

Wisconsin Transportation BY THE NUMBERS

MAY 2016



Meeting the State's Need
for Safe, Smooth and
Efficient Mobility

 **TRIP**
a national transportation research group

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

Eight years after the nation suffered a significant economic downturn, Wisconsin's economy continues to rebound.

The rate of economic growth and the quality of life in Wisconsin will be greatly impacted by the reliability and condition of the state's transportation system.

An efficient, safe and well-maintained transportation system provides economic and social benefits by affording individuals access to employment, housing, healthcare, education, goods and services, recreation, entertainment, family, and social activities. It also provides businesses with access to suppliers, markets and employees, all critical to a business's productivity and ability to expand. Reduced accessibility and mobility—as a result of traffic congestion, a lack of adequate capacity, or deteriorated roads, highways, bridges and transit facilities—diminish a region's quality of life by reducing economic productivity and limiting opportunities for economic, health or social transactions and activities.

The three pillars of Wisconsin's economy—manufacturing, agriculture, and tourism—depend on a safe and efficient transportation system.

In this report, TRIP looks at the top transportation numbers in Wisconsin as the state addresses its need to modernize and maintain its transportation network.

Ten Key Transportation Numbers in Wisconsin

#1 Deficient roads cost Wisconsin drivers \$6 billion annually

Substandard roads that lack needed safety features, are chronically congested or have poor pavements cost Wisconsin motorists approximately \$6 billion annually. The largest portion of this, \$3.2 billion, is due to additional vehicle operating costs such as accelerated depreciation, added repair costs, wasted fuel and tire wear that motorists incur by driving on inadequate roads. Traffic congestion wastes time and fuel and costs state motorists \$1.7 billion each year, while the financial cost of traffic crashes is estimated at \$1.1 billion.

#2 Cost per driver of poor roads: \$2,072 in Madison and \$2,060 in Milwaukee

Inadequate roads cost the average driver in Madison \$2,072 each year in the form of extra vehicle operating costs, lost time and fuel while stuck in traffic jams, and the financial burden of crashes. The average Milwaukee motorist loses \$2,060 each year because of these factors.

#3 2,743 were killed in Wisconsin traffic crashes

Wisconsin traffic fatalities totaled 2,743 from 2011–2015, increasing by 13%, or 62 deaths, from 2014 to 2015. It is estimated that roadway features, such as dangerous curves or inadequate lane width, are a contributing factor in approximately one-third of fatal traffic crashes.

#4 Rural roads 2x as dangerous

The fatality rate on Wisconsin's non-Interstate rural roads in 2014 was 1.24 fatalities per 100 million vehicle miles of travel, more than double the fatality rate of 0.54 on all other roads in the state. Rural roads often have less forgiving hills, shoulders and curves than Interstate highways which are designed for greater volumes of traffic traveling at higher speeds.

#5 Major roads in mediocre to poor condition: 42% Statewide, 68% Madison, 56% Milwaukee

Stagnant state and local funding has resulted in more than two-fifths of major roads and highways in Wisconsin having pavements in mediocre to poor condition, with high levels of substandard pavements in the state's two largest cities. Statewide, 42% of major roads are in mediocre to poor condition. In the City of Milwaukee, 56% of major roads have pavements in mediocre to poor condition. In Madison, 68% of major road pavements are in mediocre to poor condition.

#6 \$264 billion in commerce outbound, \$236 billion in commerce inbound

Each year, \$264 billion in goods are shipped from sites in Wisconsin and another \$236 billion in goods are shipped to sites in Wisconsin. Eighty-two percent of the goods shipped annually from sites in Wisconsin are carried by trucks and another 14% are carried by courier services or multiple mode deliveries, which include trucking.

#7 14% of Wisconsin bridges are in need of repair or modernization

Over 2,000 or 14% of the state's 14,085 bridges show significant deterioration or do not meet current design standards. Nine percent are classified as structurally deficient, meaning one or more of the key bridge elements, such as the deck, superstructure or substructure, is considered to be in poor or worse condition. And another five percent are functionally obsolete. These bridges don't meet current design standards.

#8 Hours lost annually to congestion: 36 hours in Madison, 38 in Milwaukee

Every year, motorists lose priceless hours stuck in traffic. For the average driver, this amounts to 36 hours in the Madison area and 38 hours in Milwaukee region.

#9 Average Wisconsin motorist pays \$274 in fees and taxes to drive

According to the Wisconsin Department of Transportation, the average motorist pays \$274 a year or approximately \$23 per month in registration fees and gas tax. This is lower than our neighbors in Illinois, Michigan, Iowa and Minnesota.

#10 1,393,428 full-time jobs tied to transportation-dependent industries

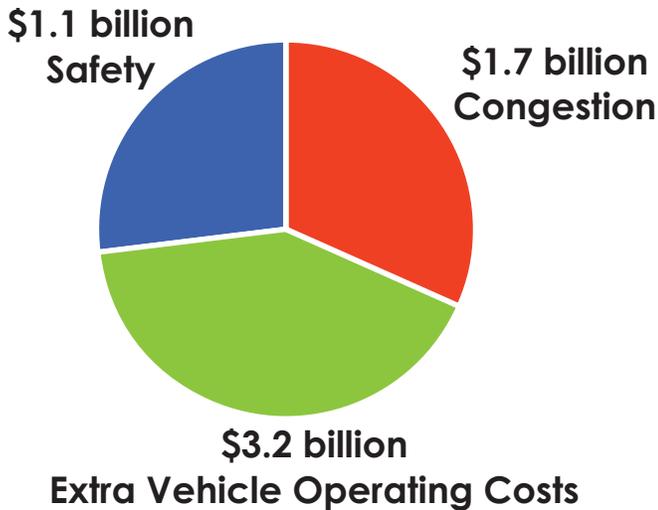
Wisconsin's economy is driven by manufacturing, agriculture and tourism, all industries reliant on a vibrant transportation system. These industries, plus retail sales and other transportation-dependent industries, account for almost 1.4 million jobs in Wisconsin, with \$54.8 billion in wages.

#1 Deficient Roads Cost Wisconsin Motorists \$6 Billion Annually

Wisconsin's 4.2 million licensed motorists collectively pay a "hidden tax" of \$6 billion annually by driving on substandard roads.

Most expensive is \$3.2 billion in extra vehicle operating costs in the form of repairs, accelerated depreciation and increased fuel consumption and tire wear.

Cost of Bad Roads: \$6 Billion



Time and fuel wasted while motorists are sitting in traffic jams account for \$1.7 billion in additional costs each year. For example, WisDOT reports that of 28 urban freeway and highway segments in the state, motorists traveling along only 8 of those segments could reliably reach their destinations in their expected travel time.

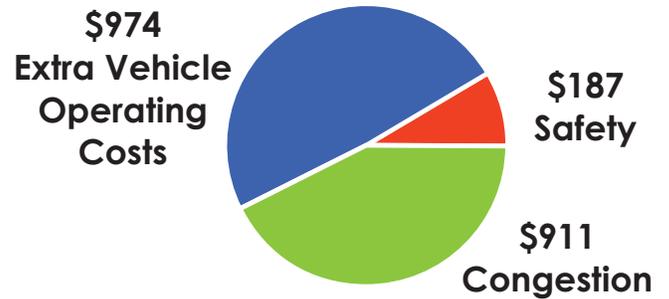
Finally, serious and fatal traffic crashes cost motorists \$1.1 billion annually, largely in lost productivity, medical costs and property damage.

#2 Cost per Driver: \$2,072 Madison \$2,060 Milwaukee

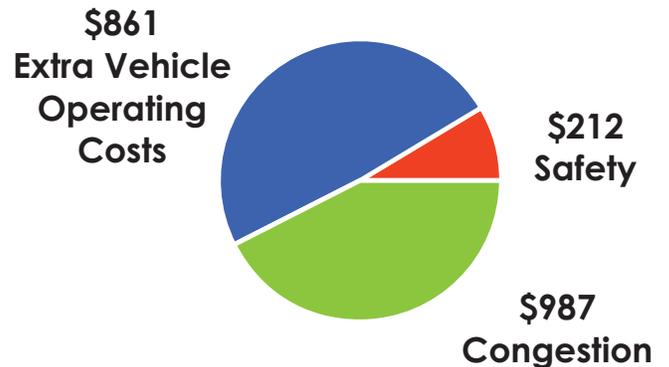
Bad roads cost the average driver in Madison \$2,072 each year in the form of extra vehicle operating costs, lost time and fuel while stuck in traffic jams, and the financial burden of crashes.

The average Milwaukee motorist loses \$2,060 each year because of these factors.

Cost Per Driver: \$2,072 Madison



Cost Per Driver: \$2,060 Milwaukee

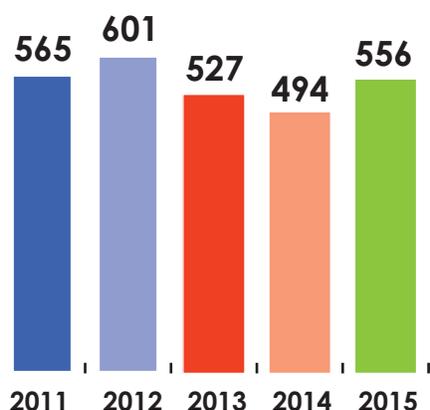


#3 2,743 Traffic Fatalities from 2011-2015

From 2011–2015, 2,743 people died in traffic crashes in Wisconsin, including a 13% increase from 2014 to 2015.

Traffic engineers generally cite three factors associated with fatal vehicle crashes—driver behavior, vehicle characteristics and roadway features.

Traffic Fatalities in Wisconsin from 2011–2015



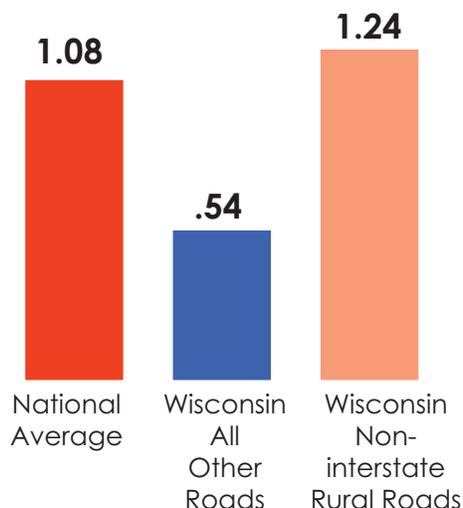
Source: WisDOT

It is estimated that roadway features are likely a contributing factor in approximately one-third of fatal traffic crashes. Highway improvements can reduce traffic fatalities and crashes while improving traffic flow to help relieve congestion. Such improvements include removing or shielding obstacles; adding or improving medians; improved lighting; adding rumble strips, wider lanes, wider and paved shoulders; upgrading roads from two lanes to four lanes; and better road markings and traffic signals.

#4 Wisconsin Rural Roads 2x as Deadly as Other Roads

The most dangerous roads in Wisconsin in terms of fatalities are rural two-lane roads that are less forgiving to motorists because they have narrow or no shoulders, dangerous hills and curves, and short clearance space for vehicles that leave the roadway.

2014 Fatalities Per 100 Million VMT



In fact, the fatality rate on Wisconsin's non-interstate rural roads in 2014 was more than double that on all other roads in the state (1.24 fatalities per 100 million vehicle miles of travel vs. 0.54).

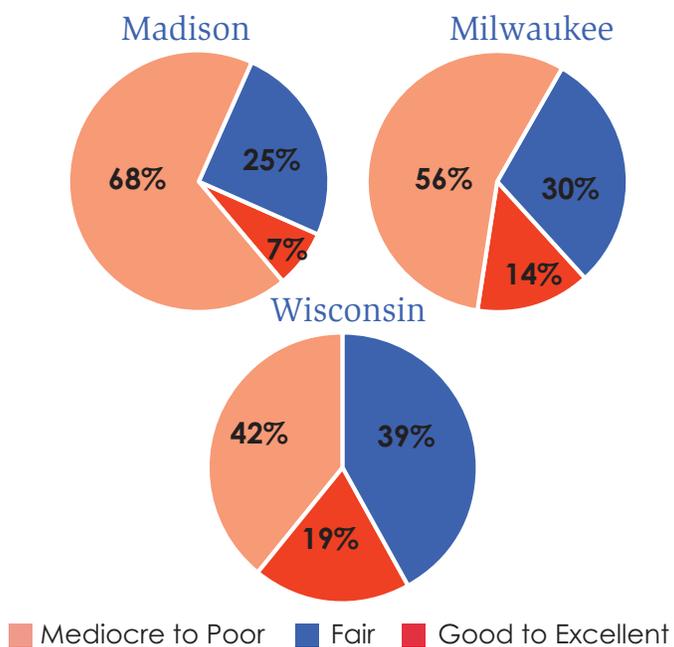
The severity of serious traffic crashes could be reduced through roadway improvements, where appropriate, such as adding turn lanes, removing or shielding obstacles, adding or improving medians, widening lanes, widening and paving shoulders, improving intersection layout, and providing better road markings and upgrading or installing traffic signals.

Roads with poor geometry, with insufficient clear distances, without turn lanes, having inadequate shoulders for the posted speed limits, or poorly laid out intersections or interchanges, pose greater risks to motorists, pedestrians and bicyclists.

#5 42% of Wisconsin's Major Roads in Mediocre to Poor Condition

TRIP examined Federal Highway Administration (FHWA) pavement data for all arterial and collector roads and highways that are under the jurisdiction of both state and local governments.

Road Conditions



This data is submitted annually to FHWA by WisDOT. Statewide, 42% of Wisconsin's major local- and state maintained roads and highways are in mediocre to poor condition, meaning they are showing significant signs of deterioration such as rutting, cracks and potholes.

In some cases, poor roads can be resurfaced, but often are too deteriorated and must be reconstructed.

In the state's two largest cities, 68% of major roads in Madison are in mediocre to poor condition, while 56% of roads in Milwaukee are in mediocre to poor condition.

#6 \$264 Billion in Product Shipped from Wisconsin

Each year, \$264 billion in goods are shipped from sites in Wisconsin and another \$236 billion in goods are shipped to sites in Wisconsin.

Eighty-two percent of the goods shipped annually from sites in Wisconsin are carried by trucks and another 14 percent are carried by courier services or multiple mode deliveries, which include trucking.

Wisconsin Industries with Largest Percentage Output Growth, 2005-2030 (\$ billions, 1992 dollars)

Industry	2005	2030	% growth
Machines and computers (m*)	\$57.3	\$155.5	171
Electric equipment (m)	13.4	35.0	160
Primary metals (m)	4.4	10.7	123
Instruments (m)	5.8	12.7	118
Miscellaneous business services (s)	10.7	20.8	94
Wholesale (o)	16.3	30.8	89
Air transportation (o)	1.3	2.5	86
Automobile repairs and service (s)	3.6	6.6	84
Communications (o)	5.0	9.1	84
Rubber (m)	7.3	13.0	79

*m=manufacturing s=service o=other

Source: WisDOT Connections 2030 Final Report

Companies are increasingly seeking to minimize transportation and logistics costs to stay competitive in national and international markets. That's why reliable highway access consistently ranks among the key factors businesses consider in making relocation or expansion decisions.

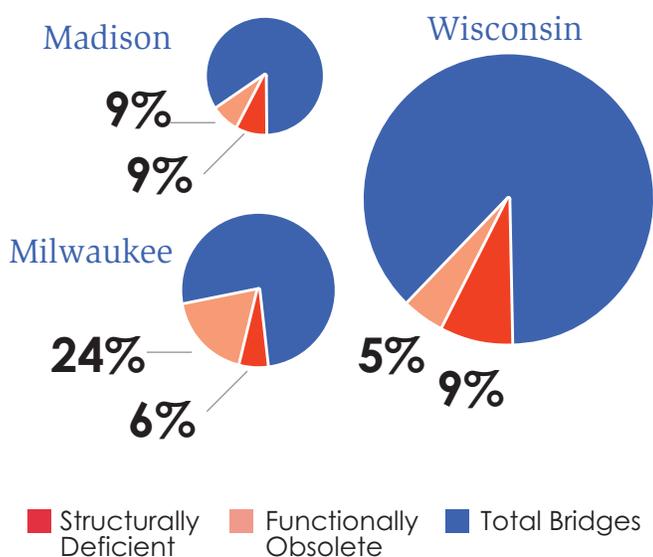
Regions with congested or poorly maintained roads may see businesses relocate to areas with a smoother, more efficient and more modern transportation system.

#7 14% of Wisconsin Bridges in Need of Repair or Modernization

Fourteen percent of bridges in Wisconsin show significant deterioration or do not meet current design standards.

A bridge is structurally deficient if there is significant deterioration of the bridge deck, supports or other major components. Structurally deficient bridges are often posted for lower weight or closed to traffic, restricting or redirecting large vehicles, including commercial vehicles, agricultural and forestry equipment, and emergency services vehicles.

Bridge Conditions



Bridges that are functionally obsolete no longer meet current highway design standards, often because of narrow lanes, inadequate clearances or poor alignment.

Each day in Wisconsin, there are millions of crossings on bridges classified as either structurally deficient or functionally obsolete. These classifications do not imply the bridges are unsafe, but it does mean these bridges need to be inspected, monitored, maintained, and eventually replaced.

#8 Hours Lost to Congestion: 36 Madison, 38 Milwaukee

Increasing levels of congestion cause significant delays in Wisconsin, particularly in the larger urban areas.

For the average driver, this amounts to lost hours—36 hours each year in the Madison area and 38 hours each year in Milwaukee region.



The value of lost time and wasted fuel in Wisconsin is approximately \$1.7 billion a year. The annual cost to the average driver is \$911 in Madison and \$987 in Milwaukee.

In August of 2015, a press release from the Texas A&M Transportation Institute (TTI) announced, “America’s traffic congestion recession is over. Just as the U.S. economy has regained nearly all of the 9 million jobs lost during the downturn, a new report produced by INRIX and TTI shows that traffic congestion has returned to pre-recession levels.”

Like the rest of the nation, Wisconsin vehicle travel has rebounded with the economy and the lower price of gas. Vehicle miles traveled in Wisconsin grew 4.2 percent in 2015, exceeding the national growth rate of 3.5 percent.

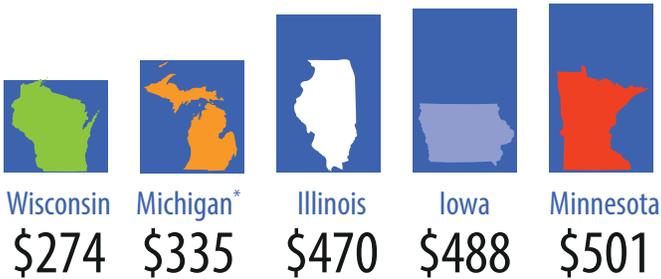
#9

\$274 Annual Cost to Drive

The average motorist pays \$274 a year or approximately \$23 per month in registration fees and gas tax according to the Wisconsin Department of Transportation.

ANNUAL COST TO DRIVE Compared to Our Neighbors

Registration Fees and Motor Fuel Taxes



Source: Wisconsin Department of Transportation

*An estimated \$404/year in 2017. Michigan passed a funding package in November 2015 which increases the gas tax by 7.3 cents per gallon and the registration fee by 20% in 2017.

This is lower than our neighbors in Illinois, Michigan, Iowa and Minnesota.

With many of the nation's interstates over 50 years old, the federal government and states across the nation are wrestling with how to pay for rebuilding these corridors of commerce while maintaining the rest of the transportation system. Since late 2012, 23 states have passed legislation with recurring state transportation funding, with 16 states passing user fee increases.

#10

1.4 Million Jobs

Wisconsin is a national leader in manufacturing, agriculture and tourism, all industries reliant on a safe, efficient transportation system.



These industries, plus retail sales and other transportation-dependent industries, account for almost 1.4 million jobs in Wisconsin, with \$54.8 billion in wages.

Each year, *Area Development* magazine asks U.S. corporate site selectors and CEOs to rank the most important site selection factors. Consistently, highway accessibility ranks as a top consideration. This is not surprising as transportation can range from 50-80 percent of supply chain costs.

Conclusion

As Wisconsin works to build and enhance a thriving, growing and dynamic state, it will be critical that it is able to address the state's most significant transportation issues by providing a 21st century network of roads, highways, bridges and transit that can accommodate the mobility demands of a modern society.

Wisconsin will need to modernize its surface transportation system by improving the physical condition of its transportation network and enhancing the system's ability to provide efficient, safe and reliable mobility for residents, visitors and businesses. Making needed improvements to the state's roads, highways, bridges and transit systems could provide a significant boost to the economy by creating jobs in the short term and stimulating long-term economic growth as a result of enhanced mobility and access.

While modest federal funding increases provided by the latest surface transportation bill will be helpful, numerous projects to improve the condition and expand the capacity of Wisconsin's roads, highways, bridges and transit systems will not be able to proceed without a substantial boost in state or local transportation funding. If Wisconsin is unable to complete needed transportation projects it will hamper the state's ability to improve the condition and efficiency of its transportation system or enhance economic development opportunities and quality of life.

Sources

For discussion of methodology and sources, see the complete *Wisconsin Transportation by the Numbers* report on the TRIP website, www.tripnet.org.

