MSF RETS: A System Designed to Succeed

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President & CEO
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A Better Way Forward
The MSF Rider Education and Training System (RETS)
MSF RETS: A System Designed to Succeed

- How does the MSF define success?
- How MSF RETS is designed to succeed
- Research – to Prove or Improve?
How Does the MSF Define Success?
Learning to ride

- Last year, MSF curricula were used to train over 500,000 riders to ride a motorcycle!
- 60% of BRC participants rate their improvement upon completion as 10 on a 10-point, 10 high scale
- More than 50,000 decided not to continue their pursuit of riding
Learning to ride

• 5.5 million riders trained to date since 1974

• Yet, less than 50% of on-highway motorcyclists in the U.S. have taken a formal rider training course!

• And, excess capacity has existed in many states for the past 18 months.
Learning to identify and manage risk

- Identifying and managing risk
- Taking personal responsibility
- Being motivated to adopt positive safety attitudes, behaviors and practices
Learning to identify and manage risk

Eyes & Mind

vs.

Hands & Feet
Learning to identify and manage risk

Better to have ...  
*adequate skills with excellent judgment*

Than ...  
*excellent skills and questionable judgment*

Best...  
*to have excellent judgment and excellent skills*
Because safe motorcycle riding is dependent on realistic attitudes toward risk-taking and mental alertness, frequent reinforcement of safety-oriented attitudes is essential.

Better to have ...
multiple learning experiences

Than ...
a single safety training course

And it makes riding even more fun!
How MSF RETS is Built to Succeed
## Learning to Ride

- **Basic RiderCourse 1**
  - Standard
  - Expanded
  - Small Group
  - Tutoring
  - Skills Practice
  - Formal Remedial Training
- **Basic RiderCourse 2**
  - License Waiver
  - Skills Practice
- **Street RiderCourse 1**
- **Basic Bike-Bonding RiderCourse**
- **Returning Rider BRC**
- **3-Wheel BRC**
- **Scooter BRC**

## Improving the Ride

- **Street RiderCourse 2**
- **Advanced RiderCourse**
  - SportBike Techniques
- **Safe Motorcyclist**
  - Awareness and Recognition Trainer (SMART)
- **Ultimate Bike-Bonding RiderCourse**
- **MSF Kevin Schwantz RiderCourse**
- **Street RiderCourse 3**

## Specialized Programs

- **Introductory Motorcycle Experience**
- **ScooterSchool 1: Introduction To Scooters RiderCourse**
- **Military Motorcycle RiderCourse**
- **Military SportBike RiderCourse**
- **DirtBike School: DirtBike BRC**
- **Trail Riding RiderCourse**
- **State Education Programs**
- **Online Programs**

## Host-An-Event

- **Intersection – Motorist Awareness**
- **Share the Adventure – Group Riding**
- **StreetSmart – Rider Perception**
- **Riding Straight – Alcohol Awareness**
- **SeasonedRider – Aging Awareness**
- **Introduction to Motorcycling – Helping Others**

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**MSF Rider Education and Training System:**

A System Designed to Succeed
Modular-type courses provide:

- More breadth and depth
- Multiple points of entry and renewal
- Individualized coaching
- Segmented learning opportunities
- Distributed practice
Rider Education Training System (RETS)

- Stakeholder Focus
- Human Factor Based
- Contemporary Theory & Research
- Foundational Learning Theories
- Constant Improvement
- Service Leadership
Rider Education Training System (RETS)

RETS Underpinnings

- Research & Experience
- Safety & Risk Management Principles
- Adult Learning & Development
- Motor Skills Development
Research & Experience

- Haddon Matrix of loss reduction
- Curriculum specifications for prior as well current MSF curricula
- Research including Task Analysis, Photographic Analysis, the Hurt Study, and the Colorado Feasibility Study
- Findings of the 1996 Curriculum Development Team
- Joint SMSA/MSF MRC/RSS Enrollment Questionnaire (1998)
- SMSA Curriculum Advisory Committee (1998)
- MSF / ASU Study (1998)
- MSF Stakeholder Focus Group Research (1998)
- MSF Student Focus Group Research (1998)
Safety & Risk Management Principles/Human Factors

- Rider responsibility & personality factors
- Risk-taking forces – decision-making overall and in moment-to-moment tasks
- Visual perception, cognitive functions, & motor skills aspects
Adult Learning & Development

Including theories and practices of...

- Brain-based learning
- Accelerated learning principles
- Learner-centered instructional techniques
Motor Skills Principles

Key Applications

• Accuracy of skill is of greater importance than speed during initial learning

• Gross motor skills must be attended to first, followed by finer motor skills

• Over verbalization (on the part of the instructor) gets in the way of student learning
“What” vs. “How”

What …

The motorcycle has not changed significantly in 100 years

vs. How …

The method of delivery now reflects the most contemporary research available on adult education and learning
Training Wants vs. Needs

Want vs. Need

Administrators want:
  • Easily administered
  • Resource efficient
  • Standardized delivery
  • Focus on skills and tests

Many riders want:
  • An inoculation
  • A license; avoid DMV
  • To have fun
Training Wants vs. Needs

**Want**

Administrators want:
- Easily administered
- Resource efficient
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Many riders want:
- An inoculation
- A license; avoid DMV
- To have fun

**Need**

Riders actually need:
- Knowledge, skills, attitude, habits, values
- Quality education and training
- Risk management skills
- Self awareness
- Self assessment
- Responsible licensing
Training Wants vs. Needs

Constantly Evolving
The New MSF CORE
<table>
<thead>
<tr>
<th>Essential</th>
<th>Expanded</th>
<th>Recommended</th>
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<tbody>
<tr>
<td>Basic RiderCourse</td>
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<td>KS-RiderCourse</td>
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### The New MSF CORE

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<th>BRC</th>
<th>BBBRC</th>
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<th>SS-RP</th>
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<th>UBBRC</th>
<th>KS-RC</th>
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- **Essential**
- **Expanded**
- **Recommended**

*Flexibility for Jurisdictions and Opportunities for Riders*
The New MSF CORE

Continuum of Learning

Physical Skills
Mental Skills
Reflection
Self-Assessment
Safety Renewal

BRC  BBBRC  SRC1  SS-RP  ARC-ST  SRC2  UBBRC  KS-RC
### Learning to Ride
- Basic *RiderCourse 1*
  - Standard
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  - Small Group
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### Improving the Ride
- Street *RiderCourse 2*
- Advanced *RiderCourse* -- *SportBike* Techniques
- Safe Motorcyclist Awareness and Recognition Trainer (SMART)
- Ultimate Bike-Bonding *RiderCourse*
- MSF Kevin Schwantz *RiderCourse*
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### Specialized Programs
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- Military *SportBike RiderCourse*
- *DirtBike School: DirtBike BRC*
- Trail Riding *RiderCourse*
- State Education Programs
- Online Programs

### Host-An-Event
- Intersection – *Motorist Awareness*
- Share the Adventure – *Group Riding*
- StreetSmart – *Rider Perception*
- Riding Straight – *Alcohol Awareness*
- Seasoned Rider – *Aging Awareness*
- Introduction to Motorcycling – *Helping Others*

### Essential Core
- BRC1
- SRC1
- BBBRC

### Expanded Core
- Essential Core + SSRP
- ARC-ST
- SRC 2

### Recommended Core
- Expanded Core + UBB
- BRC
- KSRC
New MSF Courses

Recently released or near release:

- Rider Perception
- SMARTtrainer
- Basic Bike-Bonding RiderCourse
- Street RiderCourse
- 3-Wheel Basic RiderCourse
- Scooter Basic RiderCourse
- Ultimate Bike-Bonding RiderCourse
- Military Sportbike RiderCourse
New MSF Courses

Rider Perception

Modern visual technology

Improves rider’s perceptual skills
New MSF Courses

**SMARTTrainer**

- Control familiarity
- Hazard perception
- Risk management
New MSF Courses

Basic Bike-Bonding RiderCourse

Drills on skills

Slow speed focus

Fine motor skills
New MSF Courses

Street Rider Course (SRC 1)

Light residential riding

Light suburban traffic

Complex traffic situations
New MSF Courses

3-Wheel Basic RiderCourse

Same concepts as Basic RiderCourse, now applied to 3-wheel motorcycles
New MSF Courses

**Scooter Basic RiderCourse**

Same concepts as Basic *RiderCourse*, now applied to scooters
New MSF Courses

Ultimate Bike-Bonding RiderCourse

Patterned after police training courses

Advanced version of the Basic Bike-Bonding RiderCourse
New MSF Courses

Military SportBike Rider Course

U.S. Navy helped pilot

60% enrolled

61% reduction in Navy motorcycle-related fatalities
MSF Ready-To-Use Kits

Intersection  – All Roadway Users
Share the Adventure  – Group Riding
StreetSmart  – Rider Perception
Riding Straight  – Alcohol Awareness
Seasoned Rider  – Aging Awareness
MSF Support Tools and Infrastructure
Support tools that fully support all MSF curricular programs

- Rider Support and Public Information (www.msf-usa.org)
- Leadership Programs & Partnerships
- Technical Assistance for Training & Licensing
- Government Relations
- Certification Standards
- Professional Development
- Research & Quality Assurance
Thanks to a great network of training providers…

- 9,499 certified RiderCoaches
- 238 certified RiderCoach Trainers
- Over 10,000 certifications
- 1,070 RERP Sponsors managing 2,505 sites
- State, Military, Other Administrators
Safety Renewal Applies to RiderCoaches and RiderCoach Trainers, too

- Rigorous initial certification process
- Professional code of conduct
- Minimum activity standards
- Held to high standards
- Serve as role models within the system
Continuing Professional Development

- Promotes student safety on the range
- Maintains integrity of the curricular programs & quality of the delivery structure
- Communications include RETSORG, MSF eNews, Learning Centers, RiderCoach Trainer Clinics, and staff presentations at state updates and conferences
Quality Assurance Module (QAM)

- Research-based, easy-to-use online evaluation system for training sites
- Provides Continuous Loop Improvement
- Offered at the site level regardless of sponsoring agency
QAM Overview

Electronic, web-based
Hosted on RETSORG
Secure Server
Linked “real time” to main MSF database
Complete assessment of administrative, classroom, range, & learning environment
Password-protected access based on individual’s role as determined by group coordinator
QAM Overview

• Yearly progress tracking/compliance issue tracking by site
• Copies e-mailed & saved via PDF – encourages feedback
• Data exported via Excel and text file
Quality Assurance Module (QAM)

- MSF provides formal training to assist teams with QAM processes
- To date, 22 U.S. entities have adopted the MSF QAM
Research: 
... to Prove 
... or *Improve*?
Ongoing research offers MSF opportunities for "continuous loop improvement"

- License Test Validation w/ Pacific Institute for Research and Evaluation (PIRE)
- Cornering Study w/ Virginia Tech Transportation Institute (VTTI)
In 2009 alone, MSF conducted over 35 formal field tests to develop and revise five new curricular programs.

Recent:

- Capacity Survey w/ Irwin Broh
- University of North Carolina – HSRC
- The Discovery Project w/ NHTSA
- Awareness campaign w/ Purdue University
- Cal State University, Fullerton College of Health & Human Development, Dept. of Kinesiology
The MSF
Naturalistic Study of Motorcyclists
MSF, its members, and VTTI will be conducting the first ever, Naturalistic Motorcycle Riding Study.

• 100+ motorcyclists
• Two or three markets
• Newest technology as of Q3 2010
• Data collection 2011 and 2012
• Preliminary observations in one year
• MSF will collaborate worldwide to allow use
Method and Need

- The power of the naturalistic method is being utilized for light vehicles and heavy vehicles across various driver populations.
- The feasibility of these methods has been proven, but not implemented, on motorcycles.
- There is a research gap that will be addressed by obtaining this highly capable data on motorcycle riding such as:
  - Interaction of rider attributes, behaviors, roadway, adjacent vehicles, and environment as well as their relationship to crash prevalence and severity
  - Sequence of events and factors in the instants prior to the crash as well as in the minutes, days, weeks, and months prior to the crash
  - Differences between successful and unsuccessful evasive maneuvers
  - Attributes and habits of safe riders
  - Detailed exposure data across numerous factors
**Naturalistic Method**

- Identifies factors in crashes using time-series video and numeric data.
- Reveals factors not detectable through crash investigation.
- Compares crash-involved rider to himself / herself at all other times.
- Provides pre-event data.
- Permits study of how crashes are successfully avoided.
- Permits quantification of rider performance and behavior in non-critical and critical riding.
- Provides flexible and accurate analysis of risk exposure.
- Permits systems development and testing with real-world data.
- Can be used to answer research questions that arise in the future.
The MSF Naturalistic Study of Motorcyclists

Example of possible instrumentation

- Video cameras
- Lane tracking
- Helmet / Gaze tracking
- Front and rear brake
- Accelerometers (3 axes)
- Gyro (3 axes)
- Speed
- Turn signals
- GPS
- Forward radar (speed to lead vehicle; distance to lead vehicle)
- Continuous collection
- 8-12 month capacity
- Expandable measures
The Value of Video

- Provides “perfect witness.”
- Documents rider, vehicle, roadway, and environmental variables sufficiently to support a wide range of investigations.
- Numerous variables can be identified post-collection based on new research questions or observation.
- Accurately records the sequence of many rapidly occurring actions.
- Captures factors that do not leave a physical record or may not be accessible in witness recall.
New Capabilities

- Naturalistic data provide pre-crash data not available in current approaches.
- Human factors, vehicle factors, and environmental factors are captured during events and throughout everyday riding.
- Continuous data with greater detail will enable countermeasure development in all cells of the Haddon matrix.
Haddon Matrix Adapted to Motorcycles

<table>
<thead>
<tr>
<th>Crash Prevention (pre-event)</th>
<th>Near-Crashes</th>
<th>Injuries Mitigation (crash)</th>
<th>Emergency Response (post-event)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>Rider Education, Licensing, Impaired Riding, Motorist Awareness, State Safety Programs</td>
<td>Loss of control sequence, precise injury mechanisms</td>
<td>Use of protective gear</td>
</tr>
<tr>
<td></td>
<td>Rider / Bike Interactions, Advanced System Development and Testing</td>
<td>Rider support systems, collision warning systems, etc</td>
<td>Automatic crash notification</td>
</tr>
<tr>
<td></td>
<td>Brakes, Tires, Controls, Lighting, Visibility, Compliance Testing and Investigations</td>
<td>Interaction with roadside elements</td>
<td>Education, Bystander Car, Training for Law Enforcement, Data collection &amp; Analysis</td>
</tr>
<tr>
<td></td>
<td>Exposure to: road type, weather, traffic, lighting, intersections, curves, guardrails, etc.</td>
<td>Roadway design, Construction, Operations and Preservation, Maintenance</td>
<td></td>
</tr>
</tbody>
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Naturalistic Collections Provide Data for ALL Elements of the Matrix
Rider training is most valuable when riders develop sound skills and maintain an attitude that leads to wise choices.
The MSF
Rider Education
and Training
System

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