



STATE OF ARIZONA

MOTORCYCLE SAFETY PROGRAM

TECHNICAL ASSESSMENT

JUNE 11 - 15, 2007

National Highway Traffic
Safety Administration
Technical Assessment Team

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TABLE OF CONTENTS

Subject	Page
ACKNOWLEDGEMENTS	3
INTRODUCTION	5
SUMMARY OF MAJOR RECOMMENDATIONS	7
I. PROGRAM MANAGEMENT	12
II. MOTORCYCLE PERSONAL PROTECTIVE EQUIPMENT	16
III. MOTORCYCLE OPERATOR LICENSING	19
IV. MOTORCYCLE RIDER EDUCATION AND TRAINING.....	25
V. MOTORCYCLE OPERATION UNDER THE INFLUENCE OF ALCOHOL OR OTHER DRUGS	29
VI. LEGISLATION AND REGULATIONS.....	31
VII. LAW ENFORCEMENT	34
VIII. HIGHWAY ENGINEERING.....	37
IX. MOTORCYCLE RIDER CONSPICUITY AND MOTORIST AWARENESS PROGRAMS.....	38
X. COMMUNICATION PROGRAM.....	40
XI. PROGRAM EVALUATION AND DATA.....	43
CREDENTIALS OF TECHNICAL ASSESSMENT TEAM	45

ACKNOWLEDGMENTS

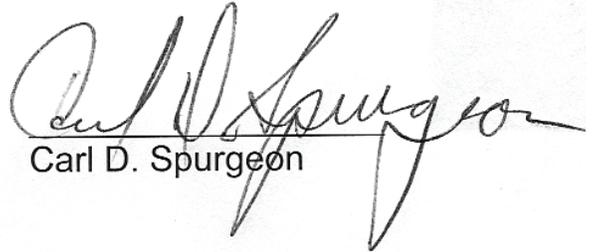
The Assessment Team acknowledges and thanks Richard Fimbres, La Retta Lehan, Officer Arnie Cuellar, and Patricia Arteaga of the Arizona Governor's Office of Highway Safety for their support in making this assessment possible.

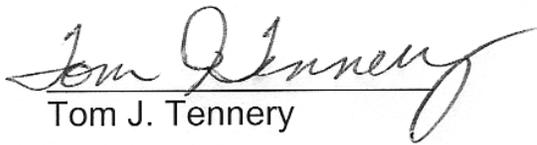
The Assessment Team also acknowledges the National Highway Traffic Safety Administration (NHTSA) staff for their assistance in making this assessment possible. The team believes that this report will contribute to the State's efforts to develop an effective motorcycle safety program to prevent injuries, save lives, and reduce the economic costs of motorcycle-related crashes on Arizona's highways and roads.

The Assessment Team also extends a special thanks to all the people who provided information, data, and documents that were necessary to conduct an effective assessment. Their candor and thoroughness in discussing activities associated with motorcycle safety in Arizona greatly assisted the Assessment Team in completing its review and making its recommendations. The Assessment Team also recognizes the dedication and passion of all those involved in making motorcycling safer in Arizona and hopes that this report will further those efforts.

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INTRODUCTION

In 2006, in the United States, motor vehicle crashes were the leading cause of death for people ages 2 through 34. In 2006, 42,642 people were killed and 2,575,000 were injured nationwide in motor vehicle crashes. Recent NHTSA data indicate that deaths and injuries attributable to motorcycle crashes are becoming a larger portion of this serious public health problem. Motorcycle crash-related fatalities have been increasing since 1997, while injuries have been increasing since 1999. The effects of a crash involving a motorcycle can often be devastating.

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, 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 weaknesses, 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, highway engineering, and communications.

NHTSA's assistance in assessing Arizona's motorcycle safety efforts was requested by the Arizona Governor's Office of Highway Safety (GOHS). NHTSA agreed to facilitate this assessment and met with representatives from the GOHS to define key issues of concern to the State.

The Arizona Motorcycle Safety Program Assessment was conducted in Phoenix during June 11-15, 2007. Arrangements were made for State 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 more than 30 presenters, with several being contacted following their presentations to provide additional information and clarification.

Analysis of Arizona'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 emphasizes 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 Arizona, with short- and long-term applicability.

Arizona Demographics

The U.S. Census Bureau's 2005 American Community Survey estimated that the population for the State of Arizona was 5,829,839 during 2005. Of the total population, there were an estimated 2,902,933 males (49.8% of the total population) and 2,926,906 females (50.2% of the total population), with a median age of 34.5.

Highway Safety

Arizona is the sixth largest State in the United States, with 113,635 square miles of land and 59,789 miles of roads, highways, and freeways. In 2005, there were 4,878,927 registered vehicles in Arizona, of which there were only 115,867 registered motorcycles (representing only 1.9% of the total vehicle population). Additionally, in 2005, there were 3,943,625 licensed motor vehicle operators (approximately 68% of the State's total population) who hold a license to operate at least one class of motor vehicle. With respect to the number of licensed motorcycle operators in Arizona, the assessment team made several requests for this information and at the conclusion was unable to determine the total number of licensed motorcycle operators in the State.

Data provided to the Assessment Team from GOHS indicate a significant increase in the number of motorcycle-related crashes, injuries, and fatalities since 2000:

- The number of motorcycle-related crashes increased from 2,138 in 2000 to 2,936 in 2005, an increase of 34 percent over the course of six years.
- The number of motorcycle-related injuries increased from 2,107 in 2000 to 2,466 in 2005, an increase of 25 percent over the course of six years.
- The number of motorcycle-related fatalities increased from 97 in 2000 to 146 in 2005, an increase of 55 percent over the course of six years.

The Assessment Team strongly encourages the State of Arizona and all stakeholders in the motorcycling community to consider the implementation of the recommendations made in this report. There is a clear need for Arizona to enhance its motorcycle safety program by adopting and incorporating all of the program areas associated with a comprehensive motorcycle safety program. Aggressive pursuit and implementation of the following recommendations by the State will significantly improve the overall safety of motorcycling and reduce the likelihood of motorcyclists suffering fatal injuries while enjoying the roadways and scenic locations of the Grand Canyon State.

SUMMARY OF MAJOR RECOMMENDATIONS

I. PROGRAM MANAGEMENT

- Develop a plan and budget for a formal, comprehensive motorcycle safety program within the GOHS.
- Establish and fund two full-time employee positions dedicated to the management and implementation of a comprehensive motorcycle safety program. One position should be a State coordinator/manager and the second should be an administrative assistant.
- GOHS should take ownership of the motorcycle safety program as the Arizona Motorcycle Safety Program owned by Arizona motorcyclists. Brand the program with a logo to aid in recognition.

II. MOTORCYCLE PERSONAL PROTECTIVE EQUIPMENT

- Pass a universal helmet law for all riders and passengers compliant with Federal Motor Vehicle Safety Standard (FMVSS) 218.
- Amend 28-964 A to require passengers to wear protective glasses, goggles, or a transparent face shield.

III. MOTORCYCLE OPERATOR LICENSING

- Require mandatory helmet use, protective gear, and a .00 grams per deciliter (g/dL) blood alcohol concentration (BAC) for all instructional permit holders.
- Establish a policy to allow only Motor Vehicle Division (MVD)-designated foreign language interpreters to aid with the administration of knowledge tests.

Motorcycle License Renewal Requirements

- Require the renewal of drivers' licenses, including motorcycle licenses, every four years as recommended by the American Association of Motor Vehicle Administrators (AAMVA) Policy Position for driver's license renewal.

Examiner Training

- Utilize the Motorcycle Safety Foundation/NHTSA/AAMVA Alternate Motorcycle Operator Skills Test (ALMOST) training program for motorcycle examiners.
- Require annual refresher training focused on administration of the ALMOST testing procedures for all motorcycle examiners.

- Improve the monitoring and oversight practices for ALMOST administration.

Driver Education Certificate of Completion

- Repeal the policy waiving the motorcycle rider education requirement if parents or guardians certify in writing that applicants under the age of 18 have completed at least 25 hours of motorcycle driving practice. All applicants under the age of 18 should successfully complete a motorcycle rider education program licensed by the MVD to qualify for a Class M license or endorsement.
- Discontinue accepting completed High School Driver Education Certificates to waive the MVD motorcycle knowledge test.

Licensed Third-Party Tester/Motorcycle Education

- Increase monitoring of certificates and motorcycle education end-of-course examinations. Frequent on-site observations of testing procedures should be conducted.

Penalties for Violation of Motorcycle Licensing Requirements

- Implement legislation requiring law enforcement officials to impound motorcycles if riders are not properly licensed.

IV. MOTORCYCLE RIDER EDUCATION AND TRAINING

- Establish a records system that allows the State to extract data and produce reports to determine the status of training, evaluate training effectiveness, and determine future needs.
- Establish a formal motorcycle training curriculum review and approval process to ensure the training program meets the needs of Arizona's riders.
- Develop policies and standards for instructor training, certification, and continued professional development.
- Develop policies and procedures for ongoing evaluation and monitoring of the motorcycle education providers, to include the quality and consistency of training and testing.
- Develop strategic plans for ongoing development of the motorcycle education system.

V. MOTORCYCLE OPERATION UNDER THE INFLUENCE OF ALCOHOL OR OTHER DRUGS

- Conduct outreach to law enforcement to educate them on the availability of impaired-riding detection materials available from NHTSA, MSF, the American Motorcycle Association, and individual State programs.
- Include training on impaired-riding during the Annual Training Summit for Law Enforcement, Prosecutors, and Judges. Require alcohol/drug education as well as rider education upon conviction for DUI.

VI. LEGISLATION AND REGULATIONS

- Pass a universal helmet law for all riders and passengers compliant with Federal Motor Vehicle Safety Standard (FMVSS) 218.
- Establish and fund two full-time employee positions dedicated to the management and implementation of a comprehensive motorcycle safety program. One position should be a State coordinator/manager and the second should be an administrative assistant.
- Continue the State Motorcycle Safety Advisory Council past 2010.
- Adopt the FMVSS 218 helmet standard for those operators and passengers under the age of 18 and provide law enforcement training on recognizing approved helmets.
- Require mandatory helmet use, protective gear, and a .00 g/dL BAC for all instructional permit holders. (See Section II: Protective Equipment).
- Require the renewal of drivers' licenses, including motorcycle licenses, every four years as recommended by the AAMVA Policy Position. (See Section III: Motorcycle Operator Licensing).
- Implement legislation allowing law enforcement officials to impound motorcycles if riders are not properly licensed. (See Section III: Motorcycle Operator Licensing).

VII. LAW ENFORCEMENT

- Distribute NHTSA's Detection of DWI Motorcyclists materials through GOHS's law enforcement coordinator to law enforcement agencies statewide.

- Encourage all law enforcement personnel to take a zero-tolerance approach to unendorsed motorcycle operators.
- Include training on impaired riding during the Annual Training Summit for Law Enforcement, Prosecutors, and Judges. Require alcohol/drug education as well as rider education upon conviction for DUI.
- Implement legislation allowing law enforcement officials to impound motorcycles if riders are not properly licensed. (See Section III: Motorcycle Operator Licensing)

VIII. HIGHWAY ENGINEERING

- Establish procedures and safety requirements, in consultation with the State Motorcycle Safety Advisory Council (SMSAC), to consider the handling characteristics of motorcycles when improving, designing, and building highways and structures.

IX. MOTORCYCLE RIDER CONSPICUITY AND MOTORIST AWARENESS PROGRAMS

- Develop guidelines, standards, and evaluation tools for public outreach programs that are associated with GOHS.
- Identify existing programs, for example MAP, and work with the Arizona Driver and Traffic Safety Education Association and Arizona Department of Education for possible incorporation into driver training curriculums.

X. COMMUNICATIONS PROGRAM

- Document current communications activities as a basis for developing and implementing an annual comprehensive communications plan. The plan should include:
 - A research component to identify problem areas to ensure that appropriate themes and messages are developed;
 - Goals and objectives with realistic and measurable outcomes;
 - Use of appropriate multi-media channels;
 - A comprehensive plan for community outreach at events; and
 - An evaluation component to measure pre- and post-campaign awareness and impact on motorist and motorcyclist behavior.
- Establish GOHS as the primary point of contact for motorcycle safety information and presentations. Establish standards and guidelines for all presentations that utilize State-sponsored materials.

XI. PROGRAM EVALUATION AND DATA

- Conduct a detailed evaluation of motorcycle fatality reports to determine root cause factors. Compare the results to existing training materials and adjust curricula to address the issues.

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 and support 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

According to Highway Safety Program Guideline Number 3, Motorcycle Safety, published by NHTSA, a comprehensive motorcycle safety program is comprised of 11 program areas:

1. Program Management
2. Motorcycle Personal Protective Equipment
3. Motorcycle Operator Licensing
4. Motorcycle Rider Education and Training
5. Motorcycle Operation Under the Influence of Alcohol or Other Drugs
6. Legislation and Regulations
7. Law Enforcement
8. Highway Engineering
9. Motorcycle Rider Conspicuity and Motorist Awareness Program
10. Communication Program
11. Program Evaluation and Data

The Arizona motorcycle safety program's enabling legislation designates the Director of the Governor's Office of Highway Safety (GOHS) as responsible for administering the Motorcycle Safety Fund after consultation with the State Motorcycle Safety Advisory Council (SMSAC). The funding provides for implementation and support of voluntary

motorcycle education, awareness, and other programs, including covering the cost of materials for motorcycle safety, education, and awareness programs. Other enabling legislation authorizes the Motor Vehicles Division (MVD) of the Arizona Department of Transportation (ADOT) to issue motorcycle licenses and to register motorcycles for operation on public roadways. The challenge facing the State is to create a plan to ensure all 11 areas are addressed.

According to the 2005 *Arizona Crash Facts*, motorcycle crash fatalities have increased from 75 in 2001 to 146 in 2005. Motorcycle registrations have correspondingly increased from 77,103 in 2001 to 115,867 in 2005 for a fatality rate increase from 0.97 per 100,000 motorcycle registrations to a rate of 1.26. Arizona has experienced a 96-percent increase in motorcycle fatalities as compared to a 50-percent growth in motorcycle registrations. The following chart provides a comparison for Arizona against other southern States with year-round riding and their motorcycle fatality experience.

Motorcycle Crash Fatalities by State and Year

	2001	2002	2003	2004	2005	% change
Alabama	43	43	52	75	61	+42
California	299	324	383	432	469	+57
Florida	287	319	365	432	469	+63
Louisiana	65	68	83	73	75	+15
Mississippi	30	26	42	40	39	+30
Nevada	21	35	26	52	56	+167
New Mexico	31	32	36	39	38	+23
Texas	243	256	342	290	360	+48
Arizona	75	95	111	118	146	+95

Source: *NHTSA Traffic Safety Facts 2005* data

* Source: Arizona Governor's Office for Highway Safety

All State-sponsored public awareness materials and campaigns regarding motorcycle safety are products and efforts of the GOHS. Motorcycle education providers and instructors are licensed by the MVD. Despite the various agencies and divisions involved with motorcycle-related issues, there is no single entity accountable for the overall management and performance of a motorcycle safety program. There is no State coordinator/manager assigned to provide day-to-day management of motorcycle safety efforts for the State of Arizona. Given the effort required to manage the critical elements of a comprehensive motorcycle safety program, the team feels that a full-time manager and an administrative assistant should be dedicated to a motorcycle safety program. These positions should be housed in the GOHS. This will place the program in the agency where funding accountability is already legislated and in a position to coordinate with the many agencies and rider groups involved in a successful motorcycle safety program.

ARS 28-2010 created a Motorcycle Safety Fund to be used for the implementation and administration of motorcycle safety efforts. One dollar per motorcycle registration per year is deposited in the Motorcycle Safety Fund. At the end of each fiscal year funds in excess of \$150,000 are transferred to the general fund. Legislation was passed in 2007 removing this cap. ARS 28-2010 restricts the GOHS from spending more than 10

percent of the total fund for administrative costs. GOHS projects that 2007 revenues will be \$150,000, providing for a maximum of \$15,000 for administrative costs. The current level of funding is inadequate to support a comprehensive motorcycle safety effort.

In 2006 a NHTSA 2010 grant in the amount of \$104,000 was received and used for Public Information and Education efforts during 2007. An additional request is being prepared for FY 2007, which if approved will provide approximately the same amount for 2008 efforts.

During the interviews it became obvious that there is confusion among motorcyclists, motorcycle training schools, and staff from State agencies concerning the ownership and responsibility for the motorcycle safety program. Interviewees frequently referred to the program as “the MSF [Motorcycle Safety Foundation] program.” For example, the Motorcycle Operators Manual (MOM) refers customers to MSF to locate training programs within Arizona. GOHS radio advertising and posters refer customers to MSF for further information about motorcycle safety. Statements by MVD staff and motorcycle training school staff referred to the MSF course. Arizona needs to take ownership and brand the Arizona Motorcycle Safety Program, clearly identifying an Arizona program for Arizona motorcyclists, provided by the State of Arizona.

Data are being collected by the GOHS, MVD, and the Department of Public Safety (DPS) on motorcycle crashes, injuries, and fatalities. However, information presented to the assessment team was significantly lacking in depth with no determination of crash cause or contributing factors. For example, Arizona should:

- Compare motorcycle registrations to motorcycle licenses to determine the magnitude of the unlicensed rider problem in Arizona;
- Compare riders killed in motorcycle crashes with motorcycle training records to determine the effectiveness of motorcycle education; and
- Conduct a detailed review of law enforcement crash reports to isolate crash causation factors that routinely do not appear in computer reports.

Realistic corrective actions can not be determined and implemented until the true causation factors are determined from hard data.

GOHS incorporates motorcycle safety into their annual Transportation Safety Plan and provides updates in its Annual Report. Motorcycle safety messages have not been included in general motoring awareness campaigns.

Collaborative motorcycle safety efforts have been very limited in the past. This is beginning to change and the outreach awareness generated during this assessment process could add significantly to those efforts.

Recommendations

- **Develop a plan and budget for a formal, comprehensive motorcycle safety program within the GOHS.**
- **Establish and fund two full-time employee positions dedicated to the management and implementation of a comprehensive motorcycle safety program. One position should be a State coordinator/manager and the second should be an administrative assistant.**
- **GOHS should take ownership of the motorcycle safety program as the Arizona Motorcycle Safety Program owned by Arizona motorcyclists. Brand the program with a logo to aid in recognition.**
- Conduct necessary program research (e.g., determine underlying motorcycle crash causation factors, motorcycle training needs, and the extent of the unlicensed rider problem).

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;
- Eye and face protection; and
- Each passenger should have a seat and footrest.

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

Arizona's universal helmet law was repealed in 1976. Since that time motorcycle deaths have increased. Crash data from 2005 show Arizona with a total of 146 motorcycle rider fatalities. Motorcycle fatalities in Arizona have nearly doubled from 2001 through 2005. NHTSA's Fatality Analysis Reporting System (FARS) estimates that in 2005 alone, 28 Arizona lives could have been saved if all riders wore helmets. Lack of helmets and other protective equipment increases the risk of death or serious injury even in low-speed motorcycle crashes.

According to the NHTSA National Occupant Protection Use Survey (NOPUS), a nationally representative observational survey of motorcycle helmet, seat belt, and child safety seat use, helmet use nationwide fell from 71 percent in 2000 to 48 percent in 2005. This drop is statistically significant and corresponds to a striking 79 percent increase in nonuse. In Arizona, 52 percent of those killed in motorcycle crashes in 2005 were not wearing helmets.

NHTSA tested seven popular "novelty" helmets to determine how they compare to properly certified helmets. The novelty helmets all performed significantly worse, based on their lack of ability to absorb impact energy during a motorcycle crash. Novelty helmets, in general, had very little, if any, impact-absorbing capability. Computer simulations of head impact attenuation tests show a 100-percent probability of brain

injuries and/or skull fracture for the person involved in a crash while wearing a novelty helmet. With no universal helmet law and no legislated helmet standards in Arizona, any helmet, including novelty helmets, bicycle helmets, etc. are accepted for those operators and passengers required by Arizona law to wear helmets.

The effect of a crash involving a motorcycle can be devastating. Nationally, 37 percent of passenger vehicle crashes result in injury or death, while an astounding 83 percent of motorcycle crashes result in injury or death.

Currently, Arizona's helmet law requires helmets only for operators and riders under the age of 18. State Law 28-964 A, states that an operator or passenger of a motorcycle, all-terrain vehicle, or motor-driven cycle who is under the age of 18 shall wear at all times a protective helmet on the operator's and passenger's head in an appropriate manner. When addressing helmets, the Arizona Motorcycle Operator Manual (MOM) states "whichever style you choose, you can get the most protection by making sure that the helmet: Meets U.S. Department of Transportation (DOT) and State standards." The assessment team was unable to find a law requiring the State to adopt helmet standards. It appears the State of Arizona has not adopted a helmet standard, as law enforcement accepts any helmet, including a novelty helmet, if it is properly secured on the head of an operator or passenger.

The law further states the operator must also wear protective glasses, goggles, or a transparent face shield of a type approved by the director unless the motorcycle, all-terrain vehicle, or motor driven cycle is equipped with a protective windshield. There is no law requiring a passenger on a motorcycle to wear approved eye and face protection. The director in years past had adopted a standard for eye and face protection, however, no evidence was presented to verify a current standard.

Additionally, a motorcycle must be equipped with a rearview mirror, seat, and footrest for the operator and a seat, footrest, and handrails for the passenger. The law does not state the passenger's feet must rest on or be able to touch the footrest or specify a minimum age for the passenger.

While there is no Arizona law requiring the use of protective clothing when operating or riding on a motorcycle, the topic is discussed in all the motorcycle education courses. While riding in motorcycle education courses, students are required to wear helmets designed to meet DOT standards, proper eye protection, and gloves.

SMSAC, motorcycle education providers, and the State, through the MOM, encourage riders to wear safety helmets and other personal protective equipment.

Recommendations

- **Pass a universal helmet law for all riders and passengers compliant with Federal Motor Vehicle Safety Standard (FMVSS) 218.**

- Adopt the (FMVSS) 218 helmet standard for those operators and passengers under the age of 18 and provide law enforcement training on recognizing approved helmets.
- **Amend 28-964 A to require passengers to wear protective glasses, goggles, or a transparent face shield.**
- Develop and implement public awareness programs to encourage the use of protective equipment.
- Develop outreach programs and partner with motorcyclist organizations to encourage the use of protective gear.
- Support legislation to protect young passengers by requiring they be tall enough to sit on the passenger seat and reach the footrests, which enables them to safely balance and support themselves while riding on motorcycles.
- Adopt the Federal Food and Drug Administration's Title 21 CFR 801.410 as a minimum standard for approved eye protection.

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

Instruction Permit

Individuals who are at least 15 years and 7 months of age may be issued motorcycle permits. Applicants must pass a vision test and a 25-question knowledge test covering information provided in the Arizona Motorcycle Operator Manual. This manual is based on the model MOM maintained by the Motorcycle Safety Foundation (MSF). Minor edits have been implemented by the Arizona GOHS with assistance from the State SMSAC. The manual does not contain information unique to the riding challenges within the State of Arizona (e.g. riding in deserts, flash floods).

Applicants must score 80 percent or higher to pass the knowledge test. The knowledge test is normally administered through an automated testing system. Applicants may choose to review test questions they have missed upon completion of the test. Four alternate forms of a written test are available for use when the automated testing system is offline.

The MOM states that the knowledge test is available in other languages and those who are unable to read English well enough to take a written test can make arrangements for an oral examination. Applicants who need an interpreter must provide one. As this can potentially compromise the reliability of test administration, the team recommends that only MVD-designated interpreters be provided.

The motorcycle instruction permit is valid for 6 months and can only be renewed once during a 24-month period from date of original issuance. During the permit period, the

rider may not:

- Carry passengers;
- Operate a motorcycle on freeways or interstate highways; or
- Operate a motorcycle between sunset and sunrise, or at any time when there is not enough light to clearly see people or vehicles at a distance of 500 feet.

Permitted riders age 18 and older are not subject to helmet use, protective gear, or .00 BAC requirements. Applicants who elect to test on a 100cc or smaller motorcycle receive a “J” restriction and may not ride two-wheeled motorcycles over 100cc.

Once applicants are ready for the skills test, they can make an appointment for the test at an MVD office. Of the 62 MVD field offices, 23 provide skills testing for motorcycle operators. The MVD utilizes ALMOST, maintained by the MSF, for skills testing. Arizona does not use third-party testers to conduct motorcycle skills tests. The team was unable to determine if a sufficient number of motorcycle skills test sites are available.

Applicants who fail either the knowledge or skills test must wait until the next day before being eligible to retake the test(s).

Applicants may elect to attend a motorcycle safety course in which a Course Completion Certificate is issued upon successful completion. The certificate waives the MVD knowledge and skills tests.

A Class M license or endorsement is required to operate a motorcycle or motor-driven cycle in Arizona. Applicants must be at least 16 years of age to qualify for a motorcycle license.

Instruction Permit/Under 18

Applicants for a motorcycle license who are under the age of 18 must have held an Arizona instruction permit for at least 5 months. The permit must be valid at the time of application. Applicants must also have satisfactorily completed a motorcycle driver education program approved by the MVD or have a parent or guardian certify in writing that the applicant has completed at least 25 hours of motorcycle driving practice.

Applicants holding out-of-State motorcycle licenses or endorsements are exempt from the driver education/driving practice and instruction permit requirements.

Motorcycle License Renewal Requirements

The MVD issues a license that is valid until age 65. Drivers/riders must update their photos every 12 years. After age 65, licenses must be renewed every 5 years.

Examiner Training

The MVD provides classroom and skills training for the administration of the ALMOST to motorcycle examiners. Materials utilized by trainers include examiner instructions sheets, test diagrams, video tapes, PowerPoint presentations, and video training programs. The use of formal lesson plans and training curricula was not evident. The previous motorcycle examiner training program involved classroom and hands-on skills training, which lasted one and one-half days. The new training program involves the use of a CD and video training program, which generally takes the examiner two hours to complete. The examiner is then observed for up to two days to verify correct test administration.

The MVD does not participate in the American Association of Motor Vehicle Administrators (AAMVA) Certified Motorcycle Examiner (CME) certification program. MVD does not provide refresher training to motorcycle examiners. The team was unable to determine what type, if any, motorcycle examiner quality assurance programs are in place.

Driver Education Certificate of Completion

Individuals who successfully complete a motorcycle education course provided by a MVD-licensed school are issued a Driver Education Certificate of Completion (certificate). This certificate waives the MVD knowledge and skills testing requirements. The applicant must present the certificate at an MVD office for issuance of a Class M license. The certificate is valid for 60 days.

Although the State has not been able to identify any instances of fraud relating to the use of this certificate, a risk assessment has not been conducted. Additionally, the MVD has not examined the possibility of transmitting the certificate via secure electronic means. However, currently the MVD does provide the option for motorcycle education providers to transmit other student information to the MVD electronically.

MVD Policy 16.2.6 G states that the motorcycle operator knowledge test may be waived when a properly completed High School Driver Education Certificate, form #96-0254, is presented. Driver education courses do not provide the necessary knowledge for safe operation of a motorcycle.

Licensed Third-Party Tester/Motorcycle Education

The MVD does not utilize third-party testers to administer the State written test or the ALMOST. There are 18 licensed motorcycle training schools with 28 training sites. At present there is a moratorium on the number of licensed training schools based on the capacity of the MVD to provide oversight. There is a waiting list for additional locations.

Motorcycle training schools and examiners must be licensed by the MVD to provide certificates to students who successfully pass the motorcycle safety course. The MVD has specific procedures and policies for the application of a "license." However, 28-408 of the Arizona State Legislature states that:

“The director shall enter into agreements by direct contract with nonpublic entities for services or shall jointly exercise any powers common to the contracting parties that the director deems necessary and in the best interests of the department subject to the limitations of section 41-2544”.

Given the limitations of legal action associated with “licenses”, the MVD should enter into “contracts” with motorcycle training schools to allow the MVD to take appropriate legal actions as deemed necessary.

The MVD conducts, at a minimum, annual audits of all motorcycle training schools. These audits primarily focus on the paperwork and procedures training schools must follow. The annual audit does not focus on course content and administration of the course examination procedures. Information provided indicates that auditors may participate in classes as a rider or may covertly participate in training courses. However, the team received conflicting information concerning the frequency of on-site audits focusing on course and test administration.

Based on the information available, it is doubtful auditors are adequately trained to evaluate motorcycle education program delivery.

Cross Reference Motorcycle Registrations

The MVD has not cross referenced motorcycle registrations to identify motorcycle owners who may not have the proper Class M license/endorsement.

Penalties for Violation of Motorcycle Licensing Requirements

Arizona law requires all motorcycle operators to be properly licensed. An unlicensed rider stopped by law enforcement may be issued a citation and is generally allowed to proceed. Arizona does not have legislation that requires law enforcement to impound motorcycles when riders are not properly licensed.

Recommendations

Instruction Permit

- **Require mandatory helmet use, protective gear, and a .00 g/dL BAC for all instructional permit holders.**
- Revise the Arizona MOM to include information specific to the unique aspects of operating a motorcycle in the State of Arizona.
- Amend the instructional permit law to have the M instructional permit expire in 90 days instead of 6 months and allow no more than one renewal, as recommended

by AAMVA.

- Track the number of instructional permits issued for M endorsements to determine when they are converted to M licenses, how the M licenses were obtained (course), or whether the permits expired.
- Conduct an assessment to determine if an appropriate number of motorcycle skills test sites are available.
- Validate all knowledge and skill tests accepted for issuance of Class M licenses to determine whether the test instruments adequately evaluate the knowledge and skills a motorcyclist must possess to safely operate a motorcycle in Arizona.
- **Establish a policy to allow only MVD-designated foreign language interpreters to aid with the administration of knowledge tests.**

Motorcycle License Renewal Requirements

- **Require the renewal of a drivers' license, including motorcycle licenses, every four years as recommended by the AAMVA Policy Position for driver's license renewal.**

Examiner Training

- **Utilize the MSF/NHTSA/AAMVA ALMOST training program for motorcycle examiners.**
- **Require annual refresher training focused on administration of the ALMOST testing procedures for all motorcycle examiners.**
- Require MVD examiners to be AAMVA Certified Motorcycle Examiners.
- **Improve the monitoring and oversight practices for ALMOST administration.**

Driver Education Certificate of Completion

- **Repeal the policy waiving the motorcycle rider education requirement if parents or guardians certify in writing that applicants under the age of 18 have completed at least 25 hours of motorcycle driving practice. All applicants under the age of 18 should successfully complete a motorcycle rider education program licensed by the MVD to qualify for a Class M license or endorsement.**
- **Discontinue accepting completed High School Driver Education**

Certificates to waive the MVD motorcycle knowledge test.

- Create an electronic data transfer system to require motorcycle training schools to transmit course completion results and certificates to the MVD.
- Produce reports to identify the proportion of individuals who have obtained M licenses/endorsements by successfully completing a rider training course through motorcycle training schools.

Licensed Third-Party Tester/Motorcycle Education

- The MVD should enter into contracts with motorcycle training schools, rather than issuing licenses to allow the MVD to take appropriate legal actions.
- **Increase monitoring of certificates and motorcycle education end-of-course examinations. Frequent on-site observations of testing procedures should be conducted.**

Cross-Reference Motorcycle Registrations

- Establish a process to cross-reference license records with vehicle registrations to determine whether individuals who own motorcycles hold M endorsements.

Penalties for Violation of Motorcycle Licensing Requirements

- **Implement legislation requiring law enforcement officials to impound motorcycles if riders are not properly licensed.**

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:

- Formal curriculum review and approval process;
- A mandate to use the State approved curriculum;
- Reasonable availability of rider education courses for all interested residents of legal riding age;
- 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

Motorcycle rider education and training in the State of Arizona is a function of the motorcycle licensing test waiver authorized by ARS 28-3174. This statute specifies that the State motorcycle skills test and knowledge test may be waived when an individual has completed a motorcycle driver education program that is licensed by the Arizona Department of Transportation, Motor Vehicle Division (MVD). Motorcycle training providers in Arizona are licensed as professional driver training schools under R17-5-302. Motorcycle instructors are licensed under the same statute. Thus, the MVD is responsible for all aspects of motorcycle rider training; including curriculum approval, training site approval, instructor training, and quality assurance efforts.

According to information provided by the MVD, there are currently 18 licensed motorcycle training schools with 28 training sites in operation. MVD employees advised the team there is a waiting list for new locations, either previously unlicensed providers or additional locations for current providers. MVD has placed a moratorium on issuing

new school licenses due to MVD staffing shortages. The training providers who met with the team indicated that wait times for classes are generally between 30 and 60 days. Nonetheless, it is clear to the team that little motorcycle training is available outside the major population areas of the State. No information was provided to indicate that the MVD considers demographics when approving new motorcycle training schools or locations, nor has the MVD taken any action to make training available throughout the State.

As best as the team could determine, MVD does not have a records or tracking system to identify who completed training, where the training was completed, pass/ fail information, or the number trained by each provider per year. Although the training providers who were interviewed assured the team that their records contain these data, there is no evidence that MVD tracks this information. Without accurate information on training, it is impossible to determine training needs or if demand is being met.

The MVD has designated the Motorcycle Safety Foundation (MSF) Basic RiderCourse as the approved training curriculum. Although the MVD requires that copies of curricula be submitted for approval, the team saw no evidence that a formal curriculum review and approval process exists. Nor is it evident that any effort has been made to evaluate whether the MSF curriculum or tests appropriately address rider safety issues specific to Arizona.

The MVD does not track test results and therefore can not compare results from motorcycle education schools to testing conducted by the MVD.

Under the statute governing professional driving schools, the MVD approves training facilities, including classroom and riding practice areas. Approval of appropriate riding areas should be conducted by a motorcycle safety program manager with the training and knowledge to make such decisions. MVD personnel have not received the training to provide them the expertise to adequately evaluate potential riding areas and make informed decisions regarding the safety and effectiveness of conducting motorcycle training on such areas.

Although motorcycle instructors are required to be licensed as professional driver training instructors, there does not appear to be a process to assure that they are competent, on an ongoing basis, in the specific skills and knowledge for motorcycle training. The MVD depends entirely on MSF standards and training policies to ensure instructor competencies. Information provided to the team shows that the MVD has abdicated responsibility for oversight and control of motorcycle training to an outside vendor who has no responsibility or authority for an Arizona motorcycle safety program.

Responses from MVD staff interviewed by the team indicated that the MVD has an Audit section that provides all quality assurance efforts for the training sites. When pressed for details on the training provided to the motorcycle auditors, the team was assured that the motorcycle auditors received the same training as all MVD Customer Service Representatives. This training does not appear to incorporate information specifically

dealing with rider training. Testimony from training providers indicated that the only items checked by the motorcycle auditors are paper files to ensure that the files are maintained in compliance with the licensing agreement. MVD personnel assured the panel that the ADOT Audit Team participates as students in courses and occasionally sends “Mystery Shoppers” to covertly evaluate training program delivery. No information was presented regarding what training these motorcycle auditors receive or the frequency of such audits.

Several providers assured the team that neither the training delivery nor testing had ever been audited to ensure compliance with the curriculum approved by MVD. Further, MVD staff informed the team that the certificate is not a guarantee that the student has passed any performance or knowledge measurement, but is simply an assurance, by the signature on the certificate, that in the opinion of the person signing the certificate, the student has the knowledge and skills to ride a motorcycle on the highway. It appears that, at best, training providers are audited once yearly for records compliance. All other activities by the training programs appear to be unregulated, unmanaged, and dependent on the ethical standards of the providers.

With regulation of motorcycle education programs resting solely with the MVD, there appears to be no opportunity for Arizona to develop annual work plans or a long-range strategic plan for motorcycle safety efforts. The State’s motorcycle injury and fatality rates indicate a serious need for planning a comprehensive motorcycle safety campaign. Testimony overwhelmingly indicated an assumption that motorcycle education should play a primary role in reducing motorcycle crashes, injuries, and fatalities. It is important to note that on a national level it has not been conclusively proven that motorcycle rider education alone reduces crashes, injuries, and fatalities.

Recommendations

- Review current training locations and explore the potential for expanding course offerings to areas of Arizona where motorcycle education is not currently available.
- **Establish a records system that allows the State to extract data and produce reports to determine the status of training, evaluate training effectiveness, and determine future needs.**
- **Establish a formal motorcycle training curriculum review and approval process to ensure the training program meets the needs of Arizona’s riders.**
- Evaluate the motorcycle education knowledge and skill tests to ensure the test instruments are congruent with those administered by the MVD.
- Review the process by which motorcycle training facilities are evaluated and approved to ensure standards are appropriate to the unique needs of motorcycle

education delivery and that approvals are made by expert personnel.

- **Develop policies and standards for instructor training, certification, and continued professional development.**
- **Develop policies and procedures for ongoing evaluation and monitoring of the motorcycle education providers, to include the quality and consistency of training and testing.**
- **Develop strategic plans for ongoing development of the motorcycle education system.**

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:

- Workplace safety programs;
- 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;
- Motorcycle rallies, shows, etc.; and
- Event-based programs such as Server training programs.

Status

Alcohol involvement was found in nearly 33 percent of the motorcyclist fatalities in Arizona in 2005.

Law enforcement officers receive training on detecting impaired riders during police academy training, but most training is focused on detecting impaired drivers. Most law enforcement agencies have staff detailed to address DUI issues, but efforts typically don't focus on impaired motorcycle-riding. Community safety coalitions can be found across the State, however impaired riding is not a significant part of their DUI awareness efforts.

Although, law enforcement officers receive little training on recognizing impairments other than alcohol, they have as a resource approximately 400 Drug Recognition Experts (DREs) in Arizona. There is interagency cooperation when DREs are requested.

Some motorcycle rider groups have written policies regarding alcohol-free events, while others self-police and strongly discourage drinking and riding during group events; although the groups that actively discourage drinking and riding are a small minority.

The Motorcycle Operators Manual (MOM) includes a section on alcohol and other drugs that discusses the effects of alcohol on the body and consequences of an impaired-riding conviction and also encourages riders to intervene when others have been drinking and plan to ride.

Rider education using the Motorcycle Safety Foundation (MSF) curriculum includes a

30-minute module on impaired riding.

Recommendations

- **Conduct outreach to law enforcement to educate them on the availability of impaired-riding detection materials available from NHTSA, MSF, American Motorcycle Association, and individual State programs.**
- Conduct in-service training on the Detection of DWI Motorcyclists, available from NHTSA, and publicize this training to the news media.
- Consider requiring additional information in the impaired-rider module of the rider training program (Wisconsin has a good example).
- Create a motorcycle DUI campaign to be conducted by motorcycle officers; promote this effort to the news media.
- **Include training on impaired-riding during the Annual Training Summit for Law Enforcement, Prosecutors, and Judges. Require alcohol/drug education as well as rider education upon conviction for DUI.**
- Prepare talking points for law enforcement to aid in testimony on detecting impaired riders and distinguishing the differences between motorist and motorcyclist cues for impairment.
- Encourage and recognize motorcycle groups who self-police and have a culture of zero tolerance for drinking and riding.

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

Arizona has numerous laws pertaining to motorcycles. These laws include, but are not limited to, lane usage by motorcycles, the definition of motorcycles, and in 2000 State Law # 28-2010, the establishment of the State Motorcycle Safety Advisory Council (SMSAC). This Council is active in motorcycle safety; however, goals and objectives are general and not specific.

State Law # 28-2010 D. "Through June 30, 2010, the State motorcycle safety advisory council is established consisting of five members who have experience in motorcycle safety and who are appointed by the Governor for three year terms. Members may be removed for cause and may be reappointed. The council shall meet at least quarterly and on the call of the director of the governor's office of highway safety for advice on the expenditure of monies in the motorcycle safety fund."

State Law # 28-2010 C. "Subject to legislative appropriation, the Director of the Governor's Office of Highway Safety shall use monies deposited in the motorcycle safety fund pursuant to the section, after consultation with the state motorcycle safety advisory council, to implement and support voluntary motorcycle education, awareness, and other programs, including covering the cost of materials for motorcycle safety, education, and awareness programs."

The Arizona mandatory helmet law was repealed in 1976. Today only those operators and passengers under the age of 18 are required to wear helmets. The law does not specify a requirement that helmets have to meet a standard.

State Law # 28-964 A. "An operator or passenger of a motorcycle, all-terrain vehicle, or motor driven cycle who is under 18 years of age shall wear at all times a protective helmet on the operator's or passenger's head in an appropriate manner. The protective helmet shall be safety secured while the operator or passenger is operating or riding on the motorcycle, all-terrain vehicle, or motor driven cycle. An operator of a motorcycle, all-terrain vehicle, or motor driven cycle shall wear at all times protective glasses, goggles, or a transparent face shield of a type approved by the director unless the motorcycle, all-terrain vehicle or motor driven cycle is equipped with a protective windshield."

This law, while requiring the operator of a motorcycle to wear eye protection, does not require the passenger to wear eye protection.

Law 28-964 further states that a motorcycle, all terrain vehicle, or motor-driven cycle must be equipped with a rearview mirror, seat, and footrest for the operator and a seat, footrest, and handrails for the passenger. The law does not state that the passenger's feet must reach the footrest or specify a minimum age or size of the passenger.

Passing a universal helmet law has been identified as a strategy in Arizona's Highway Safety Plan for fiscal year 2007.

The State of Arizona encourages public and private agencies and individuals to participate in the development of regulations and safety issues to promote motorcycle safety through their Web site (www.azgohs.gov). Comments can be e-mailed to comments@azgohs.gov.

Recommendations

- **Pass a universal helmet law for all riders and passengers compliant with Federal Motor Vehicle Safety Standard (FMVSS) 218.**
- **Establish and fund two full-time employee positions dedicated to the management and implementation of a comprehensive motorcycle safety program. One position should be a State coordinator/manager and the second should be an administrative assistant.**
- **Continue the State Motorcycle Safety Advisory Council past 2010.**
- Support legislation to protect young passengers by requiring they be tall enough to sit on the passenger seat and reach the footrests, which enables them to safely balance and support themselves while riding on motorcycles.
- Amend law 28-964 A to require passengers to wear protective glasses, goggles, or a transparent face shield at all times.
- **Adopt the FMVSS 218 helmet standard for those operators and passengers under the age of 18 and provide law enforcement training on recognizing approved helmets.**
- Adopt the Federal Food and Drug Administration's Title 21 CFR 801.410 as a minimum standard for approved eye protection.
- **Require mandatory helmet use, protective gear, and a .00 g/dL BAC for all instructional permit holders. (See Section II: Protective Equipment).**
- Amend the law to limit the M instructional permit to 90 days instead of 6 months

and allow no more than one renewal, as recommended by AAMVA. (See Section III: Motorcycle Operator Licensing).

- **Require the renewal of drivers' licenses, including motorcycle licenses, every four years as recommended by the AAMVA Policy Position. (See Section III: Motorcycle Operator Licensing).**
- **Implement legislation allowing law enforcement officials to impound motorcycles if riders are not properly licensed. (See Section III: Motorcycle Operator Licensing).**

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

Arizona law enforcement agencies conduct an aggressive overall traffic safety program. All law enforcement agencies in the State receive basic training at the Department of Public Safety (DPS) training facility. DPS officers receive additional basic training specific to their department. In addition to basic training, all officers are required to receive an additional eight hours in-service training each year. All law enforcement officers in the State of Arizona have statewide authority. Testimony indicated the basic training curriculum offers limited training in detecting impaired motorcycle operators. There appear to be no established law enforcement agency goals supporting motorcycle safety.

Selected officers receive training in accident reconstruction, including motorcycle crashes. This program can be very beneficial in identifying motorcycle crash causation factors.

There is no helmet law for motorcycle operators 18 and over. There is no established standard for helmets required for operators and passengers under 18. Consequently, training is not available on how to detect fake or novelty helmets; any helmet is acceptable to law enforcement. The helmet law for operators and passengers under 18 is secondary enforcement.

State law 28-964 requires all operators of motorcycles to wear protective glasses, goggles, or a transparent face shield of a type approved by the ADOT Director unless the motorcycle is equipped with a protective windshield. The team was unable to determine whether there is an established standard for eye and face protection. Testimony indicated that over-the-counter sun glasses or any type of glasses or goggles are acceptable to law enforcement. The law does not require passengers to wear eye protection.

Arizona law requires all motorcycle operators to be properly licensed. An unlicensed rider stopped by law enforcement may be issued a citation and is generally allowed to proceed. Arizona does not have legislation that requires law enforcement to impound motorcycles when riders are not properly licensed.

Various law enforcement agencies use information from their internal records management system for problem identification and evaluation. This information proves valuable in establishing special emphasis programs in problem areas. DPS increases manpower at large gatherings of motorcycle riders by temporarily assigning DPS motorcycle officers to the affected area.

Testimony from law enforcement indicated a need for training information that can be utilized by prosecutors and judges. Impaired motorcycle-rider cases are occasionally dismissed due to lack of knowledge by judges and prosecutors of symptoms demonstrated by impaired riders.

Recommendations

- Include an instructional module on unique characteristics of motorcycle crashes in the basic crash investigation course.
- Develop and distribute motorcycle crash statistics and motorcycle-specific informational materials to law enforcement agencies to aid them in planning and training.
- **Distribute NHTSA's Detection of DWI Motorcyclists materials through GOHS's law enforcement coordinator to law enforcement agencies statewide.**
- **Encourage all law enforcement personnel to take a zero-tolerance approach to unendorsed motorcycle operators.**
- **Include training on impaired riding during the Annual Training Summit for Law Enforcement, Prosecutors, and Judges. Require alcohol/drug education as well as rider education upon conviction for DUI.**
- Prepare talking points for law enforcement to aid in testimony on detecting impaired riders and distinguishing the differences between motorist and motorcyclist cues for impairment.
- Encourage all law enforcement agencies to develop agency goals specific to motorcycle safety.
- **Implement legislation allowing law enforcement officials to impound motorcycles if riders are not properly licensed. (See Section III: Motorcycle Operator Licensing).**

- Create a motorcycle DUI campaign to be conducted by motorcycle officers; promote this effort to the news media.

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 traction factors; and
- Providing advance warning signs to alert motorcyclists to unusual or irregular roadway surfaces.

Status

The Arizona Department of Transportation (ADOT) does not have special standards or considerations for motorcycle handling characteristics when constructing highways. Programs were conducted in the past to examine differential traction factors, including rain grooves for negative effects. However, motorcycles were considered along with all types of vehicles.

There is a Pavement Preservation Program for highway engineers to examine all state highways for hazards, including road surfaces, intersection visibility, road shoulders, and other hazards to schedule repair projects. This is a routine highway maintenance program not specifically designed to respond to hazards to motorcycle operation.

Intersection markings are currently being replaced with a 3M tape rather than the previous thermoplastic that has been used for some time. This tape offers more traction than thermoplastic, but the primary reason for switching products was economics.

No special warning signs are approved or used by ADOT in recognition of hazardous areas for motorcyclists. Standard highway signs such as "Icy Roads" and "Blowing Dust" are used, but these are intended for all roadway users.

Recommendations

- **Establish procedures and safety requirements, in consultation with the State Motorcycle Safety Advisory Council, to consider the handling characteristics of motorcycles when improving, designing, and building highways and structures.**

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

In 2005, 56 percent of motorcycle crashes in Arizona involved a collision with another motor vehicle. Anecdotal information from law enforcement indicates that failure to see the motorcycle is the most common reason given by motor vehicle operators when a collision with a motorcycle occurs.

Arizona's efforts to educate motorists about sharing the road with motorcycles include posters, billboards, and radio spots that are included in the motorcycle safety campaign and presentations by motorcycle rider groups. An established effort to educate motorcyclists about how to make themselves visible to motorists does not exist.

The State Motorcycle Safety Advisory Council (SMSAC) and Governor's Office of Highway Safety (GOHS) do not have a formal relationship with the Arizona Driver and Traffic Safety Education Association. Driver education classes are no longer a requirement in high school curriculum. The Motorcycle Awareness Program (MAP), coordinated by ABATE and supported with GOHS materials, is a source of motorist awareness training for high school students. Since 2003, over 8,000 students have received this training. ABATE also sponsors statewide community awareness events during May, the purpose of which is to educate the public about sharing the road with motorcycles. A tri-fold brochure, "2 by 4 – Side by Side" is distributed at these programs.

Only riders who attend motorcycle education classes are likely to receive information on how to make themselves visible to motorists. Some motorcycle publications include ads for rider gear and articles on the importance of being seen. Since rider education is not mandatory and a significant portion of riders are not affiliated with a rider group, outreach is needed to educate independent riders.

The Motorcycle Operators Manual (MOM) includes a section on conspicuity that addresses using bright colored clothing, daytime headlights, turn signals, and horn and flashing the brake light as well as lane positioning for visibility.

Recommendations

- Ensure that conspicuity is emphasized in rider education courses.
- Continue motorist awareness public information and education efforts.
- **Develop guidelines, standards, and evaluation tools for public outreach programs that are associated with GOHS**
- **Identify existing programs, for example MAP, and work with the Arizona Driver and Traffic Safety Education Association and Arizona Department of Education for possible incorporation into driver training curriculums.**
- Develop information on conspicuity for inclusion with the annual motorcycle registration renewal mailings.
- Create and distribute conspicuity informational materials to license exam stations, dealers, highway rest areas, State and national parks, special events, and motorcycle rallies.
- Communicate through law enforcement and motorcycle rider groups to dispel the myth that other drivers are a motorcycle rider's biggest threat.

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

It is imperative for motorcyclists to know how to ride safely and for motorists to understand the different behaviors of motorcyclists and how to share the road.

Almost 60 percent of motorcyclists involved in crashes in 2005 were 25-54 years old. Public information needs to be targeted to this population.

The Motorcycle Safety Fund (fund) provides funding for motorcycle safety education. One dollar from each motorcycle registration fee is earmarked for the fund. A cap of \$150,000 was recently removed by the legislature. The SMSAC advises the GOHS on the use of these funds, thereby overseeing education efforts in the State. Additional funds were requested through a NHTSA 2010 grant to be used for outreach efforts.

A nationally-recognized advertising agency, Bozell, was retained to provide creative and media placement services for a motorcycle safety campaign, which was launched in April 2007 and will run through the end of summer 2007. Bozell's national recognition and past experience with the motorcycle industry were cited as reasons for selection. Because of a personal interest by one of the firm's partners, Bozell provided significant in-kind services.

Traffic records reports and statistics are available to identify some motorcycle safety problem areas and target audiences. Issues to be addressed by the safety campaign were identified by the SMSAC. Messages and materials were reviewed by the SMSAC, GOHS, and other interested parties including motorcycle rider organizations. The campaign included the following elements:

- Governor's declaration of May as Motorcycle Safety Awareness Month
- Billboards
- Radio spots
- Announcer-read copy
- Posters
- Press releases and press conference
- Presence at fairs

- “Before You Get Your Motor Runnin’” newspaper insert
- “Look Out for Motorcycles” t-shirts and bumper stickers

Additional copies of “Before You Get Your Motor Runnin’” were ordered and continue to be distributed upon request. While it was created to be an evergreen piece, GOHS recognizes that the information may need to be updated and reprinted.

Distribution of the billboards, radio spots, and announcer-read copy was focused on high-population and high-fatality areas (Phoenix, Tucson, and Flagstaff).

Packages of motorcycle safety materials were sent to legislators, motorcycle rider and sportbike clubs, veterans groups, and law enforcement agencies, with information for ordering additional materials.

GOHS has a booth that is used statewide at fairs/festivals. It is staffed by members of the SMSAC and volunteers from motorcycle rider groups. The booth affords the opportunity for one-on-one interaction with the public. Materials handed out are produced by the GOHS. The “Look Out for Motorcycles” t-shirts and bumper stickers have been well-received by the public.

About one-third of Arizona’s population is Hispanic. Appropriately, some materials are prepared in both English and Spanish (posters, billboards).

The campaign did not include survey measures for pre- or post-awareness and no focus groups were conducted. Impact was measured by media impressions. The phone number provided on the materials is the Motorcycle Safety Foundation (MSF) national registration number, so it is not possible to track the number of calls generated from the campaign. Without evaluation, it is difficult to determine whether the most appropriate messages and distribution channels were used.

GOHS plans to utilize the materials created in 2007 for a 2008 campaign. They are negotiating more PSA placement versus paid placement.

The GOHS Web site has a motorcycle safety link from its homepage. The motorcycle safety page contains a meeting notice for the SMSAC, information on helmets and riding gear. Also included are links to the NHTSA and MSF Web sites for more information, such as a list of training schools.

Law enforcement and motorcycle rider groups may be solicited to make presentations to high schools. Schools intermittently request presentations by law enforcement and motorcycle rider groups.

The team is concerned that the messages and brand are often vested in external organizations, with little oversight or control over their use.

Recommendations

- **Document current communications activities as a basis for developing and implementing an annual comprehensive communications plan. The plan should include:**
 - **A research component to identify problem areas to ensure that appropriate themes and messages are developed;**
 - **Goals and objectives with realistic and measurable outcomes;**
 - **Use of appropriate multi-media channels;**
 - **A comprehensive plan for community outreach at events; and**
 - **An evaluation component to measure pre- and post-campaign awareness and impact on motorist and motorcyclist behavior.**
- Expand existing campaigns, such as seat belt awareness, with messages about helmet use and protective gear. Include impaired-riding messages in impaired-driving campaigns.
- Develop outreach efforts for “returning riders” (i.e., motorcyclists who haven’t been riding for years and may to update their knowledge and skills).
- **Establish GOHS as the primary point of contact for motorcycle safety information and presentations. Establish standards and guidelines for all presentations that utilize State-sponsored materials.**
- Capitalize on relationships with news media to raise awareness of motorcycle safety issues, programs, and accomplishments through earned media.
- Maintain State-specific information on the GOHS Web site, rather than directing users to other sites.
- Explore placing motorcycle safety messages on overhead variable message signs, especially during rallies.
- Develop and conduct a statewide survey of the non-motorcycling population to determine attitudes and opinions towards motorcycle riders. This information should then be used to aid in development of public awareness campaign materials aimed at non-motorcyclists.

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 crash 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; and
- Ensuring that evaluation results are used to identify problems, plan new programs, and improve existing programs.

Status

The Arizona DOT Motor Vehicle Division (MVD) is responsible for collecting, analyzing, and maintaining crash data. This information is collected through police crash reports and coroners' reports. The MVD has a wealth of crash information with sufficient details to identify trends, problem areas, causation factors, and at-risk groups. This information is critical for the development of strategies and programs to reduce motorcycle crashes, injuries, and fatalities. The ADOT publishes this information in a yearly Crash Facts for the State of Arizona.

Despite the plethora of data available, there is very little effort to evaluate problem areas, validate existing programs, and determine needs for changes in training curricula, policies, or safety efforts.

Reports from interviewees indicated that no statewide surveys of public knowledge and attitudes about motorcycle safety have been conducted. Lacking this information, messages in current public awareness programs do not adequately target highway safety problems.

Recommendations

- **Conduct a detailed evaluation of motorcycle fatality reports to determine root cause factors. Compare the results to existing training materials and adjust curricula to address the issues.**

- Develop and conduct a statewide survey of the non-motorcycling population to determine attitudes and opinions towards motorcycle riders. This information should then be used to aid in development of public awareness campaign materials aimed at non-motorcyclists.

CREREDENTIALS OF TECHNICAL ASSESSMENT TEAM

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EXPERIENCE

- DOT, NHTSA, Technical Team Member, States of Florida, Missouri, Wisconsin, Washington, and Hawaii
- Certified Association Executive credential achieved, January 2007 (highest professional credential in association industry)
- President, of Potomac Management Resources; includes serving as Executive Director, Advertising Club of Metropolitan Washington (2000-present) and Executive Director, American Marketing Association-DC Chapter (2001-present); event planner for NHTSA Ignition Interlock Forum
- Outreach Director, Literacy Council of Northern Virginia (1999-2000)
- Vice President, Marketing & Advertising, ZGS Communications, government social marketing contracts for motorcycle safety and aggressive driving (1998-1999)
- Account Supervisor, Lisboa Associates, Inc., government social marketing contracts for Campaign Safe & Sober, child seat safety, motorcycle safety, aggressive driving awareness, pedestrian safety, and air bag education (1994-1998)

ORGANIZATIONS/AFFILIATIONS

- Hood College Alumnae Association Executive Board, member and First Vice President (2005-present)
- AMC Institute, member (2004-present)
- American Society of Association Executives, member (2003-present)
- Hood College Magazine Editorial Board, member and Chair (2002-2006)
- Association for Women in Communications-DC Professional Chapter, member & Board member (2001-present)
- Women in Advertising & Marketing, member and Board member (1998-2001)
- Advertising Club of Metropolitan Washington, member and Board member (1996-2000)

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EXPERIENCE

- President, Streetmasters Motorcycle Workshops, Inc. (2004 – present)
- Director, Chief Instructor, Central Coast Motorcycle Training (2000-present)
- Associate Producer, Safety/Riding Techniques Editor/*Motorcycle Digest* (1998 - present)
- Safety/Riding Techniques Columnist, News Editor/*Cruising Rider Magazine* (1995 - 2003)
- Contributor, Road Test Editor/*Motorcycle Consumer News Magazine* (1994 - 1999)
- Manager, Program Services, Motorcycle Safety Foundation (1995 - 1997)
- Director, Lead Instructor, MSF Chief Instructor Training Program (1991 - 1997)
- Manager, Training and Development, Motorcycle Safety Foundation (1991 - 1995)
- Manager, Education, Motorcycle Safety Foundation (1989 - 1991)
- Manager, Instructor Training, ATV Safety Institute (1988)
- Program Specialist, Texas Department of Public Safety, Motorcycle Operator Training Section (1986 - 1987)
- Publisher/Editor; *Crawford Clipper, Harrison Sun, Northwest Nebraska Post* (1979 - 1986)

ORGANIZATIONS/APPOINTMENTS

- American Motorcyclist Association (1984 - present)
- Los Guajolotes (1991 – present)
- DOT, NHTSA, Technical Assessment Team Member

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EXPERIENCE

- Highway Safety Services, LLC – Vice President & Co-Owner (2005-present)
- American Association of Motor Vehicle Administrators – Vice President of Driver Licensing (1996-2005)
- Maryland Motorcycle Safety Program – Chief Instructor (1995 – 2002)
- Pennsylvania Motorcycle Safety Program – Regional Director and Chief Instructor (1992-1995)
- Indiana University of Pennsylvania – Highway Safety Center [motorcycle safety, driver education, advance driver training, truck driver training, curriculum development, teacher training (1990-1996)
- Pennsylvania Motorcycle Safety Program – Instructor (1985-1995)

ORGANIZATIONS/AFFILIATIONS/CERTIFICATES

- American Association of Motor Vehicle Administrators (1996-present)
- Transportation Research Board – Driver Training Committee (2006-present)
- Examining Drivers with Disabilities Certificate
- Truck Driver Training Certificate
- Emergency Vehicle Operation Course Certificate
- AAMVA CDL Train-the-Trainer Instructor
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EXPERIENCE

- Manager, Motorcycle Safety Program, Washington Motorcycle Program 2000-2006
- Director, Program Services, Motorcycle Safety Foundation (1995 - 2000)
- Director, Licensing, Motorcycle Safety Foundation (1987 - 1994)
- Manager, Licensing, Motorcycle Safety Foundation (1985 - 1986)
- Program Manager, Motorcycle Safety, Air Force Inspection and Safety Center, Norton AFB, CA (1980 - 1984)
- Motorcycle Safety Instructor, United States Air Force, (1969-1980)

ORGANIZATIONS/AFFILIATIONS

- American Society for Training and Development (1998 - present)
- American Motorcyclist Association (1973 - Present)
- American Association of Motor Vehicle Administrators (1987 - present)
- US DOT, NHTSA, Technical team Member, States of Florida, Missouri, Michigan, South Carolina

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EXPERIENCE

- Department of Transportation (DOT), NHTSA Motorcycle, Safety Program Assessment, Team Member, States of Illinois, Washington, Maryland, and South Carolina
- Examiner Training Specialist, Motorcycle Safety Foundation, 1986 – 2000
- Oklahoma Highway Patrol, Major Retired 1996
- State of Oklahoma, Director of Licensing, 1988 – 1992
- State of Oklahoma, Commercial Driver License Coordinator 1986 – 1992
- FBI National Academy Graduate, 143rd Session
- Chief Driver Examiner, State of Oklahoma, 1980 – 1988
- State of Oklahoma, Supervisor, Driver Examiner/Trooper 1973 – 1980
- State of Oklahoma, Driver Examiner/Trooper, 1968 – 1973

ORGANIZATIONS/AFFILIATIONS

- American Association of Motor Vehicle Administrators, Development Team, Member and Chairman, Examiner Certification Board