



## **MICHIGAN'S DEFICIENT TRANSPORTATION SYSTEM COSTS THE AVERAGE MICHIGAN HOUSEHOLD \$4,845 ANNUALLY ACCORDING TO NEW REPORT; FUTURE HOUSEHOLD COSTS AND THE CONDITION OF THE SYSTEM WILL DEPEND ON THE AMOUNT OF AVAILABLE TRANSPORTATION FUNDING [OBJ]**

Posted on [April 14, 2022](#) by [Greg](#)



The level of future investment in Michigan's roads, highways and bridges will have a significant impact on the quality of life of the state's residents and the state's future economic growth and competitiveness. According to a new report released today by [TRIP](#), a Washington, DC based national transportation research nonprofit, making transportation improvements can provide the state with a transportation network that is safer, more reliable and better maintained. Conversely, inadequate investment in Michigan's transportation system could lead to increased delays and congestion, declining road and bridge conditions, and reduced highway safety.

The TRIP report, "[Where Are We Going?: Michigan's Current & Future Pavement and Bridge Conditions, Safety, and Congestion and Reliability Levels and the Impact on Michigan Households, Based on Investment Levels over the Next Decade](#)," evaluates the current condition and performance of Michigan's roads, highways and bridges. Based on three possible investment scenarios, TRIP projects the conditions and performance of the state's transportation system over the next decade, the future impact and financial burden on Michigan households, and the impact on the state's economic competitiveness and quality of life.

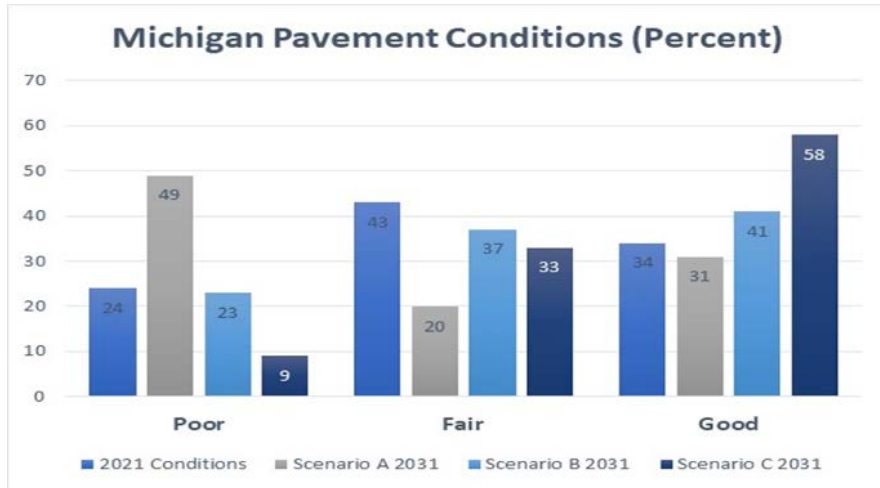
Based largely on data provided by the Michigan Department of Transportation (MDOT), TRIP has analyzed data on the current and projected future condition and performance of Michigan's roads, highways and bridges over the next decade based on three possible funding scenarios. The data provided by MDOT incorporates the impact of additional funds as a result of the passage of the five-year federal [Infrastructure Investment and Jobs Act](#) (IIJA), signed into law in November 2021, which will provide Michigan with \$9 billion in road, highway and bridge funding from 2022 to 2026, resulting in a 33 percent increase in federal funding in 2022. These funding scenarios range from current levels of funding to a level of funding adequate to make substantial improvements in roadway conditions, bridge conditions, highway safety and traffic congestion levels. Below are the three scenarios for funding from 2021 to 2031 that TRIP uses in this report:

- **Scenario A** assumes *anticipated expenditures based on current funding formulas*, regardless of whether they are adequate to maintain or improve conditions and performance into the future.
- **Scenario B** assumes that adequate funding is made available to *maintain current conditions and performance* into the future.
- **Scenario C** assumes a level of funding is made available that would *provide a significant improvement* in near-term conditions and performance and a significant improvement in future conditions and performance.

The level of transportation funding available over the next decade will have a significant bearing on quality of life in Michigan and the economic burden to Michigan households in the form of traffic crashes, delays caused by traffic congestion and unreliability on the state's transportation network, extra vehicle operating costs (VOC) due to driving on roads in poor condition, and in the cost to repair the state's structurally deficient bridges. Currently, inadequate roads, highways and bridges in Michigan cost the average state household \$4,845 annually – a total of \$19.3 billion

statewide. Under Scenario A, the average annual cost to Michigan households of an inadequate transportation system would increase to \$6,273 (\$25 billion statewide). Under Scenario B, the cost would fall to \$4,694 (\$18.7 billion statewide), while the cost to the average household under Scenario C would decline to \$2,479 (\$10 billion statewide).

“This report shows what people all over Michigan already know – transportation and infrastructure funding is critical for our future,” said Lansing Mayor Andy Schor. “Local governments across Michigan desperately need funding from our state and federal government to invest in our crumbling roads, streets, bridges, and aging underground infrastructure. The City of Lansing and our residents are feeling the effect of decades of underfunding when they drive down our streets and when they have to pay for costly auto repairs.”



“Modern, reliable infrastructure is a fundamental building block of a strong economy and Michigan’s competitiveness,” said Wendy Block, vice president of business advocacy and member engagement for the Michigan Chamber of Commerce. “It enables commerce and trade, moves business forward, connects employers, workers and consumers together, and creates countless opportunities for our communities and families. While Michigan has made notable, important strides, it’s imperative that we continue to look for bipartisan, long-term solutions to ensure we are making forward progress.”

Michigan’s bridges currently have significant deficiencies, with more than one-in-ten of the state’s bridges rated structurally deficient. Over the next decade, bridge conditions will worsen considerably under current funding formulas. Currently, 11 percent (1,252 of 11,195) of Michigan’s bridges are rated structurally deficient. Under Scenario A, 18 percent of the state’s bridges will be rated structurally deficient by 2031. Scenario B will allow the state to remain at 11 percent of bridges rated structurally deficient by 2031, while under Scenario C, the number of structurally deficient bridges in the state will fall to less than one percent (48 bridges) by 2031.

Traffic crashes on Michigan roadways result in a significant number of fatalities and economic loss in Michigan. The extent of needed roadway safety improvements made in the state over the next decade will have a significant impact on the number of people killed in crashes on Michigan’s roadways. In 2020, 1,083 people were killed in crashes on Michigan’s roads and highways. Under Scenario A the number of annual traffic fatalities in Michigan in 2031 is anticipated to increase to 1,112. The same number of annual traffic fatalities is projected in 2031 under Scenario B, while under Scenario C, the number of annual traffic fatalities in 2031 is projected to decrease to 750.

Over the next decade, Michigan’s level of investment in projects and programs to relieve traffic congestion and improve travel reliability will determine whether congestion levels and reliability improve or worsen. Based on current levels of funding in Michigan, statewide annual traffic congestion costs are \$5.5 billion, or \$1,382 per household. Under Scenario A, annual congestion costs are projected to total approximately \$6 billion in 2031 – \$1,520 per household. Under Scenario B, the annual cost of congestion is anticipated to be \$5.5 billion, or \$1,382 per household in 2031, while the cost of is expected to be reduced to \$4.4 billion or \$1,106 per household by 2031 under Scenario C.

The chart below details the state’s routes with the least reliable travel times during AM and PM hours. Unreliable travel times make travelers more likely to experience unexpected delays. A list of the 20 least reliable routes during AM and PM hours is included in the report.

Rank	AM or PM	Metro Area	Route	From	To
1	AM	Detroit	I-75 SB	Chrysler Drive / Exit 78	I-75 BL / M-24 / Exit 81
2	AM	Ann Arbor	M-14 WB	US-23	Gottfredson Rd / Exit 15
3	AM	Ann Arbor	I-94 WB	State St / Exit 177	US-12 / Michigan Ave / Exit 181
4	AM	Detroit	I-75 NB	I-696 / Exit 61	14 Mile Road / Exit 65
5	AM	Detroit	I-75 SB	8 Mile Road/Exit 59	14 Mile Road / Exit 65
1	PM	Detroit	I-75 NB	I-75 BL / Exit 75	Joslyn Rd / Exit 83
2	PM	Detroit	I-696 EB	Orchard Lake Rd / Exit 5	M-10 / Exit 10
3	PM	Detroit	I-96 WB	Novi Rd / Exit 162	I-696 / M-5 / Exit 165
4	PM	Ann Arbor	I-94 EB	Ann Arbor Saline Rd / Exit 175	I-94 BR / US-23 / Exit 180
5	PM	Ann Arbor	US-23 SB	I-94 / Exit 35	Plymouth Rd / Exit 41

“The 2022 TRIP report lays out the best option for our quality of life in Michigan. Do we want to continue driving on roads that are in poor condition, saddling Michigan households annually with thousands of dollars in mounting bills? Or do we want to make the needed investments to make our roads the best we

possibly can? The answer to that question is what Michigan’s leaders must come together to develop,” said Rob Coppersmith, executive vice president of Michigan Infrastructure and Transportation Association (MITA). “We need a long-term, sustainable plan that will address our infrastructure needs and get our roads in the best possible condition. High quality roads are key to Michigan’s economic success, and the nearly 100,000 workers in Michigan’s construction industry stand ready to make our roads as safe and reliable as possible.”

Transportation projects that improve the efficiency, condition or safety of a highway or transit route provide significant economic benefits by reducing transportation delays and costs associated with a deficient transportation system. According to a [report by the American Road & Transportation Builders Association](#), the design, construction and maintenance of transportation infrastructure in Michigan supports approximately 94,000 full-time jobs across all sectors of the state economy. These workers earn \$4.1 billion annually. Approximately 1.9 million full-time jobs in Michigan in key industries like tourism, retail sales, agriculture and manufacturing are completely dependent on the state’s transportation network.

“The future level of investment in Michigan’s transportation network will determine the health of the state’s economy and the amount of money and time lost by the state’s motorists as a result of driving on a deficient system,” said Dave Kearby, TRIP’s executive director. “It is critically important that adequate investment is made to keep the state’s residents, businesses and visitors moving efficiently and safely. Michigan’s economic health and the quality of life of its residents are literally riding on its transportation network.”



*Founded in 1971, [TRIP](#)® of Washington, DC, is a nonprofit organization that researches, evaluates and distributes economic and technical data on surface transportation issues. TRIP is sponsored by insurance companies, equipment manufacturers, distributors and suppliers; businesses involved in highway and transit engineering and construction; labor unions; and organizations concerned with efficient and safe surface transportation.*

## **Executive Summary**

Michigan's roads, highways and bridges form vital transportation links for the state's residents, visitors and businesses, providing daily access to homes, jobs, shopping, natural resources and recreation. The growth and development of a state or region hinges on efficient and safe access to employment, customers, commerce, recreation, education and healthcare via multiple transportation modes.

Ensuring Michigan's continued economic recovery and growth will require that the state invests adequately in its transportation system, which is critical to the health of the state's automotive, manufacturing, agriculture, education and healthcare sectors, all of which are vital to the state's economic growth and stability. Michigan's transportation system also contributes to quality of life and helps to make the state a desirable place to live and visit.

But deficiencies in the transportation system remain an economic burden to Michigan households. The level of future investment in roads, highways and bridges will have a significant impact on the quality of life of the state's residents and Michigan's future economic growth and competitiveness.

Making transportation improvements can provide the state with a transportation network that is safer, more reliable and better maintained. Conversely, inadequate investment in the state's transportation system could lead to increased delays and congestion, declining road and bridge conditions, and reduced highway safety.

In this report, "Where Are We Going?" TRIP begins by examining and evaluating the current condition and performance of Michigan's roads, highways and bridges. Based on three possible investment scenarios, TRIP projects the conditions and performance of the state's transportation system over the next decade, the future impact and financial burden on Michigan households, and the state's economic competitiveness and quality of life.

Sources of data include the Michigan Department of Transportation (MDOT), the U.S. Department of Transportation (USDOT), the Federal Highway Administration (FHWA), the U.S. Bureau of Transportation Statistics (BTS), the Bureau of Labor Statistics (BLS), the U.S. Census Bureau, IHS Markit, the American Road and Transportation Builders Association (ARTBA), and the Texas Transportation Institute.

## **FUTURE FUNDING SCENARIOS AND PREDICTED OUTCOMES**

Based largely on data provided by the Michigan Department of Transportation (MDOT), TRIP has analyzed data on the current and projected future condition and performance of Michigan's roads, highways and bridges over the next decade based on three possible funding scenarios. The data provided by MDOT incorporates the impact of additional funds as a result of the passage of the five-year federal [Infrastructure Investment and Jobs Act](#) (IIJA), signed into law in November 2021, which will provide Michigan with \$9 billion in road, highway and bridge funding from 2022 to 2026, resulting in a 33 percent increase in federal funding in 2022. These funding scenarios range from current levels of funding to a level of funding adequate to make substantial improvements in roadway conditions, bridge conditions, highway safety and traffic congestion levels. Below are the three scenarios for funding from 2021 to 2031 that TRIP uses in this report:

**Scenario A** assumes *anticipated expenditures based on current funding formulas*, regardless of whether they are adequate to maintain or improve conditions and performance into the future.

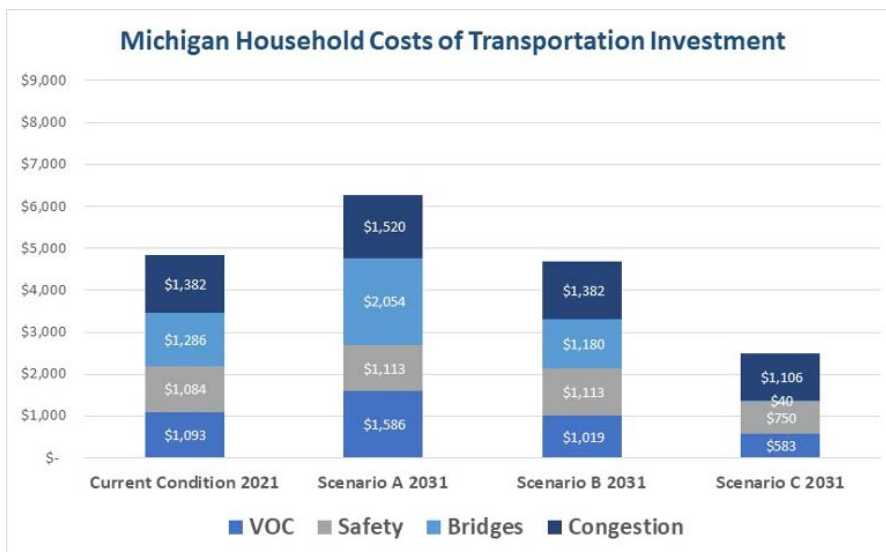
**Scenario B** assumes that adequate funding is made available to *maintain current conditions and performance* into the future.

**Scenario C** assumes a level of funding is made available that would *provide a significant improvement* in near-term conditions and performance and a significant improvement in future conditions and performance.

## **HOUSEHOLD COSTS OF TRANSPORTATION INVESTMENT SCENARIOS**

Within 10 years, an inadequate level of transportation investment will leave Michigan with road, highway and bridge conditions that have further deteriorated, are less reliable, and have a similar level of traffic fatalities. These conditions will reduce economic competitiveness due to traffic congestion and the resultant increase in household transportation costs. However, increased transportation investment will position Michigan as a state with well-maintained roads, highways and bridges, improved safety and enhanced reliability, which will increase economic competitiveness because of improved transportation reliability, safer roads and reduced household transportation costs.

- The level of transportation funding available over the next decade will have a significant bearing on quality of life in Michigan and the economic burden to Michigan households in the form of the cost of traffic crashes, traffic delays, vehicle operating costs and unfunded, needed bridge repairs.
- Currently, inadequate roads, highways and bridges in Michigan cost the average state household \$4,845 annually in the form of traffic crashes, delays caused by traffic congestion and unreliability on the state’s transportation network, extra vehicle operating costs (VOC) due to driving on roads in poor condition, and in the cost to repair the state’s structurally deficient bridges.
- By 2031, if Michigan continues to invest in its roads and bridges under current funding formulas (Scenario A), inadequate roads, highways and bridges will cost the average Michigan household \$6,273 annually in the form of traffic crashes, delays caused by traffic congestion, extra vehicle operating costs due to driving on roads in poor condition, and in the cost to repair the state’s structurally deficient bridges.
- If the level of funding made available in Michigan allows the state to maintain current levels of conditions and performance (Scenario B), by 2031, the annual cost to the average Michigan household in the form of traffic crashes, delays caused by traffic congestion and unreliability on the state’s transportation network, extra vehicle operating costs due to driving on roads in poor condition, and in the cost to repair the state’s structurally deficient bridges will be \$4,694.
- If Michigan invests in roads and bridges at a level that would achieve a significant improvement in road and bridge conditions and performance (Scenario C), by 2031 the average annual cost to Michigan households of inadequate roads, highways and bridges will decline to \$2,479 in the form of traffic crashes, delays caused by traffic congestion, extra vehicle operating costs due to driving on roads in poor condition, and in the cost to repair the state’s structurally deficient bridges.



- Currently, the total statewide cost of traffic crashes, delays caused by traffic congestion, extra vehicle operating costs due to driving on roads in poor condition, and in the cost to repair the state’s structurally deficient bridges is \$19.3 billion. By 2031, the annual cost of transportation deficiencies is anticipated to be \$25 billion under funding Scenario A, \$18.7 billion under funding Scenario B, and \$10 billion under funding Scenario C.

- The current annual Michigan investment per household in maintaining roads, highways and bridges, improving roadway safety, and improving reliability and reducing traffic congestion is \$436. The average annual

needed investment per Michigan household from 2021-2031 is \$436 under funding Scenario A, \$746 under funding Scenario B, and \$1,309 under funding Scenario C.

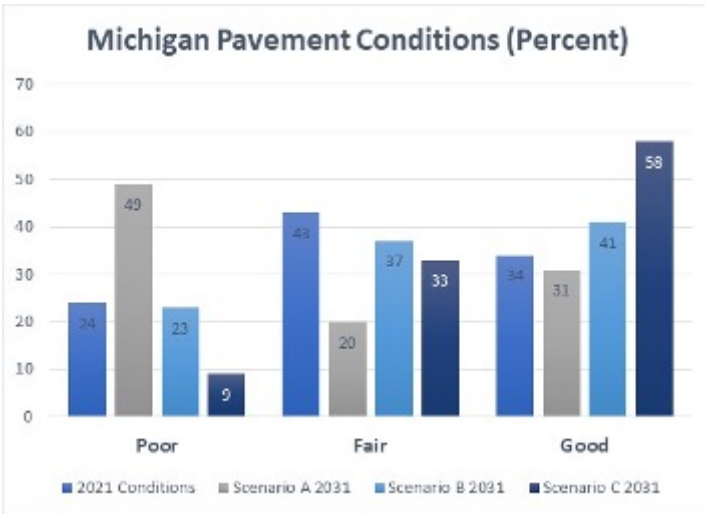
- The return on the additional annual household transportation investment in Michigan of \$873 (the difference between the investment needs under Scenario C versus Scenario A) will result in a reduction of household costs of \$3,794 – a rate of return on the state’s transportation investment of approximately 4.3.

## **ROAD CONDITIONS IN MICHIGAN**

Michigan’s major roads and highways have substantial deficiencies, which will worsen significantly by 2031 under current funding formulas. With adequate funding, Michigan’s roads could be improved significantly by 2031, including the reconstruction of critical portions of the state’s major roadways.

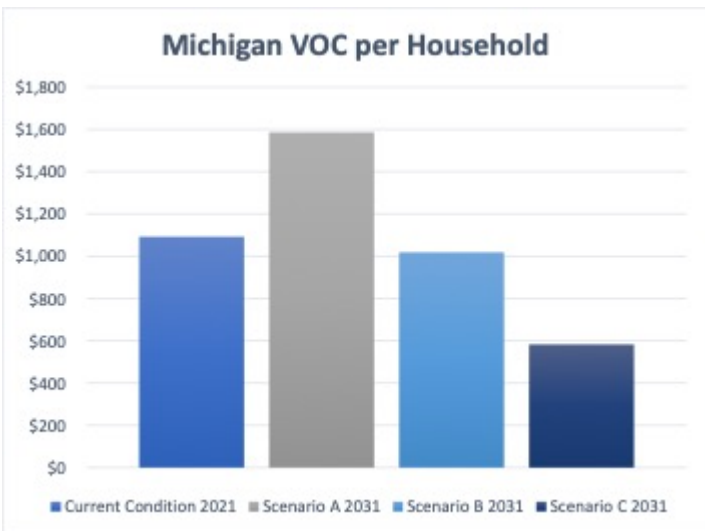
- Currently, approximately one quarter (24 percent) of the pavements on Michigan’s major roads and highways are rated in poor condition, 43 percent are rated in fair condition and 34 percent are rated in good condition.

- Under current funding formulas (Scenario A), by 2031 the share of Michigan’s major roads and highways in poor condition is forecast to more than double, reaching 49 percent. Roads rated fair will drop from 43 to 20 percent, and the share of roads rated in good condition would drop to 31 percent.
- If a level of funding is made available that allows the state to maintain current conditions and performance (Scenario B), by 2031 the share of Michigan’s major roads and highways in poor condition is forecast to decrease slightly to 23 percent. Thirty-seven percent of major roads would be in fair condition, and the share of roads rated in good condition would increase to 41 percent.
- If the state’s investment in major roads and highways was adequate to achieve significant improvement in the condition of these roads (Scenario C), by 2031 the share of Michigan’s major roads and highways in poor condition is forecast to decrease to nine percent, with 33 percent rated in fair condition and 58 percent rated in good condition.



- When roads are in deteriorated condition – which may include potholes, rutting or rough surfaces – the cost to drivers of operating and maintaining a vehicle increases. These additional vehicle operating costs (VOC) include accelerated vehicle depreciation, additional vehicle repair costs, increased fuel consumption and increased tire wear. Currently, TRIP estimates that additional VOC borne by Michigan motorists as a result of deteriorated road conditions is \$4.3 billion annually, an average of \$1,093 per household.
- Under current funding formulas (Scenario A), by 2031, TRIP estimates that additional VOC borne by Michigan

motorists as a result of deteriorated road conditions would be \$6.3 billion annually, an average of \$1,586 per household. If a level of funding is made available that allows the state to maintain current conditions and performance (Scenario B), by 2031 additional VOC would be \$4.1 billion, an average of \$1,019 per household. If the state’s investment in major roads and highways was adequate to achieve significant improvements in the condition of the roads (Scenario C), by 2031, additional VOC borne by Michigan motorists would drop to \$2.3 billion, an average of \$583 per household.

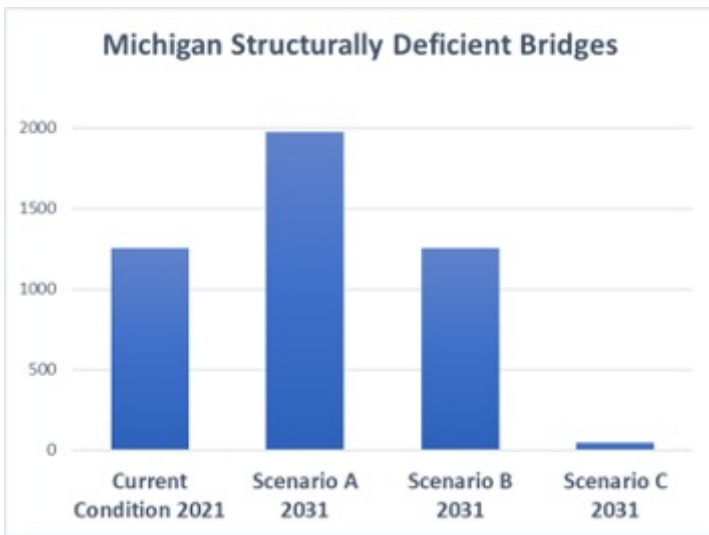


### **BRIDGE CONDITIONS IN MICHIGAN**

Michigan’s bridges currently have significant deficiencies, with more than one-in-ten of the state’s bridges rated structurally deficient. Over the next decade, bridge conditions will worsen considerably under current funding formulas. With increased funding Michigan’s bridges could be improved significantly by 2031.

- Currently, 11 percent (1,252 of 11,195) of Michigan’s bridges are rated structurally deficient. Under current funding formulas (Scenario A) 18 percent of the state’s bridges will be rated structurally deficient by 2031, a total of 1,976 bridges.

- If a level of funding is made available that allows the state to maintain current bridge conditions (Scenario B), by 2031 the share of Michigan bridges rated structurally deficient would remain at 11 percent (1,251 of 11,181 bridges).
- If Michigan’s investment in bridges was adequate to achieve significant improvement in the condition of the state’s bridges (Scenario C), the number of Michigan’s bridges rated structurally deficient would be reduced from 1,252 currently to 48 by 2031 (less than one percent).

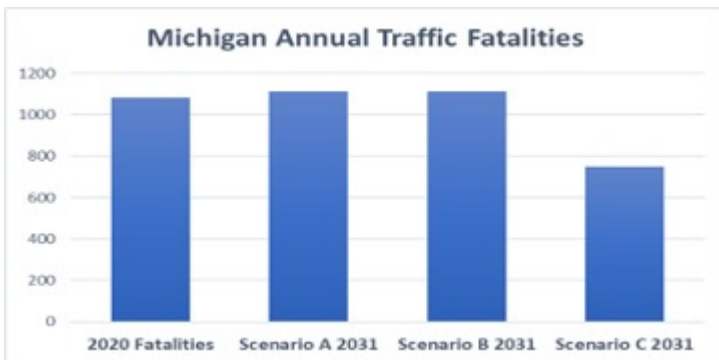


- The current cost to repair all structurally deficient bridges in Michigan is \$5.1 billion. By 2031, repair costs would increase to \$8.2 billion under funding Scenario A. The 2031 cost to repair all structurally deficient bridges would decrease to \$4.7 billion under Scenario B, and \$158 million under Scenario C.

### **TRAFFIC SAFETY IN MICHIGAN**

Traffic crashes on Michigan roadways result in a significant number of fatalities and economic loss in Michigan. The extent of needed roadway safety improvements made in the state over the next decade will have a significant impact on the number of people killed in crashes on Michigan's roadways.

- In 2020, 1,083 people were killed in crashes on Michigan's roads and highways.
- Where appropriate, roadway improvements such as providing rumble strips, adding turn lanes, removing or shielding obstacles, adding or improving medians, widening lanes, widening and paving shoulders, improving intersection layout, providing better road markings, and upgrading or installing traffic signals could reduce the severity of serious traffic crashes.
- Under current funding formulas (Scenario A) the number of annual traffic fatalities in Michigan in 2031 is anticipated to increase to 1,112. The same number of annual traffic fatalities is projected in 2031 if the state's level of transportation investment is adequate to sustain the current conditions and performance of the transportation system (Scenario B).
- If Michigan's investment in roadway safety improvements was adequate to achieve significant safety improvements on these routes (Scenario C), it is projected that the number of annual traffic fatalities in Michigan would drop to 750 in 2031, a decrease of 333 fatalities.



- The economic costs of traffic crashes include work and household productivity losses, property damage, medical costs, rehabilitation costs, legal and court costs, congestion costs, and emergency services. Currently, traffic crashes in which a lack of adequate roadway safety features, while not the primary factor, were likely a contributing factor imposed \$4.3 billion in economic costs on Michigan households each year – \$1,084 per household.

- Under current funding formulas (Scenario A) and the funding level needed to sustain current performance (Scenario B), the annual economic cost of traffic crashes in 2031 would be \$4.4 billion annually – \$1,113 per household.
- If the state's investment in roadway safety improvements was adequate to achieve significant safety improvements (Scenario C), the annual statewide economic cost of traffic crashes in Michigan would drop to \$3 billion in 2031 – \$750 per household.

### **TRAFFIC CONGESTION AND RELIABILITY IN MICHIGAN**

Traffic congestion, particularly in Michigan's largest urban areas, reduces travel time reliability and impedes economic competitiveness. Over the next decade, Michigan's level of investment in projects and programs to relieve traffic congestion and improve travel reliability will determine whether congestion levels and reliability improve or get worse.

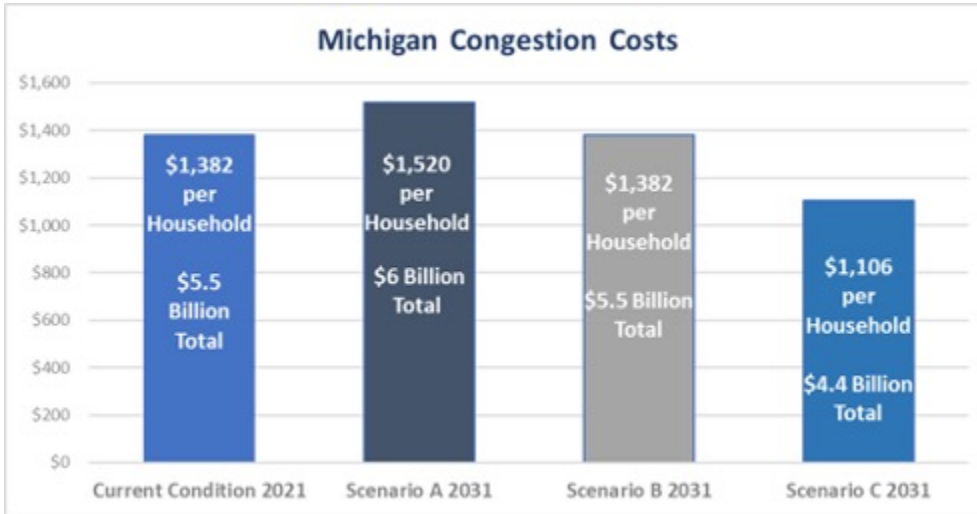
- Due to the Covid-19 pandemic, vehicle travel in Michigan dropped by as much as 54 percent in April 2020 (as compared to vehicle travel during the same month the previous year), but rebounded to five percent above November 2019 levels by November 2021.
- Traffic delays due to congestion in the Detroit area increased by 15 percent from 2000 to 2019 from approximately 139 million hours to 160 million hours and by 69 percent in the Grand Rapids area from approximately 10 million hours to 17 million hours.
- The chart below, based on an MDOT [analysis](#) of freeway and congestion reliability, lists the state's highways rated as being the least reliable based on a measure of travel time consistency during the AM and PM peak travel hours. Travel time reliability measures how consistent the travel time is from one point to another, from one day to the next. When travel times are unreliable, travelers are more likely to experience unexpected delays
- In addition to reducing personal delays caused by traffic congestion, improved traffic flow in Michigan would support economic development by improving the efficiency and competitiveness of Michigan businesses.
- Based on current levels of funding in Michigan, statewide annual traffic congestion costs are currently \$5.5 billion, or \$1,382 per household. Under Scenario A, annual congestion costs are projected to total approximately \$6 billion in 2031 – \$1,520 per household. If the state is able to make improvements that result in maintaining current levels of traffic congestion (Scenario B), the annual cost of congestion is anticipated to be \$5.5 billion, or \$1,382 per household in 2031. If the state is able to invest adequately to make significant improvements in the reliability of the state's roadways (Scenario C), the annual cost of traffic congestion is expected to be reduced to \$4.4 billion or \$1,106 per household by 2031.

Rank	AM or PM	Metro Area	Route	From	To
1	AM	Detroit	I-75 SB	Chrysler Drive / Exit 78	I-75 BL / M-24 / Exit 81
2	AM	Ann Arbor	M-14 WB	US-23	Gotfredson Rd / Exit 15
3	AM	Ann Arbor	I-94 WB	State St / Exit 177	US-12 / Michigan Ave / Exit 181
4	AM	Detroit	I-75 NB	I-696 / Exit 61	14 Mile Road / Exit 65
5	AM	Detroit	I-75 SB	8 Mile Road/Exit 59	14 Mile Road / Exit 65
6	AM	Grand Rapids	I-196 EB	Fuller Ave / Exit 79	I-96 / M-37
7	AM	Ann Arbor	US-23 SB	Plymouth Rd / Exit 41	M-14 / Exit 42
8	AM	Detroit	M-10 SB	Webb St / Elmhurst St.	Wyoming St
9	AM	Detroit	I-96 EB	Milford Rd / Exit 155	Beck Rd / Exit 160
10	AM	Detroit	I-94 EB	30th St. / Exit 212	14th St.
11	AM	Detroit	I-696 WB	Southfield Rd / Exit 12	M-1 / Woodward Ave / Exit 16
12	AM	Grand Rapids	US-131 SB	Ann St / Exit 88	I-96 / M-37/Exit 98 (N)
13	AM	Detroit	I-94 WB	M-35 / Van Dyke / Exit 218	Cadieux Rd / Exit 223
14	AM	Detroit	I-275 NB	M-153 / Ford Rd / Exit 25	I-96 / M-14 / Exit 29
15	AM	Detroit	M-39 SB	Plymouth Rd / Exit 10	I-96 / Exit 11
16	AM	Detroit	I-75 NB	I-96/Ambassador Bridge/Exit 47 & 48	Grand River Ave Exit 50
17	AM	Detroit	I-75 SB	Clay Street / Exit 54	Caniff St. / Exit 55
18	AM	Grand Rapids	I-96 EB	Leonard St / Exit 36	M-21 / Exit 39
19	AM	Detroit	M-53	23 Mile Rd	26 Mile Rd
20	AM	Detroit	I-75 NB	M-59 / Exit 77	Chrysler Dr / Exit 78

Rank	AM or PM	Metro Area	Route	From	To
1	PM	Detroit	I-75 NB	I-75 BL / Exit 75	Joslyn Rd / Exit 83
2	PM	Detroit	I-696 EB	Orchard Lake Rd / Exit 5	M-10 / Exit 10
3	PM	Detroit	I-96 WB	Novi Rd / Exit 162	I-696 / M-5 / Exit 165
4	PM	Ann Arbor	I-94 EB	Ann Arbor Saline Rd / Exit 175	I-94 BR / US-23 / Exit 180
5	PM	Ann Arbor	US-23 SB	I-94 / Exit 35	Plymouth Rd / Exit 41
6	PM	Detroit	I-94 WB	14th St.	John R St / Exit 215
7	PM	Grand Rapids	I-196 EB	Fuller Ave / Exit 79	I-96 / M-37
8	PM	Detroit	M-39 NB	US-21 / Michigan Ave / Exit 6	Joy Rd. / Exit 9
9	PM	Detroit	I-75 NB	John R Rd/Exit 60	14 Mile Road / Exit 65
10	PM	Detroit	I-75 SB	11 Mile Road / Exit 62	Rochester Road / Exit 67
11	PM	Detroit	I-94 EB	I-96 / Exit 213	French Rd. / Exit 220
12	PM	Grand Rapids	US-131 NB	36th St / Exit 80	Cherry St / Exit 84
13	PM	Detroit	I-96 EB	8 Mile Rd / Exit 167	M-14 / Jeffries Fwy
14	PM	Detroit	I-94 EB	I-696 / 11 Mile Rd. / Exit 229	12 Mile Rd. / Exit 230
15	PM	Ann Arbor	US-23 NB	Silver Lake Rd / Exit 55	I-96 / Exit 60
16	PM	Grand Rapids	US-131 NB	Pearl St / Exit 85	Leonard St / Exit 87
17	PM	Detroit	I-94 EB	Harper Ave. / Exit 234	Metropolitan Pkwy / Exit 236
18	PM	Detroit	I-94 WB	Ecorse Rd / Exit 200	M-39 / Southfield Fwy / Exit 204
19	PM	Detroit	I-96 WB	7 Mile Rd / Exit 169	I-275 / M-14
20	PM	Ann Arbor	US-23 NB	Barker Rd / Exit 52	M-36 / Exit 54



- In addition to reducing personal delays caused by traffic congestion, improved traffic flow in Michigan would support economic development by improving the efficiency and competitiveness of Michigan businesses.
- Based on current levels of funding in Michigan, statewide annual traffic congestion costs are currently \$5.5 billion, or \$1,382 per household. Under Scenario A, annual congestion costs are projected to total approximately \$6 billion in 2031 – \$1,520 per household. If the state is able to make improvements that result in maintaining current levels of traffic congestion (Scenario B), the annual cost of congestion is anticipated to be \$5.5 billion, or \$1,382 per household in 2031. If the state is able to invest adequately to make significant improvements in the reliability of the state’s roadways (Scenario C), the annual cost of traffic congestion is expected to be reduced to \$4.4 billion or \$1,106 per household by 2031.



### **TRANSPORTATION RESILIENCY AND EMERGING TECHNOLOGIES**

Recognizing that extreme weather, sea level change, and changes in environmental factors may threaten the condition and longevity of the nation’s transportation infrastructure, transportation agencies have begun to assess vulnerabilities and consider the resilience of their transportation assets during the transportation planning process.

Based on the importance of maximizing the level and safety of mobility provided by its transportation system, transportation agencies are adopting Transportation Systems Management and Operations (TSMO) practices and incorporating improved resiliency into their transportation network. A TSMO program adopts an integrated set of strategies to improve traffic flow and safety on a portion of a roadway, including work zone management, traffic incident management, freight management, traveler information, traffic signal coordination, ramp management, transit management and improved bicycle and pedestrian crossings. The benefits of TSMO can include reduced traffic congestion, reduced fuel consumption and reduced emissions.

### **ECONOMIC BENEFITS OF TRANSPORTATION INVESTMENT**

Transportation projects that improve the efficiency, condition or safety of a highway or transit route provide significant economic benefits by reducing transportation delays and costs associated with a deficient transportation system.

- The health and future growth of Michigan’s economy is riding on its transportation system. Each year, \$1.25 trillion in goods are shipped to and from sites in Michigan. The value of freight shipped to and from sites in Michigan, in inflation-adjusted dollars, is expected to increase 46 percent by 2045
- [report by the American Road & Transportation Builders Association](#), the design, construction and maintenance of transportation infrastructure in Michigan supports approximately 94,000 full-time jobs across all sectors of the state economy. These workers earn \$4.1 billion annually. Approximately 1.9 million full-time jobs in Michigan in key industries like tourism, retail sales, agriculture and manufacturing are completely dependent on the state’s transportation network.

The benefits of transportation improvements include the following:

- Improved business competitiveness due to reduced production and distribution costs as a result of increased travel speeds and fewer mobility barriers.
- Improvements in household welfare as a result of better access to higher-paying jobs, a wider selection of competitively priced consumer goods, additional housing and healthcare options, and improved mobility for residents without access to private vehicles.

- Gains in local, regional and state economies as a result of improved regional economic competitiveness, which stimulates population and job growth.
- A reduction in economic losses from vehicle crashes, traffic congestion and vehicle maintenance costs associated with driving on deficient roads.
- The creation and support of jobs. A 2021 macroeconomic [analysis](#) by [IHS Markit](#), a global economic analysis firm, found that every \$1 million spent on highways, bridges and public transit supports 21 jobs annually, with ten jobs in sectors related to providing the transportation improvements and 11 jobs induced elsewhere in the economy. That analysis found that every dollar spent on highway and bridge improvements results in \$3.4 dollars in combined direct, indirect and induced output from industries throughout the economy, resulting in a multiplier for highway and bridge investment of 3.4.
- Transportation projects that expand roadway or transit capacity produce significant economic benefits by reducing congestion and improving access, thus speeding the flow of people and goods.
- Transportation projects that maintain and preserve existing transportation infrastructure also provide significant economic benefits by improving travel speeds, capacity, load-carry abilities and safety, and reducing operating costs for people and businesses.

## Conclusion

Michigan's roads, highways and bridges are the backbone of the state's transportation system and their good condition and performance are critical to the quality of life and the health of Michigan's economy. Improvements in the condition, reliability and safety of Michigan's roads, highways and bridges will be critical to the state's ability to achieve its economic goals by improving the competitiveness of the state's businesses and enhancing quality of life to Michiganders.

The transportation investment decisions made in Michigan over the next decade will determine where the state is going. Making transportation improvements in Michigan can provide the state with a transportation system that is safer, more efficient and better maintained, while inadequate investment in the state's transportation system could lead to reduced reliability, declining road and bridge conditions, higher household costs and reduced safety.

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