

## MSF RETS: A SYSTEM DESIGNED TO SUCCEED

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## Abstract

It should not be surprising that the results of research studies looking at the effectiveness of rider training have shown mixed results. Most of the studies reviewed a training program that essentially consisted of a single course. Most government and insurance company involvement in the U.S. is through the licensing function, and therefore, limited primarily to a basic novice course. Assuring the minimum riding skills for initial entry into the motorcycling environment, while an important goal, and achieved at a 85-90% success rate in basic courses, it cannot meet all the needs of the wide variety of new riders in the system. Moreover, when we consider the various contributing factors to overall motorcycle safety as a complex, integrated system that must work together to achieve an overall goal, the fallacy of a single training course serving as an in-total countermeasure becomes apparent. The MSF Rider Education and Training System (RETS) as embodied in the MSF Course Catalogue, may present a viable solution.

The focus of this paper will be on the rider elements of the motorcycle safety equation – a most vulnerable road user. It will highlight the congruence between the highly complex and integrated demands of staying safe and the MSF Course Catalogue that presents a systemic effort toward the goal of motorcyclist safety. Due to the nature of the rider, the vehicle and the environment, a systems approach toward motorcycle safety is the only reasonable solution.

The authors will discuss the model progression of rider training from a paved lot to the street and back again over the course of a rider's experiences. Working from the key learn-to-ride programs, the Basic *RiderCourse* (BRC) and the Street *RiderCourse* (SRC) 1, plus variations based on additional various rider, vehicle, or environmental

characteristics, this paper will explain how the MSF RETS provides a comprehensive approach to motorcyclist safety due to design of the individual courses within an overall system. Each course is designed to address the broad spectrum of skills, attitudes and behaviors that make up riding challenges.

The authors will discuss the futility of teaching motorcycle riding and motorcycle safety with target performance criteria for specific contexts, such as taking a specific corner with as much lean angle and cornering speed as possible during a track course. Rather, a training program or system of courses must address generalized abilities so the rider can perform skills in novel contexts. Control inputs must be random and varied so the rider can apply knowledge and skills to a variety of situations, without practicing each of a multitude of contexts. In addition, the courses within the system seek to take a rider from whole to part, from general to specialized, to encourage far and near transfer of learning where appropriate.

### **How does the MSF define success?**

One measure is simply learning to ride. From this perspective, the MSF Basic *RiderCourse* is absolutely effective. It meets the primary need of the target participant, to learn to ride and acquire basic mental and physical skills needed to enter the traffic mix in a reduced risk environment. Last year, MSF curricula were used to train over 500,000 riders (5.5 million to date since 1974) with an 85-90% success rate. There is no doubt that quality formal training is the best way to learn to ride.

But the other equally vital component to define success goes beyond learning basic riding skills; it requires that the rider learn to identify and manage risk, take

personal responsibility for decisions, and be motivated to both improve skills and safety attitudes.

Subsequently, as will be discussed in this paper, MSF believes an individual should be exposed to multiple learning experiences about safe riding techniques that will affect a change in attitude or intention and, subsequently, behavior, a concept the MSF has termed, “Safety Renewal.” This more modern approach acknowledges that it is better to have adequate skills with excellent judgment and self-control, than to have excellent skills and questionable judgment in managing risk. Managing risk means to ride within personal and situational limits.

### **How MSF RETS is Designed to Succeed**

The MSF RETS was conceptualized and developed by considering several fields of study and disciplines. The system as a whole and each individual program or module honors contemporary theories and practices in learning. Its underpinnings include traffic and motorcycle safety research and experience, safety and risk management principles, contemporary principles of adult learning and development, and motor skills development principles.

This paper will describe what makes MSF RETS highly effective: the breadth and depth of the system. Other successful components of the MSF system are the numerous support tools that MSF provides to its delivery partners; the infrastructure and processes to support fully all of its curricular programs, including certification standards, technical assistance for training and licensing, government relations, research, quality-assurance, and public awareness programs.

**Research – To Prove or to Improve?**

Until now, the results of formal research studies involving motorcycle safety and accident analysis have been mixed at best. In many of the previous large-scale research efforts, the research design has focused on countermeasure effectiveness related to crashes. This approach views the problem from the wrong end of the spectrum, after the fact, after the rider error.

The MSF and its members are partnering with the Virginia Tech Transportation Institute (VTTI) on what is likely the world's first large-scale, naturalistic motorcycle riding study: The MSF Naturalistic Study of Motorcyclists. Instead of searching for after-the-fact proof, the MSF will move toward research that seeks to improve the motorcyclists' environment, skills, attitudes, and outcomes prior to any crash involvement. This study will greatly advance the understanding of interactions among rider, motorcycle, roadway, other roadway users and the environment.

**MSF RETS – Opportunity for Success**

MSF RETS represents a challenging yet extremely rewarding opportunity to translate a remarkable vision into a dynamic system with opportunities for motorcyclist learning, growth and renewal. The key to making the MSF RETS as valuable as possible for motorcyclists and potential motorcyclists is to offer a complete array of course offerings and training opportunities that encourage lifelong learning.

This paper will describe the benefits for students and administrators when offering a full service program with an expanded line of course offerings. The MSF continues to help providers and government agencies meet the needs of a changing riding

environment with a comprehensive and cohesive set of program offerings that includes the support tools necessary for excellence.

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## MSF RETS: A System Designed to Succeed

Federal government agencies, trade organizations, manufacturers, jurisdictional safety administrators, and motorcyclists have at least one thing in common. All agree that too many motorcyclists are being injured and worse. Indeed only ZERO is an acceptable number. More countries and agencies are adopting programs with a goal of 'ZERO' fatalities. Countermeasures are needed that will make a positive difference, and stakeholders have gravitated toward differing solutions, from vehicle enhancements, enforcement, and public information to education campaigns, and rider education and training. The cohesiveness of any assessment of these disparate countermeasures is equally fractionated.

The focus of this paper will be on the rider elements of the motorcycle safety equation. As vulnerable road users, several key inequality factors affect motorcyclists. Being a motorcyclist on the roads and highways is a higher risk situation because of the disproportionate vehicle mass, lack of structural protection, and relatively small presence in the traffic mix. Because these factors apply to a small proportion of highway users, the needs of motorcyclists tend not to be addressed in the primary highway design plan. Knowing all this, then, it is imperative that highway safety professionals concern themselves with rider elements. In the main, except for a discussion of distracted drivers, the paper will not address the issues of other roadway users' contributions to crashes or the highway engineering components of motorcycle safety.

Training has long been considered an effective countermeasure. The Hurt Report (Hurt, Ouellet, & Thom, 1981) concluded that motorcycle rider training experience

reduces accident involvement and is related to reduced injuries in accidents. The MSF Basic *RiderCourse* is designed as a learn-to-ride curricula to have novice and non-riders achieve a certain level of competency. The course provides the minimum skills needed to venture out into the traffic mix. From this perspective, the course is absolutely effective. There is no doubt that formal training is the best way to learn to ride. It meets the primary need of the target participant, to learn to ride in a reduced-risk environment. As evidence, nearly 60 percent of BRC participants rate their improvement as a “10” on a ten-point scale after completing the course (MSF, 2010).

However, when looking at formal research aimed at assessing countermeasure effectiveness, the results are mixed. Almost all of the early evaluations of rider training programs produced encouraging results. Multiple studies noted that formally trained riders had a lower incidence of accidents than riders who were untrained (McKnight, 1987; Rothe & Cooper, 1987). For example, McDavid, Lohrmann, and Lohrmann (1989) found a small and persistent but not significant difference in trained and untrained riders using a rigorous subject matching methodology. Another study found significant differences between formally trained riders and untrained riders at a six-month follow up but not one or two years after the initial training (Billheimer, 1996). However, according to Mayhew and Simpson (1996), all of these studies suffered from at least one serious methodological flaw. For example, the McDavid et al. (1989) study did not control for amount of exposure. In other words, it’s possible that the group of trained riders they studied rode less than the untrained riders. Therefore, the results, while intuitively acceptable, do not provide the preponderance of evidence that scientists demand.



Other analyses, some better-designed and others not, generally produced results that did not support the expected value of rider training as a singular crash prevention plan. For example, Jonah, Dawson, and Bragg (1982) found that after controlling for differences in exposure level, formally trained riders had the same number of accidents as riders who did not receive formal instruction. In several assessments of the Motorcycle Safety Foundation's Motorcycle *RiderCourse*: Riding and Street Skills (MRC:RSS) course, evaluators found no significant difference in crash rates (Osga, 1980), accident rates per miles ridden (Mortimer, 1984), or accident rate, violation rate, or motorcycle damage (Mortimer, 1988). Furthermore, Buchanan (1987) reported on a large-scale study in New York State, with a very large matched sample and a rigorous experimental design that confirmed the lack of any significant difference as had previous studies.

In summarizing the research into the effectiveness of a single training program, Mayhew and Simpson (1996) conclude that research conducted in three countries "...provides no compelling evidence that rider training is associated with reductions in collisions." (p. 36) First, they note that the evaluations have failed to address the issue of effectiveness adequately by considering only final outcomes. Anecdotal evidence from ardent supporters of Motorcycle Safety Foundation training course participants abounds that supports the effectiveness of the training in real-life scenarios. Yet, these countless anecdotes have not been represented in the study variables.

Perhaps these results are not surprising when we consider that most of the studies reviewed a program that essentially consisted of a single formal training experience for novice riders that until more recently focused mostly on skill development. While the Motorcycle Safety Foundation has offered an Experienced *RiderCourse* for many years,

nearly 90 percent of the students trained nationwide are trained only in the novice course, according to MSF training statistics.

Further, most state and federal government involvement in the U.S. is through the licensing function, and therefore, limited primarily to a basic novice course. According to the MSF Cycle Safety Information (CSI) State Motorcycle Operator Licensing (MSF, 2008), over 90 percent (47 of 50) of states will waive a license test (on-motorcycle skills, knowledge, or both) with the completion of a single learn-to-ride course such as the MSF's *Basic RiderCourse*. A few states offer a course for returning riders, but this requirement is still limited to a single qualifying course. Two states, Florida and Oregon, have implemented a single mandatory rider education requirement for any new motorcycle licensee. Still another group of 17 states, over one-third, require training under an age of 16, 18 or 21. The requirement consists of a single training course. While graduated licensing programs are a proven effective countermeasure for car drivers that is becoming commonplace, very few states have such a system specifically for motorcycle licensing. And, according to NHTSA Promising Practices (NHTSA, 2005), no jurisdiction has enacted a graduated licensing system for motorcyclists that meet the criterion the National Highway Traffic Safety Administration (NHTSA) has advocated in policy statements. NHTSA strongly supports the enactment of graduated licensing by states because it compels novice operators to successfully demonstrate proficiency at several intermediate steps before being granted full riding privileges. NHTSA's model GDL program, a three-stage licensing system, would require multiple levels of testing or education that waives the test. The system would be designed to "...slowly introduce the novice [rider] to the licensing system." (Hanchulak & Robinson, 2009, p. 3-1).

Eleven states have enacted a tiered licensing system. However, across the board, the tier systems do not limit exposure to larger motorcycles or complex environments or require incremental or progressive training. Rather, generally, the systems allow younger riders to obtain a license for a smaller displacement scooter or motorcycle. Some states don't require a license for motorcycles under 50 cubic centimeters if they meet the other specifications for a moped; others specify possession of any valid license. Only Utah's tiered licensing system even approaches the concept of graduated licensing. In that state, an individual's motorcycle license is restricted to the size motorcycle on which the rider completed the exam, either through a rider education class or through a state Department of Motor Vehicles test. (MSF, 2008)

Clearly, the federal government is recommending more than a single course for licensure. State program assessments they organize routinely call for driver license agencies to "...implement improved motorcycle licensing practices and take appropriate countermeasures to reduce motorcycle fatalities and crashes." (Hanchulak & Robinson, 2009, p. viii) But, licensing is a state-based decision, not subject to federal mandates at this time. Thus, reaching riders through licensing programs, even when mandatory, tends to reach a small proportion of riders focused mainly on novice riders.

An alternate method of encouraging riders to get trained is through requirements for insurance discounts. Insurance companies are reported to grant anywhere from a five percent to a 20 percent discount on insurance rates for completion of a motorcycle training course. We are not aware of any that offer further discounts for taking additional courses. The one-time discount often stays with the rider as long as he/she has the insurance. A small number of riders are incentivized to complete advanced training

through a riding club or Original Equipment Manufacturer (OEM) group that reimburses course tuition such as HOG (Harley Owners Group) Chapters, Gold Wing Road Riders Association, Honda Riders Club of America and Riders of Kawasaki and perhaps others.

The Motorcycle Industry Council's (MIC) 2008 Motorcycle/ATV Owners Survey indicated that the penetration for an organized rider education course among on-highway riders had risen to 45 percent (MIC, 2008). This is an increase from the 2003 results that indicated 38 percent of the on-highway riders had taken an organized rider education course. It appears that more and more riders are getting some sort of training through private enterprise and state programs and state-mandated training. Yet, the national motorcycle fatality rate that has risen each year for the past 11 years. In 2008, motorcycle fatalities made up 14 percent of total traffic fatalities while accounting for only three percent of the registered vehicles in 2007 (NHTSA, 2008) and less than one percent of the total U.S. vehicle miles traveled (RITA, 2007).

These sobering statistics do not appear to be due to a paucity of available training. The U. S. rider training programs have grown to be much larger and much more sophisticated during the past decade. State programs and individual training sites have experienced a tremendous period of growth, adding more and more classes and RiderCoaches. MSF estimates that a peak of 500,000 riders was trained by a corps of nearly 9,500 MSF-certified RiderCoaches in 2009. Yet, as the economic conditions changed, the demand for training classes dropped dramatically. Through anecdotal evidence, states are reporting to MSF that they are experiencing from 15 to 25 percent reductions in activity. State programs that are not tuition-based are canceling unfilled classes for the first time in many years. On the delivery end of the equation, nearly 40

percent of RiderCoach Trainers reported to MSF that their state currently had enough RiderCoaches to meet the demand (MSF, 2010). The market is not clamoring for novice courses – training providers want additional programs to offer to various segments of the market in order to improve their return on investment in their training enterprise. And the market may be ready for greater challenge. As early as 2006, a nation-wide sample of motorcycle consumers expressed a great deal of interest in attending courses for experienced and advanced riders. Nearly 75 percent said they would “definitely” or “probably” sign up for an Experienced *RiderCourse* and 60 percent expressed interest in an advanced braking and traction management class (Rowe, 2006).

Similarly, the traffic environment has changed a great deal. As four-wheel vehicle design employs more automatic features, the physical task of driving is no longer so taxing. Instead, the driving task now requires more mental skills such as visual attention, decision-making, and risk perception. Many factors in the environment, roadway geometry, traffic control devices, and traffic volume all present greater challenges than in the past (Dewar & Olson, 2002). In addition, the condition of the nation’s highways and bridges is deteriorating rapidly due to insufficient highway funding. As an example, the Michigan Department of Transportation has projected that under current funding projections, the condition of nearly 45 percent of their roads will be rated “poor” by 2018 (King, 2010). In New York City, a current report rates 54 percent of the city’s busiest roads as “poor.” “We have a transportation funding crisis,” Pat Jones, executive director of the International Bridge, Tunnel and Turnpike Association, told *USA Today* in December 2009. Poor road conditions and dwindling transportation funding make the roadway environment increasingly unfriendly to motorcyclists.

Add driver distraction to the traffic environment's complexities and the outlook for safe riding becomes daunting. Mobile device use while driving has become a pervasive practice, reportedly engaged in by 100 million car drivers. Research studies have been clear about the connection between mobile device use and distracted driving. Especially relevant to motorcyclists, Strayer and Drews (2007) found that cell phone use appears to cause inattentive blindness by car drivers. A simulator study found that even when the program electronically directed the driver's attention to an object, such as a motorcycle, the participant failed to recall seeing the object when engaged in a phone conversation. (Strayer & Drews, 2007) The 100-Car Naturalistic Driving Study Phase II documented that driver distractions are the leading cause of most vehicle crashes and near-crashes. This study's results, released by NHTSA and the Virginia Tech Transportation Institute (VTTI), showed 80 percent of crashes and 65 percent of near-crashes involve some form of driver distraction (Dingus, Klauer, Neale, Petersen, Lee, Sudweeks, Perez, Hankey, J., Ramsey, D., Gupta, S., Bucher, C., Doerzaph, Z. R., and Jermeland, J., 2005).

What this means for rider education seems clear. Due to the increased complexity of the consumer market, restrictions (financial and regulatory) on federal and state government, and increased complexity in the traffic environment, the standard countermeasure of a single novice course leading to a license waiver may be an archaic notion. Assuring the minimum standards for entry into the motorcycling environment, while an important goal, cannot conceivably serve as a successful countermeasure for the lack of skills among the wide variety of riders and drivers in the system. Moreover, when we consider the various contributing factors to overall motorcyclist safety as a complex,

integrated system that must work together to achieve an overall goal, the fallacy of a single training course serving as a completely adequate countermeasure becomes apparent. A different countermeasure or combination of countermeasures is called for. The time has come for a qualitatively different approach to adequately meet the needs of today's riders. Due to the nature of the rider, the vehicle and the environment, a systems approach toward motorcycle safety is the only reasonable approach. The MSF Rider Education and Training System (RETS) as embodied in the MSF Course Catalogue, may present a viable solution.

In order to master the skills and knowledge necessary for today's complex riding environment, increased breadth and depth are necessary. In addition, because safe motorcycle riding is dependent on realistic attitudes toward risk-taking and mental alertness, frequent reinforcement of safety-oriented attitudes is essential. The MSF has coined a concept for this type of practice or learning experience and attitude reinforcement, "Safety Renewal" (Buche, Williams, Tyra, 2004). In other words, an individual's exposure to multiple learning experiences about safe riding techniques will affect a change in attitude or intention and, subsequently, behavior. If a motorcyclist is involved in a variety of learning experiences over time, with no artificially imposed breaks between beginning and experienced courses (prerequisite waiting period and/or miles ridden), the likelihood of the individual mastering the various cognitive and motor skills necessary for accident prevention should increase. Furthermore, renewal training periodically reminds the rider of salient and evolving safety issues, which should increase a rider's level of safety awareness and risk assessment.

The concept of using multiple exposures to safety-related material for better retention and application is supported by years of literature in both education and psychology. It is known, for example, that persons with some background level of knowledge on a subject are better able to integrate new knowledge into their existing schema and apply it to varying situations.

The safety renewal concept encourages proponents of motorcyclist safety programs to modify their approach to education and training. When safety renewal is the key, riders benefit more from multiple training modules and lifelong education compared to a single safety training course. Instead of viewing motorcyclist training as a one-time inoculation for accident prevention, safety training should be presented as a “booster” to prevent crashes over the rider’s lifetime. In conjunction with this idea, the Motorcycle Safety Foundation has developed the comprehensive Motorcycle Rider Education and Training System (RETS). (See Appendix A)

MSF RETS, a curriculum system, is characterized by a high level of congruence between the highly complex and integrated demands of staying safe in the traffic system and the MSF Course Catalogue that seeks to present a broad effort toward the goal of motorcyclist safety. The riding task is more of a skill of the eyes and mind than of the hands and feet. When it comes to motorcycle safety instruction, teaching people to ride is more about people as it is about motorcycles, and simply developing skills is not enough. The more modern approach is to acknowledge that it is better to have adequate skills with excellent judgment and self-control, than to have excellent skills and questionable judgment in managing risk.



The system's multiple courses and multiple entry points directly address the false perception that rider training is only for novice riders. Within RETS, motorcyclists at all levels are encouraged to constantly improve their skills and safety attitudes.

Conceptually similar to multi-stage driver education, RETS addresses the increasing crash rate of motorcyclists. This training program involves multiple-exposures to safe motorcycling content, risk management and skills learning rather than a single, one-time course where results are more dependent on the individual rider's commitment to risk management from that one initial course. Though it requires huge effort and resource expenditure, anything other than a systems approach will yield limited gain in the area of motorcyclist safety. When the solution is not viewed as a system, training becomes merely an event.

RETS is a fluid system, distinguished by multiple training courses with multiple entry points, that provides ongoing and developmental growth for all motorcyclists. The entire system is designed to send the important message that rider education must embody more than simple skills training that produces compliant riders. Rather, it offers a training system that encourages a commitment to safety-conscious attitudes, motivation to improve behavior, self-assessment and risk management for positive outcomes.

The MSF RETS was conceptualized and developed by considering several fields of study and disciplines. System underpinnings include traffic and motorcycle safety research and experience, safety and risk management principles, contemporary principles of adult learning and development, and motor skills development principles (Brookfield, 1986; Jensen, 1996; Schmidt & Wrisberg, 2000). Applicable motor skill development principles include proper application of whole-to-part training, speed versus accuracy, the

distinguishing characteristics of kinesthetic and augmented feedback, and the effects of verbalization and visualization. Traffic safety and motorcyclist safety research that was reviewed included crash studies and crash data and statistics, the Haddon Matrix of loss reduction which considers pre-, crash, and post-crash factors related to operator, machine and environments, and motorcyclist training programs around the world specific to the development of motorcycle skills and techniques. Overall, the MSF RETS is designed to enhance crash avoidance skills and to continuously improve rider education and training curricula in the area of crash avoidance skills based upon tested and evaluated skills, both cognitive and motor skills essential to safely operating a motorcycle on the roadway.

What makes RETS highly effective is the breadth and depth of the system. Breadth is evident in the broad continuum of courses, from an Introductory Motorcycle Experience to an Advanced *RiderCourse* -- *SportBike* Techniques for on-bike classes and another array of event-based modules to meet the needs and interests of current and prospective motorcyclists. Depth is manifested in the learning environment and the moment-to-moment interactions between RiderCoaches and learners. MSF knew that the "whats" of learning to ride were basically known (after 100 years, a standard motorcycle is still a single-track, two-wheeled vehicle with six primary controls), but there is much more knowledge now about better "hows" that maximize student learning and move them toward embracing a change in attitude. Participants must be involved significantly in the learning environment in order to internalize and own the committed attitudes necessary for safer riding.

During the development of this systemic perspective, the learning environment was considered to be an integral part of the success of RETS. The system as a whole and

each individual program or module honors the contemporary theories and practices in learning. Adult learning literature was considered that included theories and practices of brain-based learning, accelerated learning principles and learner-centered instructional techniques. The goal was to establish a context of contemporary teacher-learner interactions characterized by meaningfulness and high-challenge/low-threat experiences.

MSF RETS represents a challenging yet extremely rewarding opportunity to translate a remarkable vision into a dynamic system with opportunities for motorcyclist learning, growth and renewal. The system is made up of courses, training opportunities and other areas of rider development opportunities, and provides the infrastructure mechanisms to ensure vital and effective programming with instructor certification and re-certification guidelines, professional development, continuous quality improvement and evaluation procedures with focus on student outcomes. Knowledgeable observers have recognized the sophistication and elegance of the system, while its appearance to learners is straight forward, engaging and fun!

MSF RETS consists of a framework of products and offerings composed of hands-on courses, classroom training programs, and “Host an Event” self-paced learning kits. Examples of Courses include, to name a few:

Basic *RiderCourse* 1 and 2 (BRC) with seven different versions that vary by context; Street *RiderCourse* 1, 2 and 3 (SRC1-B, SRC2, SRC3); Basic Bike-Bonding *RiderCourse* (BBRC); Advanced *RiderCourse* – *SportBike* Techniques (ARC-ST); and Scooter Basic *RiderCourse* (SBRC).

Each course is a self-contained package with a set of objectives and performance measurements for specific skills and competency development.

The MSF “Host-an-Event” consist of single-topic programs to address specific rider needs and issues in the riding environment. These are considered community outreach programs in that no MSF certification is required to conduct these. Each kit contains a Leader Guide’s, learning activities, audio-visual support as well as participant materials. Available programs are: Share the Adventure – Group Riding, Riding Straight – Alcohol Awareness, SeasonedRider – Aging Awareness, and Street Smart – Rider Perception.

To complement MSF’s efforts to enhance motorcyclist skills and strategies, MSF launched the “Intersection” motorist awareness kit and the ForCarDrivers.com website in 2008 to help educate other roadway users. “Intersection” is a multi-use program that can be tailored to teens (via driver education classes), adults (via traffic schools), commercial / professional drivers (via employee orientation), and more.

With RETS in place, MSF began advocating a better way forward in its development of safer riders through a new standard for rider education and training. With an array of stakeholders weighing in, it is apparent that what many *want* for rider training is often not what riders actually *need*. Those who serve an administrative role in the system may want courses to be easily administered and may have a higher concern for efficient use of resources and standardized delivery. The administrative licensing function requires a focus on riding skills and testing. Riders’ wants are not inherently motivated toward a safety renewal perspective. They want a one-course inoculation, which will suffice for overall safety and provides as an insurance discount for life. Those seeking a license want to avoid the licensing function as provided by state departments of

motor vehicles that generally includes scheduling difficulties and long lines (at no extra charge).

Through experience, the MSF has evolved its thinking as to what riders actually need, which includes: quality education and training, knowledge, skills, attitude, habits, values, risk management skills, self awareness and self assessment. While all of these characteristics may be present in a limited way, in one course, to encourage continuous improvement throughout a rider's many riding experiences, the MSF has introduced the CORE<sup>SM</sup> Curricula – three “core” sets of *RiderCourses* grouped into Essential, Expanded, and Recommended levels. All MSF CORE levels provide a progression of challenging hands-on exercises to help riders achieve finer skills plus increased capabilities for awareness, judgment and risk management, preparing them to use the executive functions that are critically important for identifying and prioritizing factors while riding. The "Essential MSF CORE Curriculum," which the MSF recommends as the minimum training for every beginning rider, includes the BRC plus the new Street *RiderCourse* that provides licensed riders with a controlled riding experience in the real-world environment of streets and highways, as well as the new Basic Bike-Bonding<sup>SM</sup> *RiderCourse* that features skill drills to help students better handle their own motorcycles.

The "Expanded CORE" adds three courses to the Essential CORE: Street Smart – Rider Perception, a class featuring traffic perception activities relating to real-world situations; Advanced *RiderCourse* – *SportBike* Techniques, a course with three classroom hours focusing on rider awareness and risk management, plus four hours of riding exercises that aim to develop both technique and judgment (not limited to sport bikes);

and Street *RiderCourse* 2, a longer, more intensive version of Street *RiderCourse* 1, focused on improving the perceptual strategies of street riding.

The "Recommended CORE" adds two courses to the Expanded CORE: Ultimate Bike-Bonding *RiderCourse*, patterned after police training courses; and MSF Kevin Schwantz *RiderCourse*<sup>SM</sup>, a fine-skills course developed with sport bike road racing champion Kevin Schwantz, using a much larger riding range, permitting speeds closer to those on public roads.

There are other individual MSF courses designed for every stage and type of riding, including:

- The Scooter Basic *RiderCourse* – A learn-to-ride curriculum for motor scooter riders, involving approximately five hours of classroom activities and 10 hours of hands-on skills development on a paved lot.
- The 3-Wheel Basic *RiderCourse* – A learn-to-ride curriculum for riders of three-wheel, three-track vehicles, involving approximately four hours of classroom activities and eight hours of hands-on skills development on a paved lot.
- The *DirtBike School*<sup>SM</sup> – A one-day, learn-to-ride course, covering the fundamentals of dirt bike riding on a dirt training range.

While some rider education programs have shown concern with how to integrate these new offerings into their current programs, many others are eager to implement more and more varied curricula products. MSF RETS offers an improved approach to motorcyclist safety due to the design of the individual courses and the overall system. Each course is designed to address the broad spectrum of skills, attitudes and behaviors that make up riding challenges. Using the MSF CORE focus, the course progression from the training range to the street and back again over the span of a rider's miles gives a motorcyclist the best chance of continuous improvement.

The reason the MSF system has a strong chance of succeeding is due not in small part to the numerous support tools that MSF provides to its delivery partners. It has developed the infrastructure and processes over time to support fully all of its curricular programs. Such support is necessary for achieving excellence in rider education.

The MSF has developed significant infrastructure to support riders in their ongoing development by promoting a sense of membership in the greater riding community, a culture of safe and responsible motorcyclists. One of the strategies for this goal is to provide an information gateway. The MSF's public website offers easy access for experienced, novice and potential riders to the latest products, services, and technical updates. Along with general knowledge, such as licensing requirements, the MSF's public website ([www.msf-usa.org](http://www.msf-usa.org)) is designed to serve multiple purposes. Those who already know they want to ride can find a *RiderCourse* at one of the over 2,500 training sites listed there. Those who are thinking about riding can view streaming videos of a typical Basic *RiderCourse* classroom and range. Riders who want more can purchase safety products and view web-based programs such as the Rider Perception Challenge.

While its primary focus is on the motorcycle operator, the MSF also plays a vital role in championing safety through a variety of channels. Leadership is provided to the safety community through expertise, programs and partnerships. The MSF provides the essential leadership that transforms a conglomerate of individuals working for themselves and their friends into a national rider education and training system that is focused on positive student outcomes.

Beyond the public's need for information, the entire network of delivery partners and stakeholders who are involved in some way with MSF curricular products is vast and

far-reaching. Over one thousand individual Rider Education Recognition Program (RERP) agreements are in effect in any one year. These agreements regulate the operations of over 2,500 rider education training sites. Last year, MSF curricula were used to train over 500,000 riders (5.5 million to date since 1974).

The MSF establishes certification standards for its programs, recognized both within the U.S. and internationally, provides technical assistance for training and licensing, and actively participates in government relations, research, quality-assurance and public awareness programs. MSF RETS encompasses not only the comprehensive, multiple course offerings with supporting materials, but also includes many programs and services from the national MSF offices that are integral to achieving positive outcomes such as: licensing assistance, technical assistance, *RiderCourse* insurance, RiderCoach professional development opportunities, an online resource guide with a process for inclusion of best practices, a quality assurance system and an embedded research component. These aspects go far beyond an individual training course to ensure ongoing high-value processes and results.

MSF certifies and re-certifies nearly 9,500 RiderCoaches and 238 Rider Coach Trainers while maintaining standards across jurisdictions. In all, the MSF manages some 10,000 individual certifications. The requirements for MSF RiderCoach certification and recertification are challenging, including one full week of initial training, observation and mentoring. They include a rigorous code of professional conduct and minimum activity standards. Because of this, they ensure, as certification requirements should, that publicly acceptable standards of accountability and integrity have been met and that the public is protected from unscrupulous activities. MSF specifies minimum requirements, and



encourages the use of internship and mentorship programs. The MSF places emphasis on the mentoring notion as a means of utilizing the learned capabilities of RCs through formal and informal means of influencing and developing peers.

There is a similar template for RiderCoach Trainer certification with over two weeks of intensive training and education for those RiderCoaches who meet the qualitative criteria. Additional activity is required for certification and recertification at this level, which includes, in part, establishing a personal portfolio with required learning activities and reflective statements. The RiderCoach Trainer Certification System is designed to support continuing development of an effective and viable motorcycle rider education and training system. It is a fluid system that provides ongoing and developmental growth of RiderCoach Trainers. RiderCoaches and RiderCoach Trainers are held to a professional standard and serve as role models within the system.

The MSF wholeheartedly supports continuing professional development that requires RiderCoaches to be active learners engaged in constant improvement makes the activity of being a RiderCoach one way that quality assurance and hence, student safety on the range is maintained. The mandate of RiderCoach professional development activity is an integral part to maintaining the integrity of the curricular programs and assuring the quality of the delivery structure. Ongoing and routine communications provide the latest information regarding the breadth and depth of RETS, and ensure progressive development and effective practices ([www.retsorg.org](http://www.retsorg.org)). Noteworthy here are items such as the MSF monthly publication, *MSF eNews*, annual Learning Centers, MSF staff presentations at state updates and conferences, and RiderCoach Trainer Clinics that are held at various locations around the country. Available 24/7, RETSORG is the online

resource guide with news items, best practices, a Curriculum List, and an online forum for RiderCoach discussions. These features recognize peer monitoring, mentoring, and development as a powerful quality control mechanism.

The Motorcycle Safety Foundation is committed to student safety and consistent quality of training conducted at MSF training sites. In the MSF-managed state motorcyclist funded state programs and training programs, rigorous quality assurance is a crucial contractual stipulation. In other instances, quality assurance processes are determined by states and other sponsoring entities. In an effort to promote more quality assurance involvement at the site level regardless of sponsoring agency, the MSF has developed an online evaluation system, the Quality Assurance Module (QAM), to be offered to state-based Quality Assurance teams. The MSF QAM is an electronic, online-based system that includes an extensive research-based Quality Assurance Visit evaluation form and communications tracking system. The module contents stem from the published national standards of the curriculum, RiderCoach Rules of Professional Conduct, and the RERP agreement. Designed to recognize the strengths as well as deficiencies, of a training site's administration, classroom and range facilities, learning environment and compliance according to national standards stipulated in a detailed policy and procedure manual, the QAM is a convenient, efficient, and simple-to-use tool.

As an administrator of five state motorcycle safety programs, training over 100,000 riders per year, the MSF has experience at building and enforcing policy and procedure guidelines. The MSF maintains legal agreements with every training sponsor nationwide that adopts its curricular programs. To assist teams with adoption of the module, the MSF staff provides formal training opportunities in quality assurance

processes, communication principles and the specific workings of the QAM. In the U.S. currently, 22 different entities (state, national organization, military branch) have adopted the MSF Online Quality Assurance Module.

Like the BRC, a curricula that accommodates RiderCoach judgment, MSF's quality assurance efforts focus on holding everyone equally responsible for the quality of training and the program's overall effectiveness. Through initial training, follow-up mentoring, regular professional development workshops, and informal contact, the MSF seeks to develop a level of judgment based on safety and learning principles that will be highly robust and powerful. Quality control (assurance) is embedded into the system at all levels and various chronological points. The system promotes a continuous loop of improvement.

Research efforts are integral to MSF curricula development and improvement through the use of formative and summative research practices. MSF research initiatives consist of quantitative and qualitative processes based upon theory-driven, systematic and comprehensive practices in an effort to understand the human factors of motorcyclist safety. The MSF also conducts research for its many stakeholders in an effort to improve rider training programs and services, consisting of continual analysis of feedback and satisfaction levels from student, RiderCoach, and State Administrator surveys. Field-based experimental research is used for examining the effectiveness of new curricular programs, as well as refinements in current curricula strategies and procedures. Literature reviews in general traffic and motorcyclist safety are conducted as an ongoing process.

MSF research efforts also seek to develop from a continuous loop improvement perspective. In many of the previous large-scale research efforts in motorcycle safety and accident analysis, the research design has looked for countermeasure effectiveness related to crashes. This approach views the problem from the wrong end of the spectrum, after the fact, after the rider error. The MSF and its members are partnering with the Virginia Tech Transportation Institute (VTTI) on what is likely the world's first large-scale, naturalistic motorcycle riding study: The MSF Naturalistic Study of Motorcyclists. The study will combine unobtrusive, continuous data collection with post-incident interviews to create a comprehensive picture of many factors contributing to both crashes and near-crashes. A departure from traditional crash-causation research, the naturalistic method and technology is presently in use by researchers across the globe to target nearly every type of roadway user, with the exception of two-wheeled vehicles. Instead of searching for after-the-fact proof, the MSF will move toward research that seeks to improve the motorcyclists' environment, skills, attitudes, and outcomes prior to any crash involvement. This study will greatly advance the understanding of interactions among rider, motorcycle, roadway, other roadway users and the environment.

The result of the systemic integration of support tools of certification, professional development, quality assurance and research is enhanced safety training and continuous improvement for RiderCoaches and of course, for all motorcyclists, the most vulnerable road users. The system represents a commitment to excellence in conducting positive learning experiences in support of safe, responsible motorcycling.

When it comes to motorcyclist safety instruction, simply developing skills is not enough. Riding is a mental, physical and social task: mental because it requires

processing information and making decisions; physical because it requires specialized, well-timed and well-coordinated skills; social because decisions in traffic must be based on sharing the roadways effectively with others.

As stated before, the more modern approach is to acknowledge that it is better to have adequate skills with excellent judgment and self-control, than to have excellent skills and questionable judgment in managing risk. It is best, of course, for a rider to possess both excellent skills and excellent judgment, and that is why safety renewal (i.e. continuing one's lifelong learning process by taking advantage of rider education and training opportunities) is so important. Physical skills and mental strategies need to be refreshed, as they tend to diminish or be forgotten over time.

MSF training is unique in that it does not simply aim to train people to ride a motorcycle; rather, it seeks to train skill usage and encourage a positive, more responsible attitude shift. How riders use and incorporate their riding knowledge and skill set is tempered by their personal approach to motorcycling. Their attitude is influenced by their approach to risk management, capacity for responsible decision-making, awareness of hazards, like other motorists around them, and whether they take a defensive approach to riding. A rider may know how to operate a motorcycle; however, without a mature and respectful attitude towards riding, these skills may be secondary. The MSF's education and training programs work with riders to not only develop and expand their personal skill set, but to make informed, appropriate safety conscious decisions while riding.

Ongoing rider development can be achieved by offering an attractive system of training programs and associated services that encourage riders to return to the system

periodically for skills refresher opportunities that provide specific, pertinent information on certain skills/knowledge areas that is meaningful to the motorcyclist.

The MSF and RETS are as much about people, if not more so, than motorcycles.

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Appendix A

MSF RETS: 2010

