

MOTORCYCLE SAFETY PROGRAM

TECHNICAL ASSESSMENT

for the

STATE OF MICHIGAN

March 14-18, 2016

National Highway Traffic
Safety Administration
Technical Assessment Team

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Acknowledgments

The Technical Assessment Team acknowledges and thanks Mr. Michael Prince, Director, Office of Highway Safety Planning, Michigan State Police and Mr. Kirk Ferris, Director, Driver Programs Division, Michigan Department of State and their respective staffs for their guidance, planning, and support in making this assessment possible. Thanks also go to Chad Teachout and Emily Shinevar for their hard work and service before and during the Assessment.

The Assessment Team also acknowledges the National Highway Traffic Safety Administration (NHTSA) staff for their assistance in making the assessment possible. The Assessment Team believes that this report will contribute to the State's efforts to enhance the effectiveness of its motorcycle safety efforts in preventing injuries, saving lives and reducing the economic costs of motor vehicle crashes on Michigan's roadways.

Special thanks to all the persons who appeared before this assessment team to provide the information, data, and documents necessary for the team to conduct an effective assessment. Their candor and thoroughness in discussing their activities addressing motorcycle safety in Michigan greatly assisted the Assessment Team in conducting a complete review. The Assessment Team also recognizes the dedication of all those involved in making motorcycling safe in Michigan, and hopes that this report will further those efforts.

NOTE: The information included in this document has been collected from a variety of sources, such as interviews, official documents, websites, and other materials. Sources may not be consistent. Some copyrighted information has been used under the "fair use" doctrine of the U.S. copyright statute.

Introduction

In the United States, motor vehicle injuries are the leading cause of death for individuals from age 4 to 33 years. In 2014, 32,685 persons were killed and 2.3 million were injured nationwide in motor vehicle crashes. Overall traffic fatalities are at historic lows, yet motorcyclist fatalities continue to increase, and are at their highest level in over 35 years. In 2014, there were 4,586 motorcyclists killed in motor vehicle traffic crashes, and an estimated 92,000 motorcyclists injured. Compared to the 2,320 killed in 1994, the past 20 years have seen a 101% increase in motorcyclist fatalities. While 20 percent of passenger vehicle crashes result in injury or death, 80 percent of motorcycle crashes result in injury or death.

Each state should have a comprehensive program to promote motorcycle safety and prevent motorcycle crashes and related injuries. To assist states in determining whether their programs are truly comprehensive, the National Highway Traffic Safety Administration (NHTSA) developed a motorcycle safety program assessment process and instrument. At a state's request, a multi-disciplinary technical assessment team of national experts conducts a thorough review of the state's motorcycle safety efforts, identifies strengths and provides recommendations to enhance the program. This approach allows states to use highway safety funds to support the Assessment Team's evaluation of existing and proposed motorcycle safety efforts.

NHTSA acts as a facilitator by assembling a team composed of individuals with demonstrated competence in motorcycle safety program development and evaluation. Examples of program expertise among team members include traffic safety program management, rider education and training, motorcycle operator licensing, research and evaluation and communications.

NHTSA's assistance in assessing Michigan's motorcycle safety efforts was requested by the Michigan Office of Highway Safety Planning (OHSP) in conjunction with the Michigan Department of State (MSDOS). NHTSA agreed to facilitate this assessment and met with representatives from both organizations to define key issues of concern to the State.

The Michigan Motorcycle Safety Program Assessment was conducted March 14-18, 2016, in East Lansing, Michigan. Arrangements were made for program experts and key individuals to deliver briefings and provide support materials to the Assessment Team on a wide range of topics over a three-day period. The Assessment Team interviewed 49 presenters, with several being contacted following their presentations to provide additional information and clarification.

Analysis of Michigan's motorcycle safety effort is based solely upon the oral and written information provided to the team members during the assessment process. The Assessment Team reiterates that this report is only as accurate as the information received. Every effort was made to develop recommendations after considering what could and should reasonably be accomplished within the state of Michigan.

Michigan Demographics

According to the 2003 Census estimates, Michigan ranks 8th in the nation with a centralized population of 9,883,640 persons. Michigan has 83 counties, however, 40 percent of the total population resides in the southern half of the Lower Peninsula (Wayne, Oakland and Macomb counties). Twenty counties have populations of approximately 100,000 and 35 counties have about 50,000 people.

The most populated cities are Detroit - 713,777; Grand Rapids - 188,040; Warren - 134,056; Sterling Heights - 129,699; Lansing (Capitol City) - 114,297; Ann Arbor - 113,934; Flint - 102,434; and Dearborn - 98,153. Statewide, Caucasians make up 78 percent of the population, Blacks or African Americans make up 14 percent, American Indian and Alaska Natives make up 0.6 percent, Asians make up 2 percent and 2 percent claimed some other ethnicity. Hispanics or Latinos of any race make up about 4 percent. In more recent migrations many African Americans, Asians, Near Eastern and people of Spanish origin have made Michigan their home.

Highway Safety

Michigan's 119,354 miles of state highways, county roads and city streets span a state that is 456 miles long and 386 miles wide. Interstate highway 75 runs north/south and Interstate highways 94 and 96 run east/west.

Michigan has a safety belt use rate of 93 percent, one of the nation's highest. However, each year more than 800 people lose their lives in traffic crashes on Michigan roadways. Although the State's fatality rate has remained below the national average since 1998, fatal crashes have remained relatively stable. Of the 876 lives lost in 2014, 107 were motorcycle-related.

An examination of NHTSA's final Fatality Analysis Reporting System (FARS) file, 2003 FARS annual report and data from the Michigan State Police reveals the following:

Table 1. Michigan Motorcyclist Involved in Crashes and Total Fatalities 2010-2014

Riders	Year				
	2010	2011	2012 (before/after)	2013	2014
All Involved	3,741	3,509	3,948 (368/3,580)	3,504	3,258
Fatalities	125	109	129 (12/117)	128	107
Percent Fatal	3.3%	3.1%	3.3%	3.6%	3.3%

*Note: Before and after refers to the helmet law change in April of 2012.

Summary of Major Recommendations

Program Management

- Designate a lead agency to coordinate Michigan's comprehensive motorcycle safety program.
- Create a five year, data-driven strategic plan, supported by one-year action plans, to guide the development of a comprehensive motorcycle safety program. Plans should include input from stakeholders in all program areas identified in NHTSA Program Guideline #3, Motorcycle Safety.

Motorcycle Personal Protective Equipment

- Enact a universal helmet law that requires all riders and passengers on motorcycles and mopeds to wear a motorcycle helmet that is compliant with Federal Motor Vehicle Safety Standard No. 218.
- Develop, implement, and evaluate communications strategies to promote the benefits, and encourage the use, of all protective gear including helmets. Engage new partners and stakeholders (e.g., rider groups, dealers, emergency medical services, fire department, hospitals, public health, etc.) to implement these strategies.

Motorcycle Operator Licensing

- Increase penalties for unendorsed motorcycle operators.
- Conduct regular audits of all third-party examiners and testers.
- On a regular basis, evaluate license skills and knowledge test validity and reliability, including pass/fail rate and item analyses.
- Conduct regular refresher training for third-party examiners who administer the motorcycle skills test.

Motorcycle Rider Education and Training

- Create a five-year strategic plan for the rider training program, supported by annual plans, to enhance program capacity. Plans should include program goals, objectives, and performance measures.
- Evaluate program performance using metrics such as the number of sponsors, sites, ranges, courses offered, wait times, students trained, instructors trained, training bikes, instructor retention, motorcycle condition and age, and quality assurance visits.

- Increase funding for the motorcycle training program to a level that will allow it to meet current demand, reduce the age of the motorcycle fleet, and train new instructors to balance attrition and allow for growth.
- Use grant funds to address the rider training program's areas of greatest need.
- Ensure that every instructor receives at least one quality assurance visit every three years.
- Establish an online reporting system that integrates motorcycle training course student completion data with the Michigan Department of State licensing system.

Motorcycle Operation Under the Influence of Alcohol or Other Drugs

- Conduct a crash-data analysis to identify priority target populations and geographic areas which are overrepresented in impaired motorcyclist crashes.
- Conduct outreach to motorcycle rider groups to promote a safety culture specifically with zero-tolerance policies for impaired riding.
- Create a high-visibility motorcycle OWI enforcement campaign conducted by motor officers. Promote this effort to the news media and include impaired-riding training during police motor officer recertification.

Legislation and Regulations

- Enact a law that requires motorcycle operators and passengers to wear eye protection compliant with standards and specifications established by ANSI (ANSI – Z87.1), and eliminate windshields as an acceptable form of eye protection.

Law Enforcement

- Encourage all law enforcement agencies with motorcycle units to combine outreach and enforcement strategies to promote motorcycle safety.
- Continue to support law enforcement agencies with data to target outreach, education, and high-visibility enforcement strategies.

Highway Engineering

- Analyze crash location data to determine motorcycle crash “hot spots” related to problem intersections, curves, wildlife, etc., or design characteristics or pavements conditions that impact motorcycle safety, and investigate for potential solutions.

- Monitor and enforce the application of seam seals by contractors to prevent seams that exceed the standard width and height standards and ensure that surface treatments to control traction are applied immediately if needed, with particular attention to ramps and curves.

Motorcycle Rider Conspicuity and Motorist Awareness Programs

- Promote increased use of high-visibility gear among instructors, especially when conducting training and representing their training program.
- Analyze crash data to determine the location, type, and severity of multiple-vehicle motorcycle crashes in which the other driver was found to be at fault. Use the data from this analysis to develop targeted motorist awareness campaigns.
- Engage motorcycle clubs and organizations in the planning and implementation of protective gear campaigns.

Communications Program

- In advance of the riding season, the Michigan Motorcycle Action Team (MMAT) should coordinate and develop an explicit, annual strategic communication plan. The plan should identify priority problem areas and messaging supported by available data. The plan should articulate measurable communication objectives, and assign responsibility for specific actions for critical stakeholders.
- Following the riding season, convene a meeting of the MMAT to review communication campaign outcomes, evaluate new data on each problem area, and propose improvements for the following riding season.
- Include motorcycle training center operators and instructors as key participants in the communications plan.

Program Evaluation and Data

- Conduct a follow-up analysis to previous crash-causation studies to identify the most prevalent causal and correlated factors in serious single-vehicle and multiple-vehicle motorcycle crashes.
- Convene a multidisciplinary team to review the causation study and develop specific recommendations for countermeasures to address the most frequent causal factors. Team members should include the disciplines of crash reconstruction, highway safety programs, motorcyclist training, highway design, operations and maintenance, injury prevention/epidemiology, and experienced motorcycle riders.

- Develop specific statewide goals for motorcycle safety that are consistent across all related safety plans, including the Strategic Highway Safety Plan, Highway Safety Plan, and Michigan Motorcycle Action Plan.

I. Program Management

Each State, in cooperation with its political subdivisions and stakeholder community, should have a comprehensive program to promote motorcycle safety and prevent motorcycle crashes and related injuries. To be effective in reducing the number of motorcycle crashes, injuries, and fatalities, state programs should support centralized program planning, implementation, and coordination to identify the nature and extent of its motorcycle safety problems, to establish goals and objectives for the State's motorcycle safety program, and to implement projects to reach the goals and objectives. State motorcycle safety plans should:

- Designate a lead agency for motorcycle safety;
- Develop funding sources;
- Collect and analyze data on motorcycle crashes, injuries, and fatalities;
- Identify and prioritize the State's motorcycle safety problem areas;
- Encourage collaboration among agencies and organizations responsible for, or impacted by, motorcycle safety issues;
- Develop programs (with specific projects) to address problems;
- Coordinate motorcycle safety projects with those for the general motoring public;
- Integrate motorcycle safety into State strategic highway safety plans and other related highway safety activities including impaired driving, occupant protection, speed management, and driver licensing programs; and
- Routinely evaluate motorcycle safety programs and services.

Status

Lead Agency

Two agencies are primarily involved in the management of motorcycle safety activities in Michigan. The Michigan Motorcycle Rider Safety Training Program (MI-MRSTP) is managed by the Michigan Department of State (MDOS) as designated in 2003 by Public Act 103. The Michigan Office of Highway Safety Planning (OHSP), located in the Department of Michigan State Police (MSP) is the designated highway safety office and as such, is responsible for coordinating a statewide, comprehensive highway safety program.

The Governor's Traffic Safety Advisory Commission (GTSAC) comprised of representatives from state and local health, safety, enforcement and transportation agencies, serves as the state's major forum for identifying key traffic safety challenges, and developing, promoting, and implementing strategies to address these challenges. The State Highway Safety Plan (SHSP), developed under the leadership of the GTSAC, defines the statewide goals for motorcycle safety and identifies the critical strategies necessary to achieve those goals. The Motorcycle Safety Action Team (MSAT) is tasked with coordinating the implementation of those strategies, developing the Michigan Motorcycle Action Plan (MMAP), and for reporting progress toward established goals.

OHSP administers National Highway Traffic Safety Administration (NHTSA) highway safety funding, including motorcycle safety 405(f) funds and develops the annual Highway Safety Plan (HSP) which identifies key performance measures for highway safety, documents crash trends, and identifies projects to be funded using federal highway safety funds.

MDOS is responsible for providing adequate training sites and classes to meet customer demand throughout the state, for establishing the standards for administering these courses and for appointing a coordinator to manage the rider training program and motorcycle rider licensing.

Based on the assessment briefing materials and testimony, no one agency is formally designated or recognized as the “lead” for the state's comprehensive motorcycle safety program. MSP and MDOS maintain a highly collaborative relationship and act as support for each other. NHTSA guidelines call for a recognized, sole lead agency to coordinate all motorcycle safety programming.

Funding Sources

The MI-MRSTP is funded by a portion of motorcycle registration and license fees. These funds are deposited into the dedicated Motorcycle Rider Safety Fund (MRSF). The average annual budget for the past five years is \$1,679,000, of which approximately \$1,500,000 comes from the MRSF and \$179,000 from NHTSA 405(f) funds granted from the OHSP.

OHSP administers motorcycle-related behavioral grants and public information campaigns. These activities have been funded through 402 and 405(f) funds available from NHTSA. To date, other highway safety grant funds such as those for 405(d) impaired driving and 405(b) occupant protection have not been used for motorcycle safety projects.

Data Collection and Analysis

MSP is responsible for issuing a standardized traffic crash form and for collecting completed crash reports. MSP shares sanitized data files and summary reports with traffic safety partners including OHSP, Michigan Department of Transportation, MDOS, MMAP, other state agencies, local agencies, private organizations, and the news media.

OHSP utilizes data analysis support provided by UMTRI through the crash data system housed in MSP and the University of Michigan Transportation Research Institute (UMTRI) to identify critical problems, to evaluate programs, and to prioritize and plan projects. OHSP has expanded its use of UMTRI as a resource to track and monitor specific issues, such as the modification of the state’s mandatory helmet law in 2012 and the overrepresentation of unendorsed riders in crashes.

Problem Identification and Prioritization

The MMAP identified unendorsed riders, riding while impaired, and speed as significant

contributing factors in motorcycle crashes and fatalities. In 2014, nearly 45 percent of all motorcyclists involved in crashes, and 30 percent of fatalities involved unendorsed riders. (It should be noted that multiple state sources of unendorsed rider data were not consistent with one another.) Since 2011, over 30 percent of fatalities involved alcohol or drug impairment. There has been a significant decrease in helmet use and significant increase in non-helmeted fatalities.

Collaboration

The agencies responsible for motorcycle safety in Michigan actively collaborate with public and private stakeholders. The MSAT engages key partners including MDOT, MDOS, OHSP, MSP, the Traffic Improvement Association, the American Legion, the Motorcycle Safety Foundation, the American Motorcyclist Association, Bosch, motorcycle safety instructors, training site sponsors, colleges and universities, motorcycle dealers, and motorcycle rider groups and organizations.

Programs and Projects

The “Shadow Rider” project was started in the fall of 2012 to determine how many unendorsed riders there were in Michigan. Cross-referencing of MDOS vehicle and driver records established that there were 48,722 unendorsed motorcycle owners at the end of 2012. Mailers were developed and sent to all unendorsed motorcycle owners in March of 2013 with the slogan “Come out of the shadows, get trained and get endorsed.” Immediate impact was seen, as evidenced by the increased traffic on rider training websites, an increase in riders taking the rider education courses, and increased MDOS licensing testing. By the end of 2013, the number of unendorsed motorcycle owners had decreased to 46,722. The same mailer was sent out in the spring and late summer of 2014 and by the end of 2014 the unendorsed motorcycle owners had dropped to 40,877. A new mailer was designed in 2015 with the slogan “Get Endorsed or Get Towed” and was sent twice of that year. This mailer will also be sent twice in 2016.

In the spring of 2015, a Law Enforcement Action Kit (LEAK) was sent out to all law enforcement agencies in Michigan. The kit included a roll call video that addressed the unendorsed population, riding under the influence of alcohol and drugs, and excessive speed.

Also in 2015, OHSP distributed 9,000 high-visibility riding vests to anyone who successfully completed a state-sponsored rider training course. There are no data available to date as to how frequently these vests are worn and what impact it may have had on multi-vehicle crashes.

Other education and outreach programs coordinated by OHSP have included state program or law enforcement presence or involvement, all which were funded by 402 funds, at such events as Muskegon Bike Time, the Progressive International Motorcycle Show, Flint’s Bikes on the Bricks, and the Baldwin Blessing of the Bikes

Integration of Motorcycle Safety into Other Highway Safety Plans and Programs

While there are motorcycle-specific strategies included in the SHSP, motorcycle safety is not integrated into any other emphasis areas' strategies such as impaired driving or occupant protection. Analysts reported that motorcyclists had not been integrated into broader impaired driving or other statewide highway safety campaigns.

Evaluation

OHSP continuously evaluates programs and projects to determine how successful they may be in the reduction of crashes, injuries, and fatalities among motorcycle riders in the State of Michigan. Greater detail of these activities is found in Section XI, Program Evaluation and Data.

Recommendations

- **Designate a lead agency to coordinate Michigan's comprehensive motorcycle safety program.**
- **Create a five year, data-driven strategic plan, supported by one-year action plans, to guide the development of a comprehensive motorcycle safety program. Plans should include input from stakeholders in all program areas identified in NHTSA Program Guideline #3, Motorcycle Safety.**
- Examine the current MSAT membership and determine if additional or different organizations or individuals need to be invited to serve, including active riders (citizens) not affiliated with any group or organization.
- Use the MSAT and UMTRI to update and implement the next five-year motorcycle safety plan based on data-driven priorities.
- Use the MSAT and UMTRI to develop and implement an ongoing process to develop appropriate objectives with performance measures to monitor and evaluate the value, effectiveness, and outcomes of the Michigan comprehensive motorcycle safety program projects.

II. Motorcycle Personal Protective Equipment

Each State should support passage and enforcement of mandatory all-rider motorcycle helmet use laws. In addition, each State should encourage motorcycle operators and passengers to use the following protective equipment through an aggressive communication campaign:

- Motorcycle helmets that meet the Federal helmet standard;
- Proper clothing, including gloves, boots, long pants, and a durable long-sleeved jacket; and
- Eye and face protection.

Personal protective equipment is the most effective method of reducing the risk of injury or death when motorcyclists are involved in traffic crashes. All States should enact laws requiring all motorcycle operators and passengers to wear motorcycle helmets (universal helmet use laws). Helmet use has been identified as the single most important factor in the reduction and prevention of head injury in motorcycle crashes. Over-the-ankle boots, full-fingered leather gloves, long pants, and long-sleeve shirts or durable jackets offer motorcyclists protection from the environment and from injury in case of a crash. Additionally, bright-colored clothing and retro-reflective materials enhance a motorcyclist's visibility to other motorists in traffic. States should encourage use of these items in their helmet use and other motorcycle safety campaigns.

Status

Helmet Law

Michigan had maintained an all-rider mandatory helmet law since 1967. On April 13, 2012, a revised helmet law went into effect that requires all riders under 21 years old to wear a helmet that meets DOT standards, and allows riders 21 years of age or older to ride without a helmet if they meet the following requirements:

- Have a minimum of \$20,000 in first-party medical benefits.
- Have a motorcycle endorsement for at least two years or passed an approved motorcycle safety course.

Passengers 21 years and older may ride without a helmet if they meet the same \$20,000 insurance requirement. The requirement that an individual younger than 19 years old must wear a helmet if operating a moped on a public roadway is unchanged.

This law is broad in scope and is difficult, if not impossible, to enforce. Law enforcement officers testified that they are not able to determine a rider's age by visual observation, and can only determine if a rider is under the age of 21 if the officer has probable cause to conduct a traffic stop and check the operator's license. Passengers are not required to carry proof of insurance, making that section of the law impossible to enforce even if law enforcement stops the motorcycle for another infraction.

A helmet use survey conducted in 2006 prior to the helmet law change showed a helmet usage rate of 98 percent, compared to the helmet observation study conducted in 2012, post-helmet-law change, which reflected a 74 percent usage rate. Usage rate dropped to 72 percent in 2014. In 2014, unhelmeted riders represented 26 percent of crash-involved riders but accounted for 51 percent of motorcyclist fatalities.

A study published in the 2016 *American Journal of Surgery* of motorcycle crash victims admitted to the Spectrum Health Butterworth Hospital trauma center in Western Michigan the year prior to the helmet law revision versus the three years following the revision in April 2012, reported the following results:

- Hospital fatalities increased from three percent to six percent.
- Hospital average stay costs of helmeted riders vs. non-helmeted riders were \$20,967 and \$27,760, respectively, both of which surpass the \$20,000 dollar insurance requirement by 14 percent.
- Crash scene fatality rates increased from 14 percent to 63 percent.

The Center for Disease Control and Prevention estimated that the medical and productivity costs of unhelmeted Michigan riders involved in a crash were \$171,753 per serious injury and \$1,212,800 per fatality.

Eye Protection

Motorcyclist's vision and a clear, consistent view of the roadway are critical to motorcyclist safety. The current law addressing eye protection requires all riders to use shatterproof goggles, a face shield, or windshield to protect your eyes when riding at speeds of 35 miles per hour or more. However, there are no defined specifications for eyewear or windshield size, construction or design. Because not all windshields extend above the line of vision, not all are suitable as eye protection.

Campaigns to Reduce Injuries

Aside from the state Motorcycle Operator's Manual, rider training course curricula and an ongoing rider conspicuity campaign effort described in a later section, there was no other evidence presented of sustained, state-level campaigns to promote use of all types of protective riding gear. Private organizations such as Skilled Motorcyclist Association – Responsible, Trained, and Educated Riders (SMARTER), the Gold Wing Touring Association, and Accident Scene Management offer information and education about the benefits of protective riding gear, but it is unclear how these activities are coordinated with the comprehensive state program.

Campaigns to Enhance Visibility

There is currently a significant effort to enhance motorcyclist visibility, discussed in a later section.

Recommendations

- **Enact a universal helmet law that requires all riders and passengers on motorcycles and mopeds to wear a motorcycle helmet that is compliant with Federal Motor Vehicle Safety Standard No. 218.**
- **Develop, implement, and evaluate communications strategies to promote the benefits, and encourage the use, of all protective gear including helmets. Engage new partners and stakeholders (e.g., rider groups, dealers, emergency medical services, fire department, hospitals, public health, etc.) to implement these strategies.**
- Enact a law that requires motorcycle operators and passengers to wear eye protection compliant with standards and specifications established by ANSI (ANSI – Z87.1), and eliminate windshields as an acceptable form of eye protection.
- Continue to monitor data regarding motorcycle crash injury patterns in relation to protective gear use (e.g., head injuries as related to helmet use) to encourage motorcycle safety countermeasure development.
- Compile and publish data detailing the impacts of helmet non-use. These impacts include the costs to taxpayers due to emergency services such as life flights, emergency medical personnel, law enforcement at crash sites, increased hospital stay costs, and loss of income and quality of life and as a result of head injuries, including traumatic brain injuries.

III. Motorcycle Operator Licensing

States should require every person who operates a motorcycle on public roadways to pass an examination designed especially for motorcycle operation and to hold a license endorsement specifically authorizing motorcycle operation. Each State should have a motorcycle licensing system that requires:

- Motorcycle operator's manual that contains essential safe riding information;
- Motorcycle license examination, including knowledge and skill tests, and State licensing medical criteria;
- License examiner training specific to testing of motorcyclists;
- Motorcycle license endorsement;
- Cross-referencing of motorcycle registrations with motorcycle licenses to identify motorcycle owners who may not have the proper endorsement;
- Motorcycle license renewal requirements;
- Learner's permits issued for a period of 90 days and the establishment of limits on the number and frequency of learner's permits issued per applicant to encourage each motorcyclist to get full endorsement; and
- Penalties for violation of motorcycle licensing requirements.

Status

Motorcycle Operator's Manual

The Michigan Motorcycle Operator Manual (MOM) was originally developed by the National Public Services Research Institute under contract with the National Highway Traffic Safety Administration (NHTSA) and under a cooperative agreement between NHTSA and the Motorcycle Safety Foundation (MSF). The MOM provides information on motorcycle laws and safety to assist applicants in preparing to pass the written knowledge and skills tests. It is available at all Michigan Secretary of State branch offices and an online version is available at the Michigan Department of State (MDOS) website www.michigan.gov/sos.

MDOS utilizes the February 2014 version of the MSF MOM. The current version of the MDOS MOM was last updated in August, 2014. A more recent version (2015) of the model MOM published by the American Association of Motor Vehicle Administrators (AAMVA) is available.

The Michigan MOM includes information that is specific to the State of Michigan including:

- Ice in the winter, early spring and late fall;
- How to approach livestock being ridden, driven or led so as not to startle the person or animal;
- Deer;
- Michigan drinking and driving laws; and
- Information specific to the State of Michigan is provided and maintained by the MDOS.

The MDOS MOM contains Michigan-specific information in the front section of the manual:

- Michigan's Driver Testing Program
- Business Requirements for Third-Party Testing Organizations
- Reporting Improper, Illegal, or Fraudulent Test Activities
- Operating Your Motorcycle in Michigan
- The Definition of a Motorcycle
- Registration Requirements
- Renewing Your Motorcycle Registration
- Obtaining a Motorcycle Registration
- The Motorcycle Temporary Instruction Permit (TIP)
- Motorcycle Skills Test
- Legal Requirements and Safety Guidelines for Operating a Motorcycle
- Be Extra Careful of (sic)
- Motorcycles and Deer
- Drinking and Driving in Michigan
- General Driver's License Renewal Information
- Providing a Social Security Number
- Renewing Your Driver's License Online
- Renewing Your Driver's License By Mail
- Renewing Your Driver's License in Person
- Change of Address
- Office Hours

The MDOS MOM also contains the Three-Wheel Motorcycle Supplement providing information on the operation of three-wheel motorcycles. The MDOS MOM is periodically reviewed by subject matter experts.

Two other publications are available. The Motorcycle Safety Palm Card and 'Got Your CY?: A Motorcycle Endorsement Is Your License to Safer Riding' also provide information on motorcycle safety. These publications can be found in Secretary of State branch offices and are also available to groups and individuals. They can be ordered as needed and are also available on line at the department's website.

License Examination and Criteria

All applicants for a motorcycle endorsement must pass a vision screening and a written knowledge test. MDOS Driver Programs Division utilizes the MSF motorcycle license knowledge test which is administered in paper format. Automated testing is not utilized. MDOS was unable to identify which version of the knowledge test or knowledge test item pool is currently in use. The knowledge test has not been reviewed or updated recently. Pass / fail rates could not be provided. An item analysis of the questions to determine easy or problem questions is not conducted. Pass / fail rates and item analyses can easily be provided through automated knowledge testing systems.

All applicants for a motorcycle endorsement must pass a motorcycle safety course or motorcycle skills test. The motorcycle skills test is conducted exclusively through third-party testers utilizing the MSF Rider Skills Test (RST) and the RST-3W for testing 3-wheeled motorcycles. Annually, 6,000 to 9,000 skills tests are conducted. MDOS transitioned to the RST in 2011 and is the most current version of skills testing procedures developed by the MSF. Third-party testers are approved by the MDOS Driver Programs Division. Third-party examiners are issued an identification card demonstrating they are qualified to conduct skills tests. Currently there are 116 third-party examiners at 93 test sites.

A skills test certificate with a unique control number is issued to the successful applicant. Electronic means for transmitting skills test results from the third-party tester to the MDOS is not available. Michigan has a ten (10) percent failure rate state-wide for the RST which appears to be rather low for a complex skill set such as motorcycle operation.

Students that successfully complete the Basic Rider Course (BRC) are issued a course completion certificate with a unique control number that exempts them from additional knowledge or skills tests conducted by MDOS. Students present the course completion certificate at an MDOS office to be issued a CY endorsement. Approximately 10,000 students receive their CY endorsement through successful completion of the Michigan Motorcycle Rider Safety Training Program (MI-MRSTP).

Prior to 2015, the MI-MRSTP conducted a separate test for licensure at the end of the course titled the Michigan Motorcycle Operator Skills Test (MMOST). This was discontinued in 2014 when the program transitioned to the new BRC.

Motorcycle operators are required to meet the same state licensing medical criteria as automobile operators.

License Examiner Training

Specific training on administering the motorcycle knowledge tests is not provided beyond the overall training that all branch staff receive on maintaining the integrity of the written test, monitoring applicants while they are taking the tests and using the appropriate test keys to correct the tests. The training is conducted by the MDOS Driver Programs Division. All branch staff members are authorized to administer the written

knowledge tests.

Skills test examiner training for third-party testers is conducted by the MDOS Driver Programs Division. The training utilizes materials provided by MSF for training examiners to administer the RST. The training is two days in length and third-party examiners must complete the training and meet other criteria established by MDOS to be authorized to conduct the RST.

Refresher training of third-party examiners is provided on an “as needed” basis. Typically, the department provides training to all examiners when changes in test procedure warrant it. Updates were provided in 2011 and 2006. Examiners may also be given one-on-one training when an analyst determines it is warranted. This has happened twice in the past two years.

Audits of third-party testers/examiners are conducted only when the MDOS receives customer complaints or if they identify low or high pass/fail rates.

Motorcycle Endorsement and Renewal Requirements

To operate a motorcycle on public roads, operators must possess a valid Michigan driver’s license with a motorcycle endorsement. A motorcycle endorsement is \$13.50 for an original and \$5.00 for a renewal. The cost is added to the regular driver license fee.

Michigan issues a CY endorsement on a Michigan Driver’s License to motorcycle operators who have meet the minimum licensing requirements to operate a motorcycle. A Code 20 (not valid for a 2-Wheel Cycle) restriction is applied when an applicant uses a 3-wheel motorcycle to pass a skills test. The Code 20 restriction restricts the applicant to operating only a 3-wheel motorcycle. A moped does not require a CY endorsement if the engine does not exceed 100cc, does not have a gear shift, and has a top speed of 30 mph or less on a level surface. A moped may be operated with an Operator or Chauffeur license. An applicant that successfully passes the RST on a moped is not restricted to operating only a moped. It was reported that some applicants take their skills test on mopeds to get a CY endorsement and admit they plan to ride a large motorcycle.

Key Statistics (as provided in briefing materials and testimony)

The total number of endorsed motorcycle operators increased from 621,231 in 2012 to 646,947 in 2015; an increase of 25,716 (3.97 percent).

During the same time period, motorcycle registrations decreased from 259,805 in 2012 to 255,640 in 2015; a decrease of 4,165 (1.60 percent).

The OHSP estimates that unendorsed riders, by identifying motorcycle owners without endorsements and other means, decreased from 48,722 in 2012 to 38,877 in 2015; a decrease of 9,845 (20 percent).

However, the percent of riders involved in fatalities continues to be greater than 50

percent.

Unendorsed Motorcyclist Fatalities			
	# Fatalities	% of Fatalities	% of Motorcyclists
2010	48	41.03%	3.12%
2011	55	53.40%	2.93%
2012	62	53.45%	2.94%
2013	22	18.49%	3.39%
2014	42	41.58%	3.09%
2015	72	57.14%	4.08%

The number of unendorsed fatalities increased from 48 in 2010 to 72 in 2015; an increase of 24 (50 percent).

The percent of unendorsed fatalities increased from 41 to 57 percent between 2010 and 2015; and increase of 16 percent.

The percent of unendorsed fatalities compared to the total percent of motorcyclist fatalities increased from 3.12 to 4.8 percent between 2010 and 2015.

Unendorsed Motorcyclist Injuries (A, B & C)			
	# of Injuries	% of Injuries	% of Motorcyclists
2010	1085	45.66%	9.66%
2011	1063	46.64%	10.08%
2012	1366	52.77%	11.53%
2013	1189	53.00%	11.29%
2014	1155	55.44%	11.78%
2015	1167	54.96%	12.59%

The number of unendorsed injuries increased from 1,085 in 2010 to 1,167 in 2015; an increase of 82 (7 percent).

The percent of unendorsed injuries increased from 46 percent in 2010 to 55 percent in 2015; an increase of 9 percentage points.

The percent of unendorsed injuries compared to the total percent of motorcyclist increased from 10 percent in 2010 to 13 percent in 2015; an increase of 3 percentage points.

While the total number of unendorsed motorcycle operators was decreased by 20% between 2012 and 2015, unendorsed motorcycle operators continue to be over represented in fatalities and injuries.

Testimony was given that indicated that rate of unendorsed riders involved in fatal crashes has been reduced from 55 to 45 percent.

The CY endorsement is renewed every four years which is consistent with the AAMVA/NHTSA Guidelines for Motorcycle Operator Licensing (GMOL) published in 2009. The renewal of the CY endorsement of \$5.00 is added to regular Operator or Chauffeur License renewal fee and no additional testing is required.

Identifying Motorcycle Owners without Endorsement

During peak riding season, there are more than 250,000 registered motorcycles in Michigan. Nearly 50,000 motorcycles belong to drivers who do not have a motorcycle endorsement on their driver's license. Although the unendorsed population of motorcyclists makes up nearly 20 percent of all registered motorcycle owners, unendorsed riders accounted for more than 50 percent of motorcyclist fatalities in 2012 and 2013.

OHSP collaborated with MDOS and public and private motorcycle safety partners to establish the Shadow Rider program in 2012 aimed at educating riders on the importance of being properly endorsed to ride.

A postcard was mailed in March 2013 to nearly 47,000 people who registered a motorcycle without an endorsement on their driver's license. The postcard was updated with 2012 crash data and informed recipients that 70 percent of motorcycle crashes were attributed to rider error, that 85 percent of riders killed had not taken a certified motorcycle training course, and that more than half of riders involved in crashes were not endorsed. It was also pointed out that as a consequence of riding unendorsed, a motorcyclist can be cited, fined, and have their motorcycle towed. Information on how to locate training was also included. Similar efforts were conducted in 2014 and twice in 2015 with additional plans to conduct two mailings in 2016.

Visits to the MDOS training website increased in April in both 2013 and 2014 following the March postcard mailings.

- April 2012—1,403 visitors
- April 2013—2,039 visitors
- April 2014—2,052 visitors

MDOS data indicated more than 5,440 people who were on the unendorsed list prior to the 2014 mailing were no longer on the unendorsed list in September 2014, and those riders picked up their endorsement sometime during the 2014 riding season.

Focus group sessions conducted in 2009, 2013 and 2014 concluded that riders feel the fine for riding unendorsed is so low that it is worth the risk not to seek the endorsement. Conversely, the fear of having their motorcycle towed was so significant that they would seek the endorsement.

Learner's Permits

MDOS issues a Temporary Instruction Permit (TIP) to applicants wishing to receive a CY endorsement on their driver's license. Michigan law provides that, "A person shall not be eligible for more than two (2) TIPs in a 10-year period" (MCL 257.306(5)) which is consistent with the AAMVA/NHTSA GMOL.

Applicants 18 and older must:

- Possess a valid driver's license.
- Pass the written knowledge test administered at a Secretary of State office.
- Acquire a motorcycle TIP for \$13.50.
- Pass the motorcycle skills test given by a third- party testing organization approved by the Department of State or successfully complete an approved motorcycle safety course.

The TIP allows applicants to practice riding on public roads under the constant visual supervision of a licensed motorcycle operator age 18 or older. They may not ride at night or carry passengers. The TIP is valid for 180 days with no minimum time required before taking a skills test. The 180-day validity period is not consistent with the National Highway Traffic Safety Administration (NHTSA) Program Guideline No. 3 or the AAMVA/NHTSA GMOL recommendation that a learner's permit be valid for not more than 90 days.

Applicants 16 and 17 years of age must:

- Possess a valid Level 2 or Level 3 graduated driver license (GDL), operator or chauffeur driver license.
- Successfully complete an approved motorcycle safety course.

Penalties for License Violations

Penalties for violating motorcycle licensing requirements in MCL 257.904a state:

- 2 Points added to driving record.
- Upon conviction, shall be punished by imprisonment for not more than 90 days, or by a fine of not less than \$50.00 nor more than \$100.00, or both.
- Any person convicted of a second offense under this section shall be punished by imprisonment for not less than 2 nor more than 90 days, or by a fine of \$100.00, or both.

A pending legislative proposal would establish enhanced penalties: (A) for a first violation, by imprisonment for not more than 90 days or a fine of not more than \$500.00 or both; and (B) for a violation that occurs after a prior conviction, by imprisonment for not more than 1 year or a fine of not more than \$1,000.00, or both.

Testimony indicated that some law enforcement officers fail to cite a motorcyclist for not having an endorsement on their driver's license when a stop is made for another violation and allow the motorcyclist to ride away unendorsed. In 2013, only 445 of the nearly 49,000 unendorsed motorcycle owners in Michigan were cited for not having a motorcycle endorsement, which was less than one percent of the unendorsed motorcycle owner population.

Recommendations

- **Increase penalties for unendorsed motorcycle operators.**
- **Conduct regular audits of all third-party examiners and testers.**
- **On a regular basis, evaluate license skills and knowledge test validity and reliability, including pass/fail rate and item analyses.**
- **Conduct regular refresher training for third-party examiners who administer the motorcycle skills test.**
- Utilize the American Association of Motor Vehicle Administrators model Motorcycle Operator Manual for the next edition of the Michigan Department of State Motorcycle Operator Manual.
- Review the front section of Michigan Department of State Motorcycle Operator Manual, to determine if all information is relevant to motorcycle operators, for example, Business Requirements for Third-Party Testing Organizations.
- Conduct a review of the current Michigan Department of State motorcycle knowledge test including an item analysis to identify questions easily answered and those that are commonly missed.
- Utilize the American Association of Motor Vehicle Administrators model Motorcycle Operator Manual – Knowledge Test Item Pool for the next version of the Michigan Department of State motorcycle knowledge test.
- Establish a secure electronic means of transmitting skills testing results from the third-party testers to the Michigan Department of State.
- Continue efforts to identify unendorsed motorcyclists, including identifying motorcycle owners without an endorsement, and implement countermeasures to reduce unendorsed fatalities and injuries.
- Educate all law enforcement and judicial personnel on the importance of enforcing motorcycle endorsement laws.
- Reduce the Temporary Instruction Permit period from 180 days to 90 days.

IV. Motorcycle Rider Education and Training

Rider education is an essential component of a statewide motorcycle safety program and requires specialized training by qualified instructors. Motorcycle rider education should be readily available to all new and experienced motorcyclists who wish to participate. While nearly all States have some type of rider training component, only a small percentage of riders actually receive training, and many programs report long waiting lists. If rider education courses are not easily available to new riders, they will often bypass formal training and operate their motorcycles without the knowledge and skills needed to do so safely. It is important that all States, including those just beginning motorcycle safety programs as well as those with established programs, offer rider training courses in sufficient numbers to meet the needs of the motorcycle riding population in the State.

The State agency should provide a comprehensive plan for stable and consistent rider education programs in which motorcyclists have access to training programs conducted by State-approved personnel at facilities that are appropriately equipped and staffed and adequately funded. Each State motorcycle rider education program should also provide for:

- A source of program funding;
- A State organization to administer the program;
- A mandate to use the State-approved curriculum;
- Reasonable availability of rider education courses for all interested residents of legal riding age and varying levels of riding experience;
- A documented policy for instructor training and certification;
- Incentives for successful course completion such as licensing test exemption;
- A plan to address the backlog of training, if applicable;
- State guidelines for conduct and quality control of the program; and
- A program evaluation plan.

Status

Comprehensive Rider Education Plan

Motorcycle safety and rider education are included in state highway safety planning documents: Rider training is identified as an area of major concern in the 2013-2016 Michigan Motorcycle Action Plan (MMAP). Increasing funding and promoting rider training are identified as objectives in the MMAP. These topics are also identified in the 2013-16 Strategic Highway Safety Plan (SHSP).

The Michigan Department of State (MDOS) is responsible for the Michigan Motorcycle Rider Safety Training Program (MI-MRSTP), hereafter referred to as the rider training program, or program. The Office of Highway Safety Planning (OHSP) is not responsible for strategic planning of the MDOS rider training program, however, OHSP staff does coordinate with the rider training program staff in the award and execution of Federal grants to enhance the program. Staff from both agencies confirmed that OHSP and

MDOS motorcycle safety program staff cooperate voluntarily on overall program direction and priorities, and currently enjoy an excellent working relationship. (For simplicity and relative anonymity, all state employees who serve the state’s motorcycle safety effort will be referred to in this document as “program staff.”)

MDOS does not have a comprehensive rider education plan that articulates program goals, objectives, and performance measures. MDOS staff uses state statute, administrative rules, policy manuals, and an annual task schedule to formally guide and administer the program.

The rider training program administration is documented in the Michigan Motorcycle Safety Program Internal Procedures Manual, a well-written, comprehensive document, last updated in September 2008. The manual appears to be available only as a hard copy or PDF that cannot be edited. The information in the manual appears valid but out of date.

Funding Source

State funding is used to oversee the program and provide grants to Michigan colleges and universities, schools, law enforcement, and other public agencies to provide rider training courses.

State funding for rider training is established in legislation and managed by Michigan Department of State (MDOS). Funding comes from motorcycle endorsement, renewal, and registration fees: \$10.00 of each original motorcycle endorsement (\$13.50), \$3.00 of each renewal motorcycle endorsement (\$5.00), and \$3.00 of each motorcycle registration fee (\$23.00) goes into the motorcycle safety fund. Each year’s revenues determine the funding provided to the program. While recent reductions in revenue resulted in budget cuts, funding is considered by program staff and sponsor to be relatively stable. Funding revenue and expenditures for the last five fiscal years is shown in Table 1.

Table 1. Michigan Motorcycle Safety Fund FY2011-15

	FY11	FY12	FY13	FY14	FY15
Revenue	\$1,526,000	\$1,569,000	\$1,506,000	\$1,435,000	\$1,490,000
Program Expenses	\$1,440,000	\$1,441,000	\$1,388,000	\$1,398,000	\$1,332,000
Administrative Expenses	\$201,000	\$239,000	\$234,000	\$164,000	\$169,000

According to program staff, the amount of funding is limited and supports only existing operations – funding is not sufficient to expand the program to improve quality or better meet consumer demand. However, program staff and sponsors reported that grant funds, recent budget cuts aside, are generally reliable and long-term (five-year) planning is possible based on the current state of funding. Testimony received during the assessment suggested that the riding community may be open to a small endorsement fee increase if the funds were dedicated to the rider training program.

The OHSP, housed in the Department of Michigan State Police (MSP), uses Section 402 and 405(f) grant funds to support the rider training program. In FY2016, the

program received \$150,000 in 405(f) funds to provide professional development workshops and increase the number of riders in returning and advanced rider training courses. Other grant funds were used to promote rider conspicuity, a project described in section IX of this report.

Table 2. Federal 405 (f) Funding for Rider Training Program FY2012-16

	FY12	FY13	FY14	FY15	FY16
Awarded	\$207,580	\$167,789	\$220,741	\$150,000	\$150,000
Expended	\$190,891	\$173,991	\$97,105*	\$172,056	

*The unused FY14 funding was due to a motorcycle purchase that fell through.

*Funds expended exceeded funds awarded in FY13 and FY15 due to carry-over.

The MMAP has as an objective to “seek ways to increase funding for rider training.” This objective seems to have the support of the motorcyclist organizations American Bikers Aiming Toward Education (ABATE) and SMARTER. Action has been taken to draft legislative language to add 30 percent to any motorcycle endorsement renewal fees for the Motorcycle Safety Fund, but a similar measure applied to motorcycle registration fees was abandoned when other fees for roads were included. Action to increase the maximum fee for rider training courses from \$25 to \$50, also proposed in the MMAP, has been approved and will begin in 2016.

Program Administration and Staffing

The rider training program is a unit within the Michigan Secretary of State Customer Services Administration, Bureau of Driver and Vehicle Programs Division, led by the Motorcycle Safety Program Manager (coordinator). The program enters into agreements and provides grant funds to public sponsors, establishes standards, promulgates rules, and oversees instructor training, quality assurance, and curriculum review.

The \$1.5 million-a-year motorcycle safety program is staffed by two MDOS employees: The full time motorcycle safety program coordinator and a part time (.50 FTE) departmental analyst. Additional assistance is provided by an executive secretary, funded by the Driver and Vehicle Programs Division, and other shared support staff funded from within the division. MDOS program staff are supported in the field by three part-time state employees (rider coach trainers), who provide instructor training, professional development, and site inspections of program sponsors. Until recently, the three trainers were contractors limited to \$5,000 per year in wages and expense reimbursements. Currently, the MDOS budget allows for up to 832 annual hours total. At a hypothetical rate of \$25 an hour, the limit is now approximately \$20,000 per year.

In the field, a program manager at each state-approved site – a motorcycle instructor (rider coach) who is also an employee or contractor of the sponsor – administers the rider training program at the site level to ensure compliance with all program requirements outlined in the Program Manager Procedure Manual, a derivative of the MDOS Internal Procedure Manual.

State-Approved Curricula and Facilities

The Michigan program approves by administrative rule the Motorcycle Safety Foundation (MSF) Basic Rider Course (BRC), both the 2013 and updated version, for beginner motorcyclists who want to learn to ride and earn their motorcycle endorsement. The program is in the process of updating instructors from the 2013 version to the updated version, and program staff expect that all sites and instructors will have made the transition by the end of 2016 training season.

The program also offers the MSF Three-Wheel Basic Rider Course (3WBRC) for those who want to learn to ride three-wheel motorcycles instead of two-wheel motorcycles and earn a special (3-wheel only) motorcycle endorsement; the MSF Returning Rider Course (RRC) for experienced riders who want to brush up on their skills on their own motorcycle and earn the motorcycle endorsement; and the MSF Advanced Rider Course (ARC) for endorsed riders who want to brush up on their skills on their own motorcycles.

The program collaborates with a mix of approved public and private organizations, hereafter referred to as sponsors, to conduct rider education and training courses. The guidelines for public sponsor agreements with MDOS are written in administrative rule and include grant approval, monitoring, course fees, grantee responsibilities, and planning. Guidelines for private sponsor agreements with MDOS are also written in administrative rule and include course fee and refund policy, instructor selection and training criteria, course curricula, and facilities.

State grants are available to public sponsors for all approved courses; the quantity of training offered in Michigan is directly related to the amount of funding available. Public sponsors apply for approval to conduct training courses and grants using state-issued forms, and provide detailed agency information and certification, a basic instructional plan and training site information, a detailed budget, course registration fees, rider coach information, records personnel names and locations, training bike inventory, and complete course schedules. Private sponsors apply for approval to conduct training courses and provide the same information as public sponsors above, with the exception of the detailed budget information.

Sponsors approved by MDOS issue certificates, valid for a state motorcycle testing waiver, to riders who successfully complete the BRC and RRC. A total of 30 sponsors offer courses at 51 sites, with 79 training ranges in 35 of 83 counties, concentrated in Michigan's most populous counties. Public sponsors are supported by the state program with grants, and are allowed to charge students a non-refundable maximum course fee (tuition cap) of \$25. This fee will increase to \$50 in 2016. Public sponsors are granted and reimbursed for training costs at a rate based on the availability of state motorcycle safety funds. Private sponsors have no tuition cap, do not receive funds from the state program, and set their own policy for refunds. Both types of sponsors must adhere to program requirements established by Michigan law, MDOS policy, and MSF policy. Public sponsor student fees are set by law. Private sponsors must provide student course fees as part of their application.

The state's relationship with program sponsors is one indicator of program health. Based on sponsor testimony and interactions, State-sponsor relationships appear to be rather good – a welcome sign in a program that relies heavily on its sponsors, both public and private, as partners in the state's comprehensive motorcycle safety effort. Public sponsors are invited to meet with program staff once a year, with excellent attendance – in 2015, only one sponsor did not attend or send a representative. The annual grant agreements for public sponsors provide for reimbursement of costs such as salaries, instructor pay, materials, equipment, insurance, and include the number of courses to be conducted and students to be enrolled during the grant period. Public sponsors report final course totals, student totals, and a basic overview of costs, capital utilization, student pass/fail summaries by course type, distribution of the registration fees (if collected), and pass/fail status of instructor candidates in instructor preparation courses during the grant period.

Testimony offered during the assessment indicated that reporting requirements can be a burden, particularly when accompanied by reductions in grant funding. Sponsors indicated this could lead to fewer courses offered and fewer students trained. A sponsor also reported that direct communication with program staff was limited and sometimes involved long wait times for a response. Sponsors provided mixed but overall positive testimony on the status of their relationship with the state. All agreed that a statewide plan to recruit, train, and provide additional quality assurance of instructors is needed.

Both public and private sponsors use the state-issued form SOS-105 to report motorcycle completion certificate data monthly. This form appears to be filled out and received manually, suggesting there are a considerable number of sponsor hours necessary for data entry, and an equally considerable number of State program staff hours necessary for data collection and integration.

The state of the training motorcycle fleet is another indicator of program health. The rider training program has approximately 700 training bikes in its fleet. Training bikes are purchased by the state, then ownership transferred to a public sponsor. Sponsors are responsible for motorcycle maintenance, repair, record keeping, and retirement of state-purchased motorcycles, and are reimbursed for the costs related to these activities. (Private sponsors purchase, use, and maintain their own training motorcycles.)

Irregular portions of the fleet are retired each year according to state guidelines: Retired bikes are sold as state surplus, junked, or used for parts. Federal funds have been used in each of the past five years to purchase new motorcycles. However, Federal funding amounts vary from year to year. Program staff are reluctant to use state funds due to concerns that it may violate Federal grant supplanting rules, which may inhibit long-term planning.

The average age of the public training fleet is 12-15 years, and while nearly half are reported in "good" condition, about 50 percent are in "fair" or "bad" condition, based on

testimony from program staff, sponsors, and MDOS records. Some sponsors keep detailed maintenance records of program bikes, but are required to keep only basic information such as year of manufacture and overall condition. Program staff suggested that the fleet is not large enough to meet demand, and is aging and deteriorating rapidly. This could also inhibit the program attempting to increase capacity or plan for long-term growth.

There is no comprehensive plan for the purchase, maintenance, or reduction of average age of the motorcycle fleet. The assessment team also noted that there are no requirements or minimum guidelines for sponsors in the procedure manuals for training bike maintenance, repair, or condition.

The program has adopted the MSF Rider Education Recognition Program (RERP) standards for curriculum and site approval. In some cases, standards have been enhanced by the program, which approves all sites through its trainers, who are part-time employees of MDOS. This process of assessing and approving sites, and sample agreement materials, are documented in the Internal Procedures Manual. New sponsors are asked to attend an orientation and provided the Program Manager Procedure Manual that details responsibilities, inventory control, and reporting requirements, as well as recommendations for efficient program management. In addition to annual site inspections conducted by MDOS trainers, the MDOS program coordinator or representative conducts administrative site inspections at least annually on all sponsors who issue the state rider education completion certificate. The Internal Procedures Manual contains detail of the forms and assessment criteria used during site inspections.

The average number of riders who successfully completed a course provided by the program during the last five years is just below 10,000 per year (Table 1). The average number of students enrolled is about 12,000 per year. This average has been relatively stable the last four years. The numbers dropped significantly from FY2011, when reporting changed from “students enrolled” to “students passed.” The assessment team noted that the overall numbers from private sponsors did not change as much, suggesting that the pass rate of private sponsors could be significantly higher than public sponsors. Testimony during the assessment, however, indicated that the reason for the drop is a nearly 20 percent “no show” rate of rider training students at public sites.

Table 3. Michigan Motorcyclists Trained FY2011-15

	FY2011	FY2012	FY2013	FY2014	FY2015
Public	10,047	7,770	6,931	7,421	6,870
Private	1,917	1,797	1,962	1,979	2,598
Total	11,964	9,567	8,893	9,400	9,468

There is no comprehensive MDOS plan in place to maintain or increase student training levels.

Curricula are approved, officially, by administrative rule. The program has no established procedures and standards for approving curricula. Approved curricula are detailed in the 2008 Internal Procedures Manual and Program Manager Procedure Manual, however, the information in both appears to be out of date.

Ensuring Availability of Rider Education Courses

The Michigan Motorcyclist Safety Web site offers a page with a statewide training site locator for potential students to find a course site by geographical location (county). This locator is easy to navigate and provides links, concise contact information, and the types of courses offered at each site.

The assessment team received conflicting testimony on the availability of rider education courses. Some sponsors reported available supply and capacity for courses cannot accommodate current demand; others reported the opposite. An informal analysis of population size and training numbers from neighbor states Illinois, Indiana, Minnesota, Ohio, Pennsylvania, and Wisconsin suggest that Michigan's training numbers are not out of the ordinary compared to regional training trends. However, the MMAP identified "lack of proper licensing and training" as an area of concern, which implies that course availability may not be at desired levels.

Student wait times, an indicator of course availability, is currently estimated by program staff but not officially tracked and analyzed. According to one program staff member, wait times for public-sponsor courses are up to six weeks in the spring and diminish as the training season progresses; private-sponsor course wait times were said to be as little as one or two weeks. However, according to another staff member, one of the largest public sponsors recently (March) opened registration for courses for the month of May, and every seat was sold within 10 minutes.

A program staff member confirmed that students often contact the state office when they cannot register for a training course. This staff member offered the opinion that there are not enough instructors or training motorcycles to significantly increase capacity: In addition to the high percentage of fair- or bad-condition training motorcycles and their high average age, approximately 20 percent of instructors are not willing to make the transition to the new curriculum (will quit teaching). This staff member also suggested that even if the program could run courses every weekend during the training season at every training site, the program would likely still not meet the current demand for training. There is no comprehensive plan to address maintaining or increasing the number of sponsors, sites, ranges, training motorcycles, or instructors.

To promote advanced training, Federal grants have also recently been made available by OHSP for public sponsors to offer more RRC, and ARC courses. Based on reports from FY14, these grant efforts did not meet stated goals. While the projects increased training numbers slightly, it appears that overall demand for advanced training is very low in Michigan – as it is most everywhere else in the US. Because of the high cost and low demand, and the state's current focus on unendorsed riders, sponsors and program staff confirmed they would choose to focus on increasing capacity for the core training

countermeasures such as BRC and RRC by increasing the number of instructors, trainers, training bikes, and funds for training bike maintenance.

In 2016, the tuition cap will be raised from \$25 to \$50, which will provide needed additional funding at the sponsor level. In addition the fee increase may discourage “no-shows,” a problem common to public sponsors, which could result in an increase in the number of riders trained.

Instructor Training, Certification, Policy, and Procedure

To be eligible to conduct approved training courses in Michigan, all motorcycle safety instructors must meet minimum MDOS qualifications and be certified by the MSF. To be eligible for certification, all instructors must be 18 years of age or older, have a valid driver's license with a motorcycle (CY) endorsement, and have no more than six points on his or her driving record for moving violations received the previous 12 months. Currently, there are 216 active instructors, a significant drop from recent years. There is currently no recruiting plan in place to bring additional instructors into the program.

To gain MSF certification, instructor candidates must be sponsored by an approved public or private sponsor. RiderCoach candidates complete an MSF training course, called a rider coach preparation course (RCPC), conducted by RiderCoach trainers. Trainers are MSF-certified instructors who complete additional training and are held to a higher level of professional and personal qualifications and held to a higher standard of conduct. The RCPC is approximately 80 hours of classroom and on-cycle (range) activity conducted over multiple training sessions. Instructors (RiderCoaches) are required to attend and participate in every session, pass a riding-skill test, and pass a knowledge test. Candidates pay a fee of \$75 to attend the RCPC. Preparation course details and requirements are documented in the Internal Procedures Manual. Harley-Davidson Riding Academy (private sponsors) instructors undergo an additional four days of manufacturer-provided training.

The instructor certification period is two years. To remain certified, instructors must conduct at least two basic courses or their equivalent, participate in one professional development activity, participate in one personal learning activity, complete a biannual recertification survey, and abide by MSF rules of professional conduct. The Internal Procedures Manual clarifies the criteria for activities that meet certification requirements.

Sponsor or instructor approval may be withdrawn for noncompliance with Michigan law, vehicle code or administrative rule. Program administration, policy and procedure is documented in the Internal Procedures Manual and includes details of statute, code, and administrative rule language, student eligibility, sponsor requirements, the grant process, instructor and trainer requirements, site approvals, curriculum approval, and reporting requirements. As stated earlier, this manual is a high-quality, comprehensive document, but is out of date.

Incentives for Course Completion

The low entry fee of \$25 (soon to be \$50) is an excellent incentive for course completion – a public-sponsored course is conceivably within reach of almost every interested motorcycle rider in the state of Michigan. Successful completion of a BRC or RRC qualifies course participants for an SOS-401, a carefully controlled, state-issued, individually numbered, paper completion certificate that allows for a Secretary of State (SOS) skill test waiver, and a knowledge test waiver (as of 2016), if presented at an SOS office within one year of course completion. In 2015 and 2016, high-quality, high-visibility reflective vests were provided to course graduates, details of which can be found in section IX. Some insurance companies offer discounts for completion of a rider training course.

Quality Control Policy and Procedure

Public and private course sponsor and instructor conduct, expectations, and curriculum delivery are documented in the Internal Procedures Manual. Quality assurance is based on specifications in Michigan law, administrative rule, the Program Manager Procedures Manual, and MSF RERP agreements and rules of professional conduct. Instructors are required to adhere to MSF curricula when conducting courses. Instructors are also expected to wear protective gear when riding to, during, and from rider training activities. State inspection of sponsors' sites and equipment is conducted during the initial approval process, and annually after that.

MDOS employs instructor (rider coach) trainers to conduct MSF instructor preparation courses, instructor professional development training, and initial and annual sponsor site inspections. For site inspections, the trainers work from an annual plan to inspect at least one site managed by each sponsor and complete a state report. The Internal Procedures Manual documents in detail the forms and assessment criteria used during site inspections.

During site inspections, at least two instructors are observed in the classroom and/or on the range, and the results of these observations and any recommendations are included in the site inspection report. Over the course of the year, the assessment team estimates that 60 instructors are formally observed. Outside of site inspections, there is no comprehensive plan in place to ensure that every instructor in the state is periodically observed for quality assurance, nor is there a mentoring program or plan to help instructors gain confidence, experience, or build esprit de corps. Harley-Davidson Riding Academy instructors undergo additional quality assurance visits and are observed, according to a Riding Academy sponsor, at least once every two years.

During the assessment, multiple sponsors suggested that an expanded quality assurance effort that reaches all instructors is needed and would be welcome. However, according to program staff, current budget limits for trainers do not accommodate additional activity outside of current core functions. (It was noted by the assessment team that third-party license examiners also do not undergo regular observations, however, examiners may be identified for a quality assurance visit based on customer complaints or abnormally high or low failure rates.) The Internal Procedures Manual recommends a ratio of one trainer for every 50 instructors; currently, the program

employs 3 trainers for 216 instructors for a 1:72 ratio.

According to sponsors and program staff, trainers are not prohibited from teaching courses, for pay, at the same sites they evaluate during site inspections, nor are they prohibited from inspecting competitors' sites. It was confirmed by program staff that the MDOS motorcycle coordinator accompanies trainers at site inspections of a trainer's home site(s), but not necessarily visits to competitors' sites. Additionally, program staff from both MDOS and OHSP actively teach, without pay, at approved course sites in Michigan. The justification given for the program coordinator's instructor status is based on MCL 257.811a (4-5). However, the law only requires program staff to complete an instructor training course, not to deliver the curriculum. These activities, however transparent, necessary, useful, or programmatically functional could be perceived as conflicts of interest.

Program Evaluation

According to program staff, activity of public sponsors is monitored to ensure compliance and agreed-to performance measures as part of the grant award process. However, there is no ongoing, comprehensive rider education plan to establish objectives, nor is there a formal program evaluation process to measure performance for the rider training program as a whole.

There is also no formal process for assessing student satisfaction, attitudes, opinions, or comments after the course (such as a paper or online MDOS evaluation form or survey). There is no formal process in place to assess if the program is meeting consumer demand, the condition and age of the training motorcycle fleet, or the stability of the course sponsors. There is also no process in place to evaluate the scope and health of the instructor corps or their retention, attrition, and morale. Finally, there is no plan to evaluate the rider training program's effectiveness in reducing motorcyclist crashes, injuries, fatalities, moving violations, and OWI arrests. The assessment team recognizes that this last type of evaluation is of a depth and scope that will require substantial investment and planning.

Recommendations

- **Create a five-year strategic plan for the rider training program, supported by annual plans, to enhance program capacity. Plans should include program goals, objectives, and performance measures.**
- **Evaluate program performance using metrics such as the number of sponsors, sites, ranges, courses offered, wait times, students trained, instructors trained, training bikes, instructor retention, motorcycle condition and age, and quality assurance visits.**
- **Increase funding for the motorcycle training program to a level that will allow it to meet current demand, reduce the age of the motorcycle fleet, and train new instructors to balance attrition and allow for growth.**

- **Use grant funds to address the rider training program's areas of greatest need.**
- **Ensure that every instructor receives at least one quality assurance visit every three years.**
- **Establish an online reporting system that integrates motorcycle training course student completion data with the Michigan Department of State licensing system.**
- Add a 1.0 FTE assistant program manager position to enable an increase in program capacity and quality assurance.
- Consider using a variable tuition cap to provide incentives to sponsors to increase capacity, and allow a higher cap in areas where demand exceeds supply.
- Use student surveys administered and collected by the state to evaluate student satisfaction and learning experience.
- Maintain an electronic policy manual and update it annually.
- Review state guidelines and establish clear staff policy for teaching courses and/or conducting site inspections for approved public and private sponsors.

V. Motorcycle Operation Under the Influence of Alcohol or Other Drugs

Each State should ensure that programs addressing impaired driving include an impaired motorcyclist component. The following programs should be used to reach impaired motorcyclists:

- Community traffic safety and other injury control programs, including outreach to motorcyclist clubs and organizations;
- Youth anti-impaired driving programs and campaigns;
- High visibility law enforcement programs and communications campaigns;
- Judge and prosecutor training programs;
- Anti-impaired-driving organizations' programs;
- College and school programs;
- Workplace safety programs;
- Event-based programs such as motorcycle rallies, shows, etc.; and
- Server training programs.

Status

Under Michigan law, it is illegal to drive:

- While intoxicated or impaired by alcohol, illegal drugs, and some prescribed medications;
- With a bodily alcohol content of 0.08 or more;
- With a bodily alcohol content of 0.17 or more; or
- With any amount of cocaine or a Schedule 1 controlled substance in your body.

The Strategic Highway Safety Plan 2013-2016 states that Michigan has responded to the impaired driving issues through a combination of judicial and enforcement countermeasure programs. Neither in the impaired area nor in the motorcycle safety area of the State Highway Safety Plan (SHSP) is there overlapping of the impaired driving problem.

The Michigan Motorcycle Action Plan 2013-2016 (MMAP) identifies over 30 percent of all motorcyclists killed involved the use of alcohol and/or drugs. However, there is no strategy identified within the MMAP to address this problem.

According to Michigan Traffic Crash Facts (MTCF) alcohol has been identified as a significant contributing factor in fatal motorcycle crashes since 2011 (Table 1). There is also supporting data that drugs, or a combination of drugs and alcohol, have been identified as a contributing factor during those years, as well.

Table 1. Alcohol Use as Contributing Factor in Motorcycle Crashes

Year	Had-been-drinking motorcyclist deaths	Motorcyclist drivers coded as drinking
2011	24 (22.0%)	20 (83.3%)
2012	32 (24.8%)	28 (87.5%)
2013	34 (26.6%)	30 (88.2%)
2014	31 (29.0%)	26 (83.9%)

Motorcyclist Clubs, Organizations and Events

Representatives of ABATE of Michigan, as a rider organization, indicated that ABATE has a zero-tolerance policy for riding while impaired. They have trained individual members at events to ensure that all members are in compliance.

SMARTER is a rider organization that provides the resources riders need to make smarter choices. SMARTER is active in addressing many unsafe riding behaviors and promoting safety to members, including separating drugs and alcohol from riding.

Representatives of the Michigan State Police (MSP) indicated that a collaborative relationship is required to implement effective countermeasures to reduce the trend of impaired motorcycle crashes. The MSP Motor Unit has partnered with some Detroit area motorcycle dealerships to educate riders on impaired riding. MSP Troopers present information on crash trends, and how to improve riding behaviors that enhance their riding experience (e.g. avoiding riding distracted or impaired). This proactive approach is beneficial to law enforcement and riders and has received positive feedback from riders and dealers.

“Muskegon Bike Time,” an annual event sponsored by a motorcycle dealer, draws an average of over 75,000 bikes to the lakeshore community of Muskegon, Michigan. This event is held the third weekend in July and includes concerts, stunt shows, contests, vendors, and alcohol beverage tents. A Muskegon County Sheriff’s Office representative indicated the agency has adopted a proactive approach to managing the risks associated with this type of event. In advance of the event, they provide impaired motorcycle training and enforcement reference guides to 11 agencies within their jurisdiction. The strategy also includes stepped-up enforcement, rider outreach by police motor units during the event.

Community Traffic Safety Programs – Impaired Motorcyclist Component

There was no evidence presented to indicate that law enforcement has collaborated with Mothers Against Drunk Driving (MADD) or other advocacy groups to enhance the comprehensive impaired driving countermeasures related to motorcycles.

The Motorcycle Operators Manual (MOM), available free online and in Secretary of State offices, includes a section on alcohol and marijuana impairment. The manual discusses the effects of alcohol on the body and consequences of an impaired riding conviction and encourages riders to intervene when others have been drinking and intend to ride.

Approved rider education courses using the Motorcycle Safety Foundation (MSF)

curriculum include a 30-minute module on impaired riding.

Youth Impaired Driving Programs – Impaired Motorcyclist Component

According to Michigan Traffic Crash Facts (MTCF), alcohol has been identified as a significant contributing factor in impaired motorcycle crashes involving riders under 21 years old. Of the 19 underage riders killed in crashes in 2014, 11 were impaired by alcohol.

The seven major state university campuses in Michigan all have campus-specific rules for mopeds and motorcycles. Since the vast majority of students are under the legal drinking age, all seven campuses are providing information to moped and motorcycle operators on impaired driving laws.

Law Enforcement Programs and Campaigns – Impaired Motorcyclist Component

Michigan law enforcement officers are trained in Standardized Field Sobriety Testing (SFST) during initial training and there are currently 4,349 active officers certified in SFST, according to information provided to the assessment team. The Michigan SFST curriculum includes motorcycle-specific enforcement cues. In 2013, the National Highway Traffic Safety Administration (NHTSA) updated the impaired motorcycle video demonstrating the most commonly identified visual cues.

Michigan has adopted the Advance Roadside Impaired Driving Enforcement (ARIDE) training program. ARIDE is intended to bridge the gap between SFST and Drug Recognition Expert (DRE) programs by providing officers with general knowledge related to drug impairment and promoting the use of DREs in the state. One of the more significant aspects of ARIDE is required proficiency in the SFST sequence. Currently there are 2,094 active officers certified in ARIDE.

In October 2010, Michigan became the 47th Drug Evaluation and Classification state. There are currently 99 active DRE officers in the State. In addition, 26 DRE prosecutors have been trained. This collaborative program was developed to better prepare officers and prosecutors for impaired driving prosecution.

The Michigan State Police (MSP) Motor Unit has incorporated impaired riding training and awareness into their annual motor Trooper recertification program.

Judge and Prosecutor Training – Impaired Motorcyclist Component

The MMAP includes the strategy to “educate law enforcement, prosecutors, and courts about the important role they play in helping to reduce the unendorsed rider population and save motorcyclist lives.”

The Office of Highway Safety Planning (OHSP) and MSP partnered to develop a Law Enforcement Action Kit (LEAK). The kit included a roll call video and a Motor Vehicle Code (MVC) tip card and was distributed to all Michigan law enforcement agencies to increase officer awareness of problems specific to motorcycles. This tip card was developed based on feedback from officers who indicated they were unfamiliar and/or

uncomfortable enforcing motorcycle-specific laws.

The Traffic Safety Resource Prosecutors (TSRP) play an integral role in officer training for impaired motorcycle enforcement. In partnership with OHSP, the TSRPs produced and distributed laminated the SFST Administrative Guides to all law enforcement agencies. This laminated and durable card is designed to fit in the officer's uniform pocket so it can be easily carried on patrol.

The TSRP and OHSP partnership also produced and distributed an Operating While Intoxicated (OWI) law card. This standard letter-sized laminated card translates the difficult text of the OWI law into an easy-to-follow visual flow chart. The card is distributed to officers and prosecutors to assist them in understanding the complex OWI law.

The TSRPs are actively involved in ARIDE and DRE training and provides officers with applicable legislation and/or case law relating to impaired driving. This collaborative effort was reported by TSRPs as important to the overall success of this education countermeasure.

Through a grant between OHSP and the Michigan Judicial Institute, judges, magistrates, and probation officers receive yearly impaired driving training. In 2015, more than 5,000 court personnel were trained under the project.

The TSRP produces The Green Light News, a quarterly publication, for police officers and prosecutors. The publication includes articles on relevant laws, rulings and legislation that affect Michigan laws. This publication assists officers with court preparation for any impaired driving cases.

Workplace Safety Programs – Impaired Motorcyclist Component

There was no supporting evidence of any civilian workplace safety training (such as Network of Employers for Traffic Safety) efforts to combat impaired driving.

Server Training Programs – Impaired Motorcyclist Component

The Michigan Licensed Beverage Association (MLBA) plays a proactive role in impaired driving through education. MLBA implements innovative services to promote responsible alcohol beverage service.

One such service is Techniques of Alcohol Management – Michigan (TAM-MI), a nationally recognized program for responsible server training. The program provides risk management tools that are used by all licensees to control the day-to-day operations of their business.

TAM-MI training course cover a wide variety of information including:

- False identification;
- Laws, rules, and regulations;
- Clinical effects of alcohol;

- Customer disturbances; and
- Alcohol management.

TAM-MI outreach extends to training for special events that serve alcohol from tents in addition to brick-and-mortar locations. Tents most commonly serve as temporary alcohol vendors at motorcycle events and rallies. TAM-MI provides training to help vendors better understand alcohol management when serving large crowds. TAM-MI has an online training course approved by the Michigan Liquor Control Commission. This training delivery system allows a greater number of vendors/servers to receive training in preparation for motorcycle events and rallies.

The collaboration between law enforcement and MLBA/TAM-MI promotes responsible alcohol management at motorcycle specific events and helps reduce impaired motorcycle crashes.

Recommendations

- **Conduct a crash-data analysis to identify priority target populations and geographic areas which are overrepresented in impaired motorcyclist crashes.**
- **Conduct outreach to motorcycle rider groups to promote a safety culture specifically with zero-tolerance policies for impaired riding.**
- **Create a high-visibility motorcycle OWI enforcement campaign conducted by motor officers. Promote this effort to the news media and include impaired-riding training during police motor officer recertification.**
- Conduct outreach to all law enforcement to educate them on the availability of impaired-riding materials, with specific focus on agencies in communities or regions with high rates of crashes involving impaired riders.
- Conduct in-service training on the Detection of DWI Motorcyclists to untrained officers and publicize this training to the news media around scheduled motorcycle events.
- Consider requiring Michigan-specific impaired riding information in state-approved rider training programs.

VI. Legislation and Regulations

Each State should enact and enforce motorcycle-related traffic laws and regulations, including laws that require all riders to use motorcycle helmets compliant with the Federal helmet standard. Specific policies should be developed to encourage coordination with appropriate public and private agencies in the development of regulations and laws to promote motorcycle safety.

Status

Helmet Law

Public Act 98 of 2012 amended MCL 257.658, repealing Michigan's mandatory motorcycle helmet requirement for certain motorcycle operators and passengers. A motorcycle operator is not required to wear a helmet if all of the following conditions apply:

- The operator is at least 21 years of age.
- The operator has had his or her motorcycle endorsement for at least two years or has successfully passed a motorcycle safety course conducted according to MCL 257.811a or MCL 257.811b.
- The operator has in effect a security for the first-party medical benefits payable if he or she is involved in a motorcycle crash for at least \$20,000 for the operator or \$20,000 per person if the operator is carrying an additional passenger and the passenger does not have at least \$20,000 security.
- A motorcycle passenger is not required to wear a crash helmet if the passenger has in effect at least a \$20,000 security for the first party medical benefits payable if he or she is involved in a motorcycle accident, or the operator of the motorcycle has in effect a security that covers the operator and the passenger for at least \$20,000 per person.

MCL 257.658 does not require a motorcycle operator to carry proof that he or she has possessed a motorcycle endorsement for at least two years or has successfully passed the motorcycle safety course. Additionally, the law does not require a motorcycle operator or passenger carry proof of the \$20,000 security required to operate or ride a motorcycle without a helmet. Operators and passengers who violate MCL 257.658 are responsible for a civil infraction as detailed in MCL 257.656.

The modification of the Michigan universal helmet law went into effect on April 13, 2012. Law enforcement officers reported that the law is complicated and unenforceable.

Motorcycle Traffic Laws

Proposed Bills include:

- Senate bill 496 to increase the penalties for operating a motorcycle without a CY endorsement.
- House bill 4651 would amend section 312a (MCL 257.312a), as amended by 2013 PA 177, to increase the penalties for operating a motorcycle without a CY endorsement.

- House bill 4854 would amend 1949 PA 300 to waive the requirements for a second knowledge test if a person completes an approved motorcycle safety course.
- Senate bill 404 would provide protection from civil liability for the owners of property used for motorcycle safety training.

Regulations

The State of Michigan has a number of regulations that govern the operation and ownership of a motorcycle. Motorcycle Traffic Laws and Regulations are contained within the Michigan Motor Vehicle Code in:

- Chapter 257,
- Act 300 of 1949,
- 300-1949-II,
- 300-1949-II Special Anti-Theft Laws, and
- Section 257.252m.

MCL 257.708a does not adequately address eye protection for motorcycle operators. Clear and protected vision is critical for the safe operation of a motorcycle and to ensure the safety of other road users.

MCL 257.708a for Windshields, Goggles, Eyeglasses or Face Shields states that a person operating a motorcycle in excess of 35 miles per hour that is not equipped with a windshield, shall wear goggles with transparent lenses, eyeglasses, or a transparent face shield, that is shatter resistant and of sufficient size to protect his or her eyes against airborne materials and other road debris.

The present Michigan law on texting and driving is limited to texting only and is very difficult to prosecute when a defendant can provide evidence that they were not actually texting even though they were performing other activities on a personal cell phone. The law is intended to reduce the incidence of distracted driving, but panelists indicated it is having little practical effect on the behavior and creates a dangerous roadway environment for motorcycle riders and other road users.

A recent finding by the Auditor General states that the Michigan Department of State (MDOS) must properly ensure that motorcycle safety instructors are subject to criminal background checks. According to information provided to the assessment team, criminal background checks are performed by public grant sponsors, but not in a formalized fashion. Also, MDOS needs to address the influx of three-wheeled motorcycles and other non-traditional vehicles that operate more like automobiles than motorcycles.

Coordination and Collaboration

MDOS and MSP appear to have a very strong, collaborative relationship. When issues arise, they often work together to ensure that any proposed changes work well for both agencies. They often consult with each other after introduction of a bill to share intent

and review consequences, when preparing testimony before legislative committees, and while working with legislators or staff to draft suggested amendatory language.

Testimony provided during the assessment indicated MDOS serves as a resource when a member of the legislature is contemplating a statutory change that will impact MDOS. Panelists reported that MDOS collaborates with the general public after legislation has been introduced. If bills are considered before a legislative committee, everyone is afforded the opportunity to provide testimony. MDOS facilitates efforts to address any concerns that are voiced by the Michigan citizens.

Recommendations

- **Enact a law that requires motorcycle operators and passengers to wear eye protection compliant with standards and specifications established by ANSI (ANSI – Z87.1), and eliminate windshields as an acceptable form of eye protection.**
- Enact a universal helmet law for all riders and passengers on motorcycles and mopeds compliant with FMVSS No. 218.
- Continue to evaluate the impact of helmet law changes, including the economic, social, quality-of-life and other costs.

VII. Law Enforcement

Each State should ensure that State and community motorcycle safety programs include a law enforcement component. Each State should emphasize strongly the role played by law enforcement personnel in motorcycle safety. Essential components of that role include:

- Developing knowledge of motorcycle crash situations, investigating crashes, and maintaining a reporting system that documents crash activity and supports problem identification and evaluation activities;
- Providing communication and education support;
- Providing training to law enforcement personnel in motorcycle safety, including how to identify impaired motorcycle operators and helmets that do not meet FMVSS 218; and
- Establishing agency goals to support motorcycle safety.

Status

In 2014, Michigan had 110 fatal motorcycle crashes, a decrease from 133 in 2013. Panelists suggested the combined education, enforcement, and outreach efforts may have contributed to the decline.

The Michigan Motorcycle Action Plan 2013-2016 (MMAP) identified the lack of proper licensing as a contributing factor in the occurrence of motorcycle crashes. The lack of proper endorsement has been the focus of the Office of Highway Safety Planning (OHSP) unendorsed rider campaign.

The unendorsed rider campaign began in 2013. The OHSP, with the support of several state motorcycle safety partners, coordinated an initiative to contact every unendorsed operator of a registered motorcycle in Michigan with a strategically planned message. In early spring, nearly 50,000 individuals were mailed a postcard informing them of the benefits of becoming a properly trained and endorsed motorcyclist and encouraging them to “Come out of the Shadows.”

Motorcycle crash data was linked to Michigan Department of State (MDOS) records were analyzed in the fall of 2013, which revealed that about 20 percent of the motorcycling population continued to ride unendorsed, representing nearly 55 percent of all motorcycle crashes in Michigan. A second analysis of the 2013 motorcyclist fatalities revealed that nearly 85 percent of those riders killed had not taken a certified motorcycle training course anytime in the last ten years, supporting the initial theory that unendorsed motorcyclists also lack proper motorcycle training.

In the spring of 2014, OHSP sent another mailer informing motorcyclists of the consequences of riding untrained and unendorsed. Analysis of all the registered motorcycles in Michigan in the fall of 2014 revealed unendorsed riders now represented about 16 percent of the registered Michigan motorcycling population, a four-percent

decrease from the previous year and a 13 percent decrease in the total number of unendorsed operators. OHSP determined that of those that were mailed a postcard in the spring, more than 5,400 (13 percent) had obtained their endorsements during the season.

The 2015 campaign continued to show success and has resulted in a five percent reduction in unendorsed riders and an overall increase in endorsed riders.

Law Enforcement's Role and Goals

Enforcement alone will not reduce motorcycle crashes but is part of an overall comprehensive strategy. The OHSP has completed a highly successful communications campaign for the unendorsed rider. However, in 2015 there were still over 38,000 of registered motorcycle owners who remained unendorsed.

In 2015, 30 percent of all motorcyclists killed did not have a proper license endorsement. Law enforcement officers are unable to stop motorcyclists simply to inspect riding documents. Therefore, they must rely on lawful traffic stops for other violations such as speeding or failure to stop at a red light.

Michigan's motorcycle helmet law allows motorcyclists to decide for themselves, if certain conditions are met, whether or not to wear a helmet:

To legally not wear a helmet, a motorcycle operator must:

- Be at least 21 years old;
- Have at least \$20,000 in first-party medical benefits; and
- Have held a motorcycle endorsement for at least two years, or have passed an approved motorcycle safety course.

Passengers also may not wear a helmet as long as they:

- Are at least 21 years old; and
- Have at least \$20,000 in first-party medical benefits insurance in addition to the insurance that is required of the motorcycle operator.

A person younger than 21 years old still must wear a helmet approved by the U.S. Department of Transportation when operating or riding on a motorcycle.

The requirement that an individual younger than 19 years old must wear a helmet if operating a moped on a public roadway was unchanged.

The Michigan helmet law presents challenges to law enforcement officers, and consequently is seldom enforced. There is no formal training on the identification of a FMVSS 218 compliant helmet, which is logical due to the current law.

Law enforcement agencies have access to the National Highway Traffic Safety Administration (NHTSA) pamphlet How to Identify Unsafe Motorcycle Helmets for operators younger than 19 years old. The inability to easily identify the age of an operator, an officer is reluctant to stop any operator for solely not wearing a helmet.

Michigan has numerous laws specific to motorcycle equipment laws that officers can enforce. These violations allow for a lawful stop and an officer can then check for compliance with the helmet law or license endorsement:

Michigan Compiled Law (MCL) 257.661a - Handlebars of Motorcycle states that a person shall not operate a motorcycle or moped equipped with handlebars that are higher than 15 inches from the lowest point of the undepressed saddle to the highest point of the handle grips. This law was identified in the tip card as a tool for law enforcement.

MCL 257.698(4) - Side, fender, running, courtesy, and backing lamps; Reflectors; Flashing, oscillating, or rotating lights. This states a lamp or a part designed to be a reflector, if visible from the front, shall display or reflect a white or amber light; if visible from either side, shall display or reflect an amber or red light; and if visible from the rear, shall display or reflect a red light, except as otherwise provided by law. This law was identified in the tip card as a tool for law enforcement.

Recent activities by MSP, described later in this section, were reported to have improved law enforcement's knowledge and confidence in conducting safe and effective motorcycle stops. However, many officers are still uncomfortable or lack confidence in enforcing motorcycle specific laws. Therefore, the likelihood of a traffic stop merely for an equipment violation may be unlikely. To counter this trend, OHSP developed a "MVC Tip Card" for distribution to law enforcement officers. The card lists and defines the common motorcycle equipment violations.

Motorcycle Crash Reporting, Investigation, Problem Identification and Evaluation
Over 97 percent of Michigan law enforcement agencies use an electronic crash reporting system. The use of the electronic report allows for more timely, efficient reporting and also enables more timely data analysis.

The Michigan State Police (MSP) manages the data from the electronic crash reporting system. They share data with the University of Michigan Transportation Research Institute (UMTRI) for additional analysis and production of reports. UMTRI distributes their products through the web-based data tool Michigan Traffic Crash Facts (MTCF).

Many agencies use a data-driven approach to develop enforcement strategies to reduce crashes. Agencies are able to use customized data filters using the MTCF query system. The data query is easily accessed and it can be localized various ways. The use of the MTCF product allows agencies to deploy enforcement more effectively and efficiently to reduce crashes.

The data utilized for crash analysis is highly accurate due to the MSP Traffic Records Section (MSP-TRS) personnel conducting follow-up as necessary. MSP is continually conducting additional crash reporting training to reduce submittal errors.

Motorcycle helmet crash data is limited based on the “helmet use” entry field. The entry field does not differentiate between a FMVSS 218 compliant and non-compliant helmet. The Manual Minimum Uniform Crash Criteria (MMUCC) 3rd Edition advises that helmet use reporting should differentiate between the helmets.

The reporting update should provide better data for the OHSP and the motorcycle community concerning helmet use. Moreover, the MMUCC notes the proper classification helmet use is vital to evaluating the effectiveness of such equipment. It can also assist law enforcement and improve crash trend analysis for better countermeasure development.

Unless the helmet use entry field allows for differentiation between a DOT-compliant and non-compliant helmet, the state will be unable to track helmet use accurately. Additionally, the crash form should allow reporting if use or non-use of a helmet might have prevented the fatal injuries – the fact the operator was wearing a helmet plays no role in a crash where the fatal injury was to lower extremities.

Communication and Education Support

The OHSP unendorsed rider campaign is a high-visibility communications campaign started in 2013. The campaign was designed to increase compliance with motorcycle license endorsement requirements. During the campaign, law enforcement agencies combined enforcement with education, using education more so than enforcement. This campaign resulted in higher endorsement rates.

The OHSP, MDOS, law enforcement, and rider organizations participate in annual motorcycle safety press events. The events begin in May of each year with the kickoff of Motorcycle Safety Month.

Additionally, Muskegon County Sheriff’s Office conducts community outreach prior to annual Muskegon Bike Time. Officers reported that the effective use of education and enforcement appears to be making the event safer for all roadway users.

Law Enforcement Officer Training

OHSP and MSP partnered to develop a Law Enforcement Action Kit (LEAK). The kit included a roll-call video and a Michigan Vehicle Code (MVC) tip card and was distributed to all Michigan law enforcement agencies to increase officers’ awareness of motorcycle-specific violations. This tip card was developed to address feedback from officers who indicated they were unfamiliar with and/or uncomfortable enforcing motorcycle specific laws.

Michigan MCL 257.708a requires a person operating a motorcycle in excess of 35 miles per hour that is not equipped with a windshield, shall wear goggles with transparent lenses, eyeglasses, or a transparent face shield, that is shatter resistant and of sufficient size to protect his or her eyes against airborne materials and other road debris. However, the law does not require only non-tinted (clear) lenses during periods when vehicles are required to display lights. Often riders begin riding during daylight hours and continue using sunglasses during hours of darkness.

Recommendations

- **Encourage all law enforcement agencies with motorcycle units to combine outreach and enforcement strategies to promote motorcycle safety.**
- **Continue to support law enforcement agencies with data to target outreach, education, and high-visibility enforcement strategies.**
- Require crash reporting system to differentiate between compliant and non-compliant helmets.
- Consider using crash investigators trained in motorcycle investigation to conduct patrol officer training to improve initial crash data accuracy.

VIII. Highway Engineering

Traffic engineering is a critical element of any crash reduction program. This is true not only for the development of programs to reduce an existing crash problem, but also to design transportation facilities that provide for the safe movement of motorcyclists and all other motor vehicles. Balancing the needs of motorcyclists must always be considered. Therefore, each State should ensure that State and community motorcycle safety programs include a traffic-engineering component that is coordinated with enforcement and educational efforts. This engineering component should improve the safety of motorcyclists through the design, construction, operation and maintenance of engineering measures. These measures may include, but should not be limited to:

- Considering motorcycle needs when selecting pavement skid factors;
- Providing advance warning signs to alert motorcyclists to unusual or irregular roadway surfaces.

Status

Motorcyclist-Specific Engineering and Coordination

The Michigan Department of Transportation (MDOT) highway engineers testified that, while they do not give special consideration to the needs of motorcyclists during the design of its roadways – standard designs that must accommodate larger commercial vehicles also accommodate motorcycles. For example, the large turn radius required for large vehicles provides adequate space for a motorcycle to negotiate the curve safely. Panelists also noted other standard designs that benefit motorcyclists, including paving back intersecting gravel roads up to 100 feet to prevent gravel from spilling into a paved intersection, which may pose a hazard to motorcyclists.

Pavement Skid Factors

MDOT is piloting and utilizing High Friction Surface treatments that can benefit motorcyclists. In selecting sites for treatment, several locations had motorcycle lane departure crashes. MDOT measures pavement friction levels on a three year cycle, in accordance to national friction standards (ASTM E-274). The needs of motorcyclists were considered during the development of this national testing standard. In addition MDOT will do site specific friction testing where there have been complaints or concerns from motorcyclists about possible loss of traction.

Motorcyclist-Specific Warning Signs

MDOT does give special consideration to motorcycles in areas of roadway maintenance. Whenever possible, construction operations are avoided that place motorcycles on grooved pavement, milled surfaces, pavement lane edge drops, rumble strips, and unpaved surfaces. Warning signs indicating surface conditions, edge transitions, etc. are well placed along the roadways in construction areas and are well designed and carry messaging such that motorcyclists receive sufficient warnings to navigate safely.

Motorcycle Crash Problems and Countermeasures

Testimony indicated that the condition of the State's roadway system, such as potholes, highway surface markings, and crack seal conditions are a serious concern for motorcyclists and for motorists and transportation agencies alike.

MDOT and the County Road Association of Michigan have members on the Motorcycle Safety Action Team which gives them the opportunity to give input and receive information that may impact safety for motorcyclists on Michigan's roadways. The Strategic Highway Safety Plan includes the strategy "to evaluate the safety impact of engineering countermeasures and maintenance of Michigan roadways to better accommodate motorcyclists."

The Michigan Motorcycle Action Plan (MMAP) identifies short-term activities to achieve the objective, including examining safety effects to motorcycles of pothole maintenance, low friction asphalt sealants and crack fillers, low friction pavement markings, and grooving concrete pavement. The short-term activities also include collaborating with state and local road maintenance and work zone personnel on motorcycle safety concerns, including raised manhole covers, uneven pavement, gravel and debris in the roadway, and traffic signal detectors.

Panelists noted that the standard for the use of crack sealant had been revised, so that a crack sealant application is no more than four inches wide. The revised standard also includes a specification for maximum depth. Testimony indicated that even though there are standards regulating width, height, and surface treatments of seam seal (referred to as "tar snakes" in the motorcycling community), sometimes contractors get overzealous in application causing wider- and higher-than-regulation crack treatments. These seals, even when properly applied, can create instability and traction problems; improperly applied seals can easily lead to a loss of control, especially if treatment for surface traction is not applied immediately. Panelists indicated that contract projects are inspected and work performed under contract must be guaranteed to conform to established standards.

A mid-term activity listed in the MMAP is to study the impact of new barrier technology on state trunk lines. Panelists reported that a study of median cable barriers had been completed with the assistance at Wayne State University. The report identified six crashes involving motorcycles and median cable barriers, representing 0.2 percent of all median barrier strikes. Panelists were not aware of specific motorcycle crash outcomes but reported that the study concluded that the safety benefit provided by the barrier outweighed other safety concerns.

It was not evident from assessment discussions that MDOT was aware of any motorcycle crash problem areas, roadway characteristics over-involved in motorcycle crashes, or involved in any active engineering countermeasures.

MDOT and county highway engineers have communication systems in place to allow motorcyclists and motorists to contact them about roadway conditions that may be of concern, such as pot holes, fallen trees, and non-functioning traffic signal detectors.

Recommendations

- **Analyze crash location data to determine motorcycle crash “hot spots” related to problem intersections, curves, wildlife, etc., or design characteristics or pavements conditions that impact motorcycle safety, and investigate for potential solutions.**
- **Monitor and enforce the application of seam seals by contractors to prevent seams that exceed the standard width and height standards and ensure that surface treatments to control traction are applied immediately if needed, with particular attention to ramps and curves.**
- Educate transportation professionals of the operational characteristics of motorcycles and the roadway design and maintenance needs specific to motorcyclists.
- Analyze pavement skid factors, particularly the use of painted or thermoplastic-type markings on roadways and intersections.
- Continue to involve motorcyclists in the testing of new designs, treatments and materials.
- Promote the availability of hazardous condition reporting channels to motorcycle clubs and organizations.

IX. Motorcycle Rider Conspicuity and Motorist Awareness Programs

State motorcycle safety programs, communication campaigns and State motor vehicle operator manuals should emphasize the issues of rider conspicuity and motorist awareness of motorcycles. These programs should address:

- Daytime use of motorcycle headlights;
- Brightly colored clothing and reflective materials for motorcycle riders and motorcycle helmets with high daytime and nighttime conspicuity;
- Lane positioning of motorcycles to increase vehicle visibility;
- Reasons why motorists do not see motorcycles; and
- Ways that other motorists can increase their awareness of motorcyclists.

Status

The rate of use of high-visibility gear remains low and rider responses to conspicuity campaigns remains mixed. Michigan has undertaken a variety of measures to promote the increased use of high-visibility gear and incorporates conspicuity messages in most of its literature.

Motorcycle Operator's Manual

Michigan Department of State (MDOS) prints and distributes nearly 40,000 copies of the Motorcycle Operator's Manual (MOM) each year. The MOM, last revised in 2014, includes a specific section on increasing rider conspicuity. The section describes reasons why motorists do not notice motorcycles and identifies strategies to increase conspicuity. The strategies include: Use of headlights, taillight, and turn signals to communicate position and intention, lane positioning to increase visibility, and wearing brightly colored and retroreflective clothing. In addition, the MOM includes tips for increasing visibility to motorists when approaching and moving through intersections and includes a "test yourself" question on times when high visibility gear should be worn.

The "Clothing" section of the MOM mentions that proper gear can make you more visible; however, there are no references to bright colors or retroreflective material in this section. In addition, this section says "leather offers the most protection." Most leather apparel is black, and few leather motorcycle jackets or pants incorporate high-visibility features. This section promotes gear that keeps you warm, dry, and protected in wet weather; however, there is no reference to the importance of high-visibility features in these conditions.

Rider Education Curricula

Michigan uses the updated MSF Basic Rider Course (BRC), among other courses. This curriculum includes specific instruction on the selection and proper use of riding gear, with emphasis on using bright colors and retroreflective materials to increase conspicuity. While this is taught in the classroom, panelists reported that few instructors wear high visibility gear while delivering motorcycle safety training. A 2013 survey of

nearly 900 motorcycle safety course participants showed that 34 percent responded that they would not be likely to use high visibility gear before the class. That percentage decreased to 28 percent after the class, a modest but measurable improvement.

Conspicuity Campaigns

Michigan is active in promoting conspicuity to riders through public information campaigns. In 2013, the Office of Highway Safety Planning (OHSP) initiated a paid-media campaign to promote increased use of high-visibility riding gear. Television and radio advertisements were aired in the metropolitan Detroit and western Michigan media markets as a part of the Ride Safe to Ride Again awareness campaign. The Ride Safe to Ride Again campaign website was updated, including the addition of a link to the MDOS motorcycle training program locator.

Later in 2013, OHSP sponsored a Direct Observation Study of Motorcycle Helmet Use prepared by Wayne State University Transportation Research Group. In addition to collecting information on helmet use, the observers conducting the survey collected data on the use of high-visibility gear at randomly selected roadside locations. According to the report, the overall use rate for high visibility gear was 5.6 percent. Cruiser riders had the lowest observed use rate of 2.8 percent and sport and dual-sport bike riders had the highest use rates at 12.6 percent and 12.5 percent respectively.

As a followup to the observational survey and the 2013 media campaign, OHSP sponsored four focus groups. Of the 45 riders participating, 87 percent reported wearing protective gear; however only 24 percent reported owning high visibility gear. Half (49 percent) of the riders participating indicated that they were aware of the media campaign and 16 percent indicated that the advertisements had caused them to consider wearing high visibility gear. Panelists reported that some riders did not want to be viewed as “weak” and some riders think of high visibility gear as “stupid” and “unnecessary.”

In 2014, OHSP placed billboards promoting high visibility gear with the Ride Safe to Ride Again message in the metropolitan Detroit and Grand Rapids media markets. Before and after the advertising campaign, OHSP conducted a telephone survey asking motorcyclists about high-visibility riding gear. More than 60 percent of respondents indicated that they did not wear high visibility gear. A significant portion (30 percent) indicated that wearing high visibility gear was not “cool” and one in five respondents (20 percent) said they did not need to wear high-visibility gear.

During the 2014 riding season, OHSP and rider training program staff participated in several motorcycle events to promote safety awareness, including high visibility gear and distributed bandanas in high visibility colors as a part of the Ride Safe to Ride Again outreach and awareness campaign.

In 2015, OHSP initiated a program to promote the increased use of high visibility gear by providing a high-quality, brightly colored, retroreflective riding vest to students who successfully completed the BRC at a public training location. The vests, which meet

military standards for conspicuity, began to be distributed in June 2015. During the 2015 riding season, 7,500 vests were distributed. A small number of vests were issued to instructors. A panelist noted that the delay in delivery of the vests caused problems with distribution to students who had already completed the course earlier in the training season, and that more attention could have been brought to the campaign if local media had been engaged. Panelists reported that although attempts were made to engage motorcycle dealerships in the campaign, very few were receptive. Riding clubs and organizations were not engaged in the campaign.

The vest campaign is planned again for the 2016 riding season and a followup observational survey is planned for 2017.

Motorist Awareness Campaigns

Public Act 317 of 2014 created a legal requirement that driver education classroom instruction “shall include information concerning the laws pertaining to bicycles and motorcycles and shall emphasize awareness of their operation on the streets, roads, and highways of this state.” The law, named the Nathan Bower Act, was dedicated to the memory of a young man killed when he was struck by a car driver while riding his motorcycle.

MDOS establishes a standardized curriculum for driver education training in the state. The curriculum, an adaptation of the American Driver and Traffic Safety Education Association (ADTSEA) 3.0 curriculum, includes a unit on sharing the road with vulnerable road users, including pedestrians, bicyclists, and motorcycles. No changes to the approved curriculum were required to comply with the law. However, to support the law, MDOS developed and distributed a list of motorcycle awareness resources, including videos, booklets, and websites.

Each year, MDOS produces and distributes more than 190,000 copies of the booklet “What Every Driver Must Know,” which is used in conjunction with the driver education program. This publication includes a section on sharing the road with motorcycles, mopeds, and bicycles. MDOS also distributes the booklet “Parent’s Guide to Supervised Driving,” which includes a sidebar of tips for sharing the road with bicycles, pedestrians, and motorcyclists.

Representatives of ABATE described their efforts to promote motorist awareness, which include the production and distribution of approximately 2,000 yard signs per year, outreach to schools reaching between 3,000 and 5,000 students, and distribution of promotional items including wrist bands and key chains. These activities are conducted independent of other state motorist awareness efforts.

Each year since 2011, the Governor has issued a proclamation designating May as Motorcycle Safety Month, and one or more kickoff press events have been conducted with the Secretary of State (a licensed motorcycle rider) and other motorcycle stakeholders to emphasize share the road messages to motorists and other safety messages for motorcyclists. In addition, during motorcycle safety month, Michigan

Department of Transportation (MDOT) overhead highway dynamic message signs have displayed a share the road message. In 2014, OHSP coordinated and sponsored a Share the Road effort where posters were displayed at MDOT rest areas across the state. The results of these efforts are described in more detail in the section X of this report. A panelist indicated that health agencies conduct outreach and public communication, but that motorcycle safety messages were not incorporated into their communications programs. Another panelist noted that the state has three major employers that could be good campaign partners in motorcycle safety awareness efforts.

Recommendations

- **Promote increased use of high-visibility gear among instructors, especially when conducting training and representing their training program.**
- **Analyze crash data to determine the location, type, and severity of multiple-vehicle motorcycle crashes in which the other driver was found to be at fault. Use the data from this analysis to develop targeted motorist awareness campaigns.**
- **Engage motorcycle clubs and organizations in the planning and implementation of protective gear campaigns.**
- Conduct followup to the 2013 observation study to determine post-campaign high visibility gear use rates and develop communication strategy to publicize results.
- Using the Motorcycle Action Team as the point of coordination, develop an annual strategic communication plan that identifies messages for priority problem areas, develops measurable communication objectives, and assigns specific roles for critical stakeholders.
- Review the content of the Motorcycle Operator's Manual to ensure that messages related to high visibility gear are consistent with new campaign materials.
- Investigate alternative channels to target rider groups, including motorcycle-related magazines and websites.
- Consistently integrate social media in strategic communications plans to extend the reach of paid media campaign materials.
- Engage additional partners in the distribution of motorist awareness and motorcyclist campaign messages, including health agencies, hospitals, and major employers.

X. Communications Program

States should develop and implement communications strategies directed at specific high-risk populations as identified by data. Communications should highlight and support specific policy and progress underway in the States and communities and should be culturally relevant and appropriate to the audience. States should:

Focus their communication efforts to support the overall policy and program;
Review data to identify populations at risk; and
Use a mix of media strategies to draw attention to the problem.

Status

Program Communications Support

The 2013-2016 State Highway Safety Plan (SHSP) includes the motorcycle safety strategy “support public information and education campaigns.” In the 2013-2016 Motorcycle Action Plan (MMAP) includes Objective #4 – “Create and promote new public information and education campaigns.” Under this objective, the MMAP lists four “ongoing activities”: to promote a comprehensive safe motorcycling mindset through the existing Ride Safe to Ride Again campaign; to educate the public about the benefits of wearing a helmet and protective gear; educate law enforcement, prosecutors, and courts on unendorsed riders; and educate motorists through the ABATE of Michigan’s Look Twice Save a Life Campaign outreach and yard signs, and mailings to vehicle owners through MDOS. Panelists from agencies and rider organizations presented on their efforts in these areas. From the available information, the level of coordination among these efforts varied.

Problem Identification and At-Risk Populations

Panelists identified a variety of problems as primary causes of, or correlated with, serious motorcycle crashes. Most discussion centered on unendorsed riders, riders not wearing high visibility gear, motorcyclist training, and motorist awareness. A variety of data were presented on the number of unendorsed riders. Data were provided detailing the rate of unendorsed riders at the county level from 2012 to 2015, which showed that the greatest overall numbers of endorsed riders were in more dense, urbanized areas of the state. Organized outreach and communication activities, including paid media advertising, were concentrated largely in the metropolitan areas of Detroit and Grand Rapids. The Office of Highway Safety Planning (OHSP) 2015 Annual Evaluation Report identifies males ages 35-64 as the focus of paid motorcycle messaging for the Get Endorsed or Get Towed campaign focusing on unendorsed riding.

The efforts to educate the public about the benefits of helmet use were targeted toward the general public via of the Skilled Motorcyclist Association – Responsible, Trained and Educated Riders (SMARTER) website. The Look Twice to Save a Life campaign focuses primarily on novice drivers in driving schools. No data was reviewed specific to the relative involvement of young drivers in crashes involving both a car and a motorcycle; however, ABATE representatives indicated this targeting was intended to

produce new drivers more likely to share the road safely throughout their driving career.

Media Strategies

A variety of campaign strategies have been used to promote motorcycle safety campaigns, including significant investments in paid media advertising. It was reported that, from FY 2011-15, OHSP dedicated more than \$1.2 million in paid advertising to disseminate motorcyclist safety messages. From 2010 to 2012, television, radio, and internet advertisements and billboards were used to promote the Ride Safe to Ride Again message, and campaign content was added to the MDOS motorcycle safety web page. Based on survey and focus group results, and a refocusing of the campaign, billboards were used as the primary channel for the Ride Safe to Ride Again messages in 2014 and 2015. Recently, unpaid social media was added to the mix of media strategies, and campaign creative content was adapted for use on Facebook and Twitter.

In addition to these paid media investments, OHSP, Michigan Department of State (MDOS), and other members of the MMAT and partners including the Gold Wing Touring Association, Michigan Department of Transportation (MDOT), and ABATE worked together to deliver earned media events, featuring Governor's Proclamations of May as Motorcycle Safety Month and involving senior government officials and featured speakers. These efforts appear to have been focused on this one month. Also, to promote motorist awareness of motorcycles, MDOT programmed overhead highway dynamic message signs to display a motorcycle safety message in the month of May. MDOS also programmed Motor Vehicle Network television displays in branch offices to play the Ride Safe to Ride Again video PSA.

OHSP and MDOS staff also participated in outreach at large motorcycle events, including Bikes on the Bricks, conducting informal surveys, and distributing campaign promotional items. Panelists reported that attempts were made to incorporate motorcycle dealer displays into the campaign, but few dealers were willing to participate.

It was reported that campaign telephone surveys show that the Ride Safe to Ride Again achieved greater than 40 percent recognition among riders surveyed. It is unknown what awareness among the general driving population has been achieved.

ABATE of Michigan funds its own motorist awareness outreach, producing and distributing approximately 2,000 yard signs per year and reaching an estimated 3,000 to 5,000 drivers through direct outreach each year.

Recommendations

- **In advance of the riding season, MMAT should coordinate and develop an explicit, annual strategic communication plan. The plan should identify priority problem areas and messaging supported by available data. The**

plan should articulate measurable communication objectives, and assign responsibility for specific actions for critical stakeholders.

- **Following the riding season, convene a meeting of the MMAT to review communication campaign outcomes, evaluate new data on each problem area, and propose improvements for the following riding season.**
- **Include motorcycle training center operators and instructors as key participants in the communications plan.**
- For each problem area addressed in the strategic communications plan, identify and engage new partners who can assist in the dissemination of campaign messages and promotional materials. These partners may include law enforcement agencies, departments of health, rider organizations, motorcycle dealerships, hospitals, local EMS and fire departments, employers, and other businesses.
- Expand the use of paid and unpaid social media promotion to engage new partners and extend the reach of all campaigns included in the plan.
- For each outreach campaign that involves the promotion of a website or web survey, create a unique URL for each mailing/promotion/distribution point so that responses can be tracked to unique campaign tactics.
- Conduct a survey of Michigan drivers to assess their knowledge, attitudes and behaviors related to sharing the road with motorcycles. This may be achieved by incorporating motorcycle-specific questions into a general or omnibus survey of Michigan drivers.

XI. Program Evaluation and Data

Both problem identification and continual evaluation require effective record keeping by State and local government. The State should identify the frequency and types of motorcycle crashes. After problem identification is complete, the state should identify appropriate countermeasures. The state should promote effective evaluation by:

- Supporting the analysis of police accident reports involving motorcyclists;
- Encouraging, supporting and training localities in process, impact and outcome evaluation of local programs;
- Conducting and publicizing statewide surveys of public knowledge and attitudes about motorcycle safety;
- Maintaining awareness of trends in motorcycle crashes at the national level and how trends might influence activities statewide;
- Evaluating the use of program resources and the effectiveness of existing countermeasures for the general public and high-risk population;
- Collecting and reporting accurate motorcycle vehicle miles traveled data; and
- Ensuring that evaluation results are used to identify problems, plan new programs and improve existing programs.

Status

Crash Reporting and Analysis

The Department of Michigan State Police (MSP) is responsible for establishing a standardized traffic crash reporting form and by law, all law enforcement agencies are required to submit crash reports to the MSP using this standardized format. Approximately 97 percent of crash reports are submitted to MSP electronically.

The MSP Traffic Crash Reporting Unit (TCRU) is responsible for the complete, accurate, and timely collection, processing, and compilations of statewide traffic crash data. TCRU conducts quality assurance reviews to ensure each crash has been properly geolocated and performs other quality assurance functions. TCRU conducts quality assurance reviews on each fatal motorcycle crash to ensure that the licensure and endorsement status of the motorcycle rider is accurate.

On January 1, 2016, MSP adopted an updated traffic crash reporting form (UD-10) to become more compliant with the Model Minimum Uniform Crash Criteria. The new form includes new data elements, including contributing circumstances, driver condition at the time of crash, driver distraction, and a redesigned alcohol reporting section. The updated form requires police officers to enter a greater number of data elements into the report before it can be submitted. The updated form does not differentiate between a DOT-compliant and non-compliant helmet. The Manual Minimum Crash Criteria 3rd Edition indicates that helmet use reporting should differentiate between DOT-compliant and non-compliant helmets.

Support for Evaluation of Local Programs

MSP publishes standardized traffic crash summary reports and develops customized queries for traffic safety partners, including the Office of Highway Safety Planning (OHSP). MSP also hosts the Traffic Crash Reporting System (TCRS), which provides qualified agencies and individuals with unsanitized crash data. Users include local road agencies and law enforcement agencies. MSP also shares complete sanitized crash data sets with external partners, including other state agencies and research organizations.

One such use of this sanitized data is the website, www.michigantrafficcrashfacts.org, a project of the University of Michigan Transportation Research Institute (UMTRI) under a grant from OHSP. The website provides access to dozens of standardized reports on various traffic safety crash areas, including motorcycling.

This website also features a powerful query tool that allows all users to create and download customized data sets using sanitized crash data from 2004 to 2014. Users can query the database by a wide variety of crash factors, including vehicle type and geographic area. Once the required data is queried the users can create summary tables, charts, maps, and calendar views of the crash data. A link to this resource is provided to prospective OHSP grantees via the OHSP website to help them develop their grant applications.

This website also houses data reports to support the action teams of the Governor's Traffic Safety Advisory Commission (GTSAC). These reports include age and gender of motorcyclists killed and injured, driver action prior to crash, yearly crash, injury and fatality totals, and long-term crash trends.

Statewide Motorcycle Safety Surveys

OHSP conducts telephone surveys to evaluate the effect of paid media campaigns. In addition to evaluating campaign impact, the surveys collect data on rider travel behavior, experience, and attitudes. These are described later in this section. OHSP also conducts a periodic statewide Driver Attitude and Beliefs Omnibus Survey. The last such telephone survey was conducted in 2014. There were no motorcycle-specific questions in the survey. Of the 600 respondents, one reported that their primary means of transportation was a motorcycle. There have been no statewide surveys targeting the general driving public with questions specifically addressing motorcycle safety.

Awareness of National Trends

Several panelists noted recent national trends in motorcycle fatalities and the similarity of Michigan's fatal crash data with these trends. The FY2016 HSP notes that motorcyclist fatalities continue to fluctuate, both within the state and at the national level.

Problem Identification and Countermeasure Identification

Data-driven problem identification, countermeasure selection, and evaluation are critical to the effective use of limited funds. Motorcycle safety problem identification is complicated by the variety of crash types (multi-vehicle motorist at fault, multi-vehicle

rider at fault, single vehicle) and the types of motorcycles and riders.

In 2005, the MSP Traffic Services Section conducted an analysis of serious motorcycle crashes using data from 2002 to 2004 at the request of the GTSAC. The report was intended to guide the state in developing plans to reduce motorcycle crashes. The analysis includes valuable insights into the causes of serious crashes between 2002 and 2004, and the information is still relevant. For example, one finding was that “evidence indicates that the majority of single motor vehicle crashes can be directly attributed to inexperienced, untrained, and unlicensed operators.”

A follow up report, Motorcycle Crashes in Michigan: An Overall Analysis was produced by MSP in 2006 and provides a detailed analysis of factors involved in motorcycle crashes of all severities and a historical perspective on motorcycle crashes in the state. This information is also still relevant.

Today, the Michigan Strategic Highway Safety Plan (SHSP) establishes statewide goals, objectives and key emphasis areas to achieve the state’s overall goals to reduce traffic-related fatalities and injuries. Motorcycle safety is one of twelve emphasis areas in the SHSP and five motorcycle safety strategies are identified: Legislation; training, protective gear and high-visibility gear; training for EMS personnel; public information and education campaigns; and evaluation of safety impacts of engineering countermeasures.

A multidisciplinary Motorcycle Safety Action Team (MSAT) developed a 2013-2016 Michigan Motorcycle Action Plan (MMAP) to implement these strategies (called “objectives” in the MMAP). The document sets two goals: To reduce the unendorsed rider population to 15 percent by 2016 and to reduce fatal and serious injuries by 3.2 percent by 2016. The introduction section of the MMAP identifies alcohol and excessive speed as contributing factors in motorcycle crashes and notes that more than 30 percent of fatal motorcycle crashes involve alcohol. Neither speed nor alcohol involvement are specifically mentioned in the remainder of the MMAP.

The MMAP notes that more than 54 percent of all motorcyclists killed in Michigan in 2012 were unendorsed and includes strategies that are intended to address this issue. It is unclear how other crash characteristics included in the “snapshot” data are addressed by, or help inform, the strategies and actions that follow.

Evaluation of Program Resource Usage and Evaluation’s Role in Program Planning and Improvement

OHSP administers highway safety grant funds from the National Highway Traffic Safety Administration (NHTSA). The 2016 Highway Safety Plan (HSP), which lists projects with NHTSA highway safety funds, describes a six-step grant planning process that includes: Problem identification, goal-setting, performance measure development, traffic safety partner input, budget development, and project selection. The grant FAQ section of the OHSP website indicates that the grant process is intended to “assess the project's potential for impacting the identified traffic safety priority area which will ultimately assist

with achievement of the overall statewide traffic safety goals.”

The FY2016 HSP includes a specific goal for motorcycle safety in the motorcycle safety section of the report: To decrease fatalities and incapacitating injuries involving motorcycles by three percent, from 634 in 2014 to 616 in 2017. The problem identification section of the HSP Performance Plan mentions young riders not obtaining endorsements and an increase in older riders who are more prone to injury. The Performance Measures section includes annual goals for motorcyclist fatalities and unhelmeted motorcyclist fatalities. The MMAP goal to decrease unendorsed riders is not referenced in the FY2016 HSP.

For each of the six motorcycle safety projects listed, the HSP identifies the SHSP strategy being addressed and lists at least one objective. The objectives listed are output measures, such as number of events attended, number of students trained, and number of mailings distributed. The objectives do not include measures of what impact these projects are expected to have when implemented.

Evaluation of Effectiveness of Program Countermeasures

The 2014 Annual Evaluation Report (AER) reports the outcomes of motorcycle safety projects funded with NHTSA highway safety grant funds during the 2014 federal fiscal year. For each project listed, the AER notes whether the project objective(s) had been achieved and provides a narrative report of results. The objectives listed in the 2014 are output objectives noting the actions that were taken; for example, participating at a motorcycle event. The results narratives provide more information on the ultimate goal of the project or campaign; however, these outcome goals are not expressed as measurable objectives within the report.

Each year from 2010 to 2015, OHSP sponsored telephone surveys of motorcyclists to evaluate the impact of paid media campaigns conducted each year. In addition to data on the safety campaign, the surveys gathered data on riding patterns, experience, use of protective gear, and prior training. The 2010 and 2011 surveys gathered data from riders across the state. The 2012 survey included riders in Oakland, Macomb, Wayne, Kent, Ottawa and Muskegon counties. Surveys conducted in 2013, 2014 and 2015 focused on the Detroit and Grand Rapids metropolitan areas. It is not clear how these more general rider data surveys are used in program planning.

As a part of the high-visibility campaign in 2013 and 2014, motorcycle safety training centers were asked to conduct pre- and post-campaign surveys of students to assess the effect of the basic rider course on the students' inclination to use high visibility gear. Nearly 900 surveys were collected at six training centers in 2013 and results showed that 34 percent of class participants responded that they would not be likely to use high visibility gear before the class. That percentage decreased to 28 percent after the class. No statewide surveys of rider education program students have been conducted. Results from the 2014 survey were not available.

Motorcycle Vehicle Miles Traveled (VMT)

Collecting accurate motorcycle rider exposure data continues to be problematic for state departments of transportation. Published reports of various VMT categories in Michigan do not include motorcycle VMT.

Recommendations

- **Conduct a follow-up analysis to previous crash-causation studies to identify the most prevalent causal and correlated factors in serious single-vehicle and multiple-vehicle motorcycle crashes.**
- **Convene a multidisciplinary team to review the causation study and develop specific recommendations for countermeasures to address the most frequent causal factors. Team members should include the disciplines of crash reconstruction, highway safety programs, motorcyclist training, highway design, operations and maintenance, injury prevention/epidemiology, and experienced motorcycle riders.**
- **Develop specific statewide goals for motorcycle safety that are consistent across all related safety plans, including the Strategic Highway Safety Plan, Highway Safety Plan, and Michigan Motorcycle Action Plan.**
- Integrate motorcycle training data, license endorsement, and traffic citation data with the crash data available at the Michigan Crash Facts website and query tool.
- Incorporate the results of the crash causation analysis into motorcycle safety instructor update training, highlighting the curriculum components that address documented crash causes.
- On an annual basis, conduct a review of fatal motorcycle crashes to identify critical and emerging issues.
- Establish clear, measurable goals and objectives for plans that provide direction or guidance to motorcycle safety efforts, including updates to the Strategic Highway Safety Plan, Highway Safety Plan, and Michigan Motorcycle Action Plan.
- Include specific data analysis that supports the need for each project included in Highway Safety Plans.
- Require grant-funded projects to include impact objectives and identify how progress toward the objectives will be measured. Provide technical support to prospective grantees on the development and tracking of progress toward these objectives.

- Conduct periodic surveys of registered motorcycle owners to assess changes in knowledge, attitudes, and behaviors targeted by current and prospective motorcycle safety campaigns and policy or legislative initiatives.
- Conduct regular surveys of rider training program students to measure rider satisfaction, gather characteristics of trained riders, and measure program effectiveness. Evaluate the feasibility of conducting pre, post and 6-month online followup surveys so that no manual data entry is required. Make overall results available to all training center managers and instructors.
- Use VIN data to classify registered motorcycles by body type. Compare distribution of body types among all motorcycles with body types to motorcycles involved in serious motorcycle crashes.
- Conduct a comparative analysis of motorcycle training program graduates and riders completing the state rider skills test, incorporating citation and crash data.
- Incorporate public health and health outcome data with problem identification and countermeasure selection process.

Credentials of the Technical Assessment Team

David W. Ennis

Chief of Police, Naval Support Activity Annapolis (US Naval Academy), Annapolis, MD

Experience

- Commander, Traffic Safety Section, Anne Arundel County Police, Maryland
- BikeSafe Maryland Project Director
- Co-Chairman, Maryland Chiefs of Police Traffic Safety Committee
- Executive Committee, Maryland Traffic Safety Specialist Program
- Maryland Motorcycle Coalition member
- 24 years' experience Police Motorcycle Operator/Instructor

Organizations/Appointments

- International Association of Chiefs of Police
- Member, SMSA (2012–2014)
- Instructor, ProRider motorcycle training

Patrick J. Hahn

Communications Manager, TEAM OREGON Motorcycle Safety Program, Corvallis, OR

Experience

- NHTSA, Motorcycle Technical Assessment Team Member, States of California, Colorado, Florida, Ohio, Massachusetts, and North Carolina
- Communications and Outreach Manager, TEAM OREGON Motorcycle Safety Program, (2011-present)
- Public Information Officer, Motorcycle Safety, Minnesota Department of Public Safety (1999-2011)
- Instructor/RiderCoach, Minnesota Motorcycle Safety Center (1996-2011)
- Freelance writer and editor, Motorbooks International

Organizations/Appointments

- TEAM OREGON Liaison, Oregon Governor's Advisory Committee on Motorcycle Safety (2011-present)
- DPS Advisor, Minnesota Motorcycle Safety Advisory Committee (1999-2011)
- Chair, Communications Committee, National Association of State Motorcycle Safety Administrators (2010-2011)
- Hedonistic Enthusiasm Cornering and Safety Seminar Coordinator (2004-2010)
- Central Roadracing Association Timing and Scoring chief (2005-2010)

Publications

- Motorcyclists' Legal Handbook (2011)
- Maximum Control – Mastering Your Heavyweight Motorcycle (2010)

- How to Ride a Motorcycle – A Rider’s Guide to Strategy, Safety and Skill Development (2005)
- Ride Hard, Ride Smart – Ultimate Street Strategies for Advanced Riders (2005)
- Contributor, Minnesota Motorcycle Monthly (2000-2011)

Peter C. Moe

Director, Driver Safety, Maryland Motor vehicle Administration

Experience

- DOT, NHTSA, Motorcycle Safety Technical Team Leader, State of Colorado
- Director, Driver Safety, Maryland Motor Vehicle Administration (2015-present)
- Manager, Driver Instructional Services Division, Maryland Motor Vehicle Administration (2012-2015)
- Chief, Safety Programs Section, Maryland Highway Safety Office (2007-2012)
- Special Programs/Motorcycle Safety Coordinator, Maryland Highway Safety Office (2004-2007)
- Bicycle and Pedestrian Program Manager, National SAFE KIDS Campaign (2004)
- Deputy Director, National Center for Bicycling and Walking (2001-2004)
- Senior Planner and Project Coordinator, National Center for Bicycling and Walking (1992-2001)

Organizations/ Appointments

- Member, SMSA (2013-present)
- Chair, SMSA Communications Committee (2015-present)
- Chair, Maryland Motorcycle Safety Coalition

Brett A. Robinson

Vice President, Highway Safety Services, LLC, Indiana, PA

Experience

- NHTSA, Motorcycle Technical Assessment Team Member, States of Arizona, California, Florida, Nevada and Ohio.
- NHTSA, Driver Education Technical Assessment Team Member, States of Illinois, Michigan and North Dakota.
- Highway Safety Services, LLC, Vice President (2005-Present)
- American Association of Motor Vehicle Administrators, Vice President (1996-2005)
- Indiana University of Pennsylvania, Highway Safety Center (1992-1996)
- Pennsylvania Motorcycle Safety Program Instructor; Site Coordinator; Chief Instructor and Regional Director (1985-1995)
- Maryland Motorcycle Safety Program Chief Instructor (1995-1999)

Organizations/Appointments

- Executive Director, National Association of State Motorcycle Safety Administrators (2013-Present)
- Secretariat, Association of National Stakeholders in Traffic Safety Education (2011-Present)
- Executive Director, American Driver and Traffic Safety Education Association (2009-Present)

John D. Stokes, Jr.

Retired, Raleigh, NC

Experience

- DOT, NHTSA, Technical Team Member, States of Maryland and Tennessee
- State Motorcycle Safety Coordinator and State Traffic Records Coordinator, North Carolina Governor's Highway Safety Program (2004–2010)
- Director, North Carolina Motorcycle Safety Education Program, Director (1998–2004)
- Lead Instructor, North Carolina Motorcycle Safety Education Program (1996–1998)
- MSF Instructor/Rider Coach (1992–2005)

Organizations/Appointments

- Chairman, North Carolina Motorcycle Safety Work Group, DOT Executive Committee (2005–2010)
- Member, SMSA (1998–2004)
- Member, SMSA Executive Committee (1999–2003)
- SMSA Emeritus Member (#1) (2006–Present)

Assessment Agenda

Monday, March 14

8:00 - 9:30 (90 min)	Welcome: Mike Prince Program Management Jason Hamblen Chad Teachout Kirk Ferris
9:45 - 10:45 (60 min)	Motorcycle Operator Licensing Steve Berkemeier Tom Bryant Grace Ueberroth
11:00 - Noon (60 min)	Motorcycle Rider Education and Training Vince Consiglio Kristen Schopieray Emily Shinevar
1:00 - 2:00 (60 min)	Continued SMSgt Mike LaBruzzy-ANG Steve Lick Dan Petterson
2:15 - 3:15 (60 min)	Rider Conspicuity and Motorist Awareness Vince Consiglio Eric Larson Dan Petterson
3:30 - 5:00 (90 min)	Motorcycle PPE Don Smith Dan Petterson Deb Parinello Dr. Alistair Chapman Michael Dabbs Laura Rowen

Tuesday, March 15

8:00 - 9:30 (90 min)	Motorcycle OUI Alcohol/Drugs Ken Stecker Dianne Perukel Scott Ellis F\Lt Jim Flegel-MSP
9:45 - 10:45 (60 min)	Law Enforcement Lt Mario Gonzales-MSP Ofcr John Strom-GBT Capt Mike Poulin-MCO Dep Mike Winkler-OCO Lt Aaron Burgess-SH
11:00 - Noon (60 min)	Rider Conspicuity and Motorist Awareness Robin Bordner
1:00 - 2:00 (60 min)	Highway Engineering Gary Mayes Eric Line Mike Shultz Angie Kremer Bill Taylor Gary Megge
2:15 - 3:15 (60 min)	Legislation and Regulations Sgt Tim Fitzgerald-MSP Dave Richmond Jim Rhoads Vince Consiglio Dan Petterson
3:30 - 5:00 (90 min)	Program Eval and Data Patrick Bowman Alicia Sledge Dr. Alistair Chapman Steve Preston Tom Largo

Wednesday, March 16

8:00 - 9:30 (90 min)	Communications Program Anne Readett Kendall Wingrove Julie Pierce Kristen Allen
9:45 - 10:45 (60 min)	Program Eval & Data Sydney Smith Amanda Heinze Scott Carleson
11:00 - Noon (60 min)	Harley-Davidson Riding Academy Data Brian Miller Tracy Eikner

Friday, March 18

8:00 - 8:30 (30 min)	Assessment Team Delivers Report
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Terms, Acronyms, and Abbreviations

AAMVA	American Association of Motor Vehicle Administrators
ABATE	American Bikers Aiming Toward Education
AMA	American Motorcyclist Association
ARIDE	Advanced Roadside Impaired Driving Enforcement
ARC	Advanced Rider Course
BRC	Basic Rider Course
DRE	Drug Recognition Expert
FARS	Fatality Analysis Reporting System
FMVSS	Federal Motor Vehicle Safety Standards
GDL	Graduated driver license
GHSO	Governor's Highway Safety Office
GMOL	Guidelines for Motorcycle Operator Licensing
GTSAC	Governor's Traffic Safety Advisory Commission
HSP	Highway Safety Plan
LEAK	Law Enforcement Action Kit
MADD	Mothers Against Drunk Driving
MCL	Michigan Compiled Laws
MDOS	Michigan Department of State
MDOT	Michigan Department of Transportation
MI-MRSTP	Michigan Motorcycle Rider Safety Training Program
MLBA	Michigan Licensed Beverage Association
MMAP	Michigan Motorcycle Action Plan
MMAT	Michigan Motorcycle Action Team
MOM	Motorcycle Operator Manual
MRSF	Motorcycle Rider Safety Fund
MSF	Motorcycle Safety Foundation
MSOS	Michigan Secretary of State
MSP	Michigan State Police
MTCF	Michigan Traffic Crash Facts
NHTSA	National Highway Traffic Safety Administration
OHSP	Office of Highway Safety Planning
OTS	Office of Traffic Safety
OWI	Operating While Intoxicated
PI&E	Public Information and Education
PIO	Public Information Officer
QAV	Quality Assurance Visit
RRC	Returning Rider Course
RST	Rider Skills Test
SFST	Standardized Field Sobriety Testing
SHSO	State Highway Safety Office
SHSP	Strategic Highway Safety Plan

SMARTER	Skilled Motorcyclist Association – Responsible, Trained, and Educated Riders
SOS	Secretary of State
TAM-MI	Techniques of Alcohol Management – Michigan
TIP	Temporary Instruction Permit
TSRP	Traffic Safety Resource Prosecutor
UMTRI	University of Michigan Transportation Research Institute
VIN	Vehicle Identification Number
VMT	Vehicle Miles Traveled