

**MOTORCYCLE SAFETY PROGRAM**  
**TECHNICAL ASSESSMENT**  
**for the**  
**STATE OF COLORADO**



National Highway Traffic

Safety Administration

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## ACKNOWLEDGMENTS

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This report is intended to assist Colorado’s efforts to enhance the effectiveness of its motorcycle safety program with specific recommendations for identifying, implementing, or improving their strategies and programs. The Technical Assessment Team believes that this report will contribute to the State’s efforts to develop an effective motorcycle safety program to prevent crashes and injuries, to save lives, and to reduce the economic costs of motorcycle-related crashes on Colorado’s highways and roads.

The Technical Assessment Team acknowledges and thanks Glenn Davis, Program Manager for the Colorado Department of Transportation, Office of Traffic and Safety, Highway Safety Office for his leadership in making this assessment possible. The team acknowledges and thanks Emiliano Barela, Project Manager—Motorcycle Safety, HSO, and Elizabeth Fulk, Administrative Specialist, HSO, for their efforts and support in bringing this Assessment together.

The Team also thanks Jeremy Gunderson, Leslie Nelson-Taullie and Gina Espinosa-Salcedo of the National Highway Traffic Safety Administration for helping to coordinate and support the Assessment.

The Team also extends a special thanks to all of the people who provided information, data, and documents that were necessary to conduct an effective assessment. We appreciate the time and energy invested in preparing and delivering their presentations. Their candor and thoroughness in discussing activities associated with motorcycle safety in Colorado greatly assisted us in completing this review and making the recommendations. The Team also thanks everyone who attended the Assessment sessions and offered comments during the public comment period. The Team recognizes and appreciates the dedication and passion of all those involved in making motorcycling safer in Colorado and hopes that this report will further those efforts.

### **Special Note**

During the planning for this assessment, Sergeant David Baldwin, Deputy Sheriff, Jefferson County Sheriff’s Office, member of the Motorcycle Operator Skills Training Advisory Committee and valued member of the Colorado motorcycle safety community, was struck and killed on duty while riding his police motorcycle. Sergeant Baldwin was scheduled to meet with the Assessment Team to discuss ways to improve motorcycle safety in the state. The Team wishes to acknowledge and honor his service to the State, to his community, and to motorcycle safety in Colorado. Our most heartfelt condolences go to his family, friends and colleagues.

**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

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Each State should have a comprehensive program to promote motorcyclist 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 technical assessment process based on *Highway Safety Program Guideline Number 3, Motorcycle Safety*.

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

- Program Management;
- Motorcycle Personal Protective Equipment;
- Motorcycle Operator Licensing;
- Motorcycle Rider Education and Training;
- Motorcycle Operation Under the Influence of Alcohol or Other Drugs;
- Legislation and Regulations;
- Law Enforcement;
- Highway Engineering;
- Motorcycle Rider Conspicuity and Motorist Awareness Program;
- Communication Program; and
- Program Evaluation and Data.

The Technical Assessment Team addresses each of these subject areas in this report.

At a State's request, NHTSA assembles a multi-disciplinary Technical Assessment Team of national experts that conducts a thorough review of the State's motorcycle safety efforts, identifies strengths and areas for improvement, and provides recommendations to enhance the program. This approach allows states to use highway safety funds to support the Technical Assessment Team's evaluation of existing and proposed motorcycle safety efforts.

NHTSA's assistance in assessing Colorado's motorcycle safety efforts was requested by the Colorado Department of Transportation (CDOT), Office of Transportation Safety (OTS), Highway Safety Office (HSO). NHTSA discussed issues of concern with representatives from the State prior to the assessment.

The Motorcycle Safety Program Technical Assessment for Colorado was conducted in Denver, Colorado from March 17-21, 2014. Arrangements were made for program subject matter experts and key stakeholders to deliver briefings and provide support materials to the Technical Assessment Team over a three-day period. The Technical Assessment Team interviewed presenters representing a wide range of experience and expertise, with some being contacted following their presentations to provide additional technical information and clarification.

Analysis of Colorado's motorcycle safety effort is based upon the oral and written information provided to the Technical Assessment Team prior to and during the assessment process as well as information publicly available on the Internet. The Technical 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 Colorado, with short- and long-term applicability.

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## BACKGROUND

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Colorado is the eighth largest State in the U.S. with 103,794 square miles of land and 453 square miles of water, which ranges in elevation from 3,315 feet to 14,433 feet. The roadways that wind through the mountainous terrain in the State contribute to some of the most beautiful motorcycle riding environments in the United States.

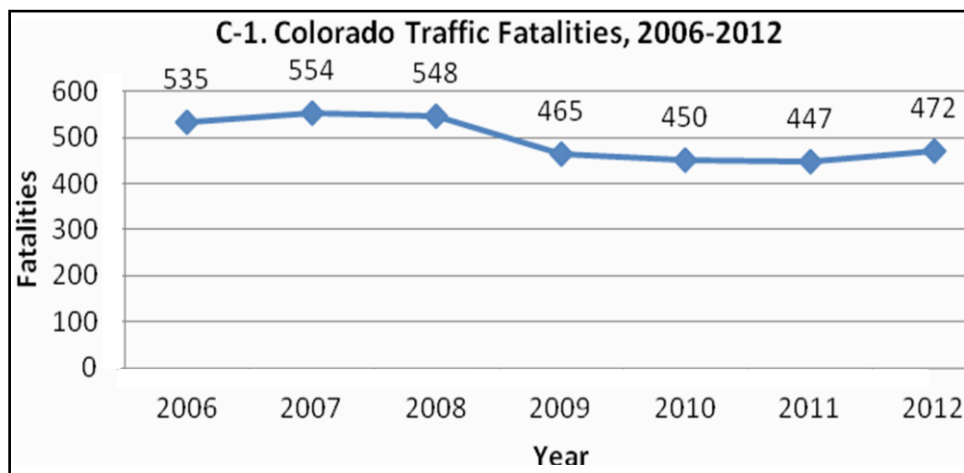
The U.S. Census Bureau estimates that the population for the State of Colorado was 5,268,367 during 2013. Of the total population, there were an estimated 2,644,720 males (50.2% of the total population) and 2,623,646 females (49.8% of the total population), with a median age of 36.1.

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## SUMMARY OF MOTORCYCLE CRASHES IN COLORADO

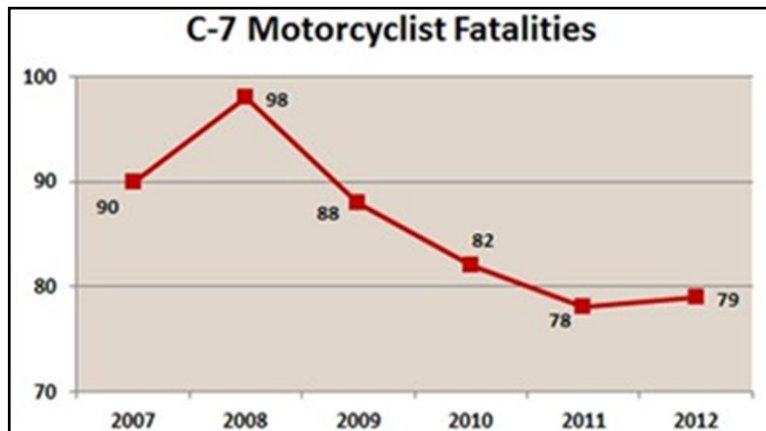
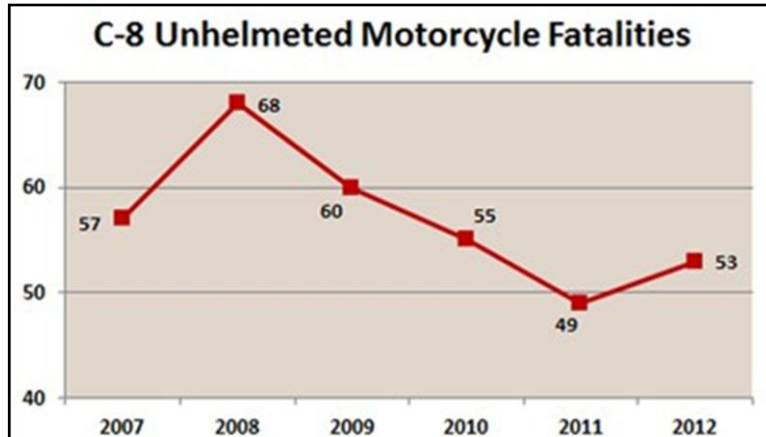
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In 2013, Colorado State traffic records indicate that there were over 4.5 million registered vehicles and 3.8 million registered drivers (73.3% of the State's total population) hold a license to operate at least one class of motor vehicle. With respect to motorcyclists, there were 382,351 endorsed motorcycle operators, representing 9.2% of the total driving population. The number of endorsed motorcycle riders is more than twice the number of registered motorcycles in the State (183,881 registered motorcycles in 2012).



Motorcyclist fatalities rose slightly from 78 in 2011 to 79 in 2012. Unhelmeted motorcyclist fatalities increased 8% from 49 to 53. Sixty-seven percent of all riders or passengers who were killed in traffic crashes in Colorado in 2012 were not wearing helmets. Preliminary reports of 2013 fatalities indicate a substantial increase in motorcyclist fatalities in 2013; helmet use for 2013 was not available at the time of the Assessment.

The total number of motorcycle-related crashes increased from 1,439 in 1997 to 2,552 in 2012, an increase of 77.3% over the course of 15 years. There were 4,430 serious motorcyclist injuries between 2010 and 2012, with 52% of injuries involving those between the ages of 35-54. The number of motorcycle-related fatalities increased from 37 in 1997 to 79 in 2012, an increase of 113.5% over the course of 15 years.



The Assessment Team strongly encourages the State to consider the implementation of the recommendations made in this report. There is a clear need for the State 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 that more motorcyclists will suffer fatal injury while enjoying the scenic roadways and destinations of the Centennial State.



## SUMMARY OF MAJOR RECOMMENDATIONS

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### Program Management

- **Develop a three-year strategic plan to address the priority recommendations of this Assessment that the State feels will have the greatest potential to improve motorcyclist safety in the state.**
- **Establish or designate a specific coordinating body to provide direction to the comprehensive motorcycle safety program. The Motorcycle Operator Safety Advisory Board may be appropriate for this role.**
- **Allocate sufficient staff to the administration of a comprehensive motorcycle safety program that includes grant management and monitoring, development of strategic partnerships, and program monitoring and evaluation.**
- **Integrate motorcycle safety goals and strategies from the Integrated Safety Plan into other related highway safety plans, such as the Strategic Plan for Improving Roadway Safety (SPIRS) and the CSP Strategic Plan.**
- **Allocate funding commensurate with the scale of the motorcycle safety problem.**

### Motorcycle Personal Protective Equipment

- **Gather data regarding motorcycle crash injury patterns in relation to gear use (for example, head injuries as related to helmet use) to inform motorcycle safety countermeasure development.**
- **Enact and enforce a universal helmet law compliant with Federal Motor Vehicle Safety Standard (FMVSS) 218. If this is not viable, pursue other avenues to address the goal of increased use of protective equipment (including, but not limited to, helmets).**
- **Encourage high visibility motorcycle professionals (motor officers and MOST Instructors) to model use of good quality personal protective equipment.**

### Motorcycle Operator Licensing

- **Ensure that all training courses and skill tests that result in eligibility for endorsement are monitored to assure consistent compliance with established standards.**
- **Limit instructional permit validity to 180 days, with a maximum of two permit renewals.**

### Motorcycle Rider Education and Training

- **Provide oversight of all endorsement testing waiver-eligible rider training providers (including Harley-Davidson Rider's Edge courses and courses run on military bases).**

- **Strengthen guidelines for conduct and quality control of the program to include:**
  - Per the 'Draft National Administrative Standards for Entry-Level Rider Training' (awaiting final approval by NHTSA), perform a quality assurance visit to each training site at least once per year (a mobile training program servicing multiple sites need only be visited once per year – not once per mobile site).
  - Evaluate each MOST-certified Instructor at least once every two to three years.
- **Explore ways to outsource, streamline, or eliminate the tasks of processing tuition benefit claims in order to enable the MOST Project Manager to perform duties more directly benefitting rider training and the comprehensive motorcycle safety program.**
- **Pursue more efficient and effective methods of administering MOST funds and personnel. Options include:**
  - Provide the tuition benefit as a direct reimbursement to the student in the endorsement transaction when they bring their qualifying completion card to the DMV office.
  - Have the MOST vendors submit quarterly invoices for students trained. Work with the CDOT audit department to develop appropriate verification processes (e.g. through sampling).
  - Eliminate the tuition benefit and reallocate those resources to other motorcycle safety priorities.
  - Outsource the administration of the tuition benefit paperwork by contracting with a private vendor, by providing a grant to an outside organization for staff support (as was done with the CDPHE data analyst), or by hiring seasonal or part-time contractual staff.
  - Contract out the oversight and management of MOST training statewide.

#### Motorcycle Operation Under the Influence of Alcohol or Other Drugs

- Use motorcycle crash data to drive specific impaired riding countermeasures and deployment of law enforcement resources. Enforcement efforts should target impaired riding in areas where crash data indicates the need.

#### Legislation and Regulations

- Enact and enforce a universal helmet law for all riders and passengers compliant with Federal Motor Vehicle Safety Standard (FMVSS) 218.
- Review and revise the Motorcycle Operator Safety Training Program rules as necessary to implement selected recommendations from this Assessment.

#### Law Enforcement

- Develop data-driven enforcement strategies that support motorcycle safety and specifically target high-risk motorist and motorcyclist behaviors.

- Ensure that all law enforcement in Colorado act in a unified effort to address national campaigns and statewide initiatives. CDOT should continue to maximize the use of the CSP's LEC to gain top-down support for data-driven, strategically-planned traffic enforcement as well as motorcycle-specific initiatives.
- Use the inherent authority and skills of motor officers to conduct outreach and enforcement at large-scale events, especially where alcohol is consumed.

#### Highway Engineering

- Consider adopting all the major recommendations in the AASHTO report on *Leading Practices for Motorcyclist Safety* that includes the use of high friction thermoplastic in areas that are more hazardous to motorcyclists.
- Train highway engineering and maintenance personnel to understand motorcyclist safety issues, such as the importance of friction to motorcyclists, and to identify surface irregularities and roadway conditions that can be hazardous to motorcyclists.

#### Motorcycle Rider Conspicuity and Motorist Awareness Programs

- Review crash location data and focus motorist awareness campaigns in the top crash counties. Invite agencies, community coalitions and stakeholder organizations to participate.
- Conduct a more aggressive communication campaign to encourage riders to be more conspicuous. Show conspicuous riding gear in protective gear campaigns where appropriate and consider a stand-alone piece that emphasizes the need to use techniques to be conspicuous. Distribute this information through rider education classes, at retailers, in Driver License offices, registration renewal mailings and at rallies and events.

#### Communications Program

- Develop a multi-year strategic communications plan to include durable strategies for high priority issues.
- Mobilize grassroots partners and grantees to extend the reach of campaign messages and materials.

#### Program Evaluation and Data

- Address critical gaps in data linkages between data sets that are needed to identify motorcycle safety issues, to identify appropriate countermeasures and to measure progress toward stated goals. These data include vehicle registration, licensure and endorsement records, trauma and EMS system data, citation and conviction data.

- **On at least a biennial basis, conduct a review of all fatal motorcycle crashes, including a review of motorcyclist licensure and endorsement, crash reconstruction reports, crash report narratives and other related information. The purpose of the review is to discover causal factors involved in fatal motorcyclist crashes to inform program planning, project development and communication messages and strategies.**
- **In collaboration with STRAC, establish a working group of agency professionals involved in day-to-day use of traffic crash records to ensure that issues of common concern related to motorcycle safety (e.g. data quality, timeliness and availability) are identified and addressed.**

## I. PROGRAM MANAGEMENT

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### **NHTSA Guideline**

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

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### Designation of Lead Agency for Overall Motorcycle Safety Program

The principal Colorado executive departments responsible for matters affecting motorcycle safety include the Colorado Department of Transportation (CDOT), the Colorado Department of Revenue (DOR), and the Colorado Department of Public Safety (CDPS). In addition, the Colorado Department of Public Health and Environment (CDPHE) supports CDOT by providing data analysis support and services.

The CDOT Executive Director is designated as the Governor's Highway Safety Representative. As such, he is required to formulate and implement comprehensive plans to address critical highway safety issues and the administration of federal highway safety grant funds allocated to the State. CDOT houses the Office of Transportation Safety (OTS) and within it, the Highway Safety Office (HSO).

Key functions of the HSO are to administer federal highway safety grant funds for specific projects and programs, and to consult with state departments, institutions, and agencies, with political subdivisions of the state, and with appropriate citizen groups and to formulate current and long-range plans and programs involving all aspects and components of transportation safety. In addition to these broad responsibilities, the HSO is responsible for managing the Motorcycle Safety Operator Training Program (MOST).

Other divisions within CDOT that support motorcycle safety include the Traffic and Safety Engineering Safety Branch, Highway Operations and Maintenance Division and the Engineering, Design, and Construction Division.

CDPS houses the Colorado State Patrol (CSP), the lead law enforcement agency in the state, allocating significant resources to traffic safety law enforcement, including motorcycle safety.

DOR houses the Division of Motor Vehicles (DMV), which is responsible for motorcycle rider licensing and motorcycle registration functions, including the collections of fees, a portion of which are credited to a fund that supports the MOST program. DMV is responsible for the certification of all DMV license testing examiners and third-party motorcycle licensing testers. DOR is also the custodian of record for vehicle crash record data, which it provides to CDOT and other partners for highway safety analysis.

Since the CDOT Executive Director serves as the Governor's Highway Safety Representative, and the HSO is assigned responsibility to develop state plans for highway safety and for managing the MOST Program, CDOT is generally regarded as the lead agency for the state motorcycle safety program. This was supported by the presentations from OTS, DOR, CSP and others and by public comments received during the Assessment.

#### Funding

Two main sources provide funding for motorcycle safety programs: federal highway safety grants received from the NHTSA, including both general highway safety grant funds and motorcycle safety-specific funds, and revenue from motorcycle license and registration fees collected by the Department of Revenue and reserved for the implementation and administration of the MOST Program.

For FY 2013, HSO was allocated approximately \$7,371,000 from NHTSA for grants in for projects in the following areas: \$3.8 million for highway safety project grants (Section 402 Funds); \$700,000 for occupant protection grants (Section 405(b) funds); \$600,000 for traffic records grants (Section 405(c) funds); \$2.2 million for impaired driving grants (Section 405(d) funds); and \$71,000 for motorcycle safety (Section 405(f) funds).

At the beginning of FY 2013, \$433,009.00 was carried forward from FY 2012. During the course of FY 2013, a total of \$830,962.00 was credited to the MOST fund, of which \$706,318 was available for training subsidies and \$121,644 was available for administration. Thus, the total amount available for expenditure in FY 2013, including the FY 2012 carryover, was \$1,263,971.00. During the course of FY 2013, the MOST Program expended \$948,345.53, consisting of \$884,660.37 for training subsidies and \$101,685.16 for administration costs. HSO presenters indicated these fund sources are adequate to accomplish the duties and functions required to administer the motorcycle safety program, including MOST. However, as discussed later in this report, limitations on the use of these funds, and the current administrative requirements of MOST Program processes create significant challenges which affect the comprehensiveness, quality and effectiveness of the program.

#### Data Collection and Analysis

Through a grant with the HSO, CDPHE provides data analysis services to support the development and implementation of focused and strategic plans to achieve the state's highway safety goals. A Motor

Vehicle Statistical Analyst is assigned full-time to the HSO. The specialist collects and analyzes safety data found in NHTSA's Fatality Analysis Reporting System (FARS) and Colorado accident data generated from traffic accident reports.

More recently, the Specialist has reviewed: death certificates; hospital discharge data; the Colorado Trauma Registry; motorcycle endorsement and registration records; and various judicial records to identify additional sources of information pertinent to motorcycle safety issues. According to the Specialist, crash and trauma registry records once were linked for a special analysis project; however, the two databases are not routinely joined for analysis. The Specialist noted that having the ability to link motorcycle accident data with other data sources, such as hospitalization records, would enhance future data analysis efforts. Subsequent sections of this report provide more information on data collection and analysis.

#### Colorado Motorcycle Safety Problem Areas

Colorado motorcycle safety priorities include impaired riding, unhelmeted riders, and older riders (especially males 55-69, because they are overrepresented in motorcycle crashes that result in serious injury or fatalities). Colorado Integrated Highway Safety Plans (ISP) have consistently identified specific motorcycle safety priorities and measures of performance. The 2014 ISP includes the following priorities:

#### **C-5. Reduce the number of fatalities in crashes involving a driver or motorcycle operator with a BAC of .08 and above**

**Number of fatalities in crashes involving a driver or motorcycle operator with a BAC of .08 and above in 2010: 127**

**Goal:** Reduce the number of fatalities in crashes involving a driver or motorcycle operator with a BAC of .08 and above in 2013 to 123.

**Goal:** Reduce the number of fatalities in crashes involving a driver or motorcycle operator with a BAC of .08 and above in 2012 to 162.

**2011 Result:** 161

#### **C-7. Reduce the number of motorcyclist fatalities**

**Number of motorcyclist fatalities in 2010: 82**

**Goal:** Reduce the number of motorcyclist fatalities in 2013 to 76.

**Goal:** Maintain the average number of motorcyclist fatalities in 2012 at or below 88.

**2012 Result:** 79

## **C-8. Reduce the number of unhelmeted motorcyclist fatalities**

**Number of unhelmeted motorcyclist fatalities in 2010:55**

**Goal:** Reduce the number of unhelmeted motorcyclist fatalities in 2013 to 47.

**Goal:** Maintain the number of unhelmeted motorcyclist fatalities in 2012 at or below 54.

**2012 Result:** 52

In addition, the 2013 MOST Annual report contains additional data comparing MOST students to other riders involved in motorcycle crashes:

- MOST students were involved in 213 crashes in 2012 and were at fault in 47% of the crashes (101/213).
- In 2012, alcohol or drugs were suspected to be involved in a total of 263 crashes that involved a motorcycle. Alcohol use by the motorcycle operator was suspected in 212 crashes and drug use was suspected in 24 crashes. The other vehicle driver was suspected for alcohol or drug use in the remaining crashes. MOST students (2008-2013) were involved in seven alcohol-suspected crashes and one drug-suspected crash.
- In 2012, overall, motorcycle operators were wearing helmets in 55% of crashes. However, 80% of MOST operators in crashes were wearing helmets.

HSO produces the Problem Identification Report with the assistance of CDPHE. This report is described in detail in Section XI: Program Evaluation and Data.

### Encourage and Support Collaboration

As noted earlier, CDOT, through the HSO, routinely collaborates with the DOR, CSP, and CDPHE. In addition, these organizations and the judiciary are partners in several state cooperative traffic safety boards, task forces, and panels for which an OTS representative holds a leadership position. These include the Interagency Task Force on Drunk Driving (ITFDD), the Persistent Drunk Driver Committee, the Colorado Peace Officer Standard Training (POST) Curriculum Committee, the State Traffic Records Advisory Committee (STRAC), and the Motorcycle Operator Safety Advisory Board.

The 2013 legislative establishment of the Motorcycle Operator Safety Advisory Board provides further opportunities for collaboration. Advisory Board members include agency representatives from CDOT, DOR, and CSP. In addition, nine additional members represent various public interests and constituencies including: MOST vendors; motorcycle dealers; third-party motorcycle licensing testers; instructor training specialists; the general riding community; motorcycle training providers not affiliated with the MOST; law enforcement; and motorcycle insurance providers.

While the primary focus of the Advisory Board is the MOST Program, the establishment of the Advisory Board presents an opportunity for OTS to receive recommendations that address the full range of issues



that may assist OTS in carrying out its responsibilities to develop and implement a comprehensive motorcycle safety program.

#### Programs and Projects Addressing Motorcycle Safety

Public awareness efforts funded through the MOST fund identified in the 2013 Annual Report include:

The CDOT Public Relations Office (PRO) and HSO collaborated to use MOST funds to promote awareness through the distribution of a MOST graduate kit. The kit included an individualized certificate, patch, sticker, and graduate fact sheet. The graduate fact sheet welcomed MOST trainees to motorcycling, thanked them for taking training, included facts about motorcycling, and asked that they take an online survey about their training experience. Those students who took the online survey were given the option to receive a MOST graduate pin in consideration for their time.

The PRO continued to print and distribute the Colorado Motorcycle Skill Rating Map, which “indicates easy, moderate and difficult routes across Colorado, so that riders can plan according to their skill level.” The reverse side of the map does not have public advertising. Instead, it contains motorcycle safety messages regarding training, riding sober, etc. More than 30,000 maps were distributed through a variety of outlets, including MOST trainers, motorcycle dealerships and Welcome Centers.

The PRO used MOST funds to research and develop strategies to increase awareness of, and participation in, MOST training classes. In FY 2013, the PRO spent \$50,752.95 to promote the MOST Program.

The 2013 HSO Annual Report identifies projects undertaken using federal highway safety funds provided by NHTSA. Those include:

A grant (13-07-71-02) to ABATE to identify areas of the state underserved by existing training sites and to create a mobile training capacity to serve them. The project team conducted seven classes at three new sites in Gunnison and Chaffee Counties from which 42 students successfully graduated. The project effort also included setting up classes for La Junta County to be conducted in the spring of 2014.

A grant (13-07-71-03) to Drive Smart Evergreen-Conifer to reduce alcohol related motorcycle crashes and fatalities in Jefferson County. The project implemented NHTSA’s “Project Green-Yellow-Red, Free to Ride, Free to Choose, A Campaign to Reduce Impaired Motorcycle Riding,” as part of a coordinated statewide effort and was a partnership between the Jefferson County Sheriff’s Office, CDOT, the Colorado State Patrol, and Ride Smart.

A grant (13-07-71-04) to ABATE to reduce crashes involving motorcyclists by increasing awareness of motorcyclists through education of the general motoring public. The project effort reached 2,700 students in rider education classes with presentations that addressed impaired riding and motorcycle awareness; conducted four Bystander Assistance classes to teach motorcyclists what to do when they come upon a motorcycle accident; and presented the “Share the Road” 10-minute video at various public events and driving schools.

A grant (13-08-81-04) with the CDOT Office of Communications and the Amelie Company to create a communications campaign in May 2013 (to coincide with Motorcycle Safety Awareness Month) to reach both riders and motorists with motorcycle safety messages. The effort produced a video depicting injuries motorcyclists could sustain should they crash without proper gear. The video received 55,837 views on YouTube (the most-viewed video on the CDOT YouTube page) and garnered 12 media placements, totaling 4.7 million impressions.

In September 2013, CDOT developed a campaign that asked motorists to look for motorcycles on the road. As a part of the campaign 17 print ads were placed in trade publications and online ads were placed as YouTube pre-rolls. The campaign garnered more than 8.79 million impressions. Posters comparing scenarios of crashing with and without gear were developed and placed in Welcome Centers throughout the state and shared with motorcycle training facilities and dealers. Finally, this effort placed six billboards throughout the Denver metro area promoting motorist awareness of motorcycles.

Other grants with some component or degree of motorcycle involvement included:

A grant (13-04-41-01) was awarded to CDPHE to produce the CDOT Problem Identification Report and provide a motor vehicle statistical analyst to support statewide data needs for traffic safety evaluation and programming. The CDPHE analyst served as a motor vehicle data expert at numerous committee and task force meetings. An objective of this effort was to develop behavioral programs that improve traffic safety by reducing the number and severity of traffic crashes by targeting specific high-risk driving behaviors. Among these are impaired driving, speeding and distracted driving, and populations at high risk for crash involvement, such as teenagers, seniors, *motorcycle riders* and vehicle occupants who do not use occupant protection devices.

Integrate and coordinate motorcycle safety projects with other highway safety programs and activities including impaired driving, occupant protection, speed management, and driver licensing programs  
The 2013 HSO Annual Report identified many enforcement and outreach projects addressing impaired driving, occupant protection, speed management, and driver licensing projects that did not appear to contain a specific motorcycle safety component. Various presenters indicated that motorcyclists benefited by general highway safety programs such as these, but no specific data was provided to indicate how motorcyclists were impacted by these programs. Motorcycle-specific data is not routinely collected as a part of these projects.

Other projects, such as the Interagency Task Force on Drunk Driving Support (13-01-11-02) to the Colorado State Patrol also might be of general benefit to motorcyclists, but the published description of this effort does not specifically mention impaired riding. A third grant (13-06-61-13), enabling the University of Colorado Hospital to provide a day long interactive injury prevention program where teenagers could interact with medical professionals who work in trauma situations, provided an opportunity to promote motorcycle safety. It is not clear whether motorcycle safety issues were included in these presentations.

### Evaluation of Motorcycle Safety Programs and Services

Evaluation of current motorcycle safety projects and programs is discussed in Section XI, Program Evaluation and Data.

### Opportunities for Improvement in MOST Program Administration and Oversight

The Colorado Motorcycle Operator Safety Training (MOST) Program managed by the HSO was established in 1990 with the enactment of House Bill 90-1155, codified at Colorado Revised Statute (CRS) 43-5-501 through 43-5-505. When the Program was established, a single person within CDOT handled daily program administration and the oversight of five training vendors offering classes at five training sites. In FY2013, by contrast, 17 vendors employed about 250 Instructors to offer courses to 12,554 students at 41 training sites in various locations across the state. Despite this significant growth, a single employee, the MOST Project Manager, remains responsible for the day-to-day administrative effort and oversight of the Program.

In addition to the growth of the MOST Program, changes in administrative requirements have dramatically increased staff time required by the day-to-day administration of the Program. Recent changes in MOST statute and rules identify an extensive list of Program responsibilities that OTS must accomplish, including two critical but time-consuming quality assurance efforts: ensuring that program training adheres to established standards and ensuring courses are offered safely consistent with best practices. To accomplish these goals, a quality assurance program that includes observation of each instructor and site on a periodic basis is essential. Yet clerical duties required of the MOST Project Manager to ensure compliance with state fiscal policies and procedures and for other reasons effectively prevent the Project Manager from visiting each vendor more than once per year.

The presentations the Team received demonstrate the MOST Program has funds adequate to support the hiring of additional staff to perform these critical tasks. According to HSO staff, State restrictions on adding additional staff make this option problematic.

### Opportunities for Improvement in Grant Engagements

HSO efforts to promote motorcycle safety by encouraging projects that make use of federal and state funded grants are commendable. OTS provides extensive data and assistance via the CDOT website that address grants and the grant application process, including video training. Despite the HSO's efforts to make the grant available, only a few motorcycle safety-specific grant applications are submitted each year while motorcyclist fatalities represent 17% of all traffic fatalities in the state, only 2% of available 402 traffic safety grant funds are allocated to motorcycle-specific projects.

The HSO has a positive working relationship with other state agencies engaged in traffic safety, local agencies and coalitions, and public motorcycle community stakeholders who could propose and execute projects funded through federal and state grants.

At several points during the presentations, efforts to identify ways to increase the number of motorcycle specific grant applications were discussed. While CDOT provides a range of resources and technical support for potential grantees, current grantees noted challenges in developing grant applications for projects and meeting specific grant requirements for reporting and evaluation. While CDOT provides references to the NHTSA *Countermeasures that Work* strategies, Specific model grant projects to

address motorcycle safety core performance measures are not provided. One HSO grantee reported adopting a model program from NHTSA published material.

## RECOMMENDATIONS

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- **Develop a three-year strategic plan to address the priority recommendations of this Assessment that the State feels will have the greatest potential to improve motorcyclist safety in the state.**
- **Establish or designate a specific coordinating body to provide direction to the comprehensive motorcycle safety program. The Motorcycle Operator Safety Advisory Board may be appropriate for this role.**
- **Allocate sufficient staff to the administration of a comprehensive motorcycle safety program that includes grant management and monitoring, development of strategic partnerships, and program monitoring and evaluation.**
- **Integrate motorcycle safety goals and strategies from the Integrated Safety Plan into other related highway safety plans, such as the Strategic Highway Safety Plan (SHSP) and the CSP Strategic Plan.**
- **Allocate funding commensurate with the scale of the motorcycle safety problem.**
- Establish a working group of state agency representatives that administer programs that affect motorcycle safety, including CDOT, DOR, CDPHE, CSP and others, to coordinate the development of programs, policies and procedures.
- Recruit new grantee partners (e.g. Universities, trauma centers, emergency service system providers, nonprofit community organizations) to address priority safety issues using proven countermeasures or other promising projects.
- Integrate motorcycle safety into related highway safety programs, including high visibility enforcement programs.
- Coordinate with existing local coalitions and foster the development of new coalitions in high motorcycle-crash jurisdictions to support motorcycle safety outreach campaigns.

## II. MOTORCYCLE PERSONAL PROTECTIVE EQUIPMENT

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### NHTSA Guideline

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 the event 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

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Research indicates that proper protective gear is the most effective way of reducing injuries to operators and passengers in motorcycle crashes. Current Colorado law requires that helmets meeting Federal Motor Vehicle Safety Standard (FMVSS) 218 be worn by all riders and passengers under age 18 (Model Traffic Code 1502(4.5)). In the two years prior to the under-18 helmet law being enacted, helmet use among riders involved in crashes was 48.9% for riders under-18 and 46% for riders age 18 and older. In the two years after the under-18 helmet law was enacted, helmet use among riders involved in crashes was 62.9% (a 28.6% increase) for riders under 18 and 47.5% (a 3% increase) for riders age 18 and older. This data suggests that the passage of the helmet law led to the significant increase in use among the under-18 population.

In Colorado, riders are required to wear goggles or eye glasses with lenses made of safety glass or plastic or a face shield on a helmet. Colorado law also specifies that DOR shall set standards and specifications for these protective devices. These standards and specifications have not been established. Colorado law also requires footrests for passengers and requires a seat for motorcycle operators and passengers.

Based on testimony and briefing materials, CDOT has engaged in significant communication campaigns regarding the use of protective gear. The 2013 "Live to Ride" campaign focused on proper gear and motorist awareness. This included the "Crashed" video (promoted via social and other electronic media) as well as other collateral focused on the benefits of gear. When helmets were used in these campaigns, no mention or reference was made to FMVSS 218 or being 'DOT' compliant.

The Colorado *Motorcycle Operator's Handbook* features a rider in full gear (and hi-visibility gear) on the cover. In addition, standards for the conduct of skills testing (through the DMV or with a third-party tester) recommend that the customer wear protective gear (to include a helmet, eye protection, gloves, jacket, long pants, and over-the-ankle footwear).

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## RECOMMENDATIONS

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- **Gather data regarding motorcycles crash injury patterns in relation to gear use (for example, head injuries as related to helmet use) to inform motorcycle safety countermeasure development.**
- **Enact and enforce a universal helmet law compliant with Federal Motor Vehicle Safety Standard (FMVSS) 218. If this is not viable, pursue other avenues to address the goal of increased use of protective equipment (including, but not limited to, helmets).**
- **Encourage high visibility motorcycle professionals (motor officers and MOST Instructors) to model use of good quality personal protective equipment.**
- Gather data regarding helmet use rates to establish a baseline. Use an appropriate methodology (e.g. NHTSA methodology), or use an extrapolation formula (such as one developed by Westat for NHTSA for use in states without universal helmet laws).
- Adopt an established standard for eye protection (e.g. American National Standards Institute, Z87.1 or Federal Food and Drug Administration impact resistance regulation, Title 21 CFR 801.410) to meet Colorado law.
- Include information on eye and face protection and high-visibility gear in communications campaigns.
- Include information on DOT standard in helmet promotions.
- Engage motorcycle dealers in gathering information about gear trends and encouraging gear use.
- Develop outreach programs and partner with motorcycle organizations (e.g. riding groups, clubs, rights organizations, dealers) to encourage the use of protective gear.

### III. MOTORCYCLE OPERATOR LICENSING

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#### **NHTSA Guideline**

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

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Residents operating a motorcycle on Colorado highways are required to hold a motorcycle license with an 'M' endorsement or a motorcycle learner's permit. The motorcycle endorsement qualifies a person to ride a 2- or 3-wheel motorcycle. Colorado can also issue an endorsement that restricts a person to riding only a 3-wheel motorcycle.

Currently, 3,714,586 Colorado residents hold an operator's license and 382,351 residents hold a motorcycle endorsement. The most recent data indicates there were 183,881 registered motorcycles in 2012. In 2013, the State Driver's License Office issued 6,036 motorcycle learner's permits and 103,080 motorcycle endorsements.

In FY2013, 37% of motorcyclist fatalities did not have a motorcycle endorsement at the time of the crash.

Residents can obtain an endorsement by passing a qualifying endorsement waiver rider training course or by passing a knowledge and riding skills test with a 3<sup>rd</sup> party tester or DMV examiner.

A person who is eligible for a Colorado driver's license and has a motorcycle endorsement from another state is eligible to receive an endorsement.

Motorcycle Operator's Handbook

The Colorado Motorcycle Operator's Handbook provides information that entry-level motorcycle operators need to know to pass the required motorcycle knowledge test. The Handbook is available on the DOR website, at DMV Offices, some driving schools and the CDOT website in the MOST section.

The Handbook includes riding strategies that are not consistent with the Motorcycle Safety Foundation (MSF) curriculum taught by training providers across the State. Additional information not found in the Handbook includes crash causation factors, unique characteristics of riding in Colorado such as debris on roads, impaired riding, marijuana impairment, *Share the Road* information, penalties for impaired riding and riding without the proper endorsement.

The latest revision of the Handbook was August, 2012. Presenters indicated the next revision is scheduled to be reviewed and printed in 2014. DOR welcomes the assistance from the HSO MOST Project Manager to help resolve inconsistencies between the Handbook and the MOST Program curriculum and to jointly develop additional content.

Two-wheel and 3-wheel motorcycle information is intermixed throughout the Handbook. This information layout can potentially be confusing for applicants and those who want more information on a certain type of vehicle.

#### Motorcycle License (Endorsement) Examinations: Knowledge and Skill Tests

Anyone seeking a motorcycle learner's permit in the state must pass a knowledge test. Anyone seeking an endorsement must also pass a skills test.

MOST-approved independent training providers (vendors) use knowledge and skills tests that are included in the curricula provided with the MSF Basic RiderCourse<sup>sm</sup>, Basic RiderCourse 2<sup>sm</sup> LW, Three-Wheel Basic RiderCourse<sup>sm</sup> or Evergreen Safety Council Basic Sidecar/Trike course. The Instructors conduct these tests as part of the courses. Endorsement test waivers are provided for successful completion of these courses.

Harley-Davidson's *Rider's Edge* Program also provides MSF-based entry-level motorcycle rider training. Successful graduates of *Rider's Edge* have also been provided with endorsement test waivers. However, *Rider's Edge* does not fall under the oversight of the MOST Program. According to the presenters, no Colorado agency has oversight over the *Rider's Edge* Program. DMV officials have recently expressed concern over providing endorsement test waivers for courses outside of MOST oversight. The DMV will be looking into the matter further and will re-examine their policy on endorsement test waivers.

Courses offered on military bases within the state also do not fall under the oversight of the MOST Program. No information was provided to the Team regarding courses provided on military bases.

Other options to obtain an endorsement include taking the knowledge and skills test at a DMV office or going to a DMV contracted 3<sup>rd</sup> party tester. The tests given by the DMV and 3<sup>rd</sup> party testers are different from the training course tests. The DMV and 3<sup>rd</sup> party testers use one of two versions of a knowledge test and require a passing score of 80% on 25 questions. The skills test is the MSF RST (Rider Skills Test).



With only four DMV offices currently offering motorcycle skills testing, 3rd party testers are conducting the majority of skills tests. It was reported that the DMV strategy is to move toward using more 3<sup>rd</sup> party testers as the trend is to re-locate DMV offices into smaller facilities that do not have space for skills testing.

Although 3<sup>rd</sup> party testers are certified to conduct both the knowledge and skills tests, they seldom conduct knowledge tests. Prior to taking a 3<sup>rd</sup> party skills test, the applicant must first have passed a knowledge test and purchased an instructional permit at a DMV office. After the applicant has the instructional permit, he may make an appointment with a 3<sup>rd</sup> party tester to take the riding skills test. For riders who are prepared to take both tests at the same time, this method is cumbersome.

There has been no periodic review of the DMV knowledge tests to determine if the questions continue to be appropriate and consistent with the tests administered during MOST courses.

The course completion cards awarded by training providers do not have an expiration date and can be presented at any time to a DMV office to obtain their endorsement. Proof of a successful skills test awarded by a 3<sup>rd</sup> party tester expires after 60 days.

The DMV accepts out of state MSF completion cards (BRC or BRC2) for license waiver purposes as long as the applicant is a Colorado resident. The DMV does not accept out of state completion cards from non-MSF rider training courses.

#### License Examiner Training Specific to Testing of Motorcycles

DMV utilizes their own examiners and certifies 3<sup>rd</sup> party testers to conduct knowledge tests and/or skills tests at other testing sites. Examiners and 3<sup>rd</sup> party testers are not required to be endorsed riders; however, many of the 3<sup>rd</sup> party testers are certified MOST Instructors.

The examiners and 3<sup>rd</sup> party testers are trained by the Driver Testing and Education Section of the Motor Vehicles Division. The 3<sup>rd</sup> party testers are monitored annually for quality assurance by DMV. A refresher training program is being developed that will be required every two years.

DMV relies heavily on the MOST Program to ensure that contracted training providers conduct testing according to the standards required by the DMV for license waivers.

#### Motorcycle License Endorsement

It is illegal to operate a motorcycle on a public street or highway in Colorado unless the operator has a valid endorsement that specifically authorizes the operation of a motorcycle. By definition, a motorcycle can be either 2 or 3-wheeled. Low-powered scooters and mopeds do not qualify as motorcycles and may be operated with only a basic driver's license.

Motorcycle-only driver licenses are not available. Any applicant wishing to be properly licensed to ride a motorcycle must first have a basic driver's license.

To add an endorsement to a basic driver's license, an applicant must be at least 16 years of age and pass the required examinations. These examinations include a driving record review, physical aptitude review, vision test, motorcycle knowledge test and a motorcycle skills test.

Applicants for motorcycle endorsements who are under 18 years of age are required to hold a motorcycle instruction permit for 12 months before adding the motorcycle endorsement to their basic driver's license.

Applicants between 15 and 16 years of age must successfully complete a MOST training program, then hold an instruction permit for 12 months, and be at least 16 years of age prior to adding an endorsement to their basic driver license.

#### Cross-referencing of Motorcycle Registrations

The state does not currently cross-reference motorcycle registrations with motorcycle endorsements to identify unendorsed motorcycle riders.

#### Motorcycle License Renewal Requirements

Once a motorcycle endorsement is added to a rider's basic driver license it can be renewed every five years.

#### Learner's Permits

An instructional permit is valid for three years and can be renewed indefinitely.

A motorcycle instruction permit allows a rider to operate a motorcycle while under the immediate, proximate supervision of an adult who is at least 21 years of age and who holds a valid Colorado license endorsed for motorcycle operation.

Riders under 18 years of age have an additional requirement that a parent or guardian must sign an Affidavit of Liability and Guardianship before being issued a permit. If the parent or guardian is not available to ride with the permit holder, permission must be granted to another adult who meets the requirements of having a valid driver's license endorsed for motorcycles. The under age 18 rider must hold the instructional permit for 12 months and be 16 years of age before an endorsement can be added to their license.

The American Association of Motor Vehicle Administrators (AAMVA) recommends that permits be valid for 90 days and that they are renewable a maximum of two times. HSO documents state that changing the renewal time to 90 days would require a statute change and would eliminate teens under 18 from holding a motorcycle instructional permit, since they must hold the permit for 12 months before being eligible for an endorsement. Also, a major computer reconfiguration of the DOR Driver Licensing System would be required.

#### Penalties for violation of motorcycle licensing requirements

Colorado law requires drivers to have a current driver's license or permit appropriate for the vehicle they are operating. Violations of this section shall be punished as provided in Section 42-2-101 (10). The fine and surcharge total \$46 and three points are assessed. Second or subsequent violations result in the assessment of six points against the driving privilege of the offender.

Law Enforcement presenters indicated the violations of the licensing requirements are strenuously enforced.

## RECOMMENDATIONS

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- **Ensure that all training courses and skill tests that result in eligibility for endorsement are monitored to assure consistent compliance with established standards.**
- **Limit instructional permit validity to 180 days, with a maximum of two permit renewals.**
- Align the *Motorcycle Operator's Handbook* with the MOST curriculum to eliminate inconsistencies.
- Include information in the *Motorcycle Operator's Handbook* regarding crash causation factors, unique characteristics of riding in Colorado, impaired riding, marijuana impairment, *Share the Road* information and penalties for impaired riding and riding without a proper endorsement.
- Re-organize the *Motorcycle Operator's Handbook* to separate the information by 2- or 3-wheel motorcycle type.
- Simplify 3<sup>rd</sup> party testing rules to allow the tester to conduct both knowledge and skills testing during the same visit.
- Conduct a review and analysis of the questions of the DMV knowledge test to ensure the questions test the appropriate knowledge for safe motorcycle operation. Analyze test result answers to validate that *Motorcycle Operator's Handbook* information adequately covers the questions asked.
- Change policy to include an expiration date on training course completion cards that does not exceed 12 months from date of issuance.
- Require the AAMVA-recommended permit restrictions, to include: zero blood alcohol concentration (BAC); no interstate travel; no passengers; daytime riding only; and mandatory helmet use.
- Develop strategies to encourage riders to obtain a proper endorsement. For example, cross-reference registration data and licensing data to determine addresses of households that own a motorcycle but where no one in the residence is properly licensed. Then conduct a mailing to encourage the rider in the home to complete the licensing process through DMV testing or through an endorsement testing waiver course.

## IV. MOTORCYCLE RIDER EDUCATION AND TRAINING

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### NHTSA Guideline

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

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The Colorado Motorcycle Operator Safety Training (MOST) program was established in 1990 with the enactment of House Bill 1155, codified at Colorado Revised Statute (CRS) 43-5-501 through 43-5-505. OTS is responsible for adopting rules and regulations for, and administering the MOST Program. The MOST Program Project Manager reports to the Highway Safety Manager in OTS.

In 2013, CDOT completed two revisions to the MOST rules. The revision effective March, 2013 modified the MOST rules based on the results of an internal program audit. The revision effective November 17, 2013 modified the MOST rules to conform to new legislation passed that year. One of the elements of that legislation was to establish a 'sunset' provision that specifies the MOST Program and its functions shall terminate on September 1, 2017. Although sunset provisions have been attached to many other programs in Colorado, this is the first time that such a provision has been applied to the MOST Program.

The MOST Program is funded by a \$4.00 surcharge on motorcycle registrations (valid for one year) and a \$2.00 surcharge on a motorcycle endorsement (valid for five years). Amounts credited to the MOST Program fund in any given year and not expended that year remain in the fund for use in future fiscal years. Monies deposited into MOST fund may not be transferred to any other fund.

In FY2013, the MOST Program contracted with 17 approved providers to conduct rider training courses at 41 locations in 17 of the State's 64 counties. 1,429 MOST courses were offered and a total of 12,554 individuals were trained. According to presenters, wait times for rider training are very short, strongly suggesting that the MOST Program is meeting student demand.

#### Incentives for MOST Training

DOR grants an endorsement testing waiver (for both skills and knowledge tests) to successful graduates of BRC and BRC2LW at MOST-approved vendors (subject to MOST Program oversight), the Harley Davidson Rider's Edge program (soon to be rebranded "Harley-Davidson Riding Academy"), and training conducted by Cape Fox for the military (Rider's Edge and Cape Fox are not subject to MOST Program oversight).

#### Tuition Benefit

The MOST Program currently provides a per-student tuition benefit to the providers under the assumption that this benefit is used to defray a portion of student tuition. The amount of this benefit can vary based on factors such as funding received and number of students trained. For example, in FY2012 the tuition benefit amount was \$70 per student and in FY2013 the tuition benefit amount was \$35 per student. Based on testimony and a review of documents, the current practice/method of providing this tuition benefit is problematic on many levels:

1. If the amount of the tuition benefits changes, it does so effective July 1 because this is the beginning of the state fiscal year, as it did in the example above. Since this date falls in the middle of the training season, it poses a business planning challenge for the MOST vendors.
2. Based on the requirements in Statute, the MOST rules, and recommendations from the 2011 internal audit, the MOST Program is required to verify and process every claim submitted by MOST vendors for student reimbursement (one claim per student). This administrative burden consumes the vast majority of the MOST Project Manager's time.
3. During the Assessment, some MOST vendors indicated that the tuition benefit may no longer be needed. Other vendors indicated that it was still needed. Four vendors (of 17) were present.
4. According to a recent survey of 2013 MOST graduates, "overall cost to me was appropriate" ranked 3<sup>rd</sup> and "a discount or tuition benefit was offered" ranked 5<sup>th</sup> as reasons for choosing the provider from which they took their course. In addition, students gave the course high ratings, and over 90% indicated that they would still have taken the course if it had cost more.

Taken together, these items suggest that the tuition benefit as it is currently being administered is not the most effective and efficient use of MOST Program financial and human resources.

#### Standards and Quality Assurance

MOST rules provide standards for Instructor training, Instructor certification, and Instructor recertification. MOST rules also provide standards for certification of vendors, minimum standards for quality assurance visits by MOST staff or designees, and consequences for non-compliance.

MOST vendors are required to use a curriculum approved by the Program Office. MOST Rules also provide for review and approval of curricula (7.05 – 7.08). For this approval, Department of Revenue staff overseeing licensing and the MOST Program Manager will confer to determine approval. The MOST rules refer to ‘research-based’ curricula, and reference NHTSA’s Model National Standards for Entry-Level Motorcycle Rider Training. However, the approval process itself is not specified and does not seem to have established criteria by which to make consistent decisions.

The MOST rules require quality assurance visits to MOST training providers (but not training provided by Rider’s Edge or Cape Fox courses not contracted to a MOST-approved provider). The MOST Program does not have oversight authority or provide quality assurance to Rider’s Edge or Cape Fox courses, even though their graduates also receive the endorsement testing waiver.

Out of 1,429 courses conducted in FY12013, it is estimated that the MOST Project Manager conducted fewer than 20 quality assurance visits. According to presenters, the time demands of processing MOST vendor claims for student tuition benefit payments make it very difficult even to meet the minimum standard (specified in the MOST rules) of one visit per vendor per year.

The MOST rules spell out the Program’s authority to inform DOR when a vendor is out of compliance (and has failed to adequately remedy the identified non-compliance issues identified in a quality assurance visit). The noncompliant vendor’s training will no longer be valid for an endorsement testing waiver until the compliance issue is remedied.

#### Program Evaluation

The MOST Program has a protocol to survey MOST graduates about their experience in class and to tabulate responses for program evaluation purposes. However, according to presenters, they are not able to distribute the materials necessary to initiate the surveys due to staffing limitations.

MOST produces an annual report (per statute and rules) with data about the program, students trained, motorcycle crashes, injuries, and fatalities, as well as program revenue and expenditures. MOST also tracks and gathers data on crashes, injuries, and fatalities among MOST graduates to compare that data to non-MOST graduates. There are limitations to this data; for example, the ‘trained rider’ data does not include riders trained prior to 2008 and does not include Rider’s Edge graduates or graduates from military base classes.

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## RECOMMENDATIONS

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- **Provide oversight of all endorsement testing waiver-eligible rider training providers (including Harley-Davidson Rider’s Edge courses and courses run on military bases).**
- **Strengthen guidelines for conduct and quality control of the program to include:**

- Per the 'Draft National Administrative Standards for Entry-Level Rider Training' (awaiting final approval by NHTSA), perform a quality assurance visit to each training site at least once per year (a mobile training program servicing multiple sites need only be visited once per year – not once per mobile site).
  - Evaluate each MOST-certified Instructor at least once every two to three years.
- Explore ways to outsource, streamline, or eliminate the tasks of processing tuition benefit claims in order to enable the MOST Project Manager to perform duties more directly benefitting rider training and the comprehensive motorcycle safety program.
- Pursue more efficient and effective methods of administering MOST funds and personnel.  
Options include:
  - Provide the tuition benefit as a direct reimbursement to the student in the endorsement transaction when they bring their qualifying completion card to the DMV office.
  - Have the MOST vendors submit quarterly invoices for students trained. Work with the CDOT audit department to develop appropriate verification processes (e.g. through sampling).
  - Eliminate the tuition benefit and reallocate those resources to other motorcycle safety priorities.
  - Outsource the administration of the tuition benefit paperwork by contracting with a private vendor, by providing a grant to an outside organization for staff support (as was done with the CDPHE data analyst), or by hiring seasonal or part-time contractual staff.
  - Contract out the oversight and management of MOST training statewide.
- Clarify the 'formal curriculum review and approval process' to include specific criteria upon which that approval is based.

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

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### **NHTSA Guideline**

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**

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Impaired driving and riding are critical highway safety issues in Colorado. The state has specific goals for the reduction of impaired driving and riding in its strategic highway safety plan, SPIRS, in its annual ISP. The State addresses impaired driving through a range of enforcement and outreach efforts.

#### High Visibility Enforcement Programs

The HSO collaborates with state and local law enforcement agencies to support 12 high-visibility enforcement campaigns. Seven of these follow the national NHTSA calendar and five are supplemental statewide impaired driving campaigns. CSP's website promotes several alcohol messages prominently on the CSP website. Two of their seven rotating banners address impaired driving. Additionally, the CSP Highway Safety page promotes "The Heat is On" campaign which is conducted throughout the year with major enforcement operations conducted during holiday periods. Materials such as posters, napkins and coasters are distributed to bars and restaurants through the CDOT Public Relations Office.

One of the strategic goals in CSP's Strategic Plan 2014-2018 is to "Establish and Maintain Internal and External Partnerships." The plan calls for the CSP Command Staff to develop a high-visibility enforcement and education campaign targeting high-risk driving behaviors. The educational and enforcement focus will be on impaired driving.

These programs, though widespread and focused on impaired operation, do not target any specific motorcycle countermeasures nor does it appear that they use motorcycle-specific data to drive enforcement decisions. Instead, Colorado incorporates motorcyclists within their existing enforcement campaigns. Motorcycle impairment patterns may not match those of impaired driving; it is uncertain whether these enforcement operations adequately address the impaired riding problem.



### Enforcement Training

Specific training of law enforcement officers in the detection and apprehension of impaired motorcyclists is very limited. The 24-hour Standardized Field Sobriety Testing (SFST) curriculum briefly addresses impaired motorcycling cues and a NHTSA pamphlet, *The Detection of DWI Motorcyclists*, has been made available to any Colorado law enforcement agency by CDOT.

In 2011, the CSP LEC assisted in facilitating the International Association of Directors of Law Enforcement Standards and Training (IADELEST) Enforcement of Motorcycle Laws course, which contains information on detecting impaired motorcyclists, at the Colorado State Patrol Academy.

### Prosecution and Adjudication

During presentations and interviews, the assessment team met with a Traffic Safety Resource Prosecutor and a judge who is also the Judicial Outreach Liaison for NHTSA Region 8. It was the consensus of both that there is little to no motorcycle-specific issues training or resources available to assist them in their respective judicial roles.

### Community and Stakeholder Groups

The Interagency Task Force on Drunk Driving (ITFDD) has expressed an interest in NHTSA *Safe Community* training. To date, this program has not been established in the state. It is unclear whether this training course is still offered by the Transportation Safety Institute (TSI).

A variety of stakeholders are included in the Motorcycle Operator Safety Advisory Board.

### Impaired Riding Outreach Programs

*Ride Smart* is a HSO-grant funded project that attempts to address impaired riding, working to educate the staffs of local taverns and restaurants about the misuses of alcohol by providing T.I.P.S. training in Jefferson County. A component of the project is the use of storage containers at taverns to secure motorcycles to address the issue of riders opting to ride impaired rather than leave their motorcycles unsecured when finding a ride home. The program reported 16 uses of the storage containers in a one year period. The program is only operational in Jefferson County and claims a 32% decrease in alcohol impaired fatal crashes since 2008. Additional data from the project cited high incidences of rider error and unendorsed riders in crashes during the grant period.

Statistics provided by CDOT indicated that for the years 2010-2012, 17% (212) of the motorcycle operators under 21 years of age who were involved in a fatal crash were impaired.

The Team is unaware of any youth programs that address impaired motorcycle operation.

### Community Partnerships

The HSO Partners with Mothers Against Drunk Driving (MADD), on the Interagency Task Force on Drunk Driving (ITFDD) and the HSO and MADD staffs meet regularly. MADD has previously been a grantee of the HSO; however, they are not currently a grant recipient. No motorcycle-specific projects or initiatives are listed in the ITFDD Annual Reports.

HSO has addressed college-aged riders through a partnership with Auraria Campus Police (ACP) Campus Outreach program. CDOT Motorcycle Safety Program also staffs a booth next to the ACP booth to engage students.

Large-scale rallies and other motorcycle related events offer excellent opportunities for law enforcement to make rider contacts, both in enforcement and educational efforts. During the Sturgis Rally in South Dakota, the I-25 corridor experiences heavy motorcycle traffic. CSP noted that they do increase their presence in this area but there are no concerted effort targeting high-risk motorcyclist behavior. Overhead highway messaging signs were used to deliver a motorist awareness message. Motorist awareness messaging was posted on the “COTrip” website. CSP indicated they had a presence during the *Thunder in the Rockies*, but there was no concerted effort targeting high-risk motorcyclist behavior.

The SPIRS recommended participation event-based enforcement programs such as motorcycle rallies, shows, to promote motorcyclist safety. Two of the proposed strategies were, “Develop enforcement programs targeting motorcyclists who violate traffic laws” and “Have a law enforcement presence at large-scale events where alcohol is present.” This was the only reference to motorcycle-specific strategies referencing law enforcement that the Team was able to identify.

The MOST course curriculum addresses impairment, but the official Colorado *Motorcycle Operator’s Handbook*—conspicuously—has no information regarding alcohol and other impairments. This may be especially problematic with the recent legalization of recreational marijuana use.

The Team found that there are currently no relationships regarding workplace safety programs regarding impaired riding. There is no communication with the Network of Employers for Traffic Safety or other like-minded groups.

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## RECOMMENDATIONS

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- **Use motorcycle crash data to drive specific impaired riding countermeasures and deployment of law enforcement resources. Enforcement efforts should target impaired riding in areas where crash data indicates the need.**
- Explore training opportunities similar to the “Safe Communities” course offered by TSI.
- Expand the efforts similar to *Ride Smart* to other counties where impaired riding is over-represented.
- Seek out partnerships with entities like Students Against Destructive Decisions and the Colorado Powersports Dealer Association who routinely deal with youthful riding populations, to promote sober riding.
- Incorporate motorcycle-specific messages into current CDOT impaired driving campaign materials.

- Use results of previous impaired riding communication campaign to inform the development of future outreach initiatives.
- Include impaired rider messages in “The Heat is On” enforcement activities and media campaigns.
- Utilize the national network of the TSRP to find and deliver training or technical assistance to judges and prosecutors to educate those groups on the successful prosecution and sentencing of impaired riders.
- Coordinate impaired riding prevention efforts with organizations like MADD and seek out other community-based groups to help disseminate sober riding materials and messages.
- Aggressively partner with academia to get students and faculty involved with spreading the sober riding message.
- Use the CSP LEC to coordinate impaired riding efforts with local police and sheriff’s offices and publicize these efforts in the media.
- Use motor officers at large scale rallies, especially where alcohol is being served, in either an enforcement or outreach capacity.
- Train traffic enforcement officers in the detection of impaired motorcyclists, and publicize this training to the media.
- Promote T.I.P.S. training in areas where impaired riding is an identified problem.
- Add impaired riding information, including information on impairment by marijuana use, into the *Motorcycle Operator’s Handbook*, including the consequences of a conviction for impaired riding.

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## VI. LEGISLATION AND REGULATIONS

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### NHTSA Guideline

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.

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### STATUS

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The status of some elements of Colorado law that affect motorcycles and motorcyclists are referred to in other sections of this report:

- Motorcycle Rider Gear and equipment requirements are addressed in Section II. Motorcycle Personal Protective Equipment.
- Licensing laws are addressed in Section III. Motorcycle Operator Licensing.

The most recent changes to laws and regulation affecting motorcycle safety are related to the MOST Program. In 2013, the Colorado General Assembly amended various provisions of the MOST statute, CRS 43-5-501 through 43-5-507. The amendments, signed by the Governor on March 29, 2013, include the following:

- OTS is to set standards for the motorcycle operator safety training program for students and instructors;
- OTS is to establish a system to record program data, including accidents;
- A person who is eligible for a driver's license with a motorcycle endorsement from another state and is now a Colorado resident will be eligible for the program;
- The requirement that a program course charge be the same for all students was repealed;
- MOST funds may not be used for MOST program vendor operating expenses except for mobile training expenses.

The 2013 legislation also requires creation of a twelve member Motorcycle Operator Safety Advisory Board to:

- Develop a vision and mission consistent with the MOST.
- Recommend training methods to increase safety and reduce motorcycle crashes and injuries.
- Recommend training methods to increase program effectiveness.
- Recommend improvements to the program and training.
- Recommend how money in the MOST Fund money should be used.

Advisory Board members include agency representatives from CDOT (OTS), Department of Revenue, and Colorado Department of Public Safety (State Patrol). In addition, nine members who represent various public interests and constituencies are drawn from: MOST vendors; motorcycle dealers; third-party

motorcycle licensing testers; instructor training specialists; the general riding community; motorcycle training providers not affiliated with the MOST; law enforcement; and motorcycle insurance.

The 2013 legislation also made the MOST Program subject to the Colorado Sunset Statute, C.R.C. 24-34-104, with a termination date of September 1, 2017.

Neither Statute nor the MOST Rules require the MOST Program to provide a tuition benefit.

## RECOMMENDATIONS

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- **Enact and enforce a universal helmet law for all riders and passengers compliant with Federal Motor Vehicle Safety Standard (FMVSS) 218.**
- **Review and revise the Motorcycle Operator Safety Training Program rules as necessary to implement selected recommendations from this Assessment.**
- That, as required by CRS 42-4-232(2), DOR issue regulations that adopt standards and specifications for the design of the goggles and eyeglasses, such as those established by the American National Standard Institute (ANSI – Z87.1)
- Continue to compile and publish data that details the negative impact of repeal the mandatory helmet use law, including the costs to taxpayers due to emergency services such as life flights, emergency medical personnel, and law enforcement at crash sites, and the increased hospital stay costs of head trauma.
- Educate the general public on the effects of long-term injury, disability or death of riders, such as the loss of income support and the emotional stress on spouses, children, and other family members.

## VII. LAW ENFORCEMENT

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### NHTSA Guideline

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

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Colorado has 271 law enforcement agencies. Through presentations and discussions with the Colorado State Patrol (CSP), Denver Police Department (DPD), and Aurora Police Department the assessment team learned that Colorado has a dedicated law enforcement community that is focused on reducing motor vehicle crashes and saving lives.

Law enforcement is a valuable partner in any state motorcycle safety program. Colorado has a dedicated law enforcement community that is focused on reducing motor vehicle crashes. Traffic enforcement appears to take a high priority with the CSP as is evidenced by their Strategic Plan. CSP also has a specific grant unit that develops highway safety grant projects on behalf of the agency, based on priorities established by HSO.

#### Training

As is common with entry-level police training, POST standards require a minimum of 16 hours devoted to basic crash investigation with no specific emphasis on motorcycle crashes. Higher levels of crash reconstruction training address the topic in more depth, but few officers receive this more advanced training. The Denver Police Department has roughly 14 reconstructionist's, but only four have the additional motorcycle reconstruction certification.

In 2010, CSP scheduled two "Train the Trainer" motorcycle crash reconstruction courses to benefit 13 participating agencies. Information from this training was integrated into yearly in-service training for field troopers.

There is no training offered to law enforcement for recognition of novelty helmets other than NHTSA's pamphlet *How to Identify Unsafe Motorcycle Helmets*. While the NHTSA Guidelines call for this training,

given that Colorado does not have a universal helmet law, this type of training would have little impact. Only riders younger than age 18 are required to wear DOT-compliant helmets. Also, law enforcement agencies reported that the use of novelty helmets is rare.

#### Use of Crash and Citation Data

Specific motorcycle crash data is widely available through CDOT but it is not routinely used to drive deployment of law enforcement resources. CSP has an Intelligence Unit with four analysts; one whose primary function is to analyze traffic safety issues and related data. This information is distributed to field command staff for local decision-making; however, local traffic safety issues are typically addressed based on an officer's knowledge of his/her patrol area.

Enforcement panel members reported that the primary cause of motorcyclist-at-fault crashes was typically excessive speed. When the motorcyclist was not at fault, it was typically a car turning left in front of a motorcycle, violating the motorcyclist's right-of-way. CSP felt that 50% of single vehicle motorcycle crashes involved lane departure; the other 50% was a mixture of other causes, largely alcohol impairment.

Sixty-five percent of citations issued to motorcyclists in crashes were for "careless driving" rather than a more specific offense. The Traffic Safety Resource Prosecutor reported that these citations were issued for this offense when the officer did not witness the behaviors and events leading up to the crash to increase the likelihood of successful prosecution.

CSP has a unique position within the law enforcement community as the statewide patrol. A CPS Captain serves as the HSO Law Enforcement Coordinator (LEC). This individual's role is key to the successful communication and coordination of statewide education and enforcement campaigns among state and local law enforcement agencies.

Aurora Police Department provides motorcycle defensive riding classes which are discussion-based and address the mental side of riding. These classes are given to motorcycle clubs and individuals that request them. They reportedly reach "a few hundred" individuals per year.

CSP has motor officers who have received MSF Instructor training; however it is unclear whether they are used in training or community outreach efforts, or whether they have maintained their Instructor certification.

While the Team did not any motorcycle safety-specific training for law enforcement operations, the Denver Police Department offers its employees motorcycle skill training to address the high number of sick days being used by officers who have been injured in off-duty motorcycle crashes.

There are currently no known police agencies in Colorado that require the impoundment of motorcycles when the operator is not properly endorsed. However, agencies do not permit a rider found to be riding without endorsement to continue riding after being stopped. The discretion of the officer determines whether or not the motorcycle is impounded. This is consistent with many police agencies nationwide.

CSP's Strategic Plan for 2014-2018 identifies a wide range of traffic safety issues, but consistent with the Team's other findings, there is no selective enforcement addressing motorcycle-specific issues. As

identified in the data and in anecdotal recollections of the panelists, the key issues facing the motorcycling community (as it affects law enforcement) are alcohol impairment, speed and failure to grant right-of-way (left-turning motorists).

The SPIRS *Elements and Strategies* include two proposed strategies to “Develop enforcement programs targeting motorcyclists who violate traffic laws” and “Have a law enforcement presence at large-scale events where alcohol is present.” These are the only references to motorcycle-specific enforcement strategies found by the Team. It is unclear if either strategy was ever implemented.

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## RECOMMENDATIONS

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- **Develop data-driven enforcement strategies that support motorcycle safety and specifically target high-risk motorist and motorcyclist behaviors.**
- **Ensure that all law enforcement in Colorado act in a unified effort to address national campaigns and statewide initiatives. CDOT should continue to maximize the use of the CSP’s LEC to gain top-down support for data-driven, strategically-planned traffic enforcement as well as motorcycle-specific initiatives.**
- **Use the inherent authority and skills of motor officers to conduct outreach and enforcement at large-scale events, especially where alcohol is consumed.**
- Implement law enforcement-centered outreach and safety programs, similar to the “Bike Safe North Carolina” program that fosters a greater appreciation of the skills needed to operate a motorcycle safely, as well as raises awareness of motorcycle safety issues.
- Conduct annual law enforcement workshops or a statewide traffic safety conference such as New York State’s E.S.L.E.T.S (Empire State Law Enforcement Traffic Safety Conference) to share and review law enforcement strategies.
- Routinely use crash reconstructionist’s specifically educated in motorcycle crashes to train law enforcement colleagues on motorcycle safety issues and enforcement strategies.



## VIII. HIGHWAY ENGINEERING

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### NHTSA Guideline

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

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CDOT, which maintains, repairs and plows over 23,000 total lane miles of highway in the state, is committed to the safety of all highway users, including motorcyclists. CDOT is aware of the needs of motorcyclists and gives consideration to them in their highway planning and projects.

There is a good working relationship between the MOST program and CDOT. The CDOT Manager of Maintenance Operations has attended MOST annual meetings in the past. He and other CDOT staff report that motorcyclists' requests and concerns are taken into consideration when decisions are made concerning the development of policies, projects and programs.

The CDOT Manager of Maintenance Operations was also a member of the American Association of State Highway and Transportation Officials (AASHTO) team that prepared the *U.S. Domestic Scan Program, Best Practices in Successful Strategies for Motorcyclist Safety* which was completed April, 2011. The *Scan Program* identified several best practices that can be considered to improve motorcycle safety in Colorado.

CDOT does not have specific policies or standards that address the handling characteristics and safety concerns of motorcyclists when constructing or maintaining its roadways; however, its standard construction and maintenance practices do provide a safety benefit to motorcyclists. It is noted that CDOT is only responsible for state and federal roadways. The Team did not meet with or receive information from county or local jurisdictions as to their design, construction and maintenance policies and practices that affect motorcyclist safety. County and local jurisdictions should also be involved with roadway engineering for motorcycle safety but their processes and policies regarding design, maintenance and training are unknown.

Communication occurs informally with the Office of Transportation Safety and Colorado State Patrol when the Traffic Safety and Engineering Department observes issues that affect all motorists' safety.

### Pavement Marking Standards

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The use of high friction thermoplastic, which better addresses the safety needs of motorcyclists and which is listed in the *Domestic Scan* report as a best practice, is not used by CDOT. Specialized thermoplastic markings would improve motorcyclist safety by providing added friction in roundabouts, at crosswalk markings and for lane directional markings.

#### Motorcycle Specific Warning Signs

Motorcycle specific signage is used under certain circumstances. "Motorcycles Use Extreme Caution" signs are installed where potential motorcycle hazards are identified. This signage is typically used on roadways with decreasing radius turns in mountain and canyon areas.

The Manual on Uniform Traffic Control Devices provides for the use of other motorcycle placards (W8-16, W8-15 and W8-15P); however, these signs are not currently used in Colorado.

#### Safety Assessments

Safety assessments are completed by the Safety Engineering and Analysis Group to help them decide what countermeasures to select for projects. Crash data is reviewed on a five-year basis and mitigation is recommended for identified patterns. Total crash data, which includes motorcycle crash data, is considered when identifying crash patterns. Countermeasures are recommended to improve the safety of all road users under the assumption that this will also benefit motorcyclists. Motorcycle crash areas are not specifically reviewed. There is no system-wide analysis to determine if motorcycle crashes are clustered around specific roadway features, such as highway ramp areas.

#### Maintenance Training

Maintenance staff are trained on current policies and procedures for maintenance. However, education specific to motorcycles is not provided.

#### Reporting Roadway Hazards

CDOT provides a fillable form and telephone numbers on their website where motorcyclists can report concerns and issues on particular roadways. There is also a link from the MOST website to access this form. The Team was not made aware of ways to report roadway issues for county or local jurisdictions.

#### Other Issues

During the public comment period, the issue of median cable barriers was raised as a potential safety issue for motorcyclists. CDOT responded that median cable barriers are used where the use of other barriers, such as concrete median barriers, are not feasible due to space constraints.

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## RECOMMENDATIONS

- **Consider adopting all the major recommendations in the AASHTO report on *Leading Practices for Motorcyclist Safety* that includes the use of high friction thermoplastic in areas that are more hazardous to motorcyclists.**
- **Train highway engineering and maintenance personnel to understand motorcyclist safety issues, such as the importance of friction to motorcyclists, and to identify surface irregularities and roadway conditions that can be hazardous to motorcyclists.**
- Publicize the CDOT roadway issue reporting link to motorcyclists in the State. Consider reaching out to riding groups and independent riders with a brochure that promotes the service and describes how CDOT considers motorcyclists in its roadway design and maintenance processes. Also consider including the link and reporting telephone number on the Motorcycle Skill Rating Map.
- Adopt the use of other motorcycle-specific advance warning signs to include W8-15/16 and W8-15P.

## IX. MOTORCYCLE RIDER CONSPICUITY AND MOTORIST AWARENESS PROGRAMS

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### NHTSA Guideline

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

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In FY2013, 56% of fatal motorcycle crashes involved more than one vehicle and in 2012, 40% of the motorcycle crashes occurred at intersections or were intersection-related. This indicates a need for educating motorists about sharing the road with motorcycles in addition to always having an emphasis on motorcyclist responsibility to take rider training, understanding the dangers of riding impaired, driving defensively, and being aware of factors that contribute to single vehicle crashes.

#### Daytime use of Motorcycle Headlights

Colorado does not require daytime use of headlights on motorcycles. Legislation to this effect is may not be necessary as all recent models have permanently 'on' headlights.

#### Conspicuity

There is not a coordinated rider conspicuity campaign but it is mentioned in rider education training, in the *Motorcycle Operator's Handbook* and on the MOST website Protective Gear page where it very briefly mentions "Bright colors are best to make you more visible to other drivers."

Colorado's *Live to Ride* campaign focuses on Training, Riding Sober and Wearing Proper Protective Gear. The "Crashed" time-lapse video was used to show what can happen if proper safety gear is not worn. While the Team commends CDOT for creating this unique video to promote personal protective equipment, the video did not include recommendations to riders to make them more visible in traffic.

Lane positioning to increase conspicuity for motorcyclists is very briefly mentioned in the *Motorcycle Operator's Handbook* and is discussed in motorcycle safety courses.

#### Motorist Awareness

Two grants support motorist awareness. The first is for media using \$75,000 405(f) funds granted to Amelie Company. The elements of this grant include public and media relations tactics, development and distribution of collateral materials, maintenance of [www.comotorcyclesafety.com](http://www.comotorcyclesafety.com) and paid media.

The second is a grant to ABATE of Colorado for *Operation Save a Life*. The grant is primarily to make motorists more aware of motorcycles and is paid for with federal highway safety funding. *Operation Save a Life* is the primary vehicle to communicate motorist awareness at the grassroots level in Colorado. This program was developed by ABATE of Colorado and has been partially funded by a grant through the Office of Transportation Safety for the past three years. The Team commends Colorado for the partnership with ABATE to promote motorist awareness of motorcycle safety issues. Motorcycle groups are an integral part in promoting motorcyclist safety.

This program includes live presentations, public service announcements on radio stations, and posters. The presentations are approximately 45 minutes in length and include a video on sharing the road with motorcycles. ABATE has been successful at presenting this program to several fleet programs such as school bus drivers, field technicians with independent companies, senior citizen groups and some high schools.

The overall goals *Operation Save-A-Life* are:

- Increase driver understanding of how motorcycles interact with traffic and how that interaction is different from cars
- To increase driver's awareness of their responsibilities toward other vehicles on the road, particularly motorcyclists
- To increase awareness of the growing number of motorcyclists
- To emphasize the need and importance of sharing the road safely.

The program is supported in *Countermeasures That Work* and the evaluation measure is the number of presentations and people contacted.

Motorist awareness is also emphasized with a full CDOT website page devoted to "Motorist Tips" with links to videos and a *Look Twice* radio PSA. CDOT has also developed two campaigns; one that reminds motorists to "LOOK" for motorcyclists and the other is a creative campaign that not only speaks to motorists on distracted driving but also encourages the use of protective gear.

Colorado recognizes May as Motorcycle Safety Awareness Month and CDOT issues press releases to promote motorist awareness of motorcycle safety issues. CDOT also uses their overhead Variable Messaging Signs to display Share the Road motorist awareness messages during specific campaigns and around events that generate significant motorcycle traffic.

Although 'Share the Road' information is included in driver education curricula there has not been a concerted effort to reach out to the programs with supplemental material.

## RECOMMENDATIONS

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- **Review crash location data and focus motorist awareness campaigns in the top crash counties. Invite agencies, community coalitions and stakeholder organizations to participate.**
- **Conduct a more aggressive communication campaign to encourage riders to be more conspicuous. Show conspicuous riding gear in protective gear campaigns where appropriate and consider a stand-alone piece that emphasizes the need to use techniques to be conspicuous. Distribute this information through rider education classes, at retailers, in Driver License offices, registration renewal mailings and at rallies and events.**
- Include any campaign materials developed to promote conspicuity as an advertisement in the *Motorcycle Operator's Handbook*.
- Rework the CDOT website by providing greater emphasis on conspicuity and what motorcyclists can do to make themselves more visible by wearing brightly colored or retro-reflective protective gear.

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## X. COMMUNICATIONS PROGRAM

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### NHTSA Guideline

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.

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### STATUS

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The State of Colorado has specific goals for motorcyclist safety that are established in the 2006 Colorado Strategic Plan for Improving Highway Safety (SPIRS). OTS includes specific safety goals specific to motorcyclists in both their Integrated Safety Plan and Annual Reports. These goals include targets to reduce total motorcycle fatalities, to reduce the number of motorcyclist fatalities that involve impaired riding, and to decrease the number of unhelmeted motorcyclist fatalities.

On an annual basis, the HSO reviews available crash data and selects the focus of the annual motorcycle safety campaign based on data analysis. These data helps to identify the geographic focus, the emphasis area (e.g. impaired riding) and target rider population. Crash data has been provided to the media contractor to guide the placement of paid media investments. Draft campaign materials have been informally tested, on a very limited basis, with motorcycle riders within and outside of OTS. Over the last six years, the annual motorcycle safety communications campaign have focused on a range of issues, and used a variety of channels to disseminate campaign messages.

In 2008, CDOT developed the *Live to Ride* motorcycle safety campaign with the goal to “improve motorcycle safety on Colorado roadways and reduce fatalities.” The campaign focused on three messages targeting motorcyclists, including impaired riding, personal protective gear, and training. The campaign also included messages to promote increased motorist awareness of motorcyclists as a secondary focus. A variety of campaign collateral materials were developed, including brochures, banners, and related content on the CDOT website and was promoted with press events.

For each year following, CDOT developed and deployed a new communications campaign under the branding of *Live to Ride*. In 2009, the campaign focused on impaired riding, targeting male and female motorcyclists, 21 and older. The campaign included the delivery of posters, bar coasters and other collateral to alcohol server locations where riders were known to gather.

In 2010, the campaign, through creative messaging, targeted both motorcyclists and motorists. The rider messaging focused on the use of personal protective gear and targeted male riders aged 40 years and older. The campaign materials specifically targeted the cruiser rider segment, including occasional riders, or ‘Weekend Warriors.’ The motorist messages focused on high-risk driver behaviors that pose

risks to motorcyclists. Campaign channels included billboards, gas-pump-top advertisements, and window-cling decals for service station entrance doors. The campaign also included the development of the Colorado Motorcycle Skill Rating Map.

In 2011, the campaign targeted riders 40 years and older, and focused on promoting rider training. A variety of materials were produced, including posters, bar coasters, and information posted to the COTrip travel information website. The total expended on the campaign was \$179,352, using a combination of federal and state funds.

In 2012, the main focus was the Labor Day Impaired Riding Campaign and concentrated on the Denver, Colorado Springs, and Fort Collins areas through billboards, in-bar posters, bar coasters and print ads in motorcycle publications. The total expended on the campaign was \$100,589.

In 2013, the campaign targeted younger riders (males, age 18-34) and focused on the importance of wearing proper riding gear. A video was created that featured a Colorado motorcyclist, a trauma surgeon and a make-up artist who worked together to depict the injuries a motorcyclist could sustain should they crash without gear. The total expended on the campaign was \$133,500.

In 2014, the campaign's main focus is to educate motorists to watch for motorcycles. Elements include public and media relations tactics, development and distribution of collateral materials, maintenance of [www.comotorcyclesafety.com](http://www.comotorcyclesafety.com), and paid media. The total budget for this project is \$265,000, using a combination of federal and state funds.

In each of these years CDOT used a media contractor to develop new creative material, to secure paid advertising and to perform media relations functions.

Process measures used to evaluate campaigns indicating the estimated number of people reached. No formal outcome evaluation of the communications campaigns has been conducted to date. The impact of the campaigns on target population knowledge, attitudes and behaviors is unknown.

HSO has maintained the [www.livetoride.com](http://www.livetoride.com) and the [www.dontruintheride.com](http://www.dontruintheride.com) internet domains, which redirect users to areas of the CDOT website focused on motorcycle safety. This section of the CDOT website contains a wide range of information on rider training and the MOST program including MOST program annual reports, rider impairment, personal protective gear, motorcycle laws, motorist awareness, campaign materials and maps, and information on HSO grant availability.

There has been limited involvement of the grassroots motorcycling community in the development and implementation of the annual communications campaigns. A few nontraditional partners, for example Drive Smart Evergreen-Conifer, have been involved in the campaigns. HSO grantee activities are not consistently and closely tied into annual communications activities.

The MOST Program is promoted in the *Motorcycle Operator's Handbook*.

There is no multi-year strategic plan or communications plan in place for motorcycle safety.



## RECOMMENDATIONS

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- **Develop a multi-year strategic communications plan to include durable strategies for high priority issues.**
- **Mobilize grassroots partners and grantees to extend the reach of campaign messages and materials.**
- Conduct more formal, structured testing of campaign messages and creative content with target audiences.
- Develop a communication network that includes traditional and nontraditional partners, especially community-level organizations.
- Increase use of social media and electronic media as appropriate for key audiences.
- Conduct campaign evaluations that measure impact of messages on target audience knowledge, attitudes or behaviors.

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## XI. PROGRAM EVALUATION AND DATA

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### NHTSA Guideline

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.

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### STATUS

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DOR is the custodian of record for crash report records in the state. DOR provides data to CDOT and to CDPHE. CDOT provides data to a number of partners, including CSP.

The HSO provides a grant to CDPHE for a full-time data analyst to support HSO programs. The analyst provides a wide variety of data products to support problem identification and prioritization, including specific analyses of motorcyclist-involved traffic crashes at the state and county levels.

Annually, CDPHE develops the *Colorado Problem Identification Report (PIR)*, which provides extensive and detailed analyses of traffic safety issues at the state and county levels. The 2014 PIR, at 290 pages in length, provides statewide summaries for total traffic fatal crashes and fatalities and injury crashes and injuries, statewide summaries for major program areas, including motorcyclist safety. It also includes state maps identifying high priority counties for major program areas, including motorcyclist safety, and detailed county-level breakdowns of traffic crash data that include impaired driver/rider crashes, total motorcycle fatalities and unhelmeted motorcyclist fatalities. To supplement data from police crash reports, the PIR contains hospital discharge data from the Colorado Hospital Association (CHA). Additionally, this report identifies driving while impaired by marijuana as an emerging area of concern with the legalization of recreational marijuana use in 2014. The PIR is an excellent source of problem identification information.

The motorcycle safety section of the PIR also specifies the state's core performance objectives for motorcyclist safety: to reduce the number of motorcyclist fatalities and to reduce the number of

unhelmeted motorcyclist fatalities. This section also identifies the two strategies determined to be effective by NHTSA in the seventh edition of *Countermeasures That Work: A Highway Safety Countermeasure Guide for State Highway Safety Offices*: Universal coverage state motorcycle helmet use laws (1.1) and Alcohol impairment: detection, enforcement, and sanctions (2.1).

OTS provides significant technical assistance to potential grantees and others to identify local traffic safety priorities and to develop projects that address these priorities. In September, 2013, the HSO and CDPHE convened a webinar to provide technical assistance to potential grantees on developing model grant applications. Nine video modules were published providing guidance on core components of the grant writing process, including problem identification, using available data, setting specific and measurable goals and objectives. One module specifically addresses developing appropriate performance measures, including process and outcome evaluation (impact evaluation is conducted by the HSO). Highway safety grant evaluation factors include scoring for goals, objectives and evaluation. These resources are readily available on the CDOT website.

HSO requires grant applicants to identify which core performance measures would be addressed by the project and what specific countermeasures are being used. Each HSO grantee is required to identify specific goals and objectives.

Colorado does not conduct statewide surveys of the public that include questions regarding motorcycle safety.

National data is not routinely included in HSO publications. This data can help to identify emerging issues that could affect future programs in the state and raise issues for further study. For example, nationally, 35% of motorcycle riders involved in crashes were speeding compared with 23% for passenger car drivers, 19% for light-truck drivers, and 8% for large-truck drivers (NHTSA, 2012). This could support an increased focus on motorcyclists in routine speed operations.

HSO reviews interim progress and final reports from grantees related to their projects to monitor progress toward achieving goals and objectives. End-of-year data is used to inform the project development and grant-making process for the following year, in addition to the review of crash data.

Motorcycle vehicle miles traveled data is not available to help the State develop accurate exposure measures for motorcycling. The Team is unaware of any state that has accurate motorcycle vehicle travel data.

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## RECOMMENDATIONS

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- **Address critical gaps in data linkages between data sets that are needed to identify motorcycle safety issues, to identify appropriate countermeasures and to measure progress toward stated goals. These data include vehicle registration, licensure and endorsement records, trauma and EMS system data, citation and conviction data.**
- **On at least a biennial basis, conduct a review of all fatal motorcycle crashes, including a review of motorcyclist licensure and endorsement, crash reconstruction reports, crash report narratives and other related information. The purpose of the review is to discover causal**

**factors involved in fatal motorcyclist crashes to inform program planning, project development and communication messages and strategies.**

- **In collaboration with STRAC, establish a working group of agency professionals involved in day-to-day use of traffic crash records to ensure that issues of common concern related to motorcycle safety (e.g. data quality, timeliness and availability) are identified and addressed.**
- Conduct periodic surveys of motorcyclists addressing knowledge, attitudes and behaviors around critical motorcycle safety issues, e.g. alcohol and marijuana use and riding and use of personal protective gear, including helmets.
- Incorporate motorcycle endorsement and motorcycle registration data into the Integrated Safety Plan.
- Continue to train and support grantees and program partners on effective evaluation of programs and projects.
- Develop easy to use, low-intensity evaluation tools for use by grantees to facilitate the collection of useful, quality data for program evaluation.
- Continue to use injury data in addition to fatality data to conduct analysis for program planning and evaluation and establish common definitions of “injury” and “serious injury” crashes to ensure consistency in data analysis and reporting across offices and agencies.

## TECHNICAL ASSISTANCE TEAM MEMBERS

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### **Stacey 'Ax' Axmaker, Team Leader**

Director, Idaho **STAR** Motorcycle Safety Program

#### **Experience**

- Motorcycle Safety Instructor, 1991-present.
- Instructor Mentor, Instructor Trainer.
- Developer of curricula for entry-level, intermediate, experienced, and advanced motorcycle rider training courses.
- Presenter at National Motorcycle Safety Conferences, 2002-2013.
- National Association of State Motorcycle Safety Administrators (SMSA) Executive Committee Secretary and Western Region Representative 2013-present.
- Outstanding State Award (Idaho) from the SMSA, 2012.
- Outstanding Individual Contribution Award from the SMSA, 2013.
- TEAM OREGON Motorcycle Safety Program Statewide Operations Manager, 1997-2002.
- Idaho **STAR** Motorcycle Safety Program Statewide Training Manager, 2006-2008.
- Idaho **STAR** Motorcycle Safety Program Director, 2008-present.
- Commissioner for the Idaho Traffic Safety Commission, 2009-present.
- Chair of the Idaho Strategic Highway Safety Plan Motorcycle Safety Committee, 2009-Present.

### **Jim Halvorsen**

Retired lieutenant and detail commander, New York State Police Motor Unit

#### **Experience**

- Masters degree in Criminal Justice
- 30 years of law enforcement experience with 14 years specifically dedicated to highway safety
- Certified Crash Reconstructionist
- MSF RiderCoach 2012 - Present

### **Lawrence Lippolis**

Retired RiderCoach Trainer, Springfield VA

#### **Experience**

- RiderCoach Trainer, 1987 - 2012 (Florida, Georgia, Virginia, and Department of the Navy rider education programs)
- Instructor/RiderCoach, 1976 - 2012
- Motorcycle program assessment team member: Indiana, Massachusetts, Nevada, North Carolina, North Carolina and Ohio
- Organized the Alexandria Virginia, and Kings Bay Naval Base rider training programs

- Department of Navy Attorney since 1976; Counsel to the Naval Inspector General since 1991. Duties include inspections and reviews relating to DoD motorcycle safety
- Assisted in writing DoD and Navy traffic safety instructions and served on associated committees

### **Peter Moe**

Manager, Driver Instructional Service Division, Maryland Motor Vehicle Administration

#### **Experience**

- DOT, NHTSA, Pedestrian Safety Assessments, Technical Team Leader, Nevada, Florida
- Safety Programs Section Manager, Maryland Highway Safety Office, 2008 - 2012
- Motorcycle Safety Program Manager, Maryland Highway Safety Office, 2004 – 2008
- Safety Program Manager, National SAFE KIDS Campaign, 2003-2004
- Deputy Director, National Center for Bicycling and Walking, 1999-2002
- Member, American Institute of Certified Planners, 1999-2002
- Senior Planner, National Center for Bicycling and Walking, 1996-1999

### **Pete Vander Aa**

**Program Administrator, Nevada Rider Motorcycle Safety Program**

#### **Experience**

- MSF Quality Assurance Specialist
- RiderCoach - Certified 2008 (BRC, BRC2, ARC)
- Rider's Edge Instructor - Certified 2008 (NRC, SRC)

#### **Organizations**

- SMSA - Communications Committee Chairman
- Nevada SHSP - Member, Lane Departures Committee
- American Motorcyclist Association - Member
- Northern Nevada Confederation of Clubs - Member, Independent

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## ASSESSMENT AGENDA

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### STATE OF COLORADO MOTORCYCLE SAFETY PROGRAM ASSESSMENT

#### Agenda

March 17-21, 2013  
Hyatt Place Denver/Cherry Creek  
4150 E. Mississippi Avenue  
Glendale, CO 80246

#### Monday, March 17, 2014

##### 0800-0930

##### Introductions:

Geographic and Demographic Overview of the State –  
Jan Hart, Colorado Department of Public Health & Environment  
(CDPHE)

General Overview of Motorcycle Safety Program –  
Glenn Davis and Emiliano Barela (CDOT)

##### (Public Comment)

##### 0930-1030

##### Component/Panel Discussion

##### Motorcycle Personal Protective Equipment

- Deb Eyre, Harley Davidson (HD) Riding Academy Support Specialist
- Jerry Abboud, Executive Director – Colorado Powersports Dealer Association
- Captain Paul Matzke, CSP
- Officer Ed Nolte, Aurora Police Department , (APD)

##### (Public Comment)

##### 1030-1045

Break

**1045-1200**

**Component/Panel Discussion**

**Program Management**

- Darrell Lingk, CDOT (Intro)
- Glenn Davis, CDOT
- Emiliano Barela, CDOT
- Kevin Raines, Principal Corona Insights

**(Public Comment)**

**1200-1300**

Team Member Working Lunch

**1300-1430**

**Component/Panel Discussion**

**Communication Program**

- Amy Ford, CDOT Director of Public Relations (Invited-Intro)
- Emily Wilfong, CDOT

**(Public Comment)**

**1430-1530**

**Component/Panel Discussion**

**Motorcycle Operation with Drugs/Alcohol**

- Glenn Davis, CDOT
- Captain Paul Matzke, CSP - HSO LEC
- Officer Ed Nolte, APD
- Chris Halsor, Colorado District Attorneys' Council – HSO Traffic Safety Resource Prosecutor (TSRP)
- Judge Mary Celeste, Denver County Court Judge, NHTSA Region 8 – Judicial Outreach Liaison
- Jackie Mohr, Director Drive Smart Evergreen

**(Public Comment)**

**1530-1545**

Break

**1545-1700**

**Component/Panel Discussion**

**Rider Education and Training**



- Emiliano Barela, CDOT
- Carol Olds, DOR
- Deb Eyre, Harley Davidson Riding Academy Support Specialist

**(Public Comment)**

**1700-1800**

NHTSA Team Member Working Dinner and Working Session  
(Work Room)

**Tuesday, March 18, 2014**

**Component/Panel Discussion (Meeting Room)**

**0800-1000**

**Program Evaluation and Data**

- Glenn Davis, CDOT
- Jan Hart, CDPHE
- Emiliano Barela, CDOT

**(Public Comment)**

**1000-1015**

Break

**1015-1200**

**Component/Panel Discussion**

**Motorcycle Operator Licensing**

- Carol Olds, DOR
- Emiliano Barela, CDOT
- Deb Eyre, HD

**(Public Comment)**

**1200-1300**

Team Member Working Lunch

**1300-1400**

**Component/Panel Discussion**

**Highway Engineering**

Alisa Babler, Traffic and Safety Engineering, CDOT

**(Public Comment)**

**1400-1500**

**Component/Panel Discussion**

**Law Enforcement**

- Colonel Scott Hernandez, CSP (Invited-Intro)
- Major Tim Keeton, CSP
- Captain Paul Matzke, CSP – HSO LEC
- Officer Ed Nolte, APD

**Public Comment**

**1500-1530**

Break

**1530-1700**

**Component/Panel Discussion**

**Motorcycle Rider Conspicuity and Motorist Awareness Programs**

- Emily Wilfong, CDOT
- Emiliano Barela, CDOT
- Terry Howard, President – ABATE of Colorado

**(Public Comment)**

**1700-?**

NHTSA Team Member Work Session

**Wednesday, March 19, 2014**

**0830-0900**

**Component/Panel Discussion**

**Legislation and Regulations**

- Emiliano Barela, CDOT (Motorcycle Operator Safety Training Rules)

- Major Tim Keeton, CSP
- Captain Paul Matzke, CSP – HSO LEC
- Officer Ed Nolte, APD

**0930-1000**

**Component/Panel Discussion**

Open

**1030-1045**

Break

**1045-1200**

**Component/Panel Discussion**

Open

**Thursday, March 20, 2014**

**All Day**

Team Member Meetings and Report Preparation (Work Room)

**Friday March 21, 2014**

**0830-0930**

Assessment Team Reports out on Recommendations and provides State Officials with Draft Final Report

Late – AM/PM

Team Members Travel from site

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## ABBREVIATIONS KEY

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AAMVA	American Association of Motor Vehicle Administrators
AASHTO	American Association of State Highway and Transportation Officials
BAC	Blood Alcohol Concentration
BRC	Basic Rider Course
CCA	Colorado Code Annotated
CDOT	Colorado Department of Transportation
CDPHE	Colorado Department of Public Health and Environment
CDPS	Colorado Department of Public Safety
CSP	Colorado State Patrol
DMV	Division of Motor Vehicles
DOR	Department of Revenue
EARS	Electronic Accident Reporting System
FMVSS	Federal Motor Vehicle Safety Standards
FY	Fiscal Year
HSO	Highway Safety Office
ITDFF	Interagency Task Force on Drunk Driving
LEC	Law Enforcement Coordinator
MADD	Mothers Against Drunk Driving
MOSAB	Motorcycle Operator Safety Advisory Board
MOST	Motorcycle Operator Safety Training Program
MSF	Motorcycle Safety Foundation
NHTSA	National Highway Traffic Safety Administration
PIR	Problem Identification Report
PRO	CDOT Public Relations Office
QA	Quality Assurance
SPIRS	Strategic Plan for Improving Roadway Safety
STRAC	State Traffic Records Advisory Committee
The Team	Technical Assessment Team
TSRP	Traffic Safety Resource Prosecutor
VMS	Variable Message Signs
VMT	Vehicle Miles Traveled