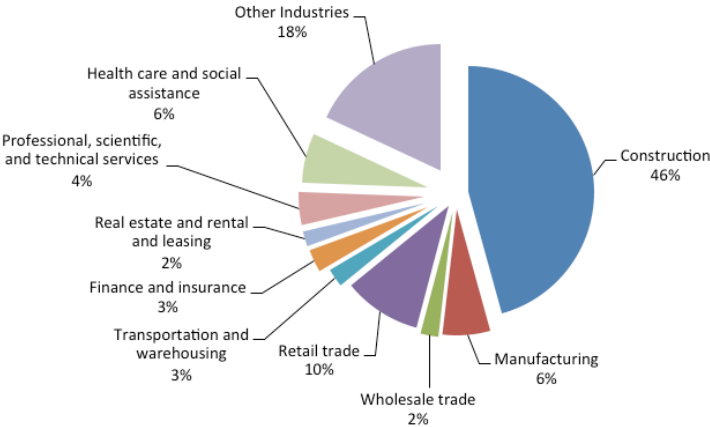
We forecast that a sustained \$600 million annual increase in highway and bridge construction work in Minnesota will result in a significant return on investment across the state. In particular, it will...

- Boost the state’s total economic output by \$1.45 billion, to \$564.21 billion. That is a return of over \$2.40 for every \$1 in spending.
- Create and sustain an additional 12,238 jobs throughout the state’s economy, with a total annual payroll of \$455 million.
- Generate and sustain an additional \$86.8 million in tax revenues, including \$5.5 million in state payroll tax collections, \$13.4 million in state and local sales tax revenue, \$33.1 million in state income tax revenues and \$34.8 million in federal payroll taxes.
- Increase “value added” to the Minnesota economy and Gross State Product (GSP), which measures the total value of output less the price of inputs, by \$742.9 million.
- After the construction sector, the biggest economic impacts from the investment would be seen in Minnesota’s manufacturing (\$204.8 million increase in output) and real estate (\$90.8 million) sectors. The greatest number of jobs would be supported or created in the retail trade (1,220 jobs), health care (774 jobs) and manufacturing (746 jobs) sectors, after construction.

Economic Impact of \$600 Million in Highway and Bridge Construction Investment in Minnesota	
	Impact of \$600 Million Investment
Total Output	\$1.4 billion
Total Value Added (GSP)	\$742.9 million
Earnings	\$455.0 million
Employment	12,238 jobs
State Payroll Tax	\$5.5 million
Federal Payroll Tax	\$34.8 million
State Income Tax	\$33.1 million
State Sales & Use Tax	\$12.9 million
Local Sales & Use Tax	\$590.1 thousand

Sources: ARTBA analysis using data from U.S. Census Bureau, U.S. Department of Labor and Minnesota State Revenue Department.

Industry Breakdown of Minnesota Jobs Supported or Created by a \$600 Million Increase in Highway and Bridge Construction Investment



# MINNESOTA'S TRANSPORTATION CONSTRUCTION INDUSTRY

To put the industry's impact on Minnesota employment in context, it directly provides more Minnesota jobs than direct employment by the state's hotel and motel industry (36,981), real estate and rental and leasing industry (35,786), doctor's offices (35,659) and religious organizations (35,058), among others.

<sup>1</sup>Total capital outlays for highway and bridge work in Minnesota are tracked by several sources. MnDOT provides a flow chart of annual state spending on state and local roads each year on their website, and projects future highway and bridge spending in their State Transportation Improvement Program (STIP) each year. Local spending on highways is from FHWA's Highway Statistics series; FHWA collects information from MnDOT and local governments as part of this Series. Finally, the U.S. Census Bureau publishes annual data on state and local government spending for highways and bridges. Although these estimates vary slightly, they are all very close to \$2.53 billion in total. To estimate state spending, we used three-year average spending levels from the MnDOT flow charts on state (\$1.03 billion) and local highway construction (\$236 million) to arrive at \$1.27 billion. To estimate local spending, we used the average of the last two years of data available from FHWA's Highway Statistics for local government capital outlay for highways, to arrive at \$1.27 billion. Together, state and local spending adds up to approximately \$2.53 billion.

The firms and public agencies that design, build, maintain and manage Minnesota's transportation infrastructure network—together with those who manufacture and produce the equipment, materials, supplies and services necessary for their work—comprise the Minnesota transportation construction industry. Its impacts on the state's economy are significant:

- **Annual Output Value**—The annual value of capital outlays by Minnesota state and local governments on highways and bridges is approximately \$2.53 billion.<sup>1</sup> This represents the value of work completed during the year on highway and bridge projects by the state and local governments, as reported by MnDOT and the U.S. Census Bureau. It does not include routine maintenance. This is not a measure of contract awards, but rather the sustained level of ongoing work. This is the value of work on capital outlays during the year, regardless of when a project was awarded or when work began. To put this amount in perspective, this is larger than the annual economic activity of Minnesota's social assistance industry (\$2.52 billion), chemical products manufacturing industry (\$2.44 billion) and air transportation industry (\$2.13 billion).
- **Annual Contribution to State GDP**—As the money invested in highway and bridge construction industry employment and purchases for these capital outlays moves through the state's economy, it generates nearly \$3.2 billion in total annual economic activity for the state and accounts for over one percent of Minnesota's GSP.
- **Creating & Sustaining Minnesota Jobs**—The design, construction and maintenance of all modes of transportation infrastructure in Minnesota, including railroads, transit, ports and waterways and airports, supports the equivalent of 75,547 full-time jobs. This includes 37,635 direct jobs in transportation construction and supply related-activities and 37,912 jobs induced, or sustained, by transportation construction industry employee, firm and agency spending throughout the state's economy.

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- **Contributions to Minnesota Payroll & Taxes—**  
Transportation construction and maintenance activity in Minnesota from all modes generates \$3.5 billion annually in direct and induced wages. These workers contribute an estimated \$644.3 million each year in state and local income taxes, corporate and unemployment insurance taxes and the federal payroll tax.

But that is only a small part of the picture. Without the infrastructure built, maintained and managed by the Minnesota transportation construction industry, *virtually all of the major industry sectors that comprise the Minnesota economy—and the American jobs they sustain—would not exist or could not function.*

**Dependent Employment—**The simple fact is that nearly 1.3 million Minnesota jobs in just tourism, manufacturing, transportation and warehousing, agriculture and forestry, mining, retailing and wholesaling alone *are fully dependent on the work done by the state's transportation construction industry.* These dependent industries provide a total payroll in excess of \$53 billion.

## Characteristics of the Minnesota Transportation Construction Network

According to the Federal Highway Administration (FHWA), Minnesota has 138,767 miles of roadway. Of the state's 33,117 miles of roadway eligible for federal aid, 6.6 percent are rated "not acceptable" and need major repairs or replacement.

Minnesota has 12,961 bridges. FHWA reports 9 percent of the state's bridges are either "structurally deficient" (830 bridges) or "functionally obsolete" (363 bridges).

**Road Safety—**The National Highway Traffic Safety Administration reports there were 357 fatal motor vehicle crashes, resulting in 387 fatalities in Minnesota during 2013. Of these, 66 percent of fatalities occurred on rural roads and 32 percent occurred on the National Highway System. Motor vehicle crashes are the number one cause of death and also permanently disabling injuries for young Americans under age 21.

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### Transportation Network Profile

#### Highways, Roads & Bridges

Total Road Mileage	138,767
Rural Mileage	116,560
Urban Mileage	22,208
Number of Bridges	12,961

#### Airports

Number of Airports	327
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#### Transit & Rail

Bus Route Miles	5,101
Transit Rail Route Miles	103
Number of Transit Agencies	8

#### Freight Railroad

Railroad Miles	4,449
Number of Railroads	18

#### Ports & Waterways

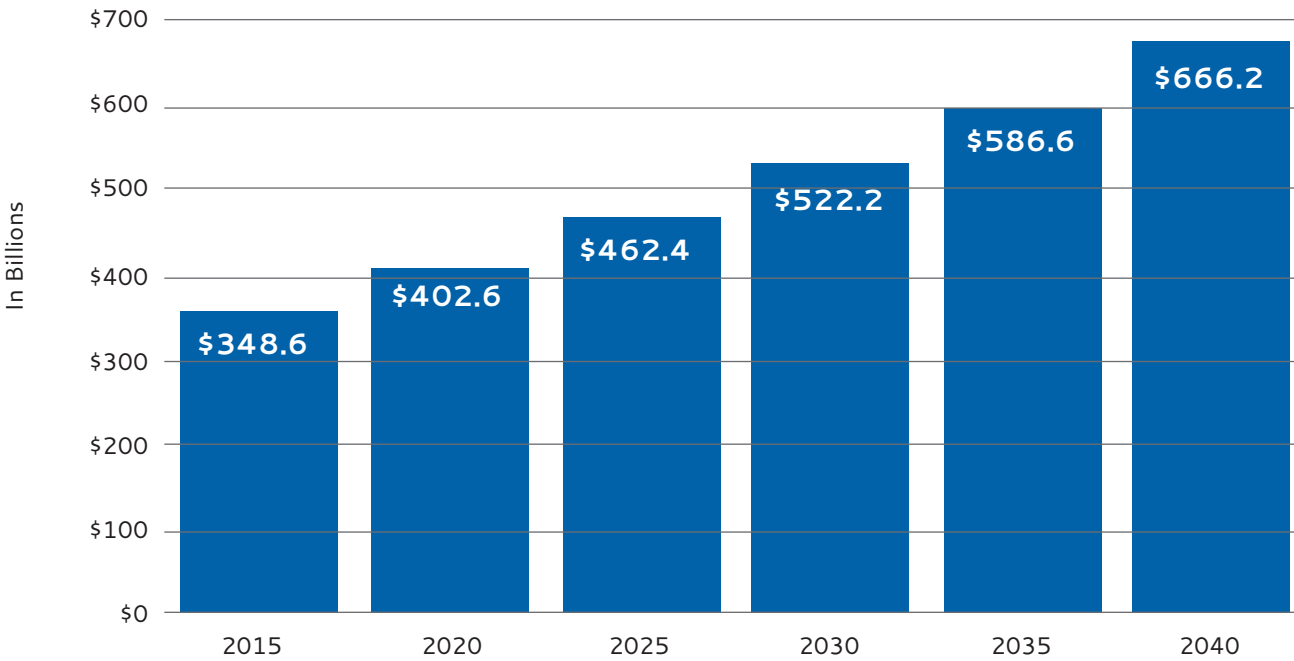
Miles of inland waterways	260
Total Shipments (1,000 tons)	42,872
Domestic Shipments	37,856
Foreign Shipments	3,813
Intrastate Shipments	1,204
Number of waterway facilities	283

**Commuting Patterns**—According to the U.S. Census Bureau, the average weighted commute oneway to work for Minnesota residents is 22 minutes. Getting there, 87 percent of commuters get to work by driving, 3.4 percent take transit, 4.4 percent walk, bike or use other modes and 5.1 percent work from home.

**Freight Traffic**—Interstate truck shipments along Minnesota’s highway and bridge network are vital to the economic growth of the state.

- The value of total truck freight shipments to and from businesses in Minnesota is expected to reach \$666.2 billion in 2040, an increase of 91 percent from \$348.6 billion in 2015.
- Over \$237 billion (70 percent) of domestic shipments by Minnesota businesses in 2015 were made via truck. Over \$141 billion of those truck shipments (60 percent) stayed within the state—the remaining shipments were made to neighboring states (14 percent) and non-neighboring states (26 percent).

### The Value of Total Truck Shipments To and From Minnesota Businesses



Source: U.S. Department of Transportation Freight Analysis Framework



# STATEWIDE IMPACTS OF INCREASING MINNESOTA'S ANNUAL HIGHWAY & BRIDGE CAPITAL INVESTMENT

An annual \$600 million increase in highway and bridge construction investment in Minnesota would have an immediate impact on all sectors of the state economy.

How does this ripple effect work? Highway and bridge contractors purchase inputs from Minnesota businesses, in addition to other firms outside of the state as they complete work on projects. These workers spend their earnings by purchasing clothing, food and other goods and services, thereby creating demand in other sectors of the state economy. As jobs are created or sustained, employees receive additional income and spend more, and businesses increase sales. Subsequently, taxes grow due to larger payroll and sales volumes, providing the state and local municipalities with additional revenues to reinvest in Minnesota.

An annual \$600 million increase in Minnesota highway and bridge construction investment would generate the following economic benefits each year:

- \$1.45 billion in economic output as businesses throughout the economy sell more goods and services to both other businesses and consumers
- \$742.9 million in value added, which contributes to Minnesota's GSP
- 12,238 jobs created or supported across all sectors of the economy
- These workers would earn nearly \$455 million in wages
- \$86.8 million in additional federal and state revenues, including:
  - \$5.5 million in state payroll taxes
  - \$34.8 million in federal payroll taxes
  - \$33.1 million in state income taxes
  - \$12.9 million in state sales taxes
  - Over half a million dollars in local sales taxes

Output by the Minnesota manufacturing industry would increase by over \$204 million as a result of an additional \$600 million highway and bridge construction and capital investment. Other major industries that would increase output include real estate (\$90.8 million), finance and insurance (\$81.0 million), retail trade (\$76.3 million), health care (\$63.0 million) and professional, scientific, and technical services (\$59.4 million). An estimated 12,238 jobs would be created or supported throughout the Minnesota economy, including approximately 1,220 jobs in retail trade and 774 jobs in health care and social assistance.

## Economic Impact of \$600 Million in Highway and Bridge Construction Investment in Minnesota

Industry	Impact on Industry Output (in millions)	Jobs Supported/ Created
Agriculture, forestry, fishing and hunting	\$8.9	75
Mining	\$4.6	20
Utilities	\$19.5	34
Construction	\$604.2	5,566
Manufacturing	\$204.8	746
Wholesale trade	\$56.0	280
Retail trade	\$76.3	1,220
Transportation and warehousing	\$37.7	289
Information	\$28.1	135
Finance and insurance	\$81.0	356
Real estate and rental and leasing	\$90.8	237
Professional, scientific, and technical services	\$59.4	515
Management of companies and enterprises	\$20.5	108
Administrative and waste management services	\$22.5	402
Educational services	\$9.0	185
Health care and social assistance	\$63.0	774
Arts, entertainment, and recreation	\$7.7	197
Accommodation and food services	\$25.0	667
Other services	\$26.8	375
<b>Total industry impact*</b>	<b>\$1,445.6</b>	<b>\$12,238</b>

\*Does not include impact on government output.

# LONG RUN IMPACTS: THE RETURN ON INVESTMENT THAT KEEPS RECURRING

One of the most attractive benefits of major public investments in transportation infrastructure is they create tangible capital assets that are long-lived. In addition to creating jobs and generating tax revenues throughout the economy during the construction cycle, these investments provide infrastructure improvements that foster and facilitate continuing economic growth over many years beyond the initial investment by providing access to jobs, services, materials and markets. An improved highway network results in reduced operating costs and increased market access for Minnesota businesses. Sustained investment in highways and bridges is critical to making the best use of these capital assets.

The greatest long-term economic returns can often be found in strategic investments that facilitate business activity. Infrastructure investments aimed at reducing traffic congestion or providing faster point-to-point travel, for example, can increase productivity by reducing travel time.

Some of these specific benefits include:

- **Access to labor:** A better transportation system means that it is easier for employees in Minnesota to get to work, and that businesses may recruit from a larger pool of potential workers.
- **Increased Market Share & More Customers:** A good transportation system means that Minnesota businesses can reach a greater pool of customers. For example, if a company in St. Paul can count on better roads and bridges for its employees and key product delivery and supply routes, the company may be able to increase employment and its market access to other linked industries. Local industries would benefit from these larger markets and reduced transaction costs.<sup>2</sup>

The Federal Highway Administration's National Bridge Inventory shows 2,364 bridges in Minnesota need work, including major rehabilitation, repair, widening or replacement at a cost of \$1.1 billion. The imposition of a weight restrictions, closure, or collapse of a single bridge also all have productivity and cost impacts for businesses and the public. Avoiding those costs by preserving existing assets is well worth the investment.

The percentage of Minnesota roads with poor pavement conditions will increase from seven to over 20 percent by 2032 if investment by MnDOT stays at current levels, according to a report by the Minnesota Transportation Finance Advisory Committee.<sup>3</sup>

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<sup>2</sup>Nadiri, M. Ishaq and Theofanis P. Mamuneas. "Contribution of Highway Capital to Output and Productivity Growth in the US Economy and Industries." Federal Highway Administration, August 1998.

<sup>3</sup>"Minnesota Moving Ahead: Transportation Funding and Financing For the Next 20 Years", Minnesota Transportation Finance Advisory Committee, December 2012.

<sup>4</sup>Nadiri, M. Ishaq and Theofanis P. Mamuneas. "Contribution of Highway Capital to Output and Productivity Growth in the US Economy and Industries." Federal Highway Administration, August 1998.

<sup>5</sup>It is an industry standard to use elasticities of supply and demand for materials as a measure of the impact of a change in transportation infrastructure investment. Based on the above Federal Highway Administration (FHWA) study (Nadiri 1998), the output elasticity of materials is usually the largest. The elasticity of labor and capital inputs is the second largest.

<sup>6</sup>Rodrigue, Jean-Paul, Claude Comtois and Brian Slack. "Transport and Location, the Geography of Transport Systems ." Oxon:Routledge, 2006.

<sup>7</sup>The magnitude of the effect of highway capital on output will differ by industry, with the largest difference observed between manufacturing and non-manufacturing industries.

- **Reducing production costs:** Economic studies show that reduced costs for inputs is one of the main business benefits from an increase in transportation investment.<sup>4</sup> Typically businesses pay less for inputs when they have access to larger markets.<sup>5</sup>
- **Agglomeration Economies:** Firms benefit by locating near one another, even if they are competitors. This is known as the agglomeration of market activity. This happens because a group of firms will attract a greater number of suppliers and customers than one company alone. Lower transportation costs are a key factor for agglomeration, and will be important in attracting new firms to an area.<sup>6</sup> Increasing returns to local industries can be anticipated in areas with intermodal linkages or intramodally, as between major highways.
- **Increase in demand for inputs:** As the economy expands, businesses will purchase more goods from their suppliers and will increase their demand for private capital. This includes buying more vehicles, equipment, office supplies or even building new plants and factories.<sup>7</sup>

Consider the benefits to a business in Minnesota when the state invests in highway and bridge improvements. The increase in construction activity would mean more demand for products and services in the local area. A local business would sell more of its products and may even hire additional employees to increase output. With an improved transportation network, a local business on one of the many main streets in Minnesota could thrive.

The business would also have lower distribution costs because of the improved highways in the area. More customers would be able to reach the business, and the owner may be able to hire more talented, educated and skilled workers that live further away. The increase in demand may also lead the business to expand, opening another store, plant or business location. Finally, the business would demand more inputs and raw materials from their own suppliers, creating economic ripple effects throughout the economy. It could also be the case that the business owner is able to purchase cheaper inputs because he has greater access to more markets.



- **More efficient operations:** With an efficient transportation system, businesses can make better decisions about their products, inputs and workforce without worrying about poor roadways, closed bridges or congestion. Businesses respond in a variety of ways to congestion. Some businesses may change their mix of labor and capital, reduce the daily deliveries made by a driver or serve a smaller, more specialized market. All of these adjustments can mean a loss for business productivity and market share.<sup>8</sup>

A 2004 study by Cambridge Systematics and the Battelle Memorial Institute identified eight major highway interchange traffic bottlenecks in Minnesota that were causing 2.03 million hours of delay annually for trucks in just the Minneapolis–St. Paul area alone. Mitigating or eliminating those bottlenecks would save billions of dollars in lost productivity and motor fuel that would benefit the state. Such work would also significantly reduce unnecessary motor vehicle emissions.

Investments in multi-modal new capacity for “Critical Commerce Corridors” like “truck only” lanes, intermodal connectors and freight transfer facilities would provide long-term economic benefits for many areas of the state.

Traffic bottlenecks and increased congestion, particularly during rush hour, result in a high cost for Minnesota commuters. According to the Texas Transportation Institute’s latest mobility scorecard, Minnesotans were delayed by an estimated 113.9 million hours in 2014 due to congestion in 2014, which wasted over 45 million gallons of gasoline and costing a total of \$2.5 billion. In the Twin Cities (Minneapolis–St. Paul) metropolitan area alone, the average commuter wasted 47 hours and 18 gallons of gasoline sitting in traffic, costing him \$1,035 per year.<sup>9</sup>

This congestion will only increase as the state’s population grows, and creates greater transportation needs. Over the next 20 years, Minnesota’s population is projected to increase by 587,252 people, with the majority of growth expected to occur in the Twin Cities metropolitan area.<sup>10</sup>

Increasing congestion in the “economic engine of Minnesota” will have a significant impact on state economic activity, as over half of Minnesotans live and work in the Twin Cities metropolitan area.<sup>11</sup>

What would an additional \$600 million per year investment in transportation infrastructure make possible in Minnesota? Consider the possibilities.

Traffic bottlenecks and increased congestion, particularly during rush hour, result in a high cost for Minnesota commuters. According to the Texas Transportation Institute’s latest mobility scorecard, Minnesotans were delayed by an estimated 113.9 million hours in 2014 due to congestion in 2014, which wasted over 45 million gallons of gasoline and costing a total of \$2.5 billion. In the Twin Cities (Minneapolis–St. Paul) metropolitan area alone, the average commuter wasted 47 hours and 18 gallons of gasoline sitting in traffic, costing him \$1,035 per year.

<sup>8</sup>Weisbrod, Glen, Donald Vary and George Treyz. Economic Implications of Congestion. NCHRP Report #463. Project 2–21, National Cooperative Highway Research Program, Transportation Research Board, Washington, DC, 20001

<sup>9</sup>Texas Transportation Institute 2015 Urban Mobility Scorecard

<sup>10</sup>Minnesota State Demographic Center

<sup>11</sup>“Minnesota Moving Ahead: Transportation Funding and Financing For the Next 20 Years”, Minnesota Transportation Finance Advisory Committee, December 2012.

Annual Cost of Congestion per Commuter in Minnesota Cities			
Urban Area	Annual Hours of Delay Per Commuter	Annual Gallons of Gasoline Wasted by Sitting in Traffic Per commuter	Annual Cost of Congestion Per Commuter
Minneapolis–St. Paul MN–WI	47 hours	18 gallons	\$1,035
Duluth MN–WI	20 hours	10 gallons	\$451
Fargo ND–MN	26 hours	11 gallons	\$551
Grand Forks ND–MN	7 hours	4 gallons	\$164
La Crosse WI–MN	12 hours	6 gallons	\$323
Mankato MN	8 hours	4 gallons	\$182
Rochester MN	13 hours	6 gallons	\$282
St. Cloud MN	19 hours	10 gallons	\$438

Source: Texas Transportation Institute 2015 Urban Mobility Scorecard

While there is no single answer to the question, “How much does it cost to build a mile of road?” some states have developed cost models to guide planning for their highway construction program. These models provide a “ballpark figure” for various kinds of highway improvements.

The ultimate cost of a project will depend on the topography and local conditions for rural projects and the size of the urbanized area for urban work. Below are some estimates developed by FHWA in 2002 that have been updated to account for general inflation:

- Construct a lane of highway: approximately \$2 million–\$3 million per mile in rural areas or \$3 million–\$6 million per mile in urban areas, depending on the location and terrain. More complex projects can range from \$10 million to over \$30 million per mile;
- Reconstruct pavement: approximately \$1 million per mile in rural and suburban areas; \$1.8 million per mile in urban areas;
- Resurface and widen lanes: approximately \$1 million per mile in rural areas; \$2 million or more per mile in urban areas;
- Re-alignment costs for pavement work in a normal area can range from \$2 million in flat rural terrain to \$12.5 million in mountainous areas, and an average of \$7 million in urbanized areas; for complex projects the average can range from \$12.2 million per mile in rural areas to \$23 million per mile for urban work; and
- Reconstructing and widening a mile of interstate: \$1.8 million per mile for rural Interstates and \$3.3 million for urban Interstates.

## Economic Benefits Well Documented

The economic benefits of highway investment to private sector productivity and economic activity are well documented in the economics literature. There are numerous studies that have found a positive correlation between transportation infrastructure investment and economic development. Although the exact impact of the investment has varied among studies, the fact that there is a positive relationship is widely accepted.<sup>12</sup>

In addition to the direct employment supported by highway construction activities, as described in this report, there are also direct user benefits, such as time savings and safety improvements, as well as gains in industry productivity.<sup>13</sup>

- The importance of a robust transportation network has been well documented by business analysts, economists and the research community.<sup>14</sup> Overall estimates are that every \$1 increase in the highway and bridge capital stock generates a total of 30 cents in business savings.<sup>15</sup>
- A study by Dr. Alicia Munnell of the Federal Reserve Bank of Boston concluded that states that invested more in infrastructure tended to have greater output, more private investment and more employment growth.<sup>16</sup> Her work found that a one percent increase in public capital would raise national output by 0.15 percent.
- Theresa Smith reached similar conclusions, finding that a ten percent increase in highway and capital stock would increase a state's gross state product by 1.2 to 1.3 percent.<sup>17</sup>
- Additional studies have found that transportation infrastructure investments have an impact on the attractiveness of local communities, which helps determine local economic activity and land values. In general, most studies find that locations close to large transportation infrastructure investment have higher land values.<sup>18</sup>

<sup>12</sup>Economic studies have found output elasticities ranging from as high as 0.56 (Aschauer 1989) to a low of 0.04 (Garcia-Mila and McGuire 1992). This means that a one percent increase in highway investment would result in between 0.04 to 0.56 percent increase in output. Most of this variation is because studies have a different focus—looking at different types of investment measures and output at either the national, state or county level.

<sup>13</sup>U.S. Department of Transportation, *Productivity and the Highway Network: A Look at the Economic Benefits to Industry from Investment in the Highway Network*.

<sup>14</sup>Weisbrod, Glen, Donald Vary and George Treyz. Economic Implications of Congestion. NCHRP Report #463. Project 2-21, National Cooperative Highway Research Program, Transportation Research Board, Washington, DC, 20001

<sup>15</sup>Nadiri, M. Ishaq and Theofanis P. Mamuneas. "Contribution of Highway Capital to Output and Productivity Growth in the US Economy and Industries." Federal Highway Administration, August 1998.

<sup>16</sup>Munnell, Alicia, *How Does Public Infrastructure Affect Regional Economic Performance*, New England Economic Review, September/October 1990

<sup>17</sup>Smith, Theresa M. "The Impact of Highway Infrastructure on Economic Performance." Public Roads Vol. 57 – No. 4 (Spring 1994).

<sup>18</sup>A synopsis of these studies are available in the Transportation Research Board's *Expanding Metropolitan Highways: Implications for Air Quality and Energy Use – Special Report 245*, 1995

<sup>19</sup>Summary provided by U.S. Department of Transportation, *Productivity and the Highway Network: A Look at the Economic Benefits to Industry from Investment in the Highway Network*.

<sup>20</sup>*Technical Report: Assessing Return on Investment in Minnesota's State Highway Program*, MnDOT and Smart Growth America, November 2013.

<sup>21</sup>*Transportation Investment and Economic Development in Minnesota Counties*, Zhirong Jerry Zhao, University of Minnesota, April 2015.

- M. Ishaq Nadiri of New York University and the National Bureau of Economics Research and Theofanis P. Mamuneas of New York University find significant cost structure and productivity performance impacts on the U.S. manufacturing industry as a result of highway investment. Their work shows that the rate of return on highway investment can be greater than private investment. Some major findings include:<sup>19</sup>
  - 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.
  - Investments in non-local roads yield even higher production cost savings—estimated at 24 cents for each dollar of investment.
- Although the impact of highway investment on productivity has declined since the early 1970s and the initial construction of the Interstate, evidence suggests that highway infrastructure investments more than pay for themselves in terms of industry cost savings.

Several reports in recent years have studied the return on investment in Minnesota highways and bridges:

- A 2013 study by MnDOT and Smart Growth America analyzed the potential return on investment of a recommended \$12 billion increase in highway and bridge investment; the study found that such an investment over the next 20 years would deliver \$21–42 billion in benefits.<sup>20</sup>
- A follow up study examined the total economic impact of three specific projects over their life-cycle—the downtown Red Wing Main Street/US 61 Improvements, the Winona Bridge Rehabilitation and Expansion and the I-35W North Managed Lanes Corridor. When taking into account environmental, public health, livability and economic development impacts, the three projects combined would have a total impact of \$475 billion over their lifetime.
- A 2015 study of Minnesota counties by Zhirong Jerry Zhao found that on average, every dollar of investment in local Minnesota roads increases county property values by \$1.25. The return on investment in state roads is even higher; every dollar invested in Minnesota trunk highways increases property values by \$2.88, including \$0.87 in county property values and the remainder generated by a spillover effect across the region.<sup>21</sup>



**The Economic Impacts of  
Increasing Minnesota's  
Annual Highway and  
Bridge Investment by \$600  
Million on 19 of the State's  
Major Industry Sectors**

# AGRICULTURE, FORESTRY, FISHING, AND HUNTING

## SECTOR OVERVIEW

Agriculture, forestry, fishing, and hunting in Minnesota contributed \$6.9 billion to state economic activity in 2014, accounting for 2.2% of the state's Gross State Product (GSP). Total sales in the industry were an estimated \$12.4 billion, which includes goods and services for final consumers as well as any inputs sold to other industries. This sector includes 521 establishments and sole proprietorships in Minnesota with an existing payroll valued at \$95.8 million.

These businesses located in Minnesota contribute an estimated \$8.5 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$37,150 each year. The Agriculture, Forestry, Fishing and Hunting sector comprises establishments primarily engaged in growing crops, raising animals, harvesting timber, and harvesting fish and other animals from a farm, ranch, or their natural habitats.

Regional Profile	Current Value	Minn. Ranking	Percentage of State Total
Industry Output	\$12.4 billion	14	2.2%
Value Added (contribution to GSP)	\$6.9 billion	14	2.2%
Establishments	521 businesses	17	0.4%
Employment	2,578 people	18	0.1%
Average Annual Salary	\$37,150	12	
Total Payroll	\$95.8 million	18	0.1%
State Payroll Tax Contribution	\$1.1 million	18	0.1%
Federal Payroll Tax Contribution	\$7.3 million	15	0.1%
State Sales & Use Tax Contribution	\$10.4 million	18	0.2%
Local Sales & Use Tax Contribution	\$487.5 thousand	18	0.2%

## IMPACT OF INCREASED HIGHWAY AND BRIDGE INVESTMENT ON THIS SECTOR

A \$600 million increase in highway and bridge construction capital spending would have a positive impact on the output, employment and value added for this industry.

- Total employment would increase by 75 jobs.
- Total industry payroll would increase by \$1.1 million, reaching approximately \$96.9 million.
- Output would increase by \$8.9 million and value added, the gross output of the sector less the inputs, would increase by an estimated \$2.9 million.

	Current Value	Impact of \$600M Increase in Minnesota Highway and Bridge Capital Spending	Estimated New Industry Total
Industry Output	\$12.4 billion	\$8.9 million	\$12.4 billion
Value Added (contributions to GSP)	\$6.9 billion	\$2.9 million	\$6.9 billion
Employment	2,578 people	75 people	2,653
Total Payroll	\$95.8 million	\$1.1 million	\$96.9 million
State Payroll Tax Contribution	\$1.1 million	\$13.0 thousand	\$1.2 million
Federal Tax Contribution	\$7.3 million	\$82.6 thousand	\$7.4 million
State Income Tax Contribution	N/A	\$84.9 thousand	N/A
State Sales & Use Tax Contribution	\$10.4 million	\$4.3 thousand	\$10.4 million
Local Sales & Use Tax Contribution	\$487.5 thousand	\$202.28	\$487.7 thousand

# MINING

## SECTOR OVERVIEW

Mining in Minnesota contributed \$2.3 billion to state economic activity in 2014, accounting for 0.7% of the state's Gross State Product (GSP). Total sales in the industry were an estimated \$4.1 billion, which includes goods and services for final consumers as well as any inputs sold to other industries. This sector includes 152 establishments and sole proprietorships in Minnesota with an existing payroll valued at \$555.4 million.

These businesses located in Minnesota contribute an estimated \$49.1 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$95,604 each year. The Mining, Quarrying, and Oil and Gas Extraction sector comprises establishments that extract naturally occurring mineral solids, such as coal and ores; liquid minerals, such as crude petroleum; and gases, such as natural gas.

Regional Profile	Current Value	Minn. Ranking	Percentage of State Total
Industry Output	\$4.1 billion	19	0.7%
Value Added (contribution to GSP)	\$2.3 billion	19	0.7%
Establishments	152 businesses	19	0.1%
Employment	5,809 people	17	0.2%
Average Annual Salary	\$95,604	1	
Total Payroll	\$555.4 million	17	0.5%
State Payroll Tax Contribution	\$6.7 million	17	0.5%
Federal Payroll Tax Contribution	\$42.5 million	14	0.5%
State Sales & Use Tax Contribution	\$43.3 million	13	0.8%
Local Sales & Use Tax Contribution	\$2.0 million	13	0.8%

## IMPACT OF INCREASED HIGHWAY AND BRIDGE INVESTMENT ON THIS SECTOR

A \$600 million increase in highway and bridge construction capital spending would have a positive impact on the output, employment and value added for this industry.

- Total employment would increase by 20 jobs.
- Total industry payroll would increase by \$1.3 million, reaching approximately \$556.6 million.
- Output would increase by \$4.6 million and value added, the gross output of the sector less the inputs, would increase by an estimated \$2.6 million.

	Current Value	Impact of \$600M Increase in Minnesota Highway and Bridge Capital Spending	Estimated New Industry Total
Industry Output	\$4.1 billion	\$4.6 million	\$4.1 billion
Value Added (contributions to GSP)	\$2.3 billion	\$2.6 million	\$2.3 billion
Employment	5,809 people	20 people	5,829
Total Payroll	\$555.4 million	\$1.3 million	\$556.6 million
State Payroll Tax Contribution	\$6.7 million	\$15.1 thousand	\$6.7 million
Federal Tax Contribution	\$42.5 million	\$96.4 thousand	\$42.6 million
State Income Tax Contribution	N/A	\$99.1 thousand	N/A
State Sales & Use Tax Contribution	\$43.3 million	\$48.1 thousand	\$43.4 million
Local Sales & Use Tax Contribution	\$2.0 million	\$2.3 thousand	\$2.0 million

# UTILITIES

## SECTOR OVERVIEW

Utilities in Minnesota contributed \$5.3 billion to state economic activity in 2014, accounting for 1.7% of the state's Gross State Product (GSP).<sup>22</sup> Total sales in the industry were an estimated \$9.5 billion, which includes goods and services for final consumers as well as any inputs sold to other industries.

This sector includes 344 establishments and sole proprietorships in Minnesota. The Utilities sector comprises establishments engaged in the provision of the following utility services: electric power, natural gas, steam supply, water supply, and sewage removal.

## IMPACT OF INCREASED HIGHWAY AND BRIDGE INVESTMENT ON THIS SECTOR

A \$600 million increase in highway and bridge construction capital spending would have a positive impact on the output, employment and value added for this industry.

- Total employment would increase by 34 jobs.
- Total industry payroll would increase by \$3.5 million.
- Output would increase by \$19.5 million and value added, the gross output of the sector less the inputs, would increase by an estimated \$11.6 million.

Regional Profile	Current Value <sup>23</sup>	Minn. Ranking	Percentage of State Total
Industry Output	\$9.5 billion	16	1.7%
Value Added (contribution to GSP)	\$5.3 billion	16	1.7%
Establishments	344 businesses	18	0.2%
Employment	N/A	N/A	N/A
Average Annual Salary	N/A	N/A	
Total Payroll	N/A	N/A	N/A
State Payroll Tax Contribution	N/A	N/A	N/A
Federal Payroll Tax Contribution	N/A	N/A	N/A
State Sales & Use Tax Contribution	\$366.6 million	6	6.6%
Local Sales & Use Tax Contribution	\$17.2 million	6	N/A

	Current Value	Impact of \$600M Increase in Minnesota Highway and Bridge Capital Spending	Estimated New Industry Total
Industry Output	\$9.5 billion	\$19.5 million	\$9.5 billion
Value Added (contributions to GSP)	\$5.3 billion	\$11.6 million	\$5.4 billion
Employment	N/A people	34 people	N/A
Total Payroll	N/A	\$3.5 million	N/A
State Payroll Tax Contribution	N/A	\$41.8 thousand	N/A
Federal Tax Contribution	N/A	\$266.2 thousand	N/A
State Income Tax Contribution	N/A	N/A	N/A
State Sales & Use Tax Contribution	\$366.6 million	\$799.0 thousand	\$367.4 million
Local Sales & Use Tax Contribution	\$17.2 million	\$37.6 thousand	\$17.3 million

<sup>22</sup>GSP is the value added by an industry to the overall economy. Minnesota's GSP was \$316.2 billion in 2014, according to the U.S. Bureau of Economic Analysis. That is the difference between total sales and the intermediate goods. Gross output is the measure of total industry sales for both intermediate and final goods. Minnesota's gross output in 2014 is estimated to be \$562.8 billion.

<sup>23</sup>Because the size of the Utilities industry in Minnesota is so small, detailed information on key indicators is not available; however, there is still a positive impact on this industry from increased highway and bridge investment.



# CONSTRUCTION

## SECTOR OVERVIEW

Construction in Minnesota contributed \$13.5 billion to state economic activity in 2014, accounting for 4.3% of the state's Gross State Product (GSP). Total sales in the industry were an estimated \$24.1 billion, which includes goods and services for final consumers as well as any inputs sold to other industries. This sector includes 15,990 establishments and sole proprietorships in Minnesota with an existing payroll valued at \$6.8 billion.

These businesses located in Minnesota contribute an estimated \$599.1 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$67,629 each year. The Construction sector comprises establishments primarily engaged in the construction of buildings or engineering projects (e.g., highways and utility systems).

Regional Profile	Current Value	Minn. Ranking	Percentage of State Total
Industry Output	\$24.1 billion	8	4.3%
Value Added (contribution to GSP)	\$13.5 billion	8	4.3%
Establishments	15,990 businesses	3	10.9%
Employment	100,095 people	11	4.0%
Average Annual Salary	\$67,629	7	
Total Payroll	\$6.8 billion	8	5.5%
State Payroll Tax Contribution	\$81.2 million	8	5.5%
Federal Payroll Tax Contribution	\$517.9 million	5	5.6%
State Sales & Use Tax Contribution	\$94.2 million	12	1.7%
Local Sales & Use Tax Contribution	\$4.4 million	12	1.7%

## IMPACT OF INCREASED HIGHWAY AND BRIDGE INVESTMENT ON THIS SECTOR

A \$600 million increase in highway and bridge construction capital spending would have a positive impact on the output, employment and value added for this industry.

- Total employment would increase by 5,566 jobs.
- Total industry payroll would increase by \$221.5 million, reaching approximately \$7.0 billion.
- Output would increase by \$604.2 million and value added, the gross output of the sector less the inputs, would increase by an estimated \$271.3 million.

	Current Value	Impact of \$600M Increase in Minnesota Highway and Bridge Capital Spending	Estimated New Industry Total
Industry Output	\$24.1 billion	\$604.2 million	\$24.7 billion
Value Added (contributions to GSP)	\$13.5 billion	\$271.3 million	\$13.8 billion
Employment	100,095 people	5,566 people	105,661
Total Payroll	\$6.8 billion	\$221.5 million	\$7.0 billion
State Payroll Tax Contribution	\$81.2 million	\$2.7 million	\$83.9 million
Federal Tax Contribution	\$517.9 million	\$16.9 million	\$534.8 million
State Income Tax Contribution	N/A	\$17.4 million	N/A
State Sales & Use Tax Contribution	\$94.2 million	\$1.9 million	\$96.1 million
Local Sales & Use Tax Contribution	\$4.4 million	\$88.8 thousand	\$4.5 million

# MANUFACTURING

## SECTOR OVERVIEW

Manufacturing in Minnesota contributed \$43.9 billion to state economic activity in 2014, accounting for 13.9% of the state's Gross State Product (GSP). Total sales in the industry were an estimated \$78.1 billion, which includes goods and services for final consumers as well as any inputs sold to other industries. This sector includes 7,237 establishments and sole proprietorships in Minnesota with an existing payroll valued at \$16.8 billion.

These businesses located in Minnesota contribute an estimated \$1.5 billion in state and federal payroll taxes. Individuals working in this sector earn an average of \$56,095 each year. The Manufacturing sector comprises establishments engaged in the mechanical, physical, or chemical transformation of materials, substances, or components into new products.

Regional Profile	Current Value	Minn. Ranking	Percentage of State Total
Industry Output	\$78.1 billion	1	13.9%
Value Added (contribution to GSP)	\$43.9 billion	1	13.9%
Establishments	7,237 businesses	10	4.9%
Employment	299,567 people	2	11.9%
Average Annual Salary	\$56,095	8	
Total Payroll	\$16.8 billion	2	13.7%
State Payroll Tax Contribution	\$201.6 million	2	13.7%
Federal Payroll Tax Contribution	\$1.3 billion	17	13.8%
State Sales & Use Tax Contribution	\$445.2 million	5	8.0%
Local Sales & Use Tax Contribution	\$20.9 million	5	8.0%

## IMPACT OF INCREASED HIGHWAY AND BRIDGE INVESTMENT ON THIS SECTOR

A \$600 million increase in highway and bridge construction capital spending would have a positive impact on the output, employment and value added for this industry.

- Total employment would increase by 746 jobs.
- Total industry payroll would increase by \$37.0 million, reaching approximately \$16.8 billion.
- Output would increase by \$204.8 million and value added, the gross output of the sector less the inputs, would increase by an estimated \$72.1 million.

	Current Value	Impact of \$600M Increase in Minnesota Highway and Bridge Capital Spending	Estimated New Industry Total
Industry Output	\$78.1 billion	\$204.8 million	\$78.3 billion
Value Added (contributions to GSP)	\$43.9 billion	\$72.1 million	\$44.0 billion
Employment	299,567 people	746 people	300,313
Total Payroll	\$16.8 billion	\$37.0 million	\$16.8 billion
State Payroll Tax Contribution	\$201.6 million	\$444.2 thousand	\$202.1 million
Federal Tax Contribution	\$1.3 billion	\$2.8 million	\$1.3 billion
State Income Tax Contribution	N/A	\$2.9 million	N/A
State Sales & Use Tax Contribution	\$445.2 million	\$730.7 thousand	\$445.9 million
Local Sales & Use Tax Contribution	\$20.9 million	\$34.4 thousand	\$21.0 million

# WHOLESALE TRADE

## SECTOR OVERVIEW

Wholesale trade in Minnesota contributed \$21.8 billion to state economic activity in 2014, accounting for 6.9% of the state's Gross State Product (GSP). Total sales in the industry were an estimated \$38.9 billion, which includes goods and services for final consumers as well as any inputs sold to other industries. This sector includes 8,235 establishments and sole proprietorships in Minnesota with an existing payroll valued at \$9.8 billion.

These businesses located in Minnesota contribute an estimated \$867.8 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$74,545 each year. The Wholesale Trade sector comprises establishments engaged in wholesaling merchandise, generally without transformation, and rendering services incidental to the sale of merchandise.

Regional Profile	Current Value	Minn. Ranking	Percentage of State Total
Industry Output	\$38.9 billion	5	6.9%
Value Added (contribution to GSP)	\$21.8 billion	5	6.9%
Establishments	8,235 businesses	8	5.6%
Employment	131,534 people	9	5.2%
Average Annual Salary	\$74,545	4	
Total Payroll	\$9.8 billion	6	8.0%
State Payroll Tax Contribution	\$117.7 million	6	8.0%
Federal Payroll Tax Contribution	\$750.1 million	3	8.1%
State Sales & Use Tax Contribution	\$491.8 million	3	8.8%
Local Sales & Use Tax Contribution	\$23.1 million	3	8.8%

## IMPACT OF INCREASED HIGHWAY AND BRIDGE INVESTMENT ON THIS SECTOR

A \$600 million increase in highway and bridge construction capital spending would have a positive impact on the output, employment and value added for this industry.

- Total employment would increase by 280 jobs.
- Total industry payroll would increase by \$17.6 million, reaching approximately \$9.8 billion.
- Output would increase by \$56.0 million and value added, the gross output of the sector less the inputs, would increase by an estimated \$35.9 million.

	Current Value	Impact of \$600M Increase in Minnesota Highway and Bridge Capital Spending	Estimated New Industry Total
Industry Output	\$38.9 billion	\$56.0 million	\$38.9 billion
Value Added (contributions to GSP)	\$21.8 billion	\$35.9 million	\$21.9 billion
Employment	131,534 people	280 people	131,814
Total Payroll	\$9.8 billion	\$17.6 million	\$9.8 billion
State Payroll Tax Contribution	\$117.7 million	\$211.0 thousand	\$117.9 million
Federal Tax Contribution	\$750.1 million	\$1.3 million	\$751.4 million
State Income Tax Contribution	N/A	\$1.4 million	N/A
State Sales & Use Tax Contribution	\$491.8 million	\$807.5 thousand	\$492.6 million
Local Sales & Use Tax Contribution	\$23.1 million	\$38.0 thousand	\$23.2 million

# RETAIL TRADE

## SECTOR OVERVIEW

Retail trade in Minnesota contributed \$17.9 billion to state economic activity in 2014, accounting for 5.7% of the state's Gross State Product (GSP). Total sales in the industry were an estimated \$31.9 billion, which includes goods and services for final consumers as well as any inputs sold to other industries. This sector includes 19,157 establishments and sole proprietorships in Minnesota with an existing payroll valued at \$7.3 billion.

These businesses located in Minnesota contribute an estimated \$648.6 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$24,988 each year. The Retail Trade sector comprises establishments engaged in retailing merchandise, generally without transformation, and rendering services incidental to the sale of merchandise.

Regional Profile	Current Value	Minn. Ranking	Percentage of State Total
Industry Output	\$31.9 billion	7	5.7%
Value Added (contribution to GSP)	\$17.9 billion	7	5.7%
Establishments	19,157 businesses	1	13.1%
Employment	293,281 people	3	11.6%
Average Annual Salary	\$24,988	17	
Total Payroll	\$7.3 billion	7	6.0%
State Payroll Tax Contribution	\$87.9 million	7	6.0%
Federal Payroll Tax Contribution	\$560.6 million	4	6.0%
State Sales & Use Tax Contribution	\$2.0 billion	1	36.7%
Local Sales & Use Tax Contribution	\$96.1 million	1	36.7%

## IMPACT OF INCREASED HIGHWAY AND BRIDGE INVESTMENT ON THIS SECTOR

A \$600 million increase in highway and bridge construction capital spending would have a positive impact on the output, employment and value added for this industry.

- Total employment would increase by 1,220 jobs.
- Total industry payroll would increase by \$25.3 million, reaching approximately \$7.4 billion.
- Output would increase by \$76.3 million and value added, the gross output of the sector less the inputs, would increase by an estimated \$45.1 million.

	Current Value	Impact of \$600M Increase in Minnesota Highway and Bridge Capital Spending	Estimated New Industry Total
Industry Output	\$31.9 billion	\$76.3 million	\$32.0 billion
Value Added (contributions to GSP)	\$17.9 billion	\$45.1 million	\$18.0 billion
Employment	293,281 people	1,220 people	294,501
Total Payroll	\$7.3 billion	\$25.3 million	\$7.4 billion
State Payroll Tax Contribution	\$87.9 million	\$303.1 thousand	\$88.2 million
Federal Tax Contribution	\$560.6 million	\$1.9 million	\$562.6 million
State Income Tax Contribution	N/A	\$2.0 million	N/A
State Sales & Use Tax Contribution	\$2.0 billion	\$5.1 million	\$2.0 billion
Local Sales & Use Tax Contribution	\$96.1 million	\$241.7 thousand	\$96.3 million



# TRANSPORTATION AND WAREHOUSING

## SECTOR OVERVIEW

Transportation and warehousing in Minnesota contributed \$9.0 billion to state economic activity in 2014, accounting for 2.9% of the state's Gross State Product (GSP). Total sales in the industry were an estimated \$16.1 billion, which includes goods and services for final consumers as well as any inputs sold to other industries. This sector includes 4,620 establishments and sole proprietorships in Minnesota with an existing payroll valued at \$3.3 billion.

These businesses located in Minnesota contribute an estimated \$294.2 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$42,863 each year. The Transportation and Warehousing sector includes industries providing transportation of passengers and cargo, warehousing and storage for goods, scenic and sightseeing transportation, and support activities related to modes of transportation.

Regional Profile	Current Value	Minn. Ranking	Percentage of State Total
Industry Output	\$16.1 billion	11	2.9%
Value Added (contribution to GSP)	\$9.0 billion	11	2.9%
Establishments	4,620 businesses	12	3.2%
Employment	77,561 people	12	3.1%
Average Annual Salary	\$42,863	10	
Total Payroll	\$3.3 billion	12	2.7%
State Payroll Tax Contribution	\$39.9 million	12	2.7%
Federal Payroll Tax Contribution	\$254.3 million	9	2.7%
State Sales & Use Tax Contribution	\$39.4 million	14	0.7%
Local Sales & Use Tax Contribution	\$1.9 million	14	0.7%

## IMPACT OF INCREASED HIGHWAY AND BRIDGE INVESTMENT ON THIS SECTOR

A \$600 million increase in highway and bridge construction capital spending would have a positive impact on the output, employment and value added for this industry.

- Total employment would increase by 289 jobs.
- Total industry payroll would increase by \$11.3 million, reaching approximately \$3.3 billion.
- Output would increase by \$37.7 million and value added, the gross output of the sector less the inputs, would increase by an estimated \$19.6 million.

	Current Value	Impact of \$600M Increase in Minnesota Highway and Bridge Capital Spending	Estimated New Industry Total
Industry Output	\$16.1 billion	\$37.7 million	\$16.1 billion
Value Added (contributions to GSP)	\$9.0 billion	\$19.6 million	\$9.1 billion
Employment	77,561 people	289 people	77,850
Total Payroll	\$3.3 billion	\$11.3 million	\$3.3 billion
State Payroll Tax Contribution	\$39.9 million	\$135.4 thousand	\$40.0 million
Federal Tax Contribution	\$254.3 million	\$862.9 thousand	\$255.2 million
State Income Tax Contribution	N/A	\$886.9 thousand	N/A
State Sales & Use Tax Contribution	\$39.4 million	\$85.2 thousand	\$39.5 million
Local Sales & Use Tax Contribution	\$1.9 million	\$4.0 thousand	\$1.9 million

# INFORMATION

## SECTOR OVERVIEW

Information in Minnesota contributed \$11.3 billion to state economic activity in 2014, accounting for 3.6% of the state's Gross State Product (GSP). Total sales in the industry were an estimated \$20.2 billion, which includes goods and services for final consumers as well as any inputs sold to other industries. This sector includes 2,572 establishments and sole proprietorships in Minnesota with an existing payroll valued at \$4.5 billion.

These businesses located in Minnesota contribute an estimated \$395.9 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$72,012 each year. The Information sector comprises establishments engaged in the following processes: (a) producing and distributing information and cultural products, (b) providing the means to transmit or distribute these products as well as data or communications, and (c) processing data.

Regional Profile	Current Value	Minn. Ranking	Percentage of State Total
Industry Output	\$20.2 billion	10	3.6%
Value Added (contribution to GSP)	\$11.3 billion	10	3.6%
Establishments	2,572 businesses	14	1.8%
Employment	62,114 people	14	2.5%
Average Annual Salary	\$72,012	6	
Total Payroll	\$4.5 billion	10	3.6%
State Payroll Tax Contribution	\$53.7 million	10	3.6%
Federal Payroll Tax Contribution	\$342.2 million	7	3.7%
State Sales & Use Tax Contribution	\$460.8 million	4	8.3%
Local Sales & Use Tax Contribution	\$21.7 million	4	8.3%

## IMPACT OF INCREASED HIGHWAY AND BRIDGE INVESTMENT ON THIS SECTOR

A \$600 million increase in highway and bridge construction capital spending would have a positive impact on the output, employment and value added for this industry.

- Total employment would increase by 135 jobs.
- Total industry payroll would increase by \$7.4 million, reaching approximately \$4.5 billion.
- Output would increase by \$28.1 million and value added, the gross output of the sector less the inputs, would increase by an estimated \$15.6 million.

	Current Value	Impact of \$600M Increase in Minnesota Highway and Bridge Capital Spending	Estimated New Industry Total
Industry Output	\$20.2 billion	\$28.1 million	\$20.2 billion
Value Added (contributions to GSP)	\$11.3 billion	\$15.6 million	\$11.3 billion
Employment	62,114 people	135 people	62,249
Total Payroll	\$4.5 billion	\$7.4 million	\$4.5 billion
State Payroll Tax Contribution	\$53.7 million	\$88.6 thousand	\$53.8 million
Federal Tax Contribution	\$342.2 million	\$564.6 thousand	\$342.7 million
State Income Tax Contribution	N/A	\$580.3 thousand	N/A
State Sales & Use Tax Contribution	\$460.8 million	\$634.3 thousand	\$461.5 million
Local Sales & Use Tax Contribution	\$21.7 million	\$29.8 thousand	\$21.7 million

# FINANCE AND INSURANCE

## SECTOR OVERVIEW

Finance and insurance in Minnesota contributed \$24.5 billion to state economic activity in 2014, accounting for 7.8% of the state's Gross State Product (GSP). Total sales in the industry were an estimated \$43.6 billion, which includes goods and services for final consumers as well as any inputs sold to other industries. This sector includes 9,326 establishments and sole proprietorships in Minnesota with an existing payroll valued at \$13.4 billion.

These businesses located in Minnesota contribute an estimated \$1.2 billion in state and federal payroll taxes. Individuals working in this sector earn an average of \$85,083 each year. The Finance and Insurance sector comprises establishments primarily engaged in financial transactions (transactions involving the creation, liquidation, or change in ownership of financial assets) and/or in facilitating financial transactions.

Regional Profile	Current Value	Minn. Ranking	Percentage of State Total
Industry Output	\$43.6 billion	4	7.8%
Value Added (contribution to GSP)	\$24.5 billion	4	7.8%
Establishments	9,326 businesses	7	6.4%
Employment	158,001 people	6	6.3%
Average Annual Salary	\$85,083	3	
Total Payroll	\$13.4 billion	3	10.9%
State Payroll Tax Contribution	\$161.3 million	3	10.9%
Federal Payroll Tax Contribution	\$1.0 billion	18	11.1%
State Sales & Use Tax Contribution	\$26.2 million	15	0.5%
Local Sales & Use Tax Contribution	\$1.2 million	15	0.5%

## IMPACT OF INCREASED HIGHWAY AND BRIDGE INVESTMENT ON THIS SECTOR

A \$600 million increase in highway and bridge construction capital spending would have a positive impact on the output, employment and value added for this industry.

- Total employment would increase by 356 jobs.
- Total industry payroll would increase by \$21.6 million, reaching approximately \$13.5 billion.
- Output would increase by \$81.0 million and value added, the gross output of the sector less the inputs, would increase by an estimated \$46.8 million.

	Current Value	Impact of \$600M Increase in Minnesota Highway and Bridge Capital Spending	Estimated New Industry Total
Industry Output	\$43.6 billion	\$81.0 million	\$43.7 billion
Value Added (contributions to GSP)	\$24.5 billion	\$46.8 million	\$24.6 billion
Employment	158,001 people	356 people	158,357
Total Payroll	\$13.4 billion	\$21.6 million	\$13.5 billion
State Payroll Tax Contribution	\$161.3 million	\$259.2 thousand	\$161.6 million
Federal Tax Contribution	\$1.0 billion	\$1.7 million	\$1.0 billion
State Income Tax Contribution	N/A	\$1.7 million	N/A
State Sales & Use Tax Contribution	\$26.2 million	\$49.9 thousand	\$26.2 million
Local Sales & Use Tax Contribution	\$1.2 million	\$2.3 thousand	\$1.2 million

# REAL ESTATE AND RENTAL AND LEASING

## SECTOR OVERVIEW

Real estate and rental and leasing in Minnesota contributed \$39.1 billion to state economic activity in 2014, accounting for 12.4% of the state's Gross State Product (GSP). Total sales in the industry were an estimated \$69.6 billion, which includes goods and services for final consumers as well as any inputs sold to other industries. This sector includes 6,385 establishments and sole proprietorships in Minnesota with an existing payroll valued at \$1.6 billion.

These businesses located in Minnesota contribute an estimated \$140.9 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$44,489 each year. The Real Estate and Rental and Leasing sector comprises establishments primarily engaged in renting, leasing, or otherwise allowing the use of tangible or intangible assets, and establishments providing related services.

Regional Profile	Current Value	Minn. Ranking	Percentage of State Total
Industry Output	\$69.6 billion	2	12.4%
Value Added (contribution to GSP)	\$39.1 billion	2	12.4%
Establishments	6,385 businesses	11	4.4%
Employment	35,786 people	16	1.4%
Average Annual Salary	\$44,489	9	
Total Payroll	\$1.6 billion	15	1.3%
State Payroll Tax Contribution	\$19.1 million	15	1.3%
Federal Payroll Tax Contribution	\$121.8 million	12	1.3%
State Sales & Use Tax Contribution	\$137.0 million	9	2.5%
Local Sales & Use Tax Contribution	\$6.4 million	9	2.5%

## IMPACT OF INCREASED HIGHWAY AND BRIDGE INVESTMENT ON THIS SECTOR

A \$600 million increase in highway and bridge construction capital spending would have a positive impact on the output, employment and value added for this industry.

- Total employment would increase by 237 jobs.
- Total industry payroll would increase by \$5.5 million, reaching approximately \$1.6 billion.
- Output would increase by \$90.8 million and value added, the gross output of the sector less the inputs, would increase by an estimated \$69.0 million.

	Current Value	Impact of \$600M Increase in Minnesota Highway and Bridge Capital Spending	Estimated New Industry Total
Industry Output	\$69.6 billion	\$90.8 million	\$69.7 billion
Value Added (contributions to GSP)	\$39.1 billion	\$69.0 million	\$39.2 billion
Employment	35,786 people	237 people	36,023
Total Payroll	\$1.6 billion	\$5.5 million	\$1.6 billion
State Payroll Tax Contribution	\$19.1 million	\$66.2 thousand	\$19.2 million
Federal Tax Contribution	\$121.8 million	\$422.3 thousand	\$122.2 million
State Income Tax Contribution	N/A	\$434.0 thousand	N/A
State Sales & Use Tax Contribution	\$137.0 million	\$241.7 thousand	\$137.2 million
Local Sales & Use Tax Contribution	\$6.4 million	\$11.4 thousand	\$6.5 million

# PROFESSIONAL, SCIENTIFIC AND TECHNICAL SERVICE

## SECTOR OVERVIEW

Professional, scientific, and technical services in Minnesota contributed \$19.4 billion to state economic activity in 2014, accounting for 6.1% of the state's Gross State Product (GSP). Total sales in the industry were an estimated \$34.5 billion, which includes goods and services for final consumers as well as any inputs sold to other industries. This sector includes 16,516 establishments and sole proprietorships in Minnesota with an existing payroll valued at \$9.9 billion.

These businesses located in Minnesota contribute an estimated \$875.6 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$72,442 each year. The Professional, Scientific, and Technical Services sector comprises establishments that specialize in performing professional, scientific, and technical activities for others.

Regional Profile	Current Value	Minn. Ranking	Percentage of State Total
Industry Output	\$34.5 billion	6	6.1%
Value Added (contribution to GSP)	\$19.4 billion	6	6.1%
Establishments	16,516 businesses	2	11.3%
Employment	136,574 people	8	5.4%
Average Annual Salary	\$72,442	5	
Total Payroll	\$9.9 billion	5	8.1%
State Payroll Tax Contribution	\$118.7 million	5	8.1%
Federal Payroll Tax Contribution	\$756.9 million	2	8.1%
State Sales & Use Tax Contribution	\$118.4 million	11	2.1%
Local Sales & Use Tax Contribution	\$5.6 million	11	2.1%

## IMPACT OF INCREASED HIGHWAY AND BRIDGE INVESTMENT ON THIS SECTOR

A \$600 million increase in highway and bridge construction capital spending would have a positive impact on the output, employment and value added for this industry.

- Total employment would increase by 515 jobs.
- Total industry payroll would increase by \$26.6 million, reaching approximately \$9.9 billion.
- Output would increase by \$59.4 million and value added, the gross output of the sector less the inputs, would increase by an estimated \$41.6 million.

	Current Value	Impact of \$600M Increase in Minnesota Highway and Bridge Capital Spending	Estimated New Industry Total
Industry Output	\$34.5 billion	\$59.4 million	\$34.6 billion
Value Added (contributions to GSP)	\$19.4 billion	\$41.6 million	\$19.4 billion
Employment	136,574 people	515 people	137,089
Total Payroll	\$9.9 billion	\$26.6 million	\$9.9 billion
State Payroll Tax Contribution	\$118.7 million	\$319.0 thousand	\$119.0 million
Federal Tax Contribution	\$756.9 million	\$2.0 million	\$758.9 million
State Income Tax Contribution	N/A	\$2.1 million	N/A
State Sales & Use Tax Contribution	\$118.4 million	\$253.8 thousand	\$118.6 million
Local Sales & Use Tax Contribution	\$5.6 million	\$11.9 thousand	\$5.6 million

# MANAGEMENT OF COMPANIES AND ENTERPRISES

## SECTOR OVERVIEW

Management of companies and enterprises in Minnesota contributed \$12.5 billion to state economic activity in 2014, accounting for 3.9% of the state's Gross State Product (GSP). Total sales in the industry were an estimated \$22.2 billion, which includes goods and services for final consumers as well as any inputs sold to other industries. This sector includes 1,172 establishments and sole proprietorships in Minnesota with an existing payroll valued at \$13.0 billion.

These businesses located in Minnesota contribute an estimated \$1.2 billion in state and federal payroll taxes. Individuals working in this sector earn an average of \$92,347 each year. The Management of Companies and Enterprises sector comprises (1) establishments that hold the securities of (or other equity interests in) companies and enterprises for the purpose of owning a controlling interest or influencing management decisions or (2) establishments (except government establishments) that administer, oversee, and manage establishments of the company or enterprise and that normally undertake the strategic or organizational planning and decision making role of the company or enterprise.

Regional Profile	Current Value	Minn. Ranking	Percentage of State Total
Industry Output	\$22.2 billion	9	3.9%
Value Added (contribution to GSP)	\$12.5 billion	9	3.9%
Establishments	1,172 businesses	16	0.8%
Employment	140,778 people	7	5.6%
Average Annual Salary	\$92,347	2	
Total Payroll	\$13.0 billion	4	10.6%
State Payroll Tax Contribution	\$156.0 million	4	10.6%
Federal Payroll Tax Contribution	\$994.5 million	1	10.7%
State Sales & Use Tax Contribution	\$12.9 million	17	0.2%
Local Sales & Use Tax Contribution	\$605.7 thousand	17	0.2%

## IMPACT OF INCREASED HIGHWAY AND BRIDGE INVESTMENT ON THIS SECTOR

A \$600 million increase in highway and bridge construction capital spending would have a positive impact on the output, employment and value added for this industry.

- Total employment would increase by 108 jobs.
- Total industry payroll would increase by \$9.8 million, reaching approximately \$13.0 billion.
- Output would increase by \$20.5 million and value added, the gross output of the sector less the inputs, would increase by an estimated \$14.5 million.

	Current Value	Impact of \$600M Increase in Minnesota Highway and Bridge Capital Spending	Estimated New Industry Total
Industry Output	\$22.2 billion	\$20.5 million	\$22.2 billion
Value Added (contributions to GSP)	\$12.5 billion	\$14.5 million	\$12.5 billion
Employment	140,778 people	108 people	140,886
Total Payroll	\$13.0 billion	\$9.8 million	\$13.0 billion
State Payroll Tax Contribution	\$156.0 million	\$118.1 thousand	\$156.1 million
Federal Tax Contribution	\$994.5 million	\$752.8 thousand	\$995.3 million
State Income Tax Contribution	N/A	\$773.7 thousand	N/A
State Sales & Use Tax Contribution	\$12.9 million	\$14.9 thousand	\$12.9 million
Local Sales & Use Tax Contribution	\$605.7 thousand	\$702.34	\$606.4 thousand



# ADMINISTRATIVE AND WASTE MANAGEMENT SERVICES

## SECTOR OVERVIEW

Administrative and waste management services in Minnesota contributed \$7.7 billion to state economic activity in 2014, accounting for 2.4% of the state's Gross State Product (GSP). Total sales in the industry were an estimated \$13.8 billion, which includes goods and services for final consumers as well as any inputs sold to other industries. This sector includes 7,310 establishments and sole proprietorships in Minnesota with an existing payroll valued at \$5.7 billion.

These businesses located in Minnesota contribute an estimated \$503.4 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$35,391 each year. The Administrative and Support and Waste Management and Remediation Services sector comprises establishments performing routine support activities for the day-to-day operations of other organizations.

Regional Profile	Current Value	Minn. Ranking	Percentage of State Total
Industry Output	\$13.8 billion	12	2.4%
Value Added (contribution to GSP)	\$7.7 billion	12	2.4%
Establishments	7,310 businesses	9	5.0%
Employment	160,737 people	5	6.4%
Average Annual Salary	\$35,391	13	
Total Payroll	\$5.7 billion	9	4.6%
State Payroll Tax Contribution	\$68.3 million	9	4.6%
Federal Payroll Tax Contribution	\$435.2 million	6	4.7%
State Sales & Use Tax Contribution	\$134.5 million	10	2.4%
Local Sales & Use Tax Contribution	\$6.3 million	10	2.4%

## IMPACT OF INCREASED HIGHWAY AND BRIDGE INVESTMENT ON THIS SECTOR

A \$600 million increase in highway and bridge construction capital spending would have a positive impact on the output, employment and value added for this industry.

- Total employment would increase by 402 jobs.
- Total industry payroll would increase by \$9.3 million, reaching approximately \$5.7 billion.
- Output would increase by \$22.5 million and value added, the gross output of the sector less the inputs, would increase by an estimated \$16.2 million.

	Current Value	Impact of \$600M Increase in Minnesota Highway and Bridge Capital Spending	Estimated New Industry Total
Industry Output	\$13.8 billion	\$22.5 million	\$13.8 billion
Value Added (contributions to GSP)	\$7.7 billion	\$16.2 million	\$7.8 billion
Employment	160,737 people	402 people	161,139
Total Payroll	\$5.7 billion	\$9.3 million	\$5.7 billion
State Payroll Tax Contribution	\$68.3 million	\$111.6 thousand	\$68.4 million
Federal Tax Contribution	\$435.2 million	\$711.5 thousand	\$435.9 million
State Income Tax Contribution	N/A	\$731.2 thousand	N/A
State Sales & Use Tax Contribution	\$134.5 million	\$281.6 thousand	\$134.8 million
Local Sales & Use Tax Contribution	\$6.3 million	\$13.2 thousand	\$6.3 million

# EDUCATIONAL SERVICES

## SECTOR OVERVIEW

Educational services in Minnesota contributed \$2.9 billion to state economic activity in 2014, accounting for 0.9% of the state's Gross State Product (GSP). Total sales in the industry were an estimated \$5.2 billion, which includes goods and services for final consumers as well as any inputs sold to other industries. This sector includes 1,930 establishments and sole proprietorships in Minnesota with an existing payroll valued at \$2.0 billion.

These businesses located in Minnesota contribute an estimated \$173.8 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$27,490 each year. The Educational Services sector comprises establishments that provide instruction and training in a wide variety of subjects.

Regional Profile	Current Value	Minn. Ranking	Percentage of State Total
Industry Output	\$5.2 billion	18	0.9%
Value Added (contribution to GSP)	\$2.9 billion	18	0.9%
Establishments	1,930 businesses	15	1.3%
Employment	71,439 people	13	2.8%
Average Annual Salary	\$27,490	15	
Total Payroll	\$2.0 billion	14	1.6%
State Payroll Tax Contribution	\$23.6 million	14	1.6%
Federal Payroll Tax Contribution	\$150.2 million	11	1.6%
State Sales & Use Tax Contribution	\$7.7 million	19	0.1%
Local Sales & Use Tax Contribution	\$364.3 thousand	19	0.1%

## IMPACT OF INCREASED HIGHWAY AND BRIDGE INVESTMENT ON THIS SECTOR

A \$600 million increase in highway and bridge construction capital spending would have a positive impact on the output, employment and value added for this industry.

- Total employment would increase by 185 jobs.
- Total industry payroll would increase by \$4.0 million, reaching approximately \$2.0 billion.
- Output would increase by \$9.0 million and value added, the gross output of the sector less the inputs, would increase by an estimated \$5.0 million.

	Current Value	Impact of \$600M Increase in Minnesota Highway and Bridge Capital Spending	Estimated New Industry Total
Industry Output	\$5.2 billion	\$9.0 million	\$5.2 billion
Value Added (contributions to GSP)	\$2.9 billion	\$5.0 million	\$2.9 billion
Employment	71,439 people	185 people	71,624
Total Payroll	\$2.0 billion	\$4.0 million	\$2.0 billion
State Payroll Tax Contribution	\$23.6 million	\$47.5 thousand	\$23.6 million
Federal Tax Contribution	\$150.2 million	\$302.9 thousand	\$150.5 million
State Income Tax Contribution	N/A	\$311.4 thousand	N/A
State Sales & Use Tax Contribution	\$7.7 million	\$13.3 thousand	\$7.8 million
Local Sales & Use Tax Contribution	\$364.3 thousand	\$623.92	\$364.9 thousand

# HEALTH CARE AND SOCIAL ASSISTANCE

## SECTOR OVERVIEW

Health care and social assistance in Minnesota contributed \$28.8 billion to state economic activity in 2014, accounting for 9.1% of the state's Gross State Product (GSP). Total sales in the industry were an estimated \$51.3 billion, which includes goods and services for final consumers as well as any inputs sold to other industries. This sector includes 15,225 establishments and sole proprietorships in Minnesota with an existing payroll valued at \$19.0 billion.

These businesses located in Minnesota contribute an estimated \$1.7 billion in state and federal payroll taxes. Individuals working in this sector earn an average of \$42,619 each year. The Health Care and Social Assistance sector comprises establishments providing health care and social assistance for individuals.

Regional Profile	Current Value	Minn. Ranking	Percentage of State Total
Industry Output	\$51.3 billion	3	9.1%
Value Added (contribution to GSP)	\$28.8 billion	3	9.1%
Establishments	15,225 businesses	5	10.4%
Employment	444,946 people	1	17.7%
Average Annual Salary	\$42,619	11	
Total Payroll	\$19.0 billion	1	15.4%
State Payroll Tax Contribution	\$227.6 million	1	15.4%
Federal Payroll Tax Contribution	\$1.5 billion	16	15.6%
State Sales & Use Tax Contribution	\$25.2 million	16	0.5%
Local Sales & Use Tax Contribution	\$1.2 million	16	0.5%

## IMPACT OF INCREASED HIGHWAY AND BRIDGE INVESTMENT ON THIS SECTOR

A \$600 million increase in highway and bridge construction capital spending would have a positive impact on the output, employment and value added for this industry.

- Total employment would increase by 774 jobs.
- Total industry payroll would increase by \$30.0 million, reaching approximately \$19.0 billion.
- Output would increase by \$63.0 million and value added, the gross output of the sector less the inputs, would increase by an estimated \$39.0 million.

	Current Value	Impact of \$600M Increase in Minnesota Highway and Bridge Capital Spending	Estimated New Industry Total
Industry Output	\$51.3 billion	\$63.0 million	\$51.3 billion
Value Added (contributions to GSP)	\$28.8 billion	\$39.0 million	\$28.8 billion
Employment	444,946 people	774 people	445,720
Total Payroll	\$19.0 billion	\$30.0 million	\$19.0 billion
State Payroll Tax Contribution	\$227.6 million	\$360.0 thousand	\$227.9 million
Federal Tax Contribution	\$1.5 billion	\$2.3 million	\$1.5 billion
State Income Tax Contribution	N/A	\$2.4 million	N/A
State Sales & Use Tax Contribution	\$25.2 million	\$34.1 thousand	\$25.2 million
Local Sales & Use Tax Contribution	\$1.2 million	\$1.6 thousand	\$1.2 million

# ARTS, ENTERTAINMENT, AND RECREATION

## SECTOR OVERVIEW

Arts, entertainment, and recreation in Minnesota contributed \$3.1 billion to state economic activity in 2014, accounting for 1.0% of the state's Gross State Product (GSP). Total sales in the industry were an estimated \$5.6 billion, which includes goods and services for final consumers as well as any inputs sold to other industries. This sector includes 2,761 establishments and sole proprietorships in Minnesota with an existing payroll valued at \$1.3 billion.

These businesses located in Minnesota contribute an estimated \$112.5 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$30,249 each year. The Arts, Entertainment, and Recreation sector includes a wide range of establishments that operate facilities or provide services to meet varied cultural, entertainment, and recreational interests of their patrons.

Regional Profile	Current Value	Minn. Ranking	Percentage of State Total
Industry Output	\$5.6 billion	17	1.0%
Value Added (contribution to GSP)	\$3.1 billion	17	1.0%
Establishments	2,761 businesses	13	1.9%
Employment	42,026 people	15	1.7%
Average Annual Salary	\$30,249	14	
Total Payroll	\$1.3 billion	16	1.0%
State Payroll Tax Contribution	\$15.3 million	16	1.0%
Federal Payroll Tax Contribution	\$97.2 million	13	1.0%
State Sales & Use Tax Contribution	\$142.4 million	8	2.6%
Local Sales & Use Tax Contribution	\$6.7 million	8	2.6%

## IMPACT OF INCREASED HIGHWAY AND BRIDGE INVESTMENT ON THIS SECTOR

A \$600 million increase in highway and bridge construction capital spending would have a positive impact on the output, employment and value added for this industry.

- Total employment would increase by 197 jobs.
- Total industry payroll would increase by \$3.1 million, reaching approximately \$1.3 billion.
- Output would increase by \$7.7 million and value added, the gross output of the sector less the inputs, would increase by an estimated \$4.7 million.

	Current Value	Impact of \$600M Increase in Minnesota Highway and Bridge Capital Spending	Estimated New Industry Total
Industry Output	\$5.6 billion	\$7.7 million	\$5.6 billion
Value Added (contributions to GSP)	\$3.1 billion	\$4.7 million	\$3.1 billion
Employment	42,026 people	197 people	42,223
Total Payroll	\$1.3 billion	\$3.1 million	\$1.3 billion
State Payroll Tax Contribution	\$15.3 million	\$37.4 thousand	\$15.3 million
Federal Tax Contribution	\$97.2 million	\$238.7 thousand	\$97.5 million
State Income Tax Contribution	N/A	\$245.3 thousand	N/A
State Sales & Use Tax Contribution	\$142.4 million	\$212.8 thousand	\$142.6 million
Local Sales & Use Tax Contribution	\$6.7 million	\$10.0 thousand	\$6.7 million

# ACCOMMODATION AND FOOD SERVICES

## SECTOR OVERVIEW

Accommodation and Food Services in Minnesota contributed \$7.5 billion to state economic activity in 2014, accounting for 2.4% of the state's Gross State Product (GSP). Total sales in the industry were an estimated \$13.4 billion, which includes goods and services for final consumers as well as any inputs sold to other industries. This sector includes 11,373 establishments and sole proprietorships in Minnesota with an existing payroll valued at \$3.6 billion.

These businesses located in Minnesota contribute an estimated \$321.2 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$16,022 each year. The Accommodation and Food Services sector comprises establishments providing customers with lodging and/or preparing meals, snacks, and beverages for immediate consumption.

Regional Profile	Current Value	Minn. Ranking	Percentage of State Total
Industry Output	\$13.4 billion	13	2.4%
Value Added (contribution to GSP)	\$7.5 billion	13	2.4%
Establishments	11,373 businesses	6	7.8%
Employment	226,540 people	4	9.0%
Average Annual Salary	\$16,022	18	
Total Payroll	\$3.6 billion	11	3.0%
State Payroll Tax Contribution	\$43.6 million	11	3.0%
Federal Payroll Tax Contribution	\$277.7 million	8	3.0%
State Sales & Use Tax Contribution	\$722.6 million	2	13.0%
Local Sales & Use Tax Contribution	\$34.0 million	2	13.0%

## IMPACT OF INCREASED HIGHWAY AND BRIDGE INVESTMENT ON THIS SECTOR

A \$600 million increase in highway and bridge construction capital spending would have a positive impact on the output, employment and value added for this industry.

- Total employment would increase by 667 jobs.
- Total industry payroll would increase by \$9.4 million, reaching approximately \$3.6 billion.
- Output would increase by \$25.0 million and value added, the gross output of the sector less the inputs, would increase by an estimated \$13.5 million.

	Current Value	Impact of \$600M Increase in Minnesota Highway and Bridge Capital Spending	Estimated New Industry Total
Industry Output	\$13.4 billion	\$25.0 million	\$13.4 billion
Value Added (contributions to GSP)	\$7.5 billion	\$13.5 million	\$7.5 billion
Employment	226,540 people	667 people	227,207
Total Payroll	\$3.6 billion	\$9.4 million	\$3.6 billion
State Payroll Tax Contribution	\$43.6 million	\$112.3 thousand	\$43.7 million
Federal Tax Contribution	\$277.7 million	\$716.0 thousand	\$278.4 million
State Income Tax Contribution	N/A	\$736.0 thousand	N/A
State Sales & Use Tax Contribution	\$722.6 million	\$1.3 million	\$723.9 million
Local Sales & Use Tax Contribution	\$34.0 million	\$61.0 thousand	\$34.0 million

## OTHER SERVICES

### SECTOR OVERVIEW

Other services in Minnesota contributed \$6.7 billion to state economic activity in 2014, accounting for 2.1% of the state's Gross State Product (GSP).<sup>20</sup> Total sales in the industry were an estimated \$12.0 billion, which includes goods and services for final consumers as well as any inputs sold to other industries. This sector includes 15,323 establishments and sole proprietorships in Minnesota with an existing payroll valued at \$3.0 billion.

These businesses located in Minnesota contribute an estimated \$261.5 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$25,732 each year. The Other Services (except Public Administration) sector comprises establishments engaged in providing services not specifically provided for elsewhere in the classification system.

Regional Profile	Current Value	Minn. Ranking	Percentage of State Total
Industry Output	\$12.0 billion	15	2.1%
Value Added (contribution to GSP)	\$6.7 billion	15	2.1%
Establishments	15,323 businesses	4	10.5%
Employment	114,827 people	10	4.6%
Average Annual Salary	\$25,732	16	
Total Payroll	\$3.0 billion	13	2.4%
State Payroll Tax Contribution	\$35.5 million	13	2.4%
Federal Payroll Tax Contribution	\$226.0 million	10	2.4%
State Sales & Use Tax Contribution	\$242.7 million	7	4.4%
Local Sales & Use Tax Contribution	\$11.4 million	7	4.4%

### IMPACT OF INCREASED HIGHWAY AND BRIDGE INVESTMENT ON THIS SECTOR

A \$600 million increase in highway and bridge construction capital spending would have a positive impact on the output, employment and value added for this industry.

- Total employment would increase by 375 jobs.
- Total industry payroll would increase by \$9.1 million, reaching approximately \$3.0 billion.
- Output would increase by \$26.8 million and value added, the gross output of the sector less the inputs, would increase by an estimated \$15.3 million.

	Current Value	Impact of \$600M Increase in Minnesota Highway and Bridge Capital Spending	Estimated New Industry Total
Industry Output	\$12.0 billion	\$26.8 million	\$12.0 billion
Value Added (contributions to GSP)	\$6.7 billion	\$15.3 million	\$6.7 billion
Employment	114,827 people	375 people	115,202
Total Payroll	\$3.0 billion	\$9.1 million	\$3.0 billion
State Payroll Tax Contribution	\$35.5 million	\$109.4 thousand	\$35.6 million
Federal Tax Contribution	\$226.0 million	\$697.7 thousand	\$226.7 million
State Income Tax Contribution	N/A	\$717.1 thousand	N/A
State Sales & Use Tax Contribution	\$242.7 million	\$552.3 thousand	\$243.3 million
Local Sales & Use Tax Contribution	\$11.4 million	\$26.0 thousand	\$11.4 million



# METHODOLOGY AND SOURCES

The impact of a \$600 million increase in transportation construction spending is calculated using the U.S. Department of Commerce Regional Input-Output Modeling System (RIMS II). RIMS II is based on input output (I-O) tables. For a given industry, the I-O tables show the industrial distribution of inputs purchased and outputs sold.

Research shows that RIMS II multipliers are similar to other regional I-O models based on in depth and often expensive surveys. According to the U.S. Department of Commerce, RIMS multipliers have been used to estimate such things as the regional impact of military base closings, tourist expenditures, new energy facilities, offshore drilling and the opening or closing of manufacturing plants and other facilities. These multipliers are also used frequently to analyze the impact of new construction projects, including transportation construction.

Industry output for Minnesota is the most recent data from the U.S. Bureau of Economic Analysis GDP estimates for the state, broken out by industry, for 2014.

The employment estimates are derived from several different sources. The information includes establishment and employment data for sole proprietorships and businesses identified as relevant to highway, street and bridge construction. The total direct employment number for suppliers is calculated using the percentage of an industry's output that is related to highway, street and bridge construction, based on national input output tables from the U.S. Bureau of Economic Analysis. The private employment data is from the U.S. Census Bureau's County Business Patterns and Nonemployer Statistics series. Government employee data is from the U.S. Census Bureau's Annual State and Local Government Census. All payroll data has been adjusted for inflation to 2014 dollars using the Bureau of Labor Statistics Consumer Price Index.

Induced employment is calculated according to the same method used by the U.S. Department of Transportation Federal Highway Administration (FHWA). FHWA 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. This study uses that ratio, calculating induced jobs based on the direct employment calculated above.

All bridge information, including conditions, is from FHWA's National Bridge Inventory.

Average commute times are from the U.S. Census Bureau. Fatality and crash information is from the national Fatality Accident Reporting System.

State data on freight shipments is from the FHWA Freight Analysis Framework and is for 2015, the latest year that data is available.

The state payroll tax rate is calculated using the average employer tax rate as a percent of total wages. Minnesota's payroll tax rate is estimated to be 1.2 percent in 2013, the latest year of data available. The source for this information is the National Association of State Workforce Agencies (NASWA) and the U.S. Department of Labor Employment Training Administration (ETA) Financial Handbook 394. The federal payroll tax rate is estimated to be 7.65 percent. State sales and use tax collections values are from the Minnesota Department of Revenue. All state sales and use tax collections data has been adjusted for inflation to 2014 dollars using the Bureau of Labor Statistics Consumer Price Index. Total 2014 local sales and use tax collections are from the Minnesota Department of Revenue; local sales and use tax collections were then estimated for each industry by multiplying the percentage of state sales and use tax collections from each industry as a percent of total state sales and use taxes, by the total value of local sales and use tax collections.

# METHODOLOGY AND SOURCES

Total 2014 income tax collections are from the Minnesota Department of Revenue; income tax collections were then estimated for each industry by multiplying the percentage of industry earnings as a percent of total earnings, by the total value of income tax collections.

Total capital outlays for highway and bridge work in Minnesota are tracked by several sources. MnDOT provides a flow chart of annual state spending on state and local roads each year on their website, and projects future highway and bridge spending in their State Transportation Improvement Program (STIP) each year. Local spending on highways is from FHWA's Highway Statistics series; FHWA collects information from MnDOT and local governments as part of this Series. Finally, the U.S. Census Bureau publishes annual data on state and local government spending for highways and bridges. Although these estimates vary slightly, they are all very close to \$2.53 billion in total. To estimate state spending, we used three-year average spending levels from the MnDOT flow charts on state (\$1.03 billion) and local highway construction (\$236 million) to arrive at \$1.27 billion. To estimate local spending, we used the average of the last two years of data available from FHWA's Highway Statistics for local government capital outlay for highways, to arrive at \$1.27 billion. Together, state and local spending adds up to approximately \$2.53 billion.

Based on data from MnDOT, the U.S. Census Bureau and FHWA, an additional \$600 million in annual local highway and bridge capital spending puts the Minnesota highway and bridge construction market at just over \$3.13 billion.

For additional information please contact:  
Dr. Alison Premo Black  
ARTBA Senior Vice President & Chief Economist  
202.289.4434  
ablack@artba.org