

# 2017-2018 State of Michigan STRATEGIC HIGHWAY SAFETY PLAN





2017-2018 State of Michigan  
**STRATEGIC HIGHWAY SAFETY PLAN**

December 2016



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

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# Governor's Traffic Safety Advisory Commission

## 2016

**Mr. Michael L. Prince, Chair**  
MICHIGAN OFFICE OF HIGHWAY SAFETY PLANNING

**F/Lt. Jim Flegel**  
MICHIGAN DEPARTMENT OF STATE POLICE

**Mr. Lawrence Hummel, P.E.**  
VAN BUREN COUNTY ROAD COMMISSION

**Mr. Kenneth Micklash**  
MICHIGAN DEPARTMENT OF EDUCATION

**Chief David E. Molloy**  
NOVI POLICE DEPARTMENT

**Ms. Tari Muniz**  
OFFICE OF SERVICES TO THE AGING

**Ms. Carol Reagan**  
MICHIGAN DEPARTMENT OF STATE

**Sheriff Matthew Saxton**  
CALHOUN COUNTY SHERIFF'S OFFICE

**Ms. Linda Scarpetta**  
MICHIGAN DEPARTMENT OF HEALTH & HUMAN SERVICES

**Ms. Jennifer Shea**  
GOVERNOR'S DESIGNEE

**Mr. Randy VanPortfliet, P.E.**  
MICHIGAN DEPARTMENT OF TRANSPORTATION







STATE OF MICHIGAN  
EXECUTIVE OFFICE  
LANSING

RICK SNYDER  
GOVERNOR

BRIAN CALLEY  
LT. GOVERNOR

Dear Traffic Safety Partners:

As Governor of the state of Michigan, I am pleased to present the 2017-2018 Michigan Strategic Highway Safety Plan (SHSP). The Governor's Traffic Safety Advisory Commission (GTSAC) initiated this two-year update of Michigan's wide-ranging traffic safety plan to direct our future traffic safety endeavors. As a national traffic safety leader, Michigan's plan is intended to reduce traffic crashes, fatalities, and injuries on our roadways.

Since the development of the last SHSP four years ago, Michigan's traffic safety partners have worked together in the areas of education, enforcement, engineering, and emergency medical services, resulting in the following accomplishments from 2013-2015:

- Maintained fewer than 1,000 traffic fatalities and more than 90 percent seat belt use
- 11 percent reduction in fatal and serious injury crashes involving drivers ages 15-24
- 10 percent reduction in bicycle fatal and serious injury crashes
- 10 percent reduction in lane departure fatal and serious injury crashes
- 8 percent reduction in serious traffic injuries
- 8 percent reduction in fatal and serious injury crashes during the summer
- 6 percent reduction in motorcycle fatal and serious injury crashes
- 6 percent reduction in intersection crashes
- 3 percent reduction in local road fatal and serious injury crashes
- 1 percent reduction in alcohol-involved fatal and serious injury crashes

Michigan strives to continue creating a stronger traffic safety culture by focusing on partnerships across all branches and levels of state and local government, as well as with private sector agencies. Thanks to the collective input and cooperation of traffic safety partners, this plan will help ensure Michigan motorists travel safely – every trip, every time.

Sincerely,

A handwritten signature in blue ink that reads "Rick Snyder".

Rick Snyder  
Governor

## **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:**

*Prevent traffic fatalities  
from reaching 967 in 2018.*

*Prevent serious traffic injuries  
from reaching 4,600 in 2018.*

# 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), and Transportation (MDOT); and Office of Services to the Aging (MSOA), the executive director of the Office of Highway Safety Planning (OHSP); as well as three local government representatives.

The Strategic Highway Safety Plan (SHSP) provides a comprehensive framework for reducing traffic fatalities and serious injuries on public roads. In Michigan, the 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 plan that establishes statewide goals, objectives, and key emphasis areas and integrates the four E's—engineering, education, enforcement, and emergency medical services (EMS).

The purpose of the SHSP is to identify Michigan's key safety needs and guide investment decisions to achieve

significant reductions in traffic fatalities and serious injuries on public roads. The SHSP allows all highway safety programs in the state to work together in an effort to align and leverage resources. It also positions the state and its safety partners to collectively address the state's safety challenges.

During the development of the initial SHSP in 2004, traffic safety advocates from the federal, state, and local level came together to assess the current 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 specific to its emphasis area. These plans included background information, summaries of key safety issues, and a series of short-term and long-term strategies to improve safety within each emphasis area.

Collectively, the SHSP and its resultant emphasis area action plans provided guidance for state and local agencies for the implementation of policies and programs aimed at proactively improving traffic safety. Implementation of these plans contributed to maintaining under 1,000 traffic fatalities and an 8 percent reduction in serious injuries from 2013 to 2015.



# Plan Revisions

In early 2008, the GTSAC commissioned an update of Michigan's 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 regularly scheduled GTSAC meeting was expanded into a day-long SHSP workshop, which brought together the GTSAC commissioners, the chairs of the action teams, and other traffic safety experts, 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 2008 SHSP update, several changes to the plan were adopted by the GTSAC on June 26, 2008. This included the elimination of the Work Zone Safety Emphasis Area, which was already being addressed through the efforts of the MDOT. A new EMS Emphasis Area was created, aimed at incorporating this important element into the transportation safety planning process. In addition to these changes, new goals were proposed for the subsequent five-year period based upon crash data trends.

At the April 25, 2011, GTSAC meeting, the commissioners determined that another update was necessary. As a part of this update, the commission requested that each action team provide updates on the goals and strategies for their action plans. This process provided closure to the 2008 SHSP and served as a starting point for updating the plan.

At the onset of this process, progress toward the goals established during the 2008 update was evaluated, both overall and within each emphasis area. The 2008 SHSP included two specific data-driven safety goals: (1) to reduce traffic fatalities from 1,084 to 850 by 2012; and (2) to reduce serious traffic injuries from 7,485 to 5,900 by 2012. There has been significant progress toward each goal as evidenced by the 889 traffic fatalities and 5,706 serious injuries that occurred in 2011.

While some of these improvements are likely due to reductions in travel over this period, the reductions in crashes, injuries, serious injuries, and fatalities all outpaced the

decreases in vehicle miles traveled (VMT), indicating that sustained improvements may be possible even as travel rebounds to prior levels.

A more detailed analysis of crash data from 2011 to 2015 was also conducted as a part of the SHSP update. This data-driven approach allowed for an examination of recent trends and the identification of emerging safety issues. The results of this analysis were supplemented by a statewide survey of traffic safety stakeholders, which was 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 results of 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 allowed for the consideration of unique regional perspectives and illustrated differences in the degree to which various safety concerns affected these regions. Ultimately, consensus-building exercises conducted as a part of these meetings facilitated the development of revised goals and emphasis areas for the 2013-2016 SHSP.

## 2017-2018 SHSP GOALS

As substantial progress has been made toward the goals from the 2013 SHSP, revised goals were established for 2017-2018. These goals are as follows:

- Prevent traffic fatalities from reaching 967 in 2018.
- Prevent serious traffic injuries from reaching 4,600 in 2018.

## EMPHASIS AREAS

To facilitate improvements of this magnitude, a well-integrated, comprehensive safety program is required that focuses upon those areas where resources can be

Statewide Statistics	2011	2012	2013	2014	2015	% change 2011-2015
Crashes	284,049	273,891	289,061	298,699	297,023	4.57%
Injuries	71,795	70,518	71,031	71,378	74,157	3.29%
Incapacitating Injuries	5,706	5,676	5,283	4,909	4,865	-14.74%
Fatalities	889*	936*	951*	901*	963	8.32%
Registered Drivers (Millions)	7.03	7.06	7.09	7.13	7.15	1.71%
Population (Millions)	9.88	9.89	9.90	9.91	9.92	0.40%

\* Fatality Analysis Reporting System (FARS) data used

Action Team	2011-2015 Michigan Data	
	Fatalities	% of total
Impaired Driving	1,718	37.23%
Commercial Motor Vehicle Safety	437	9.47%
Distracted Driving	N/A	N/A
Drivers Age 24 and Younger**	1,439	31.18%
Traffic Incident Management	N/A	N/A
Traffic Safety Engineering—Intersection Safety	1,173	25.42%
Traffic Safety Engineering—Lane Departure	2,197	47.61%
Motorcycle Safety	621	13.46%
Occupant Protection	2,122	45.98%
Pedestrian and Bicycle Safety	880*	19.07%
Senior Mobility and Safety***	984	21.32%
Traffic Records and Information Systems	N/A	N/A
Total Fatalities 2011-2015	4,615	N/A

\* This count will not match the table because one person was killed in a pedestrian- and bicyclist-involved crash

\*\* This includes fatalities involving drivers age 15 to 24 years old

\*\*\* This includes fatalities involving drivers age 65 and above

most efficiently utilized in reducing the frequency of traffic crashes, injuries, and fatalities.

To this end, the 2017-2018 SHSP was focused on addressing traffic safety issues within four broad emphasis areas.

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

Within these emphasis areas, action teams were created to provide more targeted guidance on area-specific safety issues. Structuring these action teams under the broad umbrella of these four emphasis areas created efficiencies given the degree of overlap among these teams.

### HIGH-RISK BEHAVIORS

Despite continuous efforts that have improved the safety of roadways, that safety is ultimately reliant upon road-user behavior. Research has shown that the vast majority of 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, 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, injuries, and fatalities. 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 24 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, and targeted policies and programs allow for countermeasures aimed at encouraging or discouraging specific behaviors among 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. State-wide efforts in this emphasis area are tasked to two action teams:

- Traffic Incident Management
- Traffic Records and Information Systems

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# Distracted Driving

## BACKGROUND

According to a 2016 study by Michigan State University (MSU), the statewide cell phone use rate was 7.5 percent among drivers. Telephone-involved crashes in Michigan increased 13 percent, from 666 in 2014 to 753 in 2015. One of the greatest concerns about cell phone use is texting while driving. The NHTSA estimates that more than 660,000 drivers are texting or manipulating an electronic device at any given daylight moment across the nation. A 2015 Erie Insurance distracted driving survey reported one-third of all drivers admitted to texting while driving, and three-quarters said they have observed others do it. Five seconds is the average time your eyes are off the road while texting. At 55 mph, that's enough time to travel the length of a football field. In response to this issue, Michigan adopted a legal ban in 2010 on texting while driving a motor vehicle.

Such concerns have become particularly timely considering nationwide monthly text messages were up to 169.3 billion in December 2015, according to the Cellular Telephone Industry Association. In addition to prohibitive legislation, addressing this issue requires a multi-faceted approach including enforcement, engineering, and education.

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

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 potentially distracted drivers.

## STRATEGIES

- Conduct effective communication and outreach activities.
- Implement effective low-cost roadway countermeasures.
- Explore improvements in data collection on driver distractions involved in crashes.
- Encourage enforcement of the state's texting law.
- Monitor development of new countermeasures and identify those that could be implemented in Michigan.
- Monitor national pilot projects related to distracted driving.
- Provide recommendations related to distracted driving legislation.

*For a complete summary of accomplishments, see the GTSAC website at: [www.michigan.gov/GTSAC](http://www.michigan.gov/GTSAC)*



# Impaired Driving

## BACKGROUND

Alcohol-involved fatalities increased 28 percent, from 236 in 2014 to 303 in 2015. Drug-involved fatal crashes spiked up 19 percent, from 150 in 2014 to 179 in 2015. Impaired driving crashes were most prevalent among young male drivers, including underage males as well as in crashes occurring during the weekend.

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 have delivered numerous training sessions to law enforcement, prosecutors, judges, probation officers, and court staff on emerging issues in drunk driving, as well as changes in the state's impaired driving laws. This is complemented by 73 specialty courts established to deal with repeat drunk driving offenders.

Supporting initiatives for reducing underage drinking and driving have furthered efforts for improved coordination at the state and local levels. The MDHHS continues to complement the Impaired Driving Action Team's mission by focusing on preventing underage drinking and prescription drug misuse and abuse.

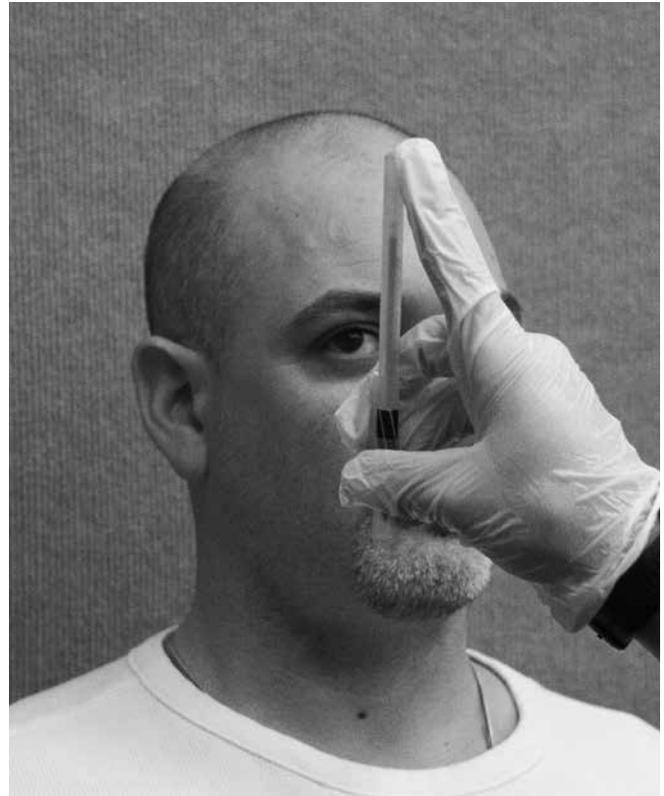
Funding to support high-visibility enforcement continues to be provided by the OHSP.

## STRATEGIES

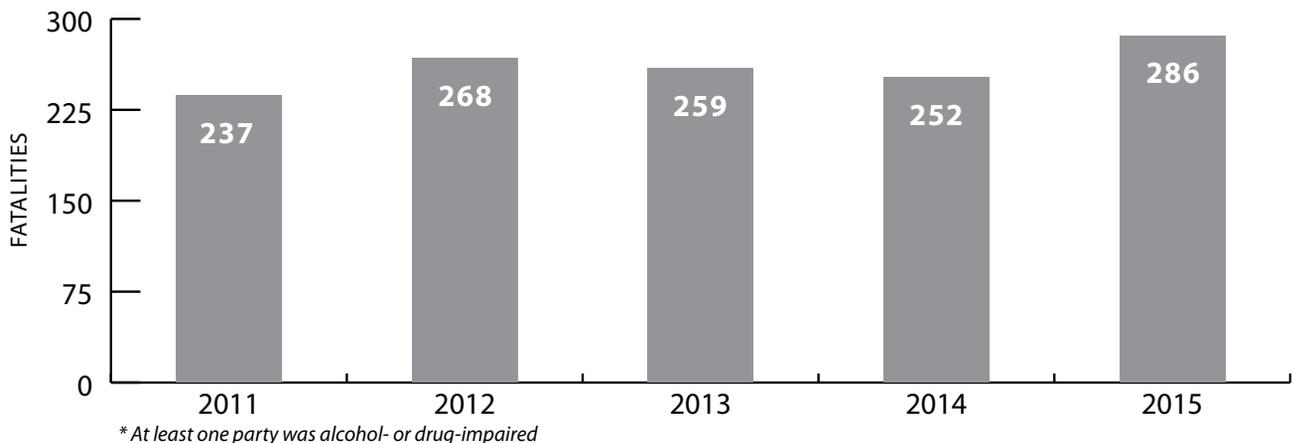
- Continue high-visibility enforcement.
- Promote efforts to increase sobriety courts and the use of ignition interlocks.
- Support public information and education campaigns.
- Explore innovative countermeasures for impaired driving.

- Provide enhanced training for all sectors of the criminal justice community.
- Provide recommendations related to impaired driving legislation.

For a complete summary of accomplishments, see the GTSAC website at: [www.michigan.gov/GTSAC](http://www.michigan.gov/GTSAC)



## Alcohol- or Drug-Impaired Fatalities



# 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. A 2016 observation survey conducted by Wayne State University showed a 94.5 percent statewide seat belt use rate for front seat occupants of passenger vehicles. The observation study indicated females were more likely to use their seat belts than males by 2.4 percent. The seat belt usage rate was lowest for occupants between the ages of 16-29 at 93.8 percent. Even at these higher percentages, there is room for improvement. Studies show that occupants increase their survival rate by 45 percent if a seat belt is used.

In 2008, Michigan strengthened its child restraint program by introducing a booster seat law covering children up to age 8 or 4 feet 9 inches in height. The OHSP also funds Child Passenger Safety (CPS) technicians to educate caregivers on restraint use and has worked with WSU to conduct child restraint use surveys. The most recent survey from 2015 reported use rates of 95 percent among children under 3 and 49.7 percent among children 4-7 years old.

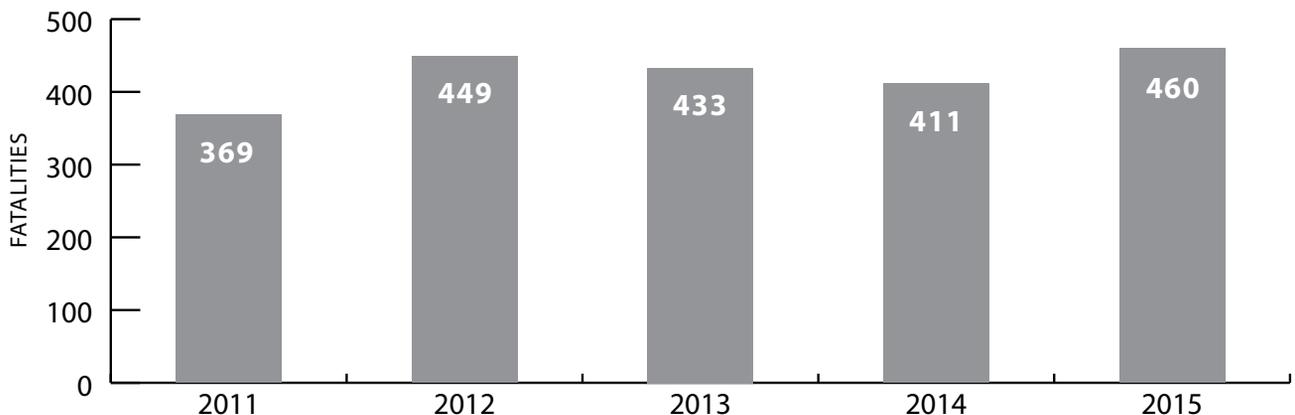
## STRATEGIES

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

*For a complete summary of accomplishments, see the GTSAC website at: [www.michigan.gov/GTSAC](http://www.michigan.gov/GTSAC)*



## Unrestrained Occupant Fatalities



# Commercial Motor Vehicle (CMV) Safety

## BACKGROUND

In 2015, under the leadership of the Michigan Truck Safety Commission, CMV-involved fatalities dropped 19 percent, from 105 in 2014 to 85 in 2015. Crashes involving big trucks often are more devastating due to the sheer size and weight of the vehicles. CMVs weigh 10,001 pounds or more 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 driver cannot see around the vehicle.

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

The MSP Commercial Vehicle Enforcement Division conducts road patrol activities focused on commercial vehicle enforcement utilizing Special Transportation Enforcement Teams.

There was also a legislative change that raised the free-way speed limit for CMVs from 55 mph to 60 mph on free-ways posted at 70 mph. This contributed to a reduction in speed variance/conflicts from motor vehicles traveling at or above the 70 mph speed limit.

## STRATEGIES

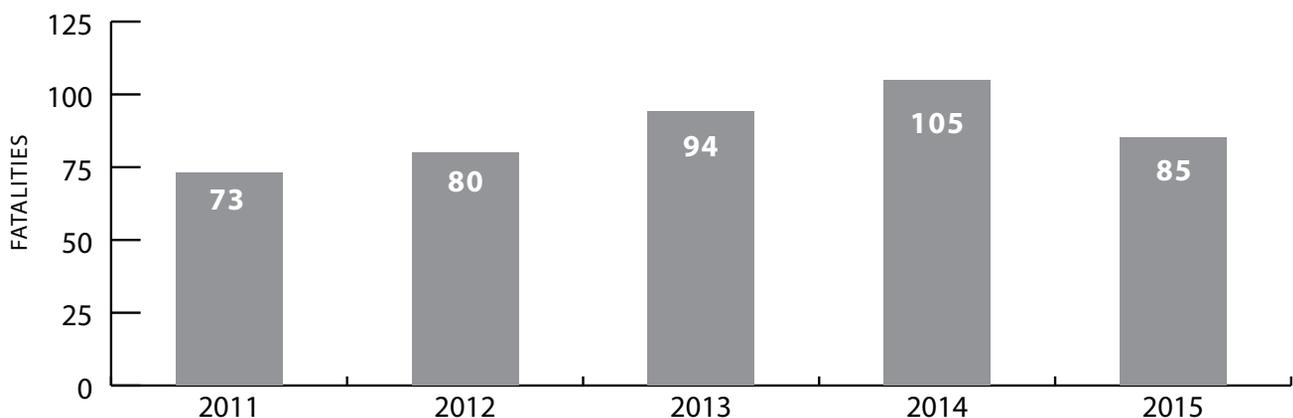
- Improve CMV driver performance through education and enforcement.
- Educate and inform about the dangers of fatigue-related and distracted driving crashes.

- 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 a complete summary of accomplishments, see the GTSAC website at: [www.michigan.gov/GTSAC](http://www.michigan.gov/GTSAC)



## Truck- or Bus-Involved Fatalities



# Motorcycle Safety

## BACKGROUND

Motorcycle involvement in traffic crashes has been variable since 2011 but it has increased by 5.5 percent in 2015 compared to 2014. In 2015, motorcycle-involved fatalities accounted for 14.5 percent of all traffic fatalities per MTCF. The number of motorcyclists not wearing a helmet that were killed in crashes increased from five in 2011 to 56 in 2015.

Since the last SHSP update, several programs have been implemented to improve motorcycle safety. The OHSP has continued the Shadow Rider program where annual mailings are sent to motorcycle owners without a motorcycle endorsement on their driver's licenses. The mailings were to inform the owners about the availability of the Returning Rider Training and Basic Rider Training classes in hopes they will obtain their motorcycle endorsements.

The MDOS continues to partner to maintain and expand training efforts, including the Motorcycle Safety Foundation Advanced Rider Course. The MDOT continues to include motorcycle safety messages on their dynamic message boards during May (motorcycle safety awareness month). The OHSP continues the Ride Safe to Ride Again project. The project educates riders about key skill deficiencies that result in motorcycle crashes.

Another aspect of motorcycle safety that has been addressed since the last update is rider visibility, which was

highlighted by several motorcycle safety organizations at recent events and at the Returning Rider Training and Basic Rider Training classes.

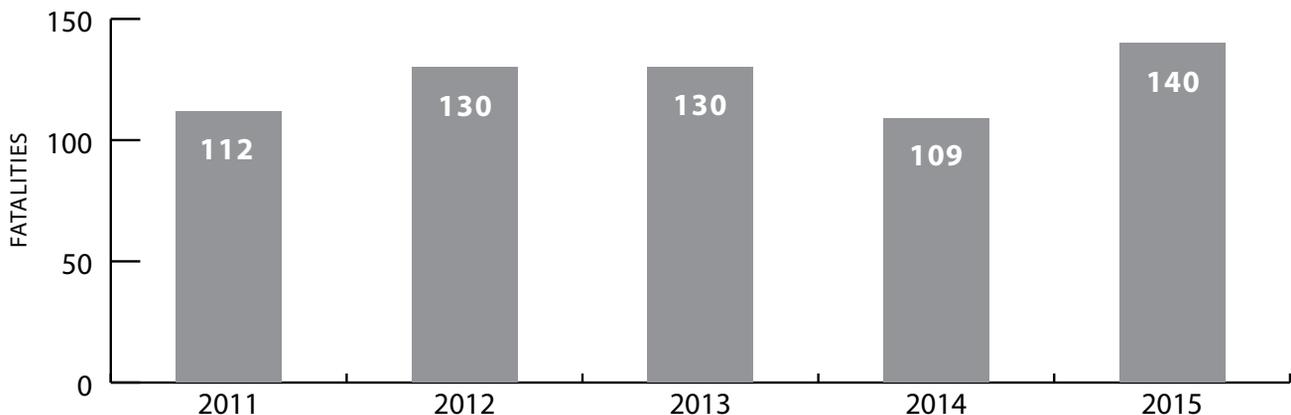
## STRATEGIES

- Provide recommendations related to motorcycle safety legislation.
- Encourage motorcyclist safety through training, protective gear, and high-visibility apparel.
- Investigate training opportunities for EMS personnel that specifically address the types of crash trauma caused by motorcycle crashes and how to provide optimal on-scene care.
- Support public information and education campaigns.
- Evaluate the safety impact of engineering countermeasures and maintenance of Michigan roadways to better accommodate motorcyclists.

*For a complete summary of accomplishments, see the GTSAC website at: [www.michigan.gov/GTSAC](http://www.michigan.gov/GTSAC)*



## Motorcycle-Involved Fatalities



# Pedestrian and Bicycle Safety

## BACKGROUND

In 2015, 170 pedestrians and 34 bicyclists were killed in traffic crashes. Of those fatalities, 75 of the 203 (37 percent) involved drugs or alcohol. The highest number of bicycle and pedestrian fatalities in 2015 (about 20 percent), occurred on a Friday. Fifty-one percent of bicycle fatalities occurred from June to August and 25 percent of pedestrian fatalities occurred in November and December.

Risk behaviors were identified for pedestrians and bicyclists. For pedestrian crashes, failing to yield and disregarding traffic control (for both motorists and pedestrians) accounted for over half of all crashes. This was followed by the risk behaviors of pedestrians being in the roadway and then pedestrians being near a vehicle.

For bicyclists, the risk behaviors included: the same 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.

In addition, the MDOT has promoted innovation in pedestrian and bicycle safety design by their research efforts and including proven safety features in both state and local projects. Examples include the research into pedestrian hybrid signals and in street signing.

A pedestrian and bicycle safety conference was hosted by the OHSP in 2016 where partners met and shared ideas and research.

## STRATEGIES

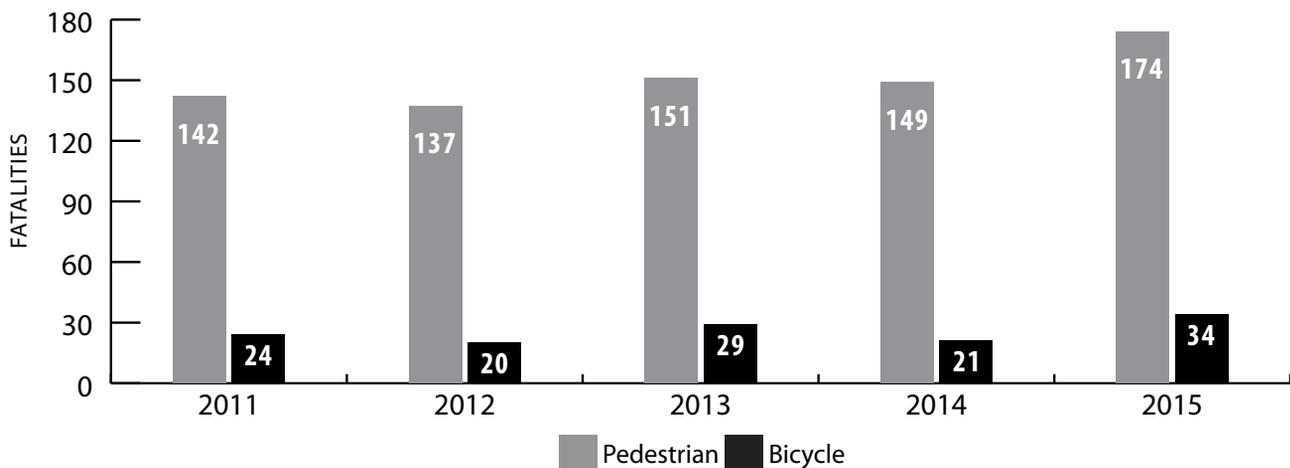
- Identify and promote the use of best practices when designing and operating facilities.
- Raise awareness of pedestrian and bicycle safety.
- Provide recommendations related to pedestrian and bicyclist safety legislation.

- Recognize successful pedestrian and bicycle safety initiatives.
- Determine focus communities, cities, and agencies for priority assistance.

For a complete summary of accomplishments, see the GTSAC website at: [www.michigan.gov/GTSAC](http://www.michigan.gov/GTSAC)



## Nonmotorized User Fatalities



# Senior Mobility and Safety

## BACKGROUND

In 2015, there were 1,390,210 licensed drivers age 65 and older in Michigan, representing 19.4 percent of all licensed drivers. Crash data from 2015 show that older drivers are involved in only 15.4 percent of all reported crashes, yet they account for 19 percent of fatalities.

While data show that older drivers have higher seat belt-use rates and lower alcohol-related crash rates, national fatality rates for older drivers mirror those of teen drivers. Furthermore, physiological differences reduce their chances of surviving a crash.

To combat this critical safety issue, the MDOT has funded a series of senior mobility research projects. The University of Michigan Transportation Research Institute 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 strategy, which identifies resources related to senior mobility for the target audiences of aging drivers, family and caregivers, and the professionals working with them. 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. Additional work in this area includes: participation in an interstate collaboration group, presenting senior mobility and safety information at conferences and traffic safety network meetings, planning older driver

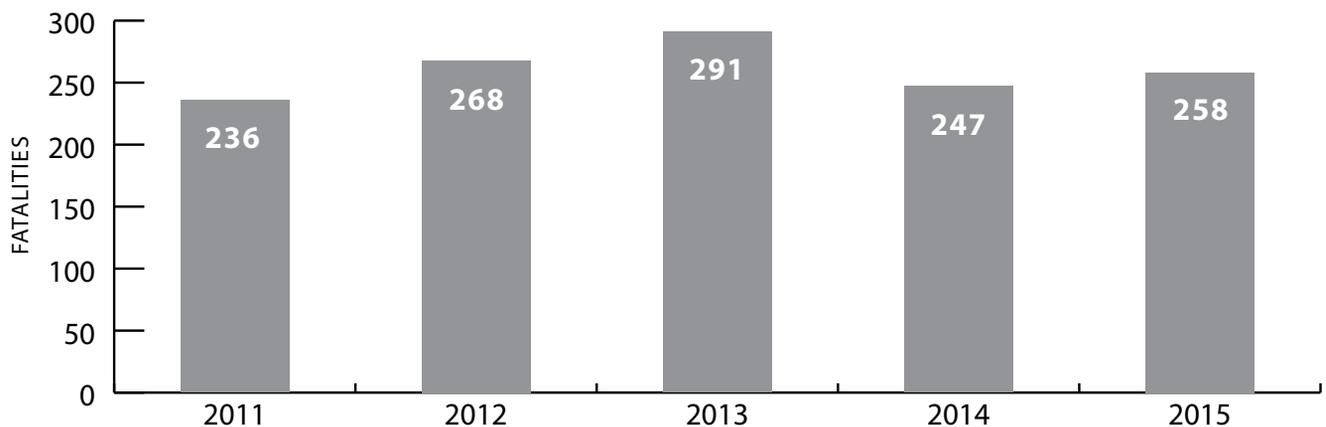
workshops for the Michigan Traffic Safety Summit, holding a national conference on elderly mobility, development and distribution of the Michigan's Guide for Aging Drivers and Their Families, participation in senior fairs and community events, involvement in regional transportation partnerships working to provide transit to seniors in Michigan's most populated area, revitalization of the CarFit program, and coordination and facilitation of senior driver safety programs.

## 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.

*For a complete summary of accomplishments, see the GTSAC website at: [www.michigan.gov/GTSAC](http://www.michigan.gov/GTSAC)*

## Elderly Driver (Age 65+)-Involved Fatalities



# Drivers Age 24 and Younger

## BACKGROUND

In 2015, drivers ages 16-24 constituted 13.3 percent of licensed drivers. However, young drivers were involved in 32.8 percent of all crashes and 32.7 percent of fatal crashes.

Winter weather crashes constituted 25 percent of 16- to 24-year-old driver-involved crashes. Over 10 percent of crashes with a 16- to 24-year-old driver occurred in January. Among the most prevalent hazardous actions attributed to young drivers are speeding, unable to stop in assured clear distance, and failure to yield, which also can be attributed to inexperience or poor risk assessment.

The Michigan Legislature has changed the state's graduated driver licensing law, enacting passenger restrictions and strengthening the nighttime driving restrictions.

Michigan also 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 now required to complete three hours of approved professional development activities every two years.

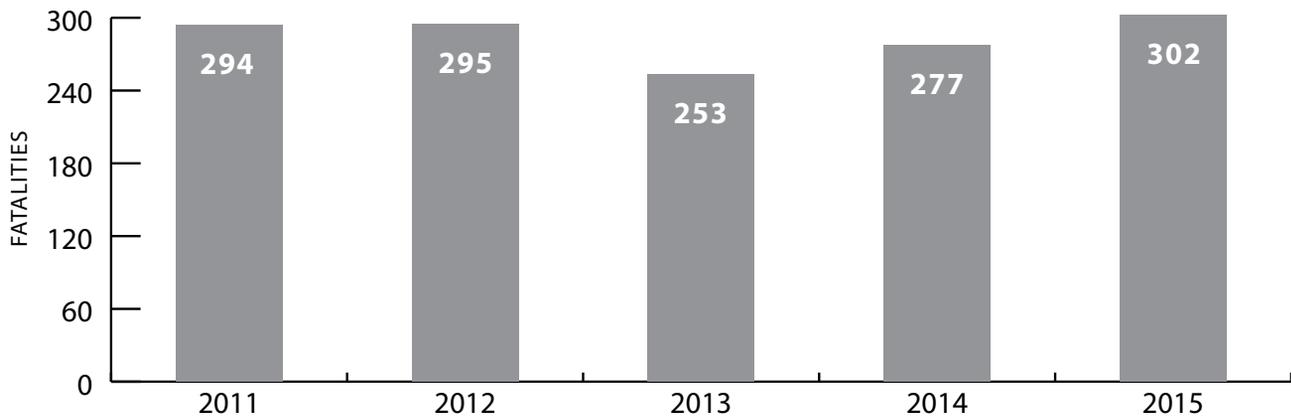
## STRATEGIES

- Implement or improve graduated driver licensing systems.
- Publicize, enforce, and adjudicate laws pertaining to young drivers.
- Assist parents in managing their teens' driving.
- Improve young driver training.
- Employ school-based strategies.
- Provide recommendations related to young driver safety legislation.
- Employ activities focused on drivers ages 24 and younger.

For a complete summary of accomplishments, see the GTSAC website at: [www.michigan.gov/GTSAC](http://www.michigan.gov/GTSAC)



## Age 16-24 Driver-Involved Fatalities



# Traffic Safety Engineering

## BACKGROUND

The Traffic Safety Engineering Action Team (TSEAT) broadly addresses engineering-related aspects of traffic safety. The activities involved include: the identification of potentially hazardous locations; efforts to facilitate and disseminate research into the causal and contributory effects of roadway infrastructure on traffic crashes; and the development and implementation of low-cost countermeasures.

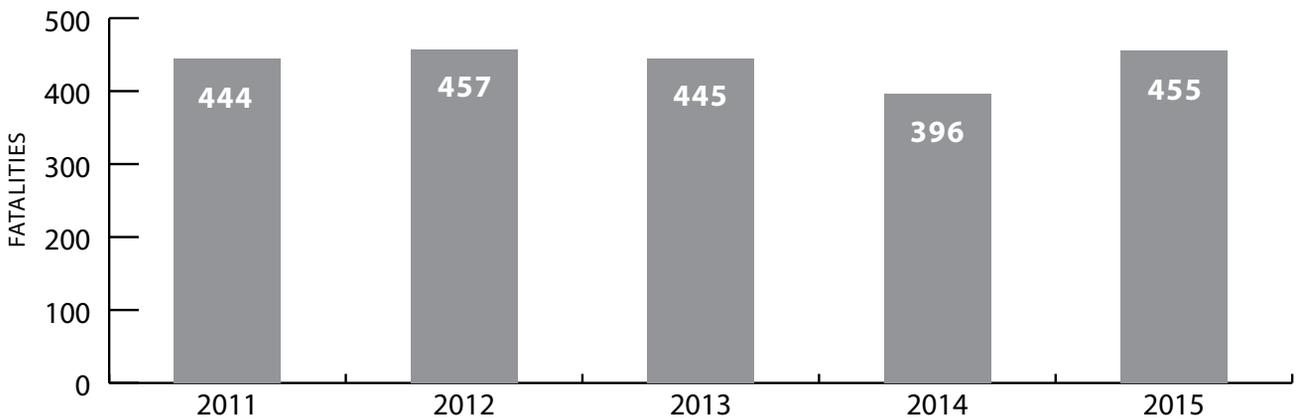
As a variety of unique issues are involved in both intersection-related and lane departure crashes, separate assessments were conducted of recent safety trends and countermeasure programs within each sub area. However, given the integrated nature of the TSEAT, a single set of broad strategies has been identified for implementation as a part of the SHSP.

## LANE DEPARTURE CRASHES

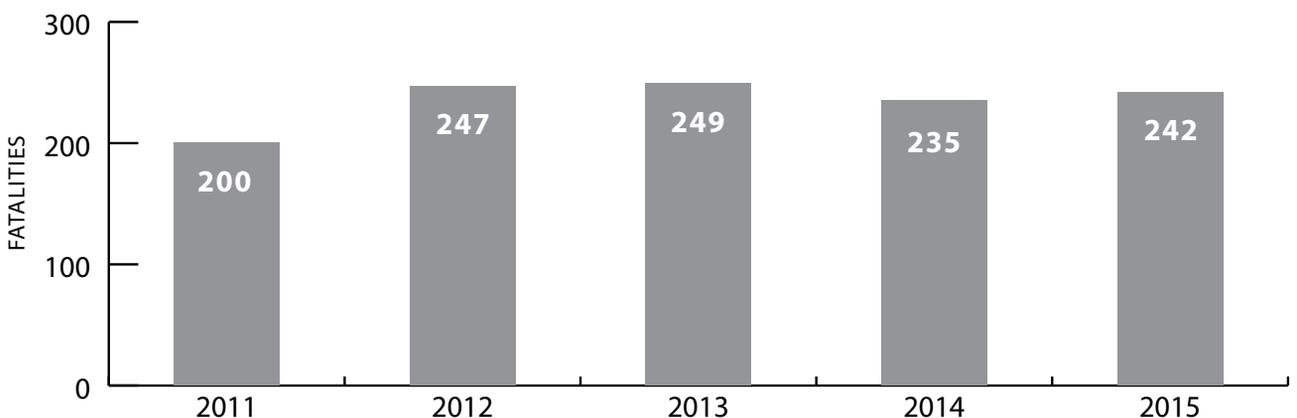
In Michigan during 2015, lane departure crashes accounted for 17.1 percent of all crashes and 46.2 percent of fatal crashes. While lane departure crashes comprise nearly half of fatal crashes, this percentage has increased more than 2 percent in 2011, as lane departure fatalities increased from 444 to 455.

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.

## Lane Departure-Related Fatalities



## Intersection-Related Fatalities



A lane departure crash definition has been created, which added a flag to each crash record in order to simplify lane departure analysis.

### INTERSECTION CRASHES

There were 90,752 intersection crashes during 2015, representing 30.1 percent of all crashes. Such crashes resulted in 242 fatalities (25.1 percent of the total) and 1,639 incapacitating injuries (33.7 percent of the total).

The identification and analysis of high-risk intersections statewide has remained a safety priority. The MDOT continues to use various software tools, including SafetyAnalyst and Roadsoft, which have helped to identify the most problematic intersections. The MDOT also must include a federal transparency report that requires the MDOT to describe at least 5 percent of its locations exhibiting the most severe highway safety needs. In addition to listing the locations, the state's reports must include potential remedies to the hazardous locations identified; estimated costs of the remedies, and impediments to the implementation of the remedies other than the costs.

The MDOT continues promoting routine signal retiming to further enhance intersection safety. Currently, more than 75 percent of trunk line corridors have been retimed, with more scheduled for the immediate future.

The MDOT has sponsored research to investigate roundabouts and road diets (converting four lane roadways to three lanes). Other research has examined dynamic inter-

section warning devices, ground mounted flashing beacons, and low-cost safety improvements.

Additionally, the MDOT has set aside categorical safety funding for local agencies for road safety audits, the installation of centerline and shoulder rumble strips, guardrail upgrades, clear zone improvements, and other projects that target locations that have experienced fatal and incapacitating injury crashes. These projects, along with other research and systemic and systematic safety improvements, have provided the foundation for deeper understanding of crash characteristics and prospective countermeasures.

### STRATEGIES

- Promote infrastructure safety through outreach and communication.
- Promote and sponsor research on infrastructure safety.
- Identify and resolve safety data issues.
- Broaden the use of currently accepted and proven countermeasures.
- Develop, research, and pilot test new countermeasures.
- Collaborate with partners to identify and promote opportunities for funding.

*For a complete summary of accomplishments, see the GTSAC website at: [www.michigan.gov/GTSAC](http://www.michigan.gov/GTSAC)*



# Traffic Incident Management

## BACKGROUND

The traffic incident management (TIM) team was created as a part of the 2013-2016 SHSP and continues to promote safety through incident management and quick clearance. TIM broadly refers to the planned and coordinated multi-disciplinary processes used to detect, respond to, and clear traffic incidents. Safe, quick clearance is necessary so that traffic flow may be restored to pre-incident levels as safely and quickly as possible.

Given the wide range of issues involved with incidents, such as traffic crashes, vehicle breakdowns, and other unplanned events, close coordination is required among a diverse range of traffic safety stakeholders. These stakeholders include professionals from fields that include law enforcement, fire, emergency medical services, towing and recovery, transportation, dispatch and hazardous materials, as well as the media.

One of the principal concerns related to incident management is secondary crashes, which occur after an incident due to such issues as unexpected stopped traffic. While the previous UD-10 crash report forms did not include a specific field to identify such secondary crashes, national figures estimate that they comprise 16-20 percent of all freeway crashes. The 2016 revised UD-10 crash report form will measure secondary crashes.

In support of incident management activities, the 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, as well as support activities like freeway courtesy patrol that assists stranded motorists.

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. There is another safe, quick clearance law known as Steer It, Clear It. This law requires the operator of a crash-involved vehicle to remove the drivable vehicle from the roadway unless a serious impairment of bodily function or death has occurred.

The National Traffic Incident Management Responder Training Program named Mi-TIME or Michigan Traffic Incident Management Effort in Michigan has also been adopted to build stronger coordinated responses to safer, faster and integrated teams. Michigan has more than 150 instructors in the program and has taught more than 4,100 Michigan first responders.

## STRATEGIES

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

*For a complete summary of accomplishments, see the GTSAC website at: [www.michigan.gov/GTSAC](http://www.michigan.gov/GTSAC)*



# Traffic Records and Information Systems

## BACKGROUND

Michigan's traffic records and information systems are of paramount importance to safety-conscious planning efforts. Michigan has been recognized for being among the national leaders in this area as evidenced by several Best Traffic Records Webpage awards from the Association of Transportation Safety Information Professionals. Michigan has achieved 97 percent electronic crash reporting as of 2016.

Further efforts to improve the traffic record system included the modernization of the Traffic Crash Reporting System and the revision of the UD-10 crash report form by a multi-disciplinary team. We are in the planning stages of a broad data integration project to link traffic records data related to crashes, roadway, driver, vehicle, injury surveillance information, and citation information. This is a crucial step to explore current data collection efforts and further research opportunities.

## STRATEGIES

- Improve timeliness and accuracy of traffic records data collection, analysis processes, accessibility, distribution and systems.
- Facilitate a multidisciplinary 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 a complete summary of accomplishments, see the GTSAC website at: [www.michigan.gov/GTSAC](http://www.michigan.gov/GTSAC)*



# 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.

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## Plan Implementation

Despite the successes since the 2013 SHSP update, traffic crashes and the resulting injuries and fatalities continue to be a critical public health concern. A 2011 study estimated that traffic crashes cost Michigan more than \$9 billion annually, highlighting the importance of a systemic approach to improving highway safety. The previous SHSP update provided the framework for such an approach to proactively assess traffic safety throughout Michigan. This framework has an organizational structure and a formal management process.

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 strategies 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.

The GTSAC structure is comprised of a vast 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:

- Preparing a Transparency Report, which describes at least 5 percent of those highway locations exhibiting the most severe safety needs.
- 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 severe injuries as a result 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. A recent example includes the widespread increase in the use of cell phones, which has compounded concerns related to driver distraction, particularly due to texting. In response to this issue, legislation was passed in 2010 to ban texting while driving, providing just one example of how the planning process must adapt to changing conditions.

In light of such changes, it is imperative that the SHSP is evaluated and revised on a regular basis in accordance with the new 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 continually 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, injuries, and fatalities. This is done through annual updates to the action plans, which capture changes in key performance 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.

With respect to the current emphasis areas and action teams, several gaps exist with respect to evaluating system performance. Specifically, there is no reliable means for evaluating performance within the areas of distracted driving and traffic incident management. The current UD-10 crash report collects information on driver distraction and cell phone use within the driver condition category. However, as these behaviors are difficult to identify by in-

vestigating officers, it is likely that the prevalence of these behaviors are significantly underreported. Similarly, there is no well-defined logic to identify secondary crashes that may be due to traffic incidents. Given these limitations, further research into the prevalence of these behaviors among crash-involved road users, as well as the broader traveling public, is warranted.

In addition to monitoring performance at the statewide level and within each of the emphasis areas and action teams, recent efforts have been initiated to facilitate greater involvement among stakeholders at the local level. The MDOT is developing a series of regional safety plans to optimize local efforts.

Local involvement was a particular emphasis of the 2013-2016 SHSP update as specific regions of the state were found to experience issues and concerns that were distinct to their geographic locations (e.g., winter driving conditions in the Upper Peninsula and northern Lower Peninsula, and incident management in the more urbanized southeastern and southwestern areas of the state). In some of these areas, traffic safety working groups have been created to address specific issues of concern to local agencies. Some groups are developing their own action plans to prioritize short-term strategies at the local level.

As part of this continuing transportation safety planning process, technical assistance will be provided to the action teams and regional working groups in the form of periodic data analysis.

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 2017-2018 SHSP coincides with the current Governor's term in office through 2018. The next SHSP will be a four-year plan (2019-2022) to stay in line with future gubernatorial terms. 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.







Governor's Traffic Safety Advisory Commission

c/o Office of Highway Safety Planning

P.O. Box 30634 • Lansing, MI 48909

[www.michigan.gov/gtsac](http://www.michigan.gov/gtsac)

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