THE MOTORCYCLE SAFETY FOUNDATION

Rider Education and Training System

STANDARDS
Since 1973, the Motorcycle Safety Foundation has set internationally recognized standards that promote the safety of motorcyclists with rider education courses, operator licensing tests, and public information programs. The MSF works with the federal government, state agencies, the military, and others to offer training for all skill levels so riders can enjoy a lifetime of safe, responsible motorcycling. The MSF is a not-for-profit organization sponsored by BMW, BRP, Ducati, Harley-Davidson, Honda, Kawasaki, KTM, Piaggio, Polaris Motorcycles, Suzuki, Triumph and Yamaha.
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BACKGROUND

A Standards Document is an established set of norms or requirements. These are contained in a formal document, consisting of a set of statements that establish design and development decisions, technical criteria, methods, processes and practices. A Standards Document represents the rules and requirements as determined by a consensus opinion of credentialed experts and recognized, experienced practitioners that prescribe the accepted and best criteria for programs, processes, evaluation, and quality control procedures. The benefit of a Standards Document is that it establishes a foundational structure of minimum, acceptable safety and qualitative statements that will result in consistent application throughout all environments of use.

Standards are different than guidelines; a standard is considered essential to successful professional practice, and often includes use of the auxiliary verbs “must” and “shall”, whereas a guideline is a statement that clarifies the standard by offering a suggestion or illustration of actions or activities that describe how the standard can be applied.

PURPOSE

The purpose of this project is to describe MSF Rider Education and Training System (RETS) standards. The primary goal is to produce levels of safety, quality, and consistency in the MSF programs and processes that affect the lives or livelihood of all constituents: riders and their families, RiderCoaches, RiderCoachTrainers, program administrators, site administrators, and other roadway users. The Standards Document represents the vital framework that provides the basis for primary operations, benefiting the organization by providing evaluative measures of performance, and contributing to the development of competent and qualified motorcycle riders who can demonstrate possession of physical, mental and attitudinal skills (Bloom, 1956). Standards inform and provide significant direction for organizations, business owners and regulatory and governmental agencies involved in motorcycle rider safety to the benefit of rider course participants.

PROJECT SCOPE

Five contexts exist for the development of MSF Rider Education and Training System Standards. They are:

- **Standards for Course Materials and Administration**
  Stipulating the concepts, processes, theoretical underpinnings, and guidelines for development of training curriculum.

- **Standards for Facilities and Equipment**
  Describing the facilities and equipment standards for establishing and maintaining a low risk, positive, and effective learning environment.

- **Standards for Instructional Delivery**
  Describing the fundamental principles, concepts employed and instructional methods used for establishing and maintaining a low risk, positive, and effective learning environment.

- **Standards for RiderCoach/RiderCoach Trainer Professional Development**
  Describing the conduct required by RiderCoaches to provide a low risk, positive, and effective learning environment, and describing the training and development requirements for certification and recertification.

- **Standards for Quality Assurance**
  Specifying the ongoing and consistently designed and applied methods of evaluation of performance for all MSF processes and programs.
ESTABLISHING THE STANDARD

STANDARD DEVELOPMENT PROCESS

MSF Rider Education and Training System standards were developed according to the following principles:

Consensus Building Orientation
The views of all stakeholders are represented and taken into account: riders, training professionals, training program administrators, instructional designers, safety program evaluators, research and quality assurance professionals, and individuals with group-process expertise.

Key Stakeholder Involvement
Global standards must satisfy the needs and interests of customers, clients and participants who are either directly or indirectly involved and impacted by safety processes and programs throughout all environments of use.

Voluntary Participation
Standardization process is need and interest driven, and is therefore based on voluntary involvement of all stakeholders.

WORKGROUP MEMBERS

Members of the standards development work group possess expertise and experience and can, therefore, represent in all areas of stakeholder interest. The standards work group consists of:

• Mr. David Crouch, RiderCoach Trainer, and National Quality Assurance Manager, MSF.
• Dr. Jim Heideman, Director, Licensing Programs, MSF.
• Mr. Al Hydeman, RiderCoach and Director, Research, Design and Development, MSF.
• Dr. Dan Petterson, RiderCoach Trainer and Principal, Petterson’s Motorcyclist Education Consultant Services, LLC, Michigan.
• Mr. David Smith, RiderCoach Trainer and Program Manager, New Mexico Motorcycle Safety Program.
• Mr. Wayne Steele, RiderCoach Trainer and Program Coordinator, Kentucky Motorcycle Program.
• Dr. Sherry Williams, Director, Quality Assurance and Research, MSF.
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1. Standards for Course Materials and Administration

1.1. Curriculum Materials
All curriculum materials shall be designed and developed consistent with established Motorcycle Safety Foundation (MSF) procedures, support the MSF vision, mission, and policies, and employ the most contemporary training and educational program theories and practices to meet and exceed quality requirements.

1.1.1. Design
All RiderCourses prepare riders to safely interact in the complex traffic environment, and shall consist of classroom and/or on-motorcycle instruction that includes learning activities, supplemented as appropriate, with interactive multimedia. On-motorcycle instruction shall be conducted on a paved area away from street traffic. Course design shall be based on scientific research and field experience, tested with actual riders.

1.1.2. Development and Theoretical Framework
The curriculum shall be based on proven research and experience, safety and risk management principles, adult learning theory and development principles, and motor skills development principles.

1.1.2.1. Research and Experience
All materials will result from thorough reviews of appropriate curriculum specifications, task analyses, photographic and observational analysis of rider performance, review of crash causation data, feasibility studies, and reviews of prior MSF curricula by instructional designers, riders and safety experts.

1.1.2.2. Safety and Risk Management Principles
Curriculum design will include consideration of current thinking in human factors such as ability, judgment, perception, personality, and motivation. The curriculum design shall also consider operator tasks for mental processing of decision-making information, physical skills required for timed actions, and capabilities for social interaction in traffic.

1.1.2.3. Adult Learning and Development Principles
Validated and practiced principles of adult learning will be followed in all curriculum design decisions, maintaining a learner-centered instructional approach that is results-based as well as safe, effective, and efficient.

1.1.2.4. Motor Skills Development Principles
Curriculum will be developed and implemented based on interactive coaching techniques and feedback, employing subject matter experts and experienced practitioners who understand adult learning principles, and rider training and education contexts.

1.1.3. Sequential Iterative Curriculum Development Process
New curricula and changes to existing curricula shall undergo an iterative development process, in which curriculum is evaluated in a controlled environment. A system of validity testing shall be employed, consisting of pilot and field tests of the entire curriculum, with refinements based on feedback, and concluding with a proof of concept prior to general release for use.

1.1.3.1. Pilot Test
A pilot test phase of development shall be conducted following an analysis of research and experience. The pilot test will be a preliminary test of the curriculum materials of a new program, or of a significant program design change. The pilot test shall be conducted by internal MSF evaluators to ensure the curriculum meets design objectives and yields desired results.
1.1.3.2. Field Test
A field test phase of development shall be conducted in the training environment, under the conditions that the concept was designed to operate. Specific responsibilities will be given to specially prepared participants for feasibility testing and feedback. Field tests shall employ external resources, such as RiderCoaches and actual students, with oversight and evaluation by MSF internal resources.

1.1.3.3. Proof of Concept
The proof of concept phase of development shall be conducted to demonstrate feasibility, practicality and usefulness of a fully functional design, including all relevant materials. Curriculum shall not be released for use until MSF course design objectives have been satisfied.

1.1.4. Curriculum Review and Updates
Curriculum shall be reviewed annually for currency and accuracy. All curriculum materials shall be subject to user and customer feedback, and reviewed and edited to provide continuous quality improvement and ensure that all quality requirements are met or exceeded.

1.2. Content Specification
RiderCourses shall consist of a combination of classroom units (as appropriate), range exercises, and means of evaluation. Classroom units and riding exercises may be offered independently, are developmental, and must be presented in sequential order. Participants must demonstrate achievement of minimum performance before continuing with subsequent objectives.

1.2.1. Curriculum
Curriculum for RiderCourses shall be described in a printed guidebook provided to RiderCoaches, or in a handbook that will be provided for each participant (as appropriate) and used to enhance learning. Evaluation of RiderCourses shall consist of ongoing and end-of-course measures of rider performance.

1.2.2. Administration
All administrative standards shall be designed and developed consistent with the MSF vision, mission, and policies, and employ contemporary theories and practices to meet and exceed quality requirements.

1.2.2.1. Enrollment Eligibility
Enrollment policy is suggested, but ultimately shall be based on state regulation. Participants should possess either a valid state driver’s license or permit, or be of legal age to operate a motor vehicle on state roads and highways. Participants under the age of 18 must provide written parental or guardian permission. Participants shall have knowledge of basic rules of the road, familiarity with traffic control signage, understanding of the rules of right-of-way, awareness of traffic regulations in the state motor vehicle traffic code, and the ability to balance a bicycle.

1.2.2.2. Class Size
The number of participants enrolled in a course may depend on state regulations and the nature of the available facilities. Total number of participants shall be dependent on available facilities and concern for participant safety. Class size during classroom exercises should be appropriate to accommodate participant interaction and personalized coaching. For riding exercises on full-size ranges, participant/RiderCoach ratio shall not exceed 6:1.

1.2.2.3. Risk Management
Insurance must be provided to protect all training participants, RiderCoaches, aides and equipment. Comprehensive collision, medical (personal injury protection) and general
liability insurance policies must be obtained and be in force. Coverage should meet or exceed the minimum required by the state in which the training is provided.

1.2.2.4. RiderCoaches
MSF RiderCoaches must have active MSF Certification to conduct MSF RiderCourses, and must adhere to MSF Rules of Professional Conduct. Team teaching should be employed whenever possible.

1.2.2.5. Range Aide
A range aide may be employed to assist programs with non-instructional support, performing tasks such as operating classroom equipment, setting cones for range exercises, and maintaining motorcycles. Range aides should receive specialized training in the duties to be performed and should have demonstrated past success in MSF training. A range aid must not evaluate or coach participants, but may conduct exercise demonstrations under the supervision of a RiderCoach.

1.2.2.6. Rider Gear
For all on-motorcycle range activities, RiderCoaches shall insure that participants wear the following personal protective gear:
• DOT compliant helmet and eye protection
• Sturdy over-the-ankle footwear (motorcycle boots preferred)
• Long-sleeved shirt (motorcycle jacket preferred)
• Sturdy pants (motorcycle riding pants preferred)
• Full-fingered motorcycle gloves

1.2.2.7. Motorcycles
Whether program-owned, loaned, or participant-owned, training motorcycles must be in safe operating condition. To be designated and approved for training, motorcycles should be manufactured and legally equipped for on-road use. Dual-purpose motorcycles (on-road/off-road) may be used.

1.2.2.7.1. Motorcycle Maintenance
Routine and regular motorcycle maintenance intervals must be followed as recommended by the manufacturer’s owner manual for program-owned motorcycles. T-CLOCS inspections must be conducted prior to every course to ensure motorcycles are in safe operating condition. A maintenance and repair log for each program-owned motorcycle shall be maintained.

1.2.2.8. Course Completion Requirements
For successful completion, participants must meet all stated RiderCourse completion requirements. Participant attendance at all classroom (as appropriate) and range sessions is required.

1.3. Rider Education Recognition Program (RERP)
The Rider Education Recognition Program, sponsored by the MSF, shall make available all training curricula, provide training standards for RiderCoaches, establish course completion requirements, determine facilities requirements, provide a system for participant referrals, and provide technical, administrative and promotional assistance.

1.3.1. RiderCourse Insurance Plan
RERP sponsors may participate in the MSF RiderCourse Insurance Plan that provides liability insurance, blanket accident insurance, and a physical damage policy for program-owned motorcycles.
1.3.2. Annual Survey
Anually, the MSF shall collect and report on the numbers of students trained nationwide by its programs.

1.3.3. RERP Processing
In order to establish a training site, potential MSF training providers (sponsors) shall follow and comply with the established RERP process, as determined and evaluated by MSF.

1.3.4. Managing Rider Risk
RiderCoaches must continuously observe and evaluate participants, and apply good judgment to ensure the safety of all riders.

1.4. Licensing Materials
Licensing materials shall be developed as an integral component of curriculum materials and shall be considered in all training material design decisions. All Licensing materials shall be made available to states for written knowledge testing and either on-street or off-street skill testing.

1.4.1. Examiner Training
License examiner candidates must participate in an MSF approved Examiner Training preparation workshop, pass a written knowledge test, and demonstrate proficiency in skill test administration and scoring. States may establish additional training requirements before or after the candidate completes his/her certification requirements.

1.4.2. Examiner Trainer Training
License examiner trainer candidates must participate in an MSF approved Examiner Trainer Training preparation workshop, pass a written knowledge test, demonstrate proficiency in skill test administration, and successfully conduct student teaching. States may establish additional training requirements before or after the candidate completes his/her certification requirements.

2. Standards for Facilities and Equipment

2.1. Rider Education Facility Documentation Requirements
Prior to conducting any MSF RiderCourses, training sponsors must be accepted into the MSF RERP and submit training range documentation that is verified to meet or exceed MSF standards and guidelines for safety and adequacy.

2.2. Range
The riding area for range exercises must be marked clearly and appropriately for all exercises, must provide space for completing all exercises, and must also include a minimum 20’ buffer and runoff for participant safety. Modified or adjusted ranges are allowed but must be approved in advance by the MSF RERP before any training is conducted.

2.2.1. Surface Condition
The range location must be selected to provide a low risk riding environment, with a surface that is smooth, flat, and level. The range surface shall be free of all non-permanent obstacles, and should have no more than a 5% grade.

2.2.2. Obstacles
The riding area must be closed to all vehicular traffic and far enough from existing traveled roadways to ensure adequate runoff in the event a rider momentarily loses operational control of the motorcycle. Range exercises must be arranged around any permanent obstacles to maintain exercise specific distances and adhere to safe space specifications, as determined by the MSF. There must not be high risk obstacles or drop-offs near the range, nor any high risk environmental conditions (such as an active airport runway).
2.2.3. Storage Facility
RERP approved programs must store motorcycles and equipment in a secure manner that ensures they are in safe operating condition for use in RiderCourses. Transfer of motorcycles and training equipment from the storage facility to the range must be accomplished by RiderCoaches or program approved aides, and must not be done by students. Students shall not operate motorcycles outside of the designated range area.

2.2.4. Range Equipment
Range equipment must, at minimum, include a fire extinguisher, First Aid kit, telephone, and a listing of emergency phone numbers, and may include additional items, such as:
- Adequate number of marker cones
- Motorcycle parts and supplies (spark plugs, air filters, levers, etc.)
- Battery charger
- Tire pump and/or air compressor
- Range marking materials
- Hand tools
- Clipboards, stop watches, whistles

2.3. Classroom
The classroom facility should be located near the range, and must be adequately equipped and arranged for participant comfort and promote a positive participant learning environment. The classroom must be clean with adequate space to accommodate small group activities, have access to restrooms, and must contain all of the audio-visual and instructional materials and equipment necessary for the RiderCoach to facilitate instruction and promote participant learning.

2.3.1. Classroom Equipment
All RiderCoach support materials, classroom equipment, and instructional supplies identified in the RiderCourse curriculum guide shall be available to conduct classroom instruction.

3. Standards for Instructional Delivery

3.1. Scheduling
RERPs shall schedule training based on local demands. Learning effectiveness and efficiency should be the priority when considering alternative scheduling.

3.1.1. Classroom Units
Classroom training must be presented and facilitated in sequential order as recommended by MSF. Classroom sessions may be completed separately from the riding exercises, should accommodate adequate student break time, and should not exceed four hours during any one period.

3.1.2. Range Exercises
All range exercises must be conducted in sequential order as required by the MSF. Total range exercise riding time should not exceed eight hours in any single day and must include adequate student break time.

3.2. Remediation
Remediation may be conducted to correct or improve an individual's skill in a specific area. Two forms of rider remediation may be conducted: (1) informal remedial coaching and (2) formal remedial training.
3.2.1. Informal Remedial Coaching
Remedial coaching may be conducted for participants who do not demonstrate sufficient motorcycle control to continue. Remedial coaching may be provided between exercises, during breaks or before/after scheduled range time. RiderCoaches may extend exercise times beyond the nominal time stated on the range cards.

3.2.2. Formal Remedial Training
Formal remedial training may be offered, and is designed for participants who require additional instruction beyond remedial coaching. Formal remedial training shall consist of additional practice of regular training exercises, following all RERP standards.

3.3. Adjusted Ranges
Adjusted ranges, those that do not meet all MSF specified dimensions for a standard range, may be used, but shall be subject to prior recognition and approval by MSF.

3.4. Classroom Principles and Procedures
RiderCoaches must employ adult learning principles, possess competency in managing the learning environment, and facilitate the development of rider knowledge and skill during all classroom instruction and range coaching.

3.4.1. Adult Learning Principles
Classroom instruction must be dynamic, learner-centered and include a high level of participant involvement. All classroom activities must adhere to basic adult learning principles, employing a small group, interactive, self-discovery approach to facilitate participant reflection. Optional materials and activities may be employed but must support a learner-centered interactive style and adhere to adult learning principles.

3.5. Range Principles and Procedures
Range instruction is sequential and developmental. Range exercises shall be conducted in sequential order. Exercises may be repeated.

3.5.1. Safety Principles
The basic safety principles taught in the classroom must be reinforced during range instruction.

3.5.2. Range Management
RiderCoaches must understand and implement basic range management principles and procedures with participant safety the primary focus. RiderCoaches must conduct exercises and manage rider movement to ensure a positive, low risk learning environment.

3.5.3. Coaching on the Range
Coaching must be well timed, meaningful, and rider specific. Coach positions may be adjusted to maximize observation and communication and maintain a low risk learning environment.

3.5.4. Application of Motor Skill Learning Principles
RiderCoaches must apply basic principles of motor skill development and conduct range exercises sequentially.

3.5.5. Riding Demonstrations
Riding demonstrations must be conducted and evaluated according to range card and RiderCourse curriculum requirements.
3.5.6. Static Demonstrations
Static demonstrations must be conducted and evaluated according to range card and RiderCourse curriculum requirements.

3.5.7. Simulated Practices
Simulated practice exercises must be conducted and evaluated according to range card and RiderCourse curriculum requirements.

3.5.8. Exercise Debriefs
At the end of each exercise, a RiderCoach must conduct an exercise debrief. RiderCoaches should ask learner-centered questions to confirm that riders understand the relevance of the skills practiced.

4. Standards for RiderCoach/RiderCoach Trainer Professional Development

4.1. RiderCoach/RiderCoach Trainer Professional Code of Conduct
RiderCoaches and RiderCoach Trainers must conduct all MSF RiderCourses effectively and professionally in a low risk environment, and consistent with the MSF vision, mission, and standards established in the MSF RiderCoach/RiderCoach Trainer Professional Code of Conduct.

4.2. Professional Development
To maintain professionalism, RiderCoaches must actively participate in professional development activities as detailed in the RiderCoach certification standards.

4.2.1. Safety Principles
RiderCoaches shall manage all range and classroom activities in a manner that facilitates the development of rider knowledge and skill. All training must be conducted in a manner that minimizes participant risk, emphasizes personal responsibility, and values the importance of motorcyclist safety.

4.2.2. Five Core Questions
RiderCoaches must be able to describe and apply the Five Core Questions that are explicit in all RiderCourses, and comprise the human factors central thread of RETS and Rider Perception. The Five Core Questions are:
- What is the primary cause of motorcycle crashes?
- What is a good rider?
- How does a good rider reduce risk?
- How long does it take to reduce risk?
- What is the primary challenge in safe, responsible riding?

4.2.3. Executive Functions
RiderCoaches shall integrate knowledge of executive functions and human factor elements into rider training of safety and risk.

5. Standards for Quality Assurance

5.1. Quality Assurance Framework
Programs shall be subject to a comprehensive MSF administered Quality Assurance (QA) program comprised of systematic mechanisms that are consistent with policies and procedures, and that foster continuous quality improvement in administrative, curricular, instructional, and evaluative areas. Quality Assurance standards will consistently assess student skill and knowledge progress and outcomes, and shall encompass all stakeholders in the rider education system, holding parties accountable for compliance, while providing opportunities for professional development focused on improvements in range and classroom performance for the benefit of the learners.
5.1.1. Quality Assurance Process for Curriculum Development
Quality Assurance measures shall be embedded in the curriculum development process to ensure adherence to and compliance with accepted instructional design principles.

5.1.2. Quality Assurance for Instructional Delivery
Quality Assurance shall ensure all range exercises and classroom units are delivered in proscribed sequence, and shall include all established content in accordance with established curricular principles.

5.1.3. Quality Assurance for Program Administration
Quality Assurance shall ensure compliance with established and contractual RERP and sponsor policy and procedure requirements, and shall ensure that all documents and appropriate updates are attested, signed, posted, and distributed.

5.1.4. Quality Assurance for RiderCoaches and RiderCoachTrainers
Quality Assurance shall ensure that RiderCoaches and RiderCoachTrainers are in compliance with established curricular standards, certification standards, recertification standards, and rules of professional conduct, and that such standards are established, distributed and attested to by delivery partners.

5.2. Communication of Quality Assurance Standards
All performance standards shall be consistently communicated to stakeholders via multiple channels, both formally and informally, to encourage and accommodate formal and peer mentoring.

5.2.1. Monitoring Quality Standards
A system of feedback shall be established and applied with sufficient rigor and adherence to statistical methods to ensure compliance with all safety standards. All feedback shall be made available to stakeholders to facilitate continual improvement.

5.2.1.1. Quality Assurance Site Visits
Trained personnel who have expertise in curriculum principles, administrative requirements, and providing effective feedback shall conduct site visits regularly and comprehensively. Site visits shall be conducted in compliance with established MSF curriculum policies and procedures, and consistent with any additional state-mandated requirements for number of visits and hours per visit. Visits may be both announced and unannounced.

5.2.1.2. Student Feedback
Random sampling of student feedback shall be conducted. Student feedback forms shall be collected systematically and regularly, and analyzed for performance improvement purposes.

5.3. Quality Assurance Performance Assessment
A system of accountability shall be established that specifies corrective actions and expected consequences in the event of RERP or sponsor non-compliance or negative performance. All trends shall be communicated to stakeholders with recommendations for corrective actions and timelines for compliance.

5.4. Professional Development
MSF shall be responsible and accountable for establishing professional development activities and support for stakeholders to promote maintenance of their abilities and competencies. Professional Development support shall include, but not be limited to maintaining:
• An on-line resource guide.
• Access to best practices.
• A professional resource library.
• A system of direct communication with program developers.

5.5. Program Evaluation
MSF shall regularly and periodically conduct formal, comprehensive program assessments that include process, impact and outcome assessments at a national level. Feedback shall be provided to MSF curriculum developers through quarterly Quality Assurance reports.

5.6. RiderCoach Certification
RiderCoach candidates must participate in an MSF approved RiderCoach Preparation (RCP) workshop, pass a written knowledge test, pass a riding skill test, and successfully complete student teaching in a regularly scheduled Basic RiderCourse. Programs may establish additional training requirements before or after the RiderCoach Candidate (RCC) completes his/her certification requirements. RiderCoach certification shall be valid for a period of two years, at which time the RiderCoach must reapply for recertification.

5.6.1. RiderCoach Re-Certification
To become recertified, RiderCoaches must, within two years of their original certification (or recertification) date:
• Teach at least two complete Basic RiderCourses (classroom and range) or equivalent for the course certification being issued.
• Participate in a formal curriculum-related professional development activity offered by the MSF, or local, state, or military entity.
• Complete at least one personal learning activity.

5.7. RiderCoachTrainer Certification
RiderCoaches may be chosen/approved by the MSF to participate in a RiderCoachTrainer Preparation (RCTP) Workshop to further develop abilities and capabilities to conduct RCP workshops. All such individuals must be graduates of an RCTP workshop and satisfactorily complete training requirements.

5.7.1. RiderCoachTrainer Re-Certification
To maintain certification, a RiderCoachTrainer must conduct at least one RCP or equivalent within the two-year certification period, and conduct at least 60 hours of learning activities during the first certification cycle. Acceptable learning activities must be either motorcycle/curriculum related, or be personal learning experiences related to principle-based MSF curricula.

CONCLUSION
The purpose of this project was to describe the MSF Rider Education and Training System (RETS) standards. The primary goal was to establish levels of safety, quality, and consistency in MSF training programs and processes that affect the lives or livelihood of all constituents, consistent with the vision and mission of the MSF.

The framework of the Standards Document forms the basis for a training system aimed at the development of competent and qualified motorcycle riders who can demonstrate possession of physical, mental and attitudinal skills. These standards can be used by organizations, business owners and regulatory and governmental agencies involved in motorcycle rider safety as a guide in the development of motorcycle training systems that improve rider safety and increase the awareness of safety for all roadway users.