

2019-2022 State of Michigan
STRATEGIC HIGHWAY SAFETY PLAN



SHSP



2019-2022 State of Michigan
STRATEGIC HIGHWAY SAFETY PLAN

December 2019



The SHSP is now only available in an electronic format in order to allow for updates if necessary.

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STATE OF MICHIGAN
OFFICE OF THE GOVERNOR
LANSING

GRETCHEN WHITMER
GOVERNOR

GARLIN GILCHRIST II
LT. GOVERNOR

November 7, 2019

Dear Traffic Safety Partners:

While Michigan's Strategic Highway Safety Plan (SHSP) has been evolving since the initial 2006 traffic safety blueprint, the commitment to reducing traffic deaths and injuries remains steadfast. The news is encouraging. Michigan traffic deaths have dropped from 1,084 in 2006 to 974 in 2018. However, much remains to be done to achieve the vision adopted in 2013: toward zero deaths on Michigan roadways.

Since 2006, new challenges have emerged, particularly drug-involved and distraction-related crashes. Improved reporting means there is now more accurate information regarding the scope of both issues.

Traffic safety advocates have responded, in part, by bringing the Drug Recognition Expert Program to Michigan law enforcement agencies to identify and combat drug-impaired driving. Road engineers have expanded rumble strips and cable median barriers to reduce crashes involving drowsy and distracted drivers. Law enforcement officers have developed innovative means to enforce the state's texting ban, yet cell phone-distracted drivers remain a common sight, and one that must be addressed by policy-makers.

Vulnerable roadway users is another concern receiving additional attention. The state's driver education program has increased emphasis on sharing the road with motorcyclists, pedestrians, and bicyclists. In addition, a new law requires driver education to include information concerning laws pertaining to bicycles, motorcycles, and other vulnerable roadway users, including pedestrians. New legislated funding from motorcyclists' endorsement fees allowed for a new "share the road" campaign - "Motorcyclists are Hard to See. Look Twice. Save a Life." In addition, increased funding for the motorcyclists' training fund will help better meet the Michigan Rider Education Program needs.

The implementation of graduated driver licensing two decades ago improved teen driver safety considerably. Today, compared with national standards, Michigan has room for improvement. To help address the mobility needs of Michigan's growing aging population, the Safe Drivers Smart Options: Keys to Lifelong Mobility website at Michigan.gov/AgingDriver was implemented. The 2019-2022 SHSP has been expanded to include information on connected and autonomous vehicles, an emerging area as the auto industry evolves and launches vehicles with more sophisticated levels of assisted and autonomous driving.

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GRETCHEN WHITMER
GOVERNOR

GARLIN GILCHRIST II
LT. GOVERNOR

In Michigan, our roads are rated "D-" by the American Society of Civil Engineers with 39 percent in poor condition and another 43 percent in just fair condition. Poor road quality and conditions are a significant factor in many car crashes. They can both be the cause of crashes as well as make other crashes much worse. Common road conditions that contribute to car accidents: damaged, missing, or hidden road signs; potholes and cracks in the road surface; lack of rumble strips on highways; missing or inadequate guardrails; faded paint markings, like the center line or road edge markings; road shoulder drop-off; road debris; poor traffic management around construction zones; and untreated roads in winter weather. A major component of Michigan's "Towards Zero Deaths" on roads initiative is to fix our roads and reduce the threat to public safety they pose.

This update lays out a comprehensive approach to addressing the state's major traffic safety issues and will continue to move us closer to the goal of zero deaths on Michigan's roadways.

Sincerely,

Gretchen Whitmer
Governor of Michigan

Governor's Traffic Safety Advisory Commission

OFFICE OF HIGHWAY SAFETY PLANNING

Mr. Michael Prince (Chair)

GOVERNOR'S OFFICE

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Ms. Linda Scarpetta

MICHIGAN DEPARTMENT OF EDUCATION

Mr. Kenneth Micklash

MICHIGAN DEPARTMENT OF STATE

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OF TRANSPORTATION

Gregg Brunner

AGING AND ADULT SERVICES AGENCY

Ms. Rachel Telder

LOCAL GOVERNMENT REPRESENTATIVES

Sheriff Michael J. Poulin

Chief Ronald Lee Wiles

Mx. Hank Kelly



MISSION:

Improve traffic safety in Michigan by fostering effective communication, coordination, and collaboration among public and private entities.

VISION:

Toward Zero Deaths on Michigan Roadways

GOALS:

Reduce fatalities from 974 in 2018 to 945 in 2022.

Reduce suspected serious injuries from 5,586 in 2018 to 4,994 in 2022.

The state of Michigan utilized a fatality prediction model developed and maintained by the University of Michigan Transportation Research Institute (UMTRI). The UMTRI model relies on results of a recently completed research report titled Identification of Factors Contributing to the Decline of Traffic Fatalities in the United States, which was completed as part of the National Cooperative Highway Research Program project 17-67. The model, predicting the change in counts of fatalities, relies on the correlation between traffic crashes, vehicle miles traveled (VMT), and risk. UMTRI identified four factors that can influence the outcome: the economy, safety and capital expenditures, vehicle safety, and safety regulations. Within the model, economic factors such as the Gross Domestic Product (GDP) per capita, median annual income, the unemployment rate among 16 to 24-year olds, and alcohol consumption had the greatest impact at approximately 85 percent.

Background

The Governor's Traffic Safety Advisory Commission (GTSAC) was formed by an [Executive Order](#) of the Governor in 2002, in part, to serve as the state's major forum for identifying key traffic safety challenges, and developing, promoting, and implementing strategies to address these challenges. The creation of the GTSAC merged the Michigan State Safety Commission and the Michigan Transportation Safety Management System. GTSAC membership consists of the governor (or a designee); the directors (or their designees) of the Departments of the Health and Human Services (MDHHS), Education (MDOE), State (MDOS), State Police (MSP), Transportation (MDOT); Aging and Adult Services Agency (AASA), the executive director of the Office of Highway Safety Planning (OHSP); as well as three local government representatives.

Originally required in 2003 as part of the SAFETEA-LU Transportation Reauthorization, the Strategic Highway Safety Plan (SHSP) provides a comprehensive framework for reducing highway fatalities and serious injuries on public roads. The Michigan SHSP is developed under the leadership of the GTSAC in a cooperative process with local, state, federal, and private sector safety stakeholders. The SHSP is a data-driven, four-year comprehensive plan that establishes statewide goals and key emphasis areas.

The SHSP identifies Michigan's key safety needs and guides decisions to achieve reductions in highway fatalities and serious injuries. The SHSP encourages highway safety programs to work together to align and leverage resources. It also positions the state and its safety partners to collectively address the safety challenges.

INITIAL SHSP 2006-2008

During the development of the initial SHSP, traffic safety advocates from the federal, state, and local level came together to assess the state of traffic safety in Michigan. This process resulted in the establishment of statewide safety goals and the identification of 12 traffic safety emphasis areas. To achieve progress for these goals, an action team was created within each emphasis area, comprised of traffic safety advocates from throughout the state. Each action team developed an action plan that included background information, summaries of key safety issues, and short- and long-term strategies to improve safety. The SHSP and action plans provided guidance for state and local agencies for the implementation of policies and programs aimed at improving traffic safety.

SHSP 2009-2012

The GTSAC commissioned an update to the SHSP to evaluate progress since the plan's initial development and revise goals and strategies as appropriate based upon crash data trends and the emergence of other traffic safety issues. A GTSAC meeting was expanded into a day-long SHSP workshop, which brought together GTSAC commissioners, action team chairs, and other Michigan traffic safety advocates, as well as representatives from the Federal Highway Administration (FHWA), Federal Motor Carrier Safety Administration (FMCSA), and National Highway Traffic Safety Administration (NHTSA).

As a part of the update, several changes to the plan were adopted including the elimination of the Work Zone Safety



emphasis area, which was addressed through the efforts of the MDOT. A new Emergency Medical Services (EMS) emphasis area was created, aimed at incorporating this important element into the traffic safety planning process. In addition to these changes, new goals were established for the subsequent five-year period based upon crash data trends.

SHSP 2013-2016

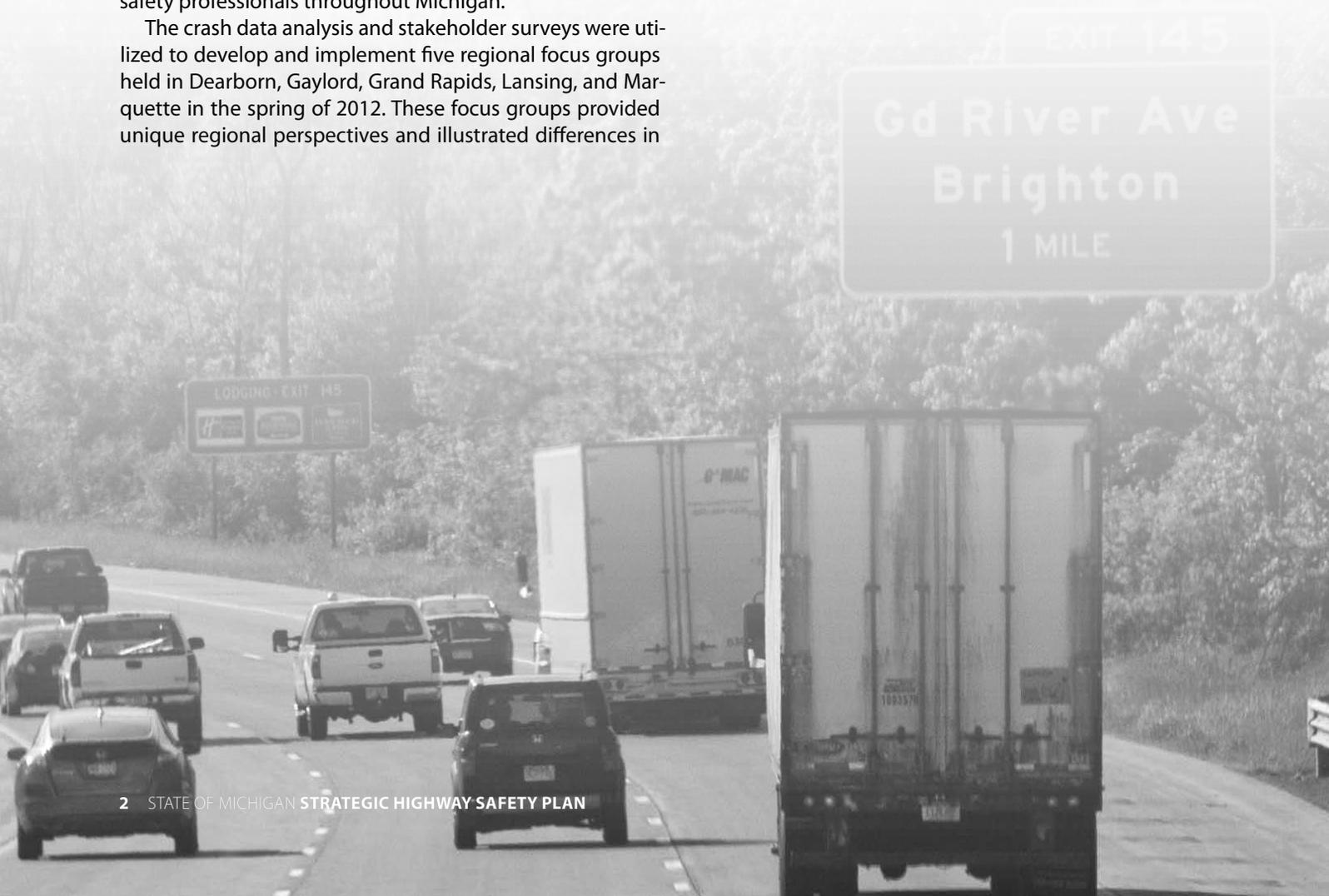
The commission requested each action team update their goals and strategies. The action teams reviewed the SHSP statewide goals: reduce traffic fatalities from 1,084 to 850 by 2012 and reduce serious injuries from 7,485 to 5,900 by 2012. A more detailed crash data analysis from 2011 to 2015 was conducted by the University of Michigan Transportation Research Institute (UMTRI). This data-driven approach allowed for an examination of recent trends and the identification of emerging safety issues. The analysis was supplemented by a statewide survey of traffic safety stakeholders conducted in conjunction with the 2012 Michigan Traffic Safety Summit. This survey obtained preliminary feedback as to prospective goals, emphasis areas, and implementation strategies for the revised SHSP. Approximately 200 survey responses were received from a diverse cross-section of safety professionals throughout Michigan.

The crash data analysis and stakeholder surveys were utilized to develop and implement five regional focus groups held in Dearborn, Gaylord, Grand Rapids, Lansing, and Marquette in the spring of 2012. These focus groups provided unique regional perspectives and illustrated differences in

the degree to which various safety concerns affected these regions. Consensus-building exercises conducted as a part of these meetings facilitated the development of revised goals and four emphasis areas for the 2013-2016 SHSP. Action teams were assigned to the appropriate emphasis areas.

SHSP 2017-2018

As substantial progress was made toward the goals from the SHSP 2013-2016, revised goals were established for 2017-2018 SHSP. These goals were to prevent traffic fatalities from reaching 967 in 2018 and to prevent serious injuries from reaching 4,600 in 2018. The GTSAC decided to only provide an update for two years, to align with the gubernatorial terms of office. The commission requested each action team update their goals, strategies, and accomplishments.



SHSP Update

SHSP 2019-2022

The most recent update process involved engaging traffic safety stakeholders through an online survey and a series of meetings throughout the state seeking input regarding the SHSP structure, emphasis areas, and action teams.

The survey was developed by the OHSP and the MDOT, in conjunction with the FHWA, and was shared with a comprehensive list of stakeholders. There were 136 responses. Of those who responded to the survey, 44 percent work in engineering and 31 percent in enforcement. The balance work in education (16 percent), EMS (3 percent) and other (15 percent), with injury prevention and management mentioned most often.

Most respondents (55 percent) were familiar with the SHSP action teams. Of those who are familiar with the action teams, less than half (46 percent) have attended at least one action team session.

There was strong support (93 percent) for the four emphasis areas—at-risk road users, engineering infrastructure, high-risk behaviors, and system administration.

Respondents were asked to assign a priority value to 22 traffic safety issues. The top six based on a weighted average were:

1. Texting/talking/distracted driving
2. Drugged driving
3. Drunk driving
4. Drivers age 20 or younger and use of seat belts driving tied
5. Use of seat belts driving
6. Aggressive driving

Respondents were asked to provide any traffic safety issues that were not included in the survey. Twenty-nine respondents commented. Road conditions and weather-related hazards were mentioned more than once. Some comments expounded on drugged driving issues, specifically noting the impact of marijuana-impaired drivers.

Finally, respondents were given the opportunity to provide input on any under-used strategies that might be used to reduce traffic deaths and injuries. The most common issue raised was distracted driving/texting while driving. This was mentioned by nine respondents. Other common themes revolved around traffic engineering, with safety edges and rumble trips being a popular topic. Other recurrent themes included more patrols (four respondents), increased enforcement (three respondents) and driver education (three respondents).

MDOT FOCUS GROUPS

In addition to the online survey, the MDOT held five meetings across the state for additional regional input and participation. Focus group comments included:

- Have teams become more involved with the Traffic Safety Networks to share their action plans. This could increase awareness of the SHSP and provide opportunities for meetings outside of Lansing.
- Rotate location of meetings.
- Increase membership through recruitment – make website with action team information easier to locate/use/view meeting dates.

Participants identified potential missing focus areas as: speed, winter driving, aggressive driving, driver education, and EMS. Participants commented on their thoughts on under-used strategies:

- Data driven safety messages/point out the consequences beyond fines
- Drones for speed enforcement
- High-friction surfaces
- Roundabouts
- Increased enforcement
- Speed cameras
- Predictive modeling techniques

Statewide Statistics	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	% change 2009-2018
Crashes	290,978	282,075	284,049	273,891	289,061	298,699	297,023	312,172	314,921	312,798	7.50%
Injuries	70,931	70,501	71,796	70,518	71,031	71,378	74,157	79,724	78,394	75,838	6.92%
Incapacitating	6,511	5,980	5,706	5,676	5,283	4,909	4,865	5,634	6,084	5,586	-14.21%
Fatalities	871	937	889	936	951	876	963	1,064	1,028	974	11.83%
Registered Drivers (Millions)	7.07	7.08	7.04	7.06	7.10	7.13	7.16	7.18	7.20	7.22	2.12%
Populations (Millions)	9.97	9.88	9.88	9.88	9.90	9.91	9.92	9.93	9.96	10.00	0.30%

2009-2018 Michigan Data	
Action Team	Fatalities
Impaired Driving	3,746
Commercial Motor Vehicle	935
Distracted Driving	N/A
Drivers Age 20 and Younger*	1,463
Traffic Incident Management	N/A
Intersection Safety	2,604
Lane Departure	4,346
Motorcycle Safety	1,251
Occupant Protection	1,989
Pedestrian and Bicycle Safety	1,713
Senior Mobility and Safety**	2,041
Traffic Records and Information Systems	N/A

* This includes fatalities involving drivers age 20 or younger, previous SHSP was age 15-24.

** This includes fatalities involving drivers age 65 and older

Based on the surveys, comments, and discussions that took place through the SHSP update process, the MDOT and the OHSP team decided to incorporate the findings in the following ways:

- Change the “Drivers Age 24 and Younger” action team to “Drivers Age 20 and Younger.” This aligns with the NHTSA and captures drivers before they are of legal drinking age. Drivers 21 and older would be captured in other teams’ goals, strategies, and tasks.
- Consider reaching out to other industries to ask to participate in action team meetings and in assisting to meet team goals: judges, EMS, the health industry, the automotive industry, etc.
- Discuss with each action team the importance of incorporating important topics in to their action plans as it relates to their focus area. Topics such as:
 - Communication—across action teams as well as with other safety-focused groups around the state such as the traffic safety networks.
 - Emerging technology—each action team should be aware of emerging technologies and how they will impact their area. In addition, with the emergence of Connected and Automated Vehicles (CAV) an emphasis area has been added under Engineering Infrastructure for this advancing technology.

- Behaviors—aggressive driving, drowsy driving, etc. Incorporate strategies to address how these behaviors affect the users represented by each action team.
- Winter driving—how seasonal changes in weather affect roadway users in respect to each action teams focus area.

SHSP 2019-2022 GOALS

- Reduce traffic fatalities from 974 in 2017 to 945 in 2022.
- Reduce suspected serious injuries from 5,586 in 2017 to 4,994 in 2022.

The 2019-2022 SHSP remains focused on addressing traffic safety issues within four broad emphasis areas created in 2013:

1. High-Risk Behaviors
2. At-Risk Road Users
3. Engineering Infrastructure
4. System Administration

Within these emphasis areas, action teams provide more targeted guidance on area-specific safety issues. Structuring these action teams under the broad umbrella of these four emphasis areas creates efficiencies given the degree of overlap among these teams. Updated goals, strategies, objectives, and activities are based on current traffic crash data.

HIGH-RISK BEHAVIORS

Despite continuous efforts that have improved the safety of Michigan roadways, that safety is ultimately reliant upon road-user behavior. Research has shown that most crashes are due to errors by these users. Fortunately, many of these errors are ultimately preventable and strategies to encourage the safe behavior of road users are integral to highway safety improvement efforts. At the statewide level, these implementation strategies are guided by three action teams:

- Distracted Driving
- Impaired Driving
- Occupant Protection

AT-RISK ROAD USERS

Prior research and crash statistics illustrate that there are specific groups of road users who are overrepresented in traffic crashes, fatalities, and injuries. As such, understanding the contributing factors that lead to this overrepresentation allow for the identification of appropriate strategies and countermeasures to address these at-risk road users. The action teams that fall under this emphasis area are:

- Commercial Motor Vehicle Safety
- Motorcycle Safety
- Pedestrian and Bicycle Safety
- Senior Mobility and Safety
- Drivers Age 20 and Younger

ENGINEERING INFRASTRUCTURE

Engineering infrastructure is one aspect of traffic safety where involved stakeholders can exert direct control. Geometric design elements, traffic control devices, advancing technologies such as CAVs, and targeted policies and programs allow for countermeasures aimed at encouraging or discouraging specific behaviors among Michigan road users. Under this emphasis area, guidance as to the state-of-the-art and state-of-the-practice is provided by one action team:

- Traffic Safety Engineering

SYSTEM ADMINISTRATION

Effective system administration is critical to improving traffic safety. To identify, diagnose, and treat safety concerns in an efficient manner, a well-integrated framework is required. This framework includes an ability to monitor system performance in near-real time, as well as close collaboration among a network of safety stakeholders from the engineering, education, enforcement, and EMS communities. Statewide efforts in this emphasis area are tasked to two action teams:

- Traffic Incident Management
- Traffic Records and Information Systems

Distracted Driving

BACKGROUND

According to studies by universities from 2014-2018, the statewide cell phone use rate has decreased 15.5 percent among drivers. Michigan adopted a primary enforcement law in 2010 that prohibits drivers from reading, manually typing, or sending a text message while driving. In 2013, “Kelsey’s law” took effect, prohibiting Level 1 and Level 2 licensed drivers under the Graduated Driver Licensing program from using a cell phone while driving.

The MDOT has implemented several programs aimed at addressing distracted driving. This included statewide installation of centerline and shoulder rumble strips on rural high-speed non-freeway facilities. The MDOT also has implemented other improvements, such as crash attenuators and cable median barrier systems to reduce the severity of lane departure crashes that may be due to driver distraction.

The OHSP has funded enforcement projects, public information campaigns, news conferences, and a video on distracted driving dangers. Also, the UD-10 crash report captures data related to distracted driving crashes.

Additional initiatives are under way by motor vehicle manufacturers, who are testing collision avoidance systems and other in-vehicle technologies that have the potential to actively alert distracted drivers.

In addition to educating drivers about distracted driving via publications, websites, motor vehicle network messages in SOS branch offices, events, the MDOS helped to raise awareness about the risks of distracted driving with the *Distraction-Free in the D* (Detroit) campaign.

Attempts to enact a hands-free driving law in Michigan have not been successful. In addition to legislation, addressing this issue requires a multifaceted approach including enforcement, engineering, and education.

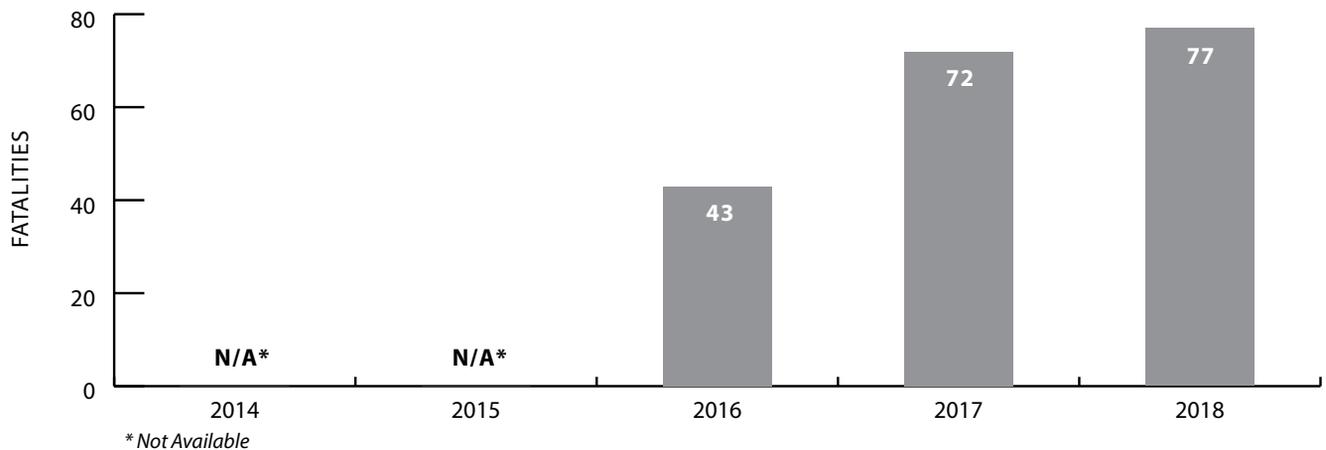
STRATEGIES

- Conduct effective communication and outreach activities.
- Continue to implement effective low-cost roadway countermeasures.
- Promote distracted driving enforcement.
- Improve data collection on driver distractions involved in crashes.
- Monitor the development of new countermeasures and identify those that could be implemented in Michigan.
- Provide recommendations related to distracted driving legislation.

For accomplishments, see the GTSAC Action Team website at <http://www.michigan.gov/gtsac>.



Distracted Driver-Involved Fatalities



Impaired Driving

BACKGROUND

From 2013-2017 alcohol- and/or drug-involved fatalities increased 35 percent. Impaired driving crashes were most prevalent among young male drivers, including underage males, as well as weekend crashes. In 2018, Michigan voters chose to legalize recreational marijuana, and the law went into effect December 6, 2018. An Impaired Driving Safety Commission was created in 2016 within the MSP to research and recommend a scientifically supported threshold of delta9-THC bodily content to provide evidence for per se impaired driving in Michigan. The commission did not recommend establishing a THC threshold for determining impairment.

Michigan has responded to these issues through a combination of prevention, education, enforcement, and adjudication countermeasure programs. The Prosecuting Attorneys Association of Michigan and the Michigan Judicial Institute deliver training sessions to law enforcement, prosecutors, judges, probation officers, and court staff on the state's impaired driving laws. This is complemented by 73 specialty courts established to deal with repeat impaired driving offenders.

Additional initiatives seek to reduce underage drinking and driving. The MDHHS programs complement the Impaired Driving Action Team's mission by focusing on preventing underage drinking and prescription drug misuse and abuse.

The OHSP provides funding to support high-visibility enforcement, public information and education, sobriety courts, and training of law enforcement, prosecutors, the courts, and other criminal justice professionals.

The MDOS provides oversight for Michigan's Ignition Interlock Program, driver's license administrative hearings, and driver reexaminations. MDOS court liaisons provide

updates and training to judicial system partners so that appropriate driver's license actions are taken, and accurate driving records are maintained. MDOS educates Michigan drivers about impaired driving via publications, websites, motor vehicle network messages in SOS branch offices, and outreach events.

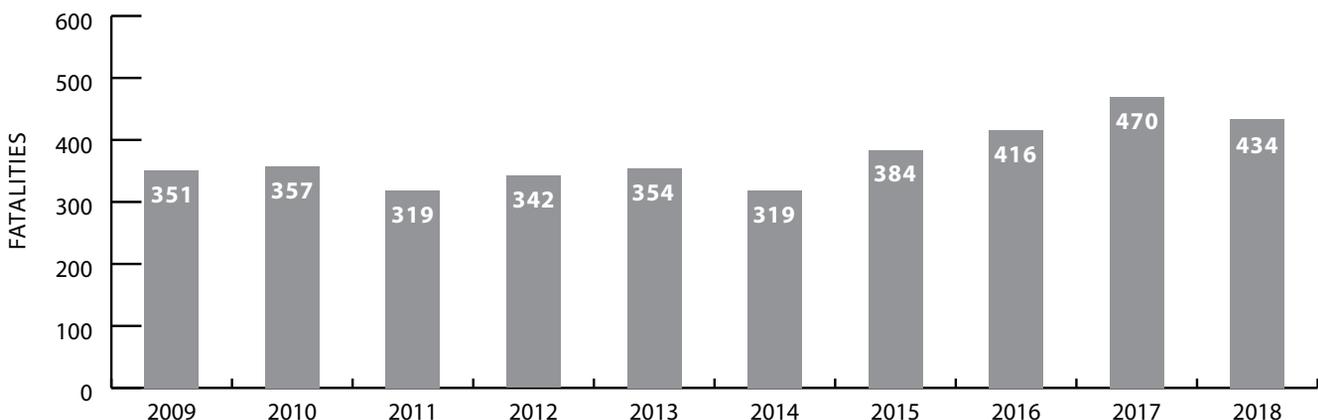
STRATEGIES

- Support impaired driving enforcement with a special emphasis on high-visibility enforcement.
- Promote efforts to increase sobriety courts and the use of ignition interlocks.
- Support public information and education campaigns.
- Explore enhanced training for all sectors of the criminal justice and substance abuse disorder communities.
- Provide recommendations related to impaired driving legislation.

For accomplishments, see the GTSAC Action Team website at <http://www.michigan.gov/gtsac>.



Alcohol and/or Drug-Involved Fatalities



* At least one party was alcohol- and/or drug-involved

* Data may differ from previous SHSPs

Occupant Protection

BACKGROUND

Proper use of passenger restraints is the single most cost-effective and immediate means of reducing death and injury in traffic crashes. Studies show that occupants increase their survival rate by 45 percent if a seat belt is used. Unbelted fatalities have increased 4.2 percent from 2013-2017 even though Michigan has a consistent 92 percent or higher seat belt use rate for that same time.

Michigan requires all children up to age 8 or 4 feet 9 inches in height to use a booster seat. The OHSP also funds Child Passenger Safety (CPS) technicians to educate parents and caregivers on restraint use and has worked with universities to conduct child restraint use surveys. The most recent survey from 2018 reported use rates of 98.2 percent among children under 3 and 54.5 percent among children 4-7 years old.

Funding to support high-visibility enforcement, news conferences, and public information and education campaigns is provided by the OHSP.

In addition to educating drivers about seat belts and safety seats via publications, websites, motor vehicle network messages in SOS branch offices, outreach events, the MDOS partnered with MDHHS, Office of Migrant Affairs, OHSP, and Farm Worker Legal Services to develop a quick reference traffic law guide for migrant farm workers.

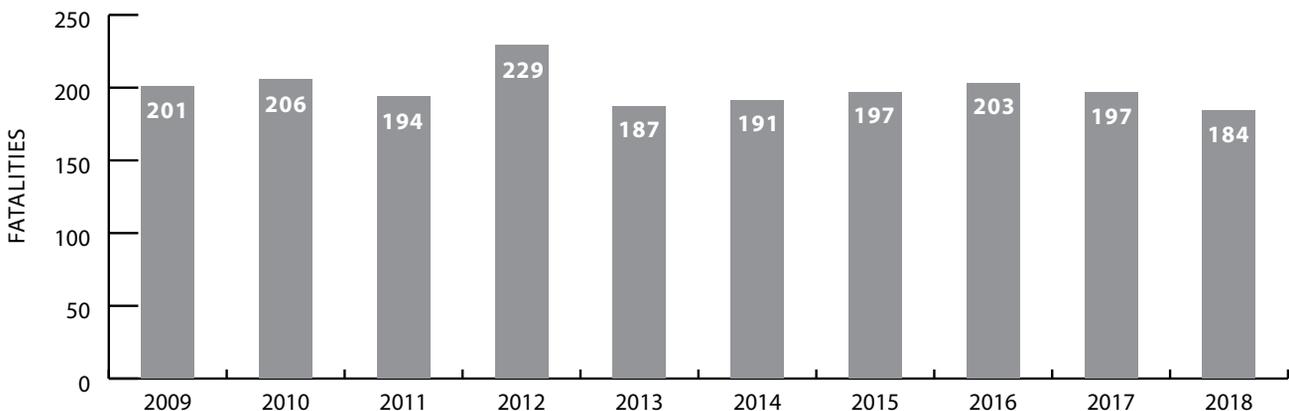
STRATEGIES

- Continue high-visibility enforcement.
- Support public information and education campaigns.
- Implement Michigan’s CPS Strategic Plan.
- Evaluate the effectiveness of occupant protection programs.
- Provide recommendations related to occupant protection legislation.

For accomplishments, see the GTSAC Action Team website at <http://www.michigan.gov/gtsac>.



Unrestrained Occupant Fatalities



*No belts used, no belts available, child restraint not used, unavailable, or improper use.

Commercial Motor Vehicle (CMV) Safety

BACKGROUND

From 2013-2017, CMV-involved fatalities increased 1.1 percent and CMV-involved crashes increased 19.6 percent. Crashes involving big trucks often are more devastating due to the sheer size and weight of the vehicles. CMVs weigh over 10,000 pounds depending on the type of the truck and if the truck is hauling trailers. CMVs have lower rates of both acceleration and deceleration, especially when attempting to apply brakes in inclement weather conditions. The trucks also have longer stopping distances, need extra space to turn, and have many blind spots where the truck driver cannot see around the vehicle.

The Michigan Truck Safety Commission (MTSC) is unique, the only organization in the nation dedicated to commercial truck driver education and training supported not with tax dollars but solely by the industry it serves. The MTSC enhances truck and truck driver safety by providing truck driver education and training, initiating data collection and research, and supporting enforcement of motor carrier safety laws.

A comprehensive approach has addressed CMV driver performance through education and enforcement. Education initiatives have included several training programs, available through the Michigan Center for Truck Safety to assist CMV drivers, as well as a mobile classroom with a state-of-the-art CMV simulator. The center has locations in the upper and lower peninsulas.

The MSP Commercial Vehicle Enforcement Division (CVED) conducts road patrol activities focused on commercial vehicle enforcement utilizing Special Transportation Enforcement Teams. The OHSP, CVED, county/local police

departments, and the Federal Motor Carrier Safety Administration conducted the Targeting Aggressive Cars and Trucks (TACT) project in 2014. The TACT project enforced traffic laws that concentrate on unsafe driving behaviors between passenger vehicles and CMVs to reduce crashes. A second phase of TACT was approved for 2019.

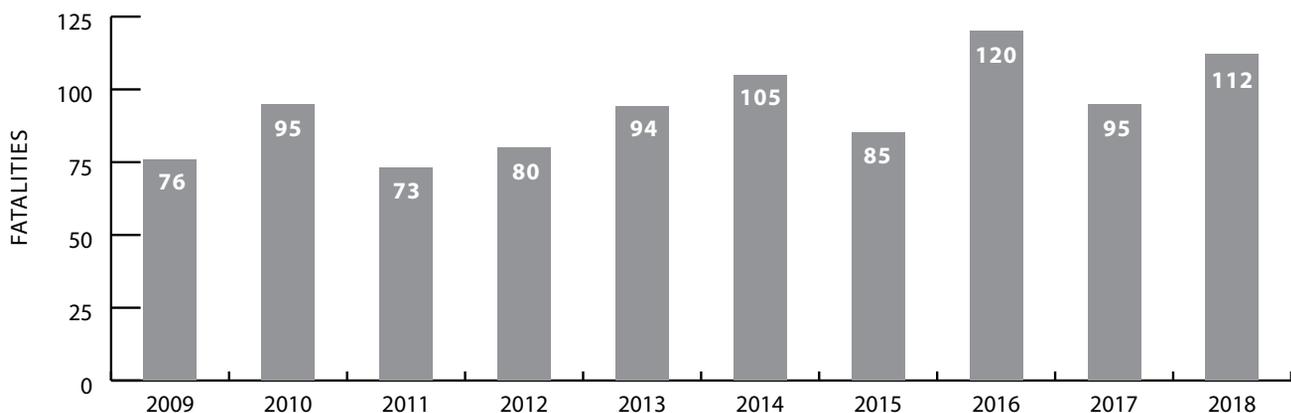
In addition to educating drivers about sharing the road with CMVs via publications, websites, motor vehicle network messages in SOS branch offices, outreach events, the MDOS regularly monitors CDL testing and requires retesting of improperly tested drivers.

STRATEGIES

- Improve CMV driver performance through education and enforcement.
- Educate and inform about the dangers of fatigue-related and distracted driving crashes.
- Strengthen commercial drivers' license programs.
- Increase knowledge on how CMVs and cars can share the road.
- Improve maintenance of heavy trucks.
- Identify and correct unsafe roadway infrastructure and operational characteristics.
- Improve and enhance truck safety data.
- Deploy truck safety initiatives, technologies, and best safety practices.

For accomplishments, see the GTSAC Action Team website at <http://www.michigan.gov/gtsac>.

Truck- or Bus-Involved Fatalities



Motorcycle Safety

BACKGROUND

Per vehicle miles traveled, motorcyclists are more than 30 times more likely than passenger car occupants to die in a traffic crash. Motorcyclists face risks not encountered when driving cars and trucks. Alcohol impairment and excessive speed have been identified as contributing factors to the occurrence of motorcycle crashes. Lack of proper licensing and training are areas of concern. Motorcycle-involved fatalities increased by 7 percent from 2013 to 2017. The number of unhelmeted motorcyclists killed in traffic crashes increased from 5 in 2011 to 59 in 2017.

The motorcycle helmet use law was modified in 2012, allowing motorcyclists 21 years and older to ride without a helmet if they have passed a motorcycle safety class or have held a motorcycle endorsement on their driver's license for at least two years. The rider must carry additional medical insurance. A 2016 study by the Insurance Institute for Highway Safety and the University of Michigan found the helmet law change has been associated with increases in head injuries among hospitalized trauma patients and the proportion of injured riders with skull fractures.

Several programs have been implemented to improve motorcycle safety. The OHSP and the MDOS support the Shadow Rider program where mailings are sent to motorcycle owners without a motorcycle endorsement on their driver's licenses. The mailings inform owners about the Returning Rider Training and Basic Rider Training classes that can lead to obtaining motorcycle endorsements.

The OHSP developed an impaired motorcyclist campaign to encourage sober riding. One out of every three Michigan motorcyclists killed in single-vehicle crashes in 2017 had been drinking. Motorcyclists are far over represented in alcohol-involved crashes as compared to any other road user.

The MDOS administers the Michigan Rider Education Program. Recent legislation provides increased funding that will help better meet the high demand for rider training and to update the aging motorcycle training fleet. Efforts to recruit and retain RiderCoaches continues to be a challenge. Legislation passed in 2018 requires that driver education include at least one hour of classroom instruction on laws pertaining to bicycles, motorcycles, and other vulnerable roadway users including pedestrians. Through

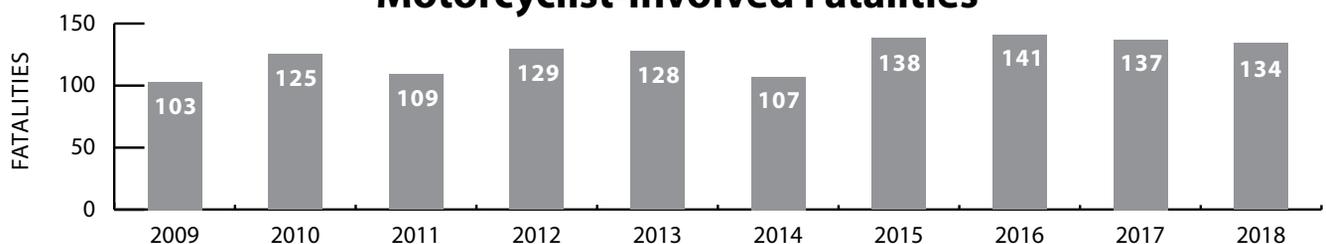
legislated funding, the MDOS is creating and will maintain a "look twice—save a life" program that promotes motorcycle awareness, safety, and education.

STRATEGIES

- Manage a comprehensive motorcycle safety program in collaboration with safety partners and stakeholders.
- Educate motorcycle riders and passengers of the benefits for using protective gear including helmets.
- Encourage more motorcycle operators to seek out and take formal rider training and their motorcycle endorsement.
- Provide motorcycle rider training statewide and provide professional development to motorcycle training instructors.
- Establish an online reporting system that integrates motorcycle rider training information and licensing.
- Encourage and support law enforcement agencies to enforce laws, educate drivers and motorists, and to promote motorcycle safety. Educate and support first responders on the unique nature of motorcycle crash scene trauma and response.
- Design, build, and maintain a roadway infrastructure conducive and safe for motorcyclists and roadway users.
- Promote increased use of high-visibility riding gear to riders and passengers. Develop targeted motorist awareness campaigns to increase their awareness of motorcyclists.
- Identify and develop specific messaging to address priority problem areas supported by available data.
- Conduct regular analysis of data to identify problem areas and continually evaluate initiatives for effectiveness.
- Provide recommendations related to motorcycle safety legislation.
- Educate riders of the dangers of impaired driving and promote a culture of zero-tolerance.

For the action plan and accomplishments, see the GTSAC website at: <http://www.michigan.gov/gtsac>.

Motorcyclist-Involved Fatalities



Pedestrian and Bicycle Safety

BACKGROUND

From 2013-2017, there were 800 fatalities involving pedestrians and 143 fatalities involving bicyclists. Pedestrian fatalities increased 5 percent and bicyclist fatalities decreased 28 percent in the same time.

In 2018, the Legislature approved a law requiring drivers to give a minimum of three-feet of room while passing bicyclists on Michigan roads. In addition, a new law enhances driver's education to include information concerning the laws pertaining to bicycles, motorcycles, and other vulnerable roadway users, including pedestrians. This includes emphasizing awareness of their operation on the streets, roads, and highways.

Risk behaviors for pedestrians include failing to yield and disregarding traffic control (for both motorists and pedestrians). This accounted for more than half of all crashes. For bicyclists, the risk behaviors also included failure to yield and disregarding traffic control (both motorists and bicyclists) followed by overtaking, loss of control/turning error, and bicyclists riding in the wrong direction. (Michigan Traffic Crash Facts)

The MDOT has promoted innovation in pedestrian and bicycle safety design with their research efforts and proven safety features. Examples include research into pedestrian hybrid signals and in street signing. The OHSP supported enforcement, training and education, and safety campaigns. The OHSP sponsored a NHTSA pedestrian and bicycle safety program assessment which provided recommendations to decrease crashes.

A bicycle safety conference took place at Grand Valley State University in 2018 where partners met and shared in-

formation. Future pedestrian and bicycle safety conferences will be discussed.

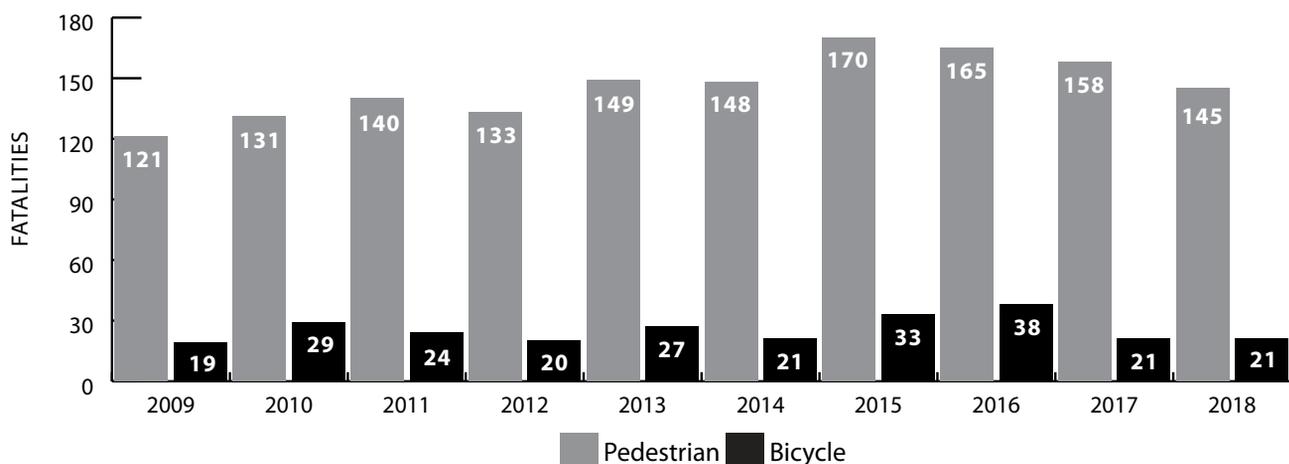
In addition to educating drivers about pedestrian and bicycle safety via publications, websites, motor vehicle network messages in SOS branch offices, outreach events, the MDOS developed a pedestrian and bicycle safety resource list for driver education providers and partnered with MDOT to develop a bicycle safety video PSA.

STRATEGIES

- Identify and promote the use of best practices when designing and operating facilities.
- Raise awareness of pedestrian and bicycle safety.
- Recognize successful pedestrian and bicycle safety initiatives.
- Determine focus communities, cities, and agencies for priority assistance using data.
- Provide recommendations related to pedestrian and bicyclist safety legislation.
- Support, promote, and implement the Toward Zero Deaths national policy.

For the action plan and accomplishments, see the GTSAC website at <http://www.michigan.gov/gtsac>.

Nonmotorized User Fatalities



Senior Mobility and Safety

BACKGROUND

Fatalities for drivers ages 65 and over have decreased 5.1 percent from 2013-2017. Data shows that older drivers have higher seat belt-use rates and lower alcohol-related crash rates and fatality rates. Furthermore, physiological differences reduce their chances of surviving a crash.

To combat this, the MDOT funded a series of senior mobility research projects. The UMTRI also has a large portfolio of research related to improving the safe mobility of seniors. Research involves several topics, including: self-regulation of driving behavior, drowsy driving among older adults, older driver licensing policy, law enforcement and older drivers, and designing vehicles for an older adult population.

The MDOT led the development of the Safe Drivers Smart Options program, Michigan.gov/AgingDriver, which identifies resources related to senior mobility for aging drivers, their family, caregivers, and the professionals working with them. Resources are available to aging drivers, their families and caregivers, and professionals who interact with them. Since 2016 the MDOS has taken over the leadership, operations, and administration of the website and continued strategy development.

Michigan has had an active team of private and public professionals working on senior mobility and safety for more than 20 years. Work in this area includes:

- Participation in a collaborative group, presenting senior mobility and safety information at conferences and traffic safety network committee meetings.
- Planning older driver workshops for the Michigan Traffic Safety Summit.
- Development and distribution of the Michigan’s Guide for Aging Drivers and Their Families.
- Participation in senior fairs and community events.

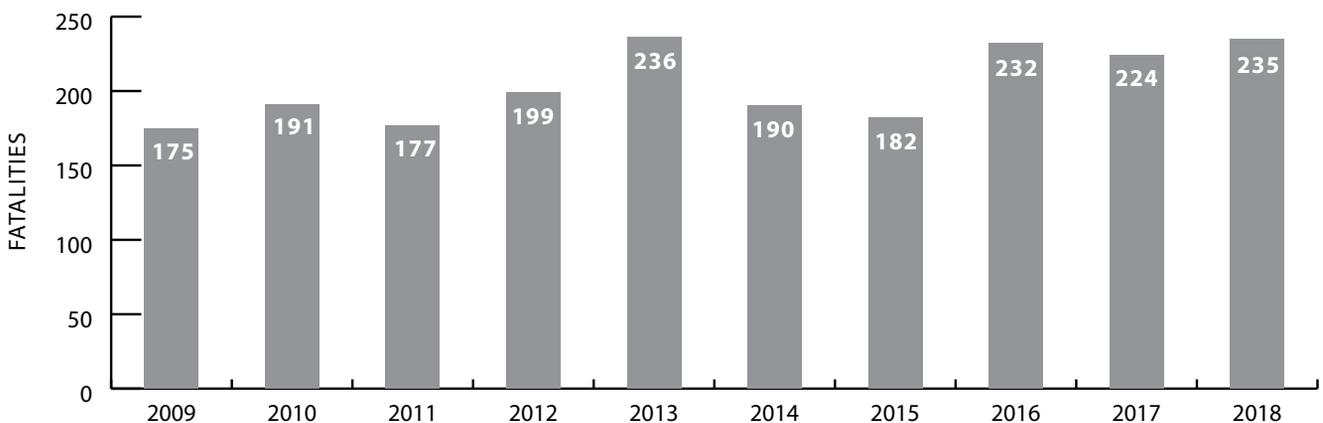
- Involvement in regional transportation partnerships working to provide transit to seniors in Michigan’s most populated areas.
- Revitalization of the CarFit program, and coordination and facilitation of senior driver safety programs.
- MDOS implemented an on-line Request for Driver Evaluation (eOC-88) for law enforcement to make it easier for them to submit referrals for driver assessment evaluations.

STRATEGIES

- Promote and sponsor research on senior mobility issues.
- Plan for an aging mobility and transportation-dependent population.
- Promote the design and operation of Michigan roadways with features that better accommodate the special needs of older drivers and pedestrians.
- Develop and/or enhance programs to identify older drivers at increased risk of crashing and take appropriate action.
- Encourage senior-friendly transportation options.
- Improve communication and coordination among partners at the state, regional, and local levels to enhance senior mobility.
- Provide recommendations related to senior mobility and safety legislation.
- Promote, support, and contribute to the Safe Drivers Smart Options strategy.

For the action plan and accomplishments, see the GTSAC website at <http://www.michigan.gov/gtsac>.

Senior Driver (Age 65+)-Involved Fatalities



Drivers Age 20 and Younger¹

BACKGROUND

From 2013-2017, fatalities involving drivers age 20 and younger decreased 2.9 percent. Among the most prevalent hazardous actions attributed to young drivers are speeding, unable to stop in assured clear distance, and failure to yield. These actions may be attributed to inexperience or poor risk assessment.

Michigan’s graduated driver licensing law includes passenger restrictions and strengthened nighttime driving restrictions. Michigan developed and implemented a comprehensive driver education curriculum based on national standards from the American Driver and Traffic Safety Education Association. As part of the certification renewal process, driver education instructors are required to complete three hours of approved professional development activities every two years.

The OHSP supports young driver programs such as Strive For A Safer Drive.

The MDOS is responsible for providing oversight to Michigan’s driver education program including prescribing the curriculum for teen drivers under age 18. Requiring Michigan drivers age 18-20 to attend some form of driver education and graduated driver licensing should be considered. A Pilot Parental Involvement in Graduated Driver Licensing/ Driver Education Program is being developed for implementation and evaluation. The MDOS provides several print and on-line resources for teen drivers and their parents that are available at Michigan.gov/TeenDriver.

STRATEGIES

- Implement or improve graduated driver licensing systems.
- Publicize, enforce, and adjudicate laws pertaining to young drivers.

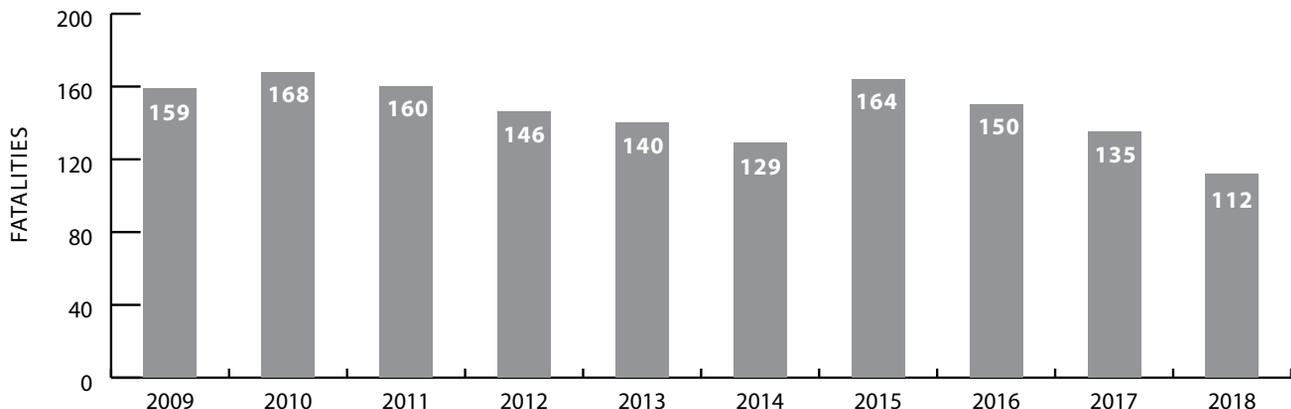
- Promote parent awareness of teen driving risks and parent engagement and assist parents to manage their teens’ driving.
- Improve young driver training.
- Employ school-based strategies.
- Employ activities focused on drivers age 18-20.
- Provide recommendations related to young driver safety legislation.

For the action plan and accomplishments, see the GTSAC website at <http://www.michigan.gov/gtsac>.

1. In previous SHSPs, this age group reflected 15-24. This was updated in the 2019-2022 SHSP to mirror the federal core performance measure for number of drivers under age 20-involved fatal crashes.



Age 20 and Younger Driver-Involved Fatalities



Traffic Safety Engineering

BACKGROUND

The reduction of fatal, severe, and total crashes relies on everyone, regardless of their association with the transportation industry and associated partners. Communication, outreach, opportunities, recognition, and research are key points for the Traffic Safety Engineering Action Team to address the impact of “Toward Zero Deaths.”

From 2013-2017, 4,882 people lost their lives on Michigan roadways. An additional 26,775 people were severely injured over the same time frame. In these five years, there were over 1.5 million crashes. Of these crashes, there have been similar but different performance characteristics of statewide, trunk-line, and non-trunk-line roads for both segments and intersections.

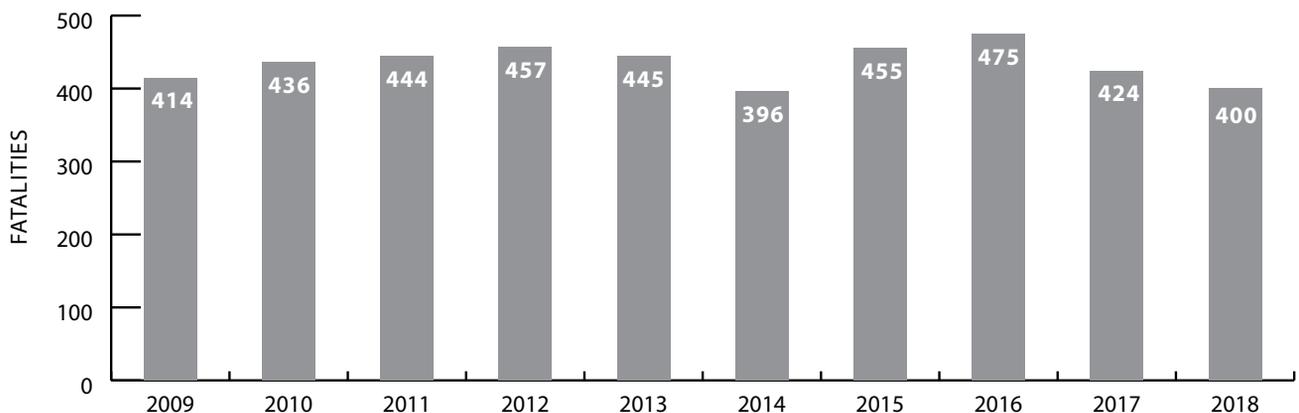
LANE DEPARTURE CRASHES

From 2013-2017, lane departure crashes increased 4.7 percent and fatal lane departure crashes increased 6.4 percent.

Primary objectives in this area are to identify cost-effective strategies that reduce unintentional lane departure, as well as alert the driver should a departure event occur. A secondary objective is to assist the driver in returning to the travel lane safely and minimize the consequences of departure by creating clear zones along the roadside.

A lane departure crash definition was created, which added a flag to each traffic crash record to simplify lane departure analysis.

Lane Departure-Related Fatalities



INTERSECTION CRASHES

From 2013-2017, intersection crashes increased 8.6 percent and intersection fatal crashes increased 4.3 percent. The identification and analysis of high-risk intersections statewide is a safety priority. The MDOT continues to use software tools which have helped to identify the most problematic intersections.

The MDOT continues promoting routine signal re-timing to further enhance intersection safety. More than 75 percent of trunk line corridors have been re-timed, with more scheduled for the future. The MDOT sponsored research to investigate roundabouts and road diets (three lane roadways). Other research examined dynamic intersection warning devices, ground-mounted flashing beacons, and other low-cost safety improvements.

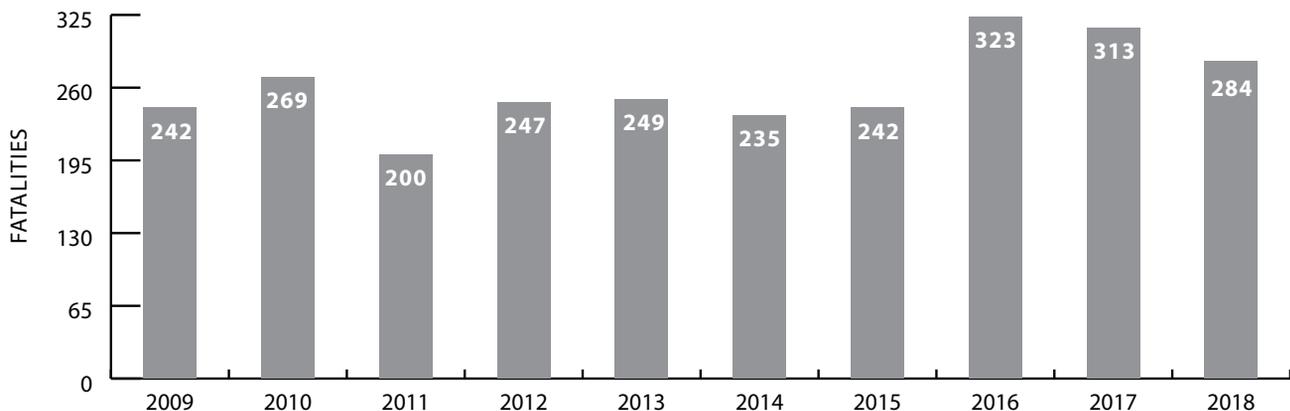
Other initiatives include: the MDOT setting aside categorical safety funding for local agencies for road safety audits and the installation of centerline and shoulder rumble strips, guardrail upgrades, clear zone improvements, and other projects that target locations that have experienced fatal and serious injury crashes.

STRATEGIES

- Promote safety.
- Identify data opportunities.
- Promote research on safety.
- Increase the number and understanding of countermeasures.

For accomplishments, see the GTSAC Action Team at: <http://www.michigan.gov/gtsac>.

Intersection-Related Fatalities



Connected and Automated Vehicles (CAV)

BACKGROUND

For over a decade, the Michigan Department of Transportation (MDOT) has been a leader on the world stage in advancing Connected and Automated Vehicle (CAV) technologies, leveraging its unique position as the home to the U.S. automotive industry, as well as departmental expertise in Intelligent Transportation Systems (ITS). Automated vehicles (AV) can detect their surroundings using a variety of techniques such as radar, Global Positioning Systems (GPS), and cameras. Automated cars have control systems that are capable of analyzing sensory data to distinguish between different vehicles on the road as well as the presence of bikes, pedestrians and obstacles. Connected Vehicle (CV) technology allows vehicles to “talk to” each other, the roads they use, and even to pedestrians and cyclists who have mobile devices while driving safely. It is fully expected that both vehicle connectivity and autonomy will work to together on future CAV and that the technologies will be integrated and synonymous. CAV technologies represent a significant opportunity for Michigan to address fundamental transportation safety, mobility and environmental challenges faced by travelers and transportation systems managers alike in new and innovative ways.

According to the NHTSA, in 2017 there were more than 37,000 people killed in vehicle crashes in the United States. According to the USDOT, CAVs provide the means

to potentially address about 80 percent of all-vehicle target crashes; 80 percent of all light-vehicle target crashes; and 70 percent of all heavy-truck target crashes annually. Through the use of CAV technology, alerts will warn travelers of emerging dangerous situations and provide them guidance to avert crashes. As an example, someday motorists will be automatically warned that they are approaching a work zone or some other lane closure at an unsafe speed and need to slow down and switch lanes via an in-vehicle device. This is just one of the many CAV safety applications that are being developed, tested, and deployed in pilot programs in Michigan that will soon make the roads safer for travelers.

STRATEGIES

- Institutionalize CAV in related MDOT initiatives.
- Develop plan for large-scale Vehicle-to-Infrastructure (V2I) deployment.
- Deploy CV infrastructure to support other strategic initiatives.
- Support development of high-priority V2I applications.
- Accelerate CV benefits through use of mobile technology.
- Accelerate CAV benefits through fleet deployments.



Traffic Incident Management (TIM)

BACKGROUND

TIM is the planned and coordinated multi-disciplinary processes used to detect, respond, and clear traffic incidents as quickly as possible while protecting the safety of on-scene responders and the traveling public. An incident is defined as any non-recurring event that causes a reduction in roadway capacity. Such events include, but are not limited to, traffic crashes, disabled vehicles, spilled cargo, floods, and other unplanned natural or man-made events. Traveler delay is the most common problem associated with highway incidents; however, the occurrence of secondary crashes is the most serious concern. Secondary crashes are often more severe than the primary crash. The national figures estimate secondary crashes comprise 16-20 percent of all free-way crashes. Michigan began reporting secondary crashes in 2016 and reported 2,555 in 2016 and 4,170 in 2017. A side effect of all roadway incidents is the danger posed to on-scene responders and the traveling public.

In support of incident management activities, MDOT operates the Southeast Michigan Transportation Operations Center in Detroit, the West Michigan Transportation Operations Center in Grand Rapids, the Blue Water Bridge Transportation Operations Center in Port Huron, and the Statewide Transportation Operations Center in Lansing. Such centers allow for centralized coordination of incident management processes.

In addition to these efforts, the Hold Harmless law allows first responders to remove and dispose of motor vehicles and cargo blocking the roadway or in the right-of-way without being liable for damages. The Safe, Quick Clearance law known as Steer It, Clear It, requires the operator of a crash-involved vehicle (if able) to remove the vehicle from the traveled portion of the roadway. Captain Clear-It, Michigan's mascot, was developed to help educate the public about this law.

The National Traffic Incident Management Responder Training Program, Mi-TIME, or the Michigan Traffic Incident Management Effort, has been adopted to build stronger coordinated responses to safer, faster and integrated teams. Michigan has more than 196 instructors in the program and has taught more than 6,500 Michigan first responders.

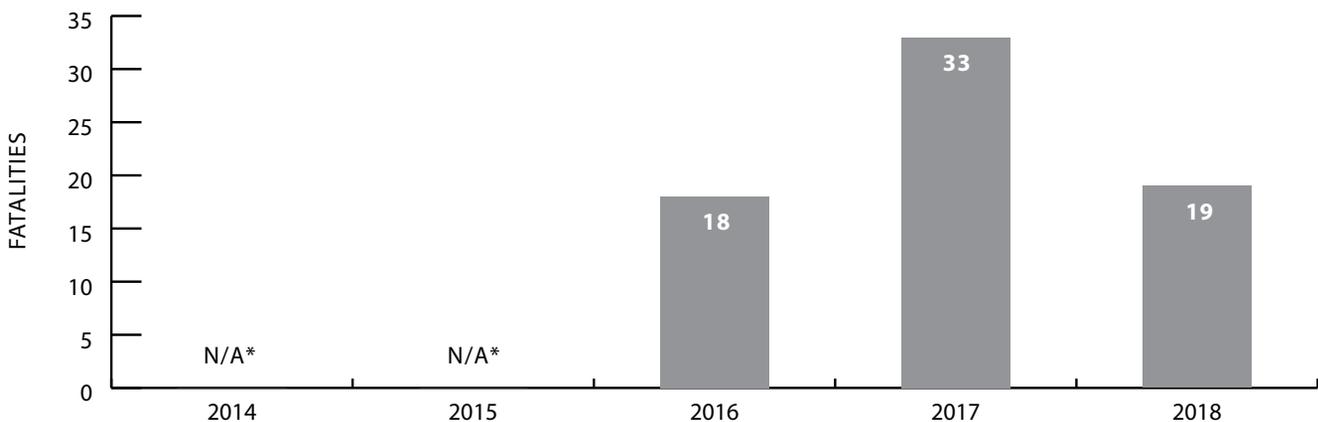
STRATEGIES

- Promote and educate the use of high-visibility apparel for first responders.
- Provide public education on safe, quick clearance, and vehicle removal laws.
- Coordinate traffic incident response between all responders.
- Conduct Mi-TIME training for all TIM stakeholder groups.

For the action plan and accomplishments, see the GTSAC website at: <http://www.michigan.gov/gtsac>



Secondary Crash-Involved Fatalities



* Not Available. This information was not collected until 2016

Traffic Records and Information Systems

BACKGROUND

Michigan’s traffic records and information systems are vital to safety-based planning efforts. The Traffic Records Coordinating Committee (TRCC) serves as the action team responsible for addressing traffic crash record issues within the state. TRCC membership is made of any group, agency or individual who has an interest in, and can provide to other members, a perspective needed to improve the timeliness, accuracy, completeness, uniformity, integration, and accessibility of traffic records. Michigan has a robust traffic crash processing system as well as information that is easily accessible and searchable. Michigan has achieved 89 percent electronic crash reporting in 2018.

The OHSP funds projects to improve data systems, software, and specialized training to aid Michigan’s collection of accurate traffic crash data. Training includes how to accurately complete the traffic crash report and enhanced traffic crash reconstructionist classes.

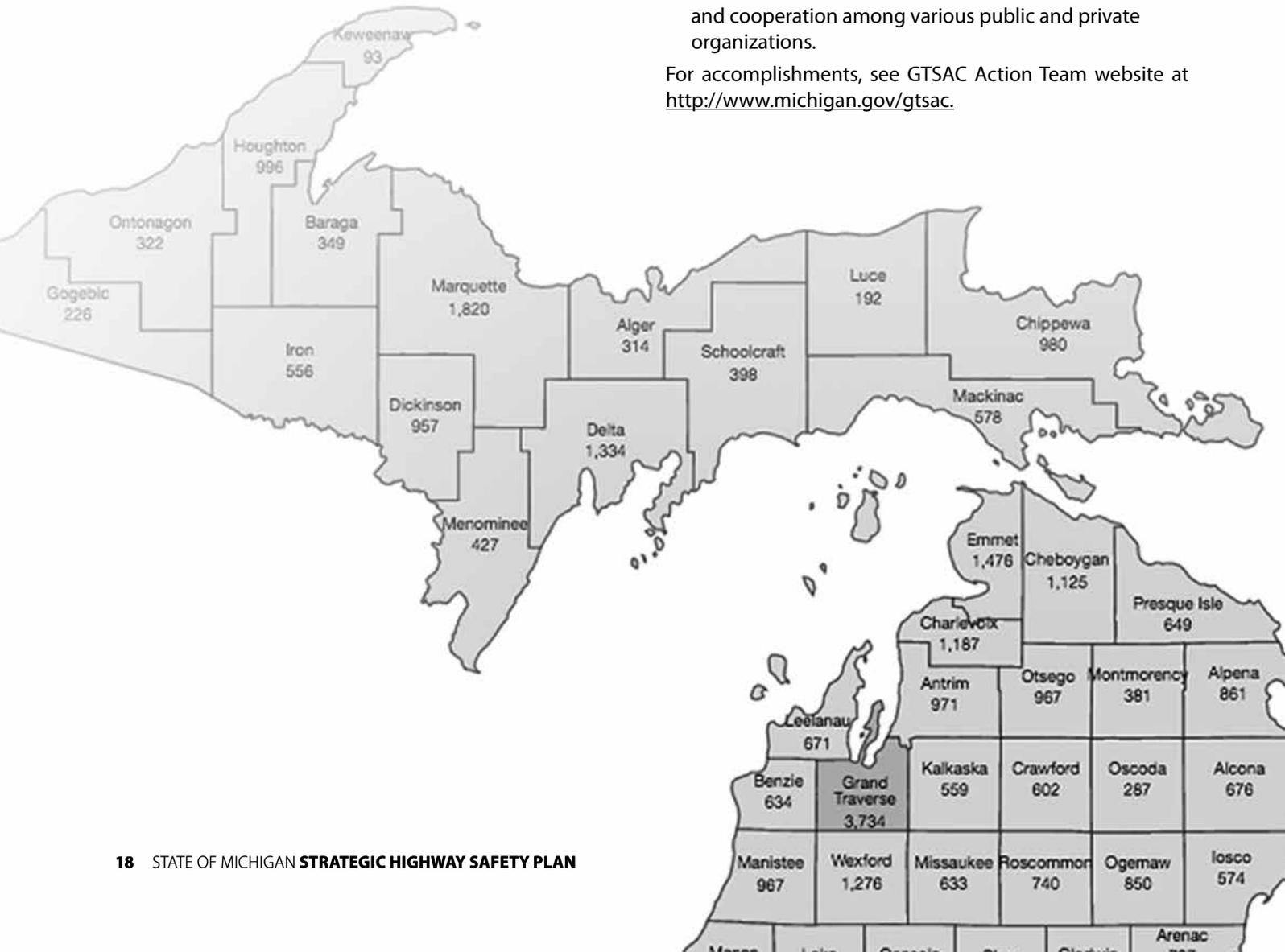
The Michigan Traffic Crash Facts website data query tool continues to add new features including an intersection/road segment filter. A mapping tool was added to crash reports to locate crashes electronically.

Quality control will improve due to text-mining the crash narratives on the crash report. Michigan will soon be able to collect complete bicycle and pedestrian exposure data for all road segments.

STRATEGIES

- Improve timeliness and accuracy of traffic records data collection, analysis processes, accessibility, distribution and systems.
- Facilitate a multi-disciplinary team to monitor and recommend necessary changes to the UD-10 crash form.
- Develop and implement a plan to integrate various traffic records databases.
- Provide highway safety training, technical assistance, funding, and other resources to state and local agencies.
- Increase coordination, effective communication, and cooperation among various public and private organizations.

For accomplishments, see GTSAC Action Team website at <http://www.michigan.gov/gtsac>.



Plan Implementation

Traffic crashes, injuries, and fatalities continue to be a critical public health concern. According to 2017 figures from the National Safety Council, the comprehensive costs of Michigan traffic crashes was \$44,514,956,700, highlighting the importance of a systemic approach to improving highway safety.

From an organizational standpoint, a hierarchical structure establishes the GTSAC with oversight at the top level. The GTSAC, represented by 11 commissioners, is responsible for guiding Michigan's safety management process. Within the structure, four broad emphasis areas were established to oversee traffic safety initiatives among a network of statewide stakeholders. These include: high-risk behaviors, at-risk road users, engineering infrastructure, and system administration. Within these emphasis areas, there are 11 action teams. Each team is tasked with addressing a targeted set of safety issues and is responsible for developing its own action plan. The action plans can be found at www.michigan.gov/gtsac. Action teams have reported to their emphasis area chairperson, and the information was shared at GTSAC meetings.

Functionally, the SHSP identifies prevalent traffic safety issues at an aggregate level. This includes the establishment of statewide goals, as well as the identification of emphasis areas and establishment of action teams. Each action team develops and updates an action plan that outlines the short-term objectives and activities to be implemented by various action team member agencies. Under this umbrella, prioritization is focused on identifying the most efficient and cost-effective strategies to reduce traffic crashes, and particularly, fatalities and serious injuries. Furthermore, each action team monitors progress on a regular basis so that the process is adaptive to constantly changing conditions and reports out yearly accomplishments.

The structure is comprised of a network of safety partners, who participate either directly or indirectly in the activities previously described. For example, the following are some of the activities involved within the transportation safety planning process:

- Participating in the management of railroad crossings by supplying funding for various programs and ensuring compliance with authority granted under the provisions of the Railroad Code of 1993.
- Coordinating activities with the Motor Carrier Safety Assistance Program, which facilitates the uniform enforcement of federal and state rules and regulations concerning motor carrier safety.
- Integrating with the Section 402 Safety Planning Process, which requires each state to have in place a highway safety program in accordance with uniform guidelines promulgated by the Secretary of Transportation.
- Considering the needs of tribal communities through the Tribal Technical Assistance Program, a nationwide effort sponsored by the FHWA and Bureau of Indian Affairs.
- Conducting systemic safety assessments, including: road safety audits to identify site-specific safety issues, examination of locations that have experienced fatal or serious injuries because of traffic crashes, as well as proactive screening of locations that have the potential for such crashes even if there is not a pre-existing crash history.

Given the diverse scope of activities involved in the transportation safety planning process, the SHSP provides critical higher-level support and organization to help coordinate these policies and programs.

Plan Evaluation

Traffic safety issues continually change and evolve over time. Considering such changes, it is imperative that the SHSP is evaluated and revised on a regular basis in accordance with the surface transportation bill, *Fixing America's Surface Transportation (FAST) Act*. The primary measures used to evaluate progress with respect to the SHSP process are the changes in the number of traffic-related fatalities and serious injuries that occur on an annual basis. Michigan currently maintains a traffic records system that is among the best in the country, allowing for timely feedback as to how various traffic safety trends are changing over time. These trends are continuously monitored, with the SHSP updated periodically.

Given the duration of the SHSP update cycle, each action team is tasked with providing more immediate updates based upon shorter-term changes in traffic crashes, fatalities, and injuries. This is done through annual updates to the action plans, which capture changes in key perfor-

mance measures, in addition to documenting those policies and programs that have been implemented. In addition to allowing for adaptive responses, these annual updates also provide useful information to the safety stakeholders in Michigan, as well as other states.

Local involvement was an emphasis of the current SHSP update as specific regions of the state were found to experience issues and concerns that were distinct to their geographic locations. The SHSP will continue to be reviewed and updated on a regular basis through strategic planning activities that solicit input from all involved constituents across all regions of the state. This 2019-2022 SHSP coincides with the governor's term in office. This process will ensure that Michigan's plan will be kept current and focused on achieving the state's ultimate vision of zero deaths on Michigan roadways.

Thanks To Safety Partners

Since development of the initial SHSP in 2004, many traffic safety advocates across Michigan have continued to be involved in the implementation of the plan. Because of the widespread cooperation, collaboration, and assistance from traffic safety partners throughout the state, Michigan will continue to make progress, ensuring the safety of all roadway users.







Governor's Traffic Safety Advisory Commission

c/o Office of Highway Safety Planning

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www.michigan.gov/gtsac

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