



MDOT's Roadmap to Increase Highway Safety and Reduce Congestion

Low-cost, high-impact solutions for safer roads, less congestion, and greater reliability

Solutions that reduce congestion and increase safety

The Michigan Department of Transportation (MDOT) is implementing innovative solutions that reduce congestion and increase safety simply by improving the day-to-day operations of the roads we've already built. These solutions use advanced technologies and partnerships to increase mobility, reliability, and safety. Cost-effective and quick to implement, they also provide high benefit-to-cost ratios when combined with traditional means of building and maintaining our transportation system. These solutions are effective because much of modern congestion doesn't come from just having too many drivers on the road, it comes from events such as incidents, construction zones, bad weather, and special events like football games. These events are exactly what MDOT's innovative solutions are designed to address – reducing the impacts of these events via better technology and collaboration between MDOT and its partners.

What are the solutions?

These solutions are part of MDOT's new Transportation Systems Management and Operations (TSMO) program. TSMO is an emerging industry term used to describe an integrated program of transportation operations strategies and technologies. MDOT's TSMO solutions manage our existing transportation infrastructure using real-time data and communication technologies to optimize safety and traffic flow at the time when congestion hits. Some examples include connected

vehicle technology and advanced systems to harmonize the timing of traffic lights. These solutions build on MDOT's longtime services (such as clearing crashes and plowing snow) with new technologies that strengthen MDOT's services as a whole. They can also be readily integrated with capital improvement projects to maximize public funding and enhance benefits, as is being done in MDOT's US-23 Flex Route project between Brighton and Ann Arbor for an estimated 33 percent cost savings compared to traditional solutions providing equal capacity improvements.

What are the benefits?

Efficient commutes

Nothing is more frustrating than driving through a green light only to see the next light ahead turn red but, with optimally timed traffic lights, Michigan traffic can flow more smoothly through intersections. For Michigan travelers, this means less time on the roads and more time for work and leisure activities. In fact, in areas of need, traffic light harmonization can reduce travel times by 8 to 20 percent. Also, MDOT has been collaborating with partners statewide to mitigate traffic backups caused by incidents through the Michigan Traffic Incident Management Effort (Mi-TIME). This program provides important training on quickly and safely clearing incidents. This training has the dual benefit of enhancing responder and motorist safety as well as reducing the number of unexpected traffic jams due to incidents, so trips that should take 20 minutes won't take an hour instead. So far, Mi-TIME has trained more than 5,600 responders.

Safer roads – with fewer crashes, injuries, and deaths

Technologies and best practices to safely manage construction zones help decrease the number of work zone crashes, injuries, and deaths on Michigan roadways. These innovations, such as “Do Not Pass” signs with intelligent sensors that activate the sign only during heavier traffic (used during I-94 reconstruction in Clinton Township), have been proven to reduce aggressive driving and crashes in construction zones. These services keep Michigan's roads safe while helping Michigan reach its Toward Zero Deaths goal.

Advancing Michigan's reputation as a leader in the auto industry

Planet M (www.planetm.com), which promotes innovation in transportation mobility technologies across the state of Michigan, is an example of MDOT's leadership in developing and deploying connected and automated vehicle technology. MDOT is also working with key auto industry, academic, and public sector partners to advance connected and automated vehicles through initiatives such as the American Center for Mobility and the Mobility Transformation Center. MDOT services

within the TSMO program, such as building roadside infrastructure to support connected and automated vehicles, will both augment these new technologies and strengthen Michigan's position as a destination for their development and deployment.

Better, easier-to-use traveler information and road weather management

When a big storm hits, MDOT will help travelers get to work or school safely with reliable snow removal and accurate, easy-to-use traveler information through the MDOT Mi Drive website (www.michigan.gov/drive), which gives users up-to-the-minute information on travel times, snowplow status, construction activity, and crashes across the state.

Fewer wasted gallons of gas – enhancing livability and sustainability

With more efficient and reliable trips, Michigan travelers won't have to waste gasoline idling in congestion. These gas and emissions reductions will help Michigan protect natural habitats and outdoor destinations across the state, as well as meet state and national air quality standards.

Better, faster, cheaper, safer, and smarter results

When combined with traditional means of building and maintaining the transportation network, these solutions allow MDOT to more cost-effectively reduce congestion and increase safety, and provide Michigan residents with noticeable benefits now, not 10 years from now.

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