Welcome

The BRC: A Historical Perspective
4 Segments

1. General Chronology of MSF and Curriculum
2. General Development of MSF RETS and Curriculum Process
3. BRC/RETS Underpinnings
4. Pilot and Field Testing of the BRC
We make motorcycling safer, and more enjoyable, by ensuring access to lifelong quality education and training for current and prospective riders, and by advocating a safer riding environment.
MSF Curriculum Related Milestones

1972

- Organization of MIC Safety and Education Foundation, Inc.

- Board of Trustees contracted with Human Resources Research Organization to develop a motorcycle safety plan to serve as a planning basis for the operation of the Foundation.
1973
- Separate office opened in Washington, D.C.
- Dr. Charles Hartman hired a director
- Name changed to the Motorcycle Safety Foundation, a separate corporation from MIC
- Alan Isley appointed MSF Trustee by Kawasaki

1974
- Dr. Hartman elected President of MSF
- Beginning Rider Course (BRC) published
- Moved offices to Linthicum, MD
MSF Curriculum Related Milestones

1974
- Published:
  - Motorcycle Task Analysis
  - Motorcycle Instructional Objectives

1975
- Published:
  - Motorcycle Curriculum Specifications

1976
- Published: Photographic Task Analysis
- BRC replaced by more comprehensive Motorcycle Rider Course (MRC)
1978

- Feasibility Study of MRC (Colorado)
  - Studied...
    - Instructor effectiveness
    - User acceptance
    - Administrative feasibility
  - Recommended...
    - No street lessons
    - Adjust time and re-order exercises
    - Shorten classroom
    - Stress emergency stopping and evasive maneuvers
MSF Curriculum Related Milestones

1979
- Established Chief Instructor training program

1980
- Better Biking Program introduced
- Rhode Island first state to fund rider education

1981
- Hurt Study released

1982
- Established four MSF regional offices
- Established main office in Chads Ford, PA
- Established MSF Curriculum Advisory Committee
MSF Curriculum Related Milestones

1984

– Council for State Motorcycle Safety Coordinators established
– Alan Isley elected president
– Offices relocated to Costa Mesa, CA adjacent to MIC

1985

– *Motorcycle RiderCourse: Riding and Street Skills* (MRC:RSS); updated and shortened to 15 hours
MSF Curriculum Related Milestones

1988
- Moved to 2 Jenner Street, Irvine, CA
- Revised and updated the Experienced RiderCourse (ERC)

1989
- National Association of State Motorcycle Safety Coordinators established

1993
- Celebrated 1 million riders trained on 20th anniversary
MSF Curriculum Related Milestones

1995
- Restructured Foundation to consolidate staff functions and focus on key priorities

1996
- Tim Buche named president
- Proposed new curriculum in collaboration with curriculum advisory committee

1998
- Rider Education and Training System Development and Oversight Team (RETS DOT) formed
MSF Curriculum Related Milestones

2000
- MSF formally launches *DirtBike School*
- National Agenda for Motorcycle Safety (NAMS) developed

2001
- New Basic *RiderCourse* introduced
- Learning Centers conducted

2003
- ERC *RiderCourse* Suite introduced
- National Learning Centers implemented
4 Segments

1. General Chronology of MSF and Curriculum

2. General Development of MSF RETS and Curriculum Process

3. RBRC/RETS Underpinnings

4. Pilot and Field Testing of the BRC
Curriculum Development Team

- Date: March 1996
- Project: RSS 2000
- Members
  - Tom Garcia, ASI Chief Instructor Trainer (MSF Staff)
  - Charles Kreszock, Chief Instructor (North Carolina)
  - Ray Ochs, Facilitator, Chief Instructor (Kentucky)
  - Robert Reichenberg, Chief Instructor Trainer (MSF Staff)
  - J. T. Smith, Chief Instructor Trainer (Tennessee)
  - Ron Thompson, Chief Instructor/State Coordinator (Wisconsin)

To work in a parallel process with MSF/SMSA Curriculum Advisory Committee
MSF Curriculum Development Team

• Charge
  – To develop and facilitate program planning for a revised edition of the MRC:RSS
  – To collaborate with the MSF/SMSA Curriculum Advisory Committee
  – To determine the development and design parameters for a new MRC:RSS
  – Meet with MSF/SMSA committee at annual conference to develop next steps
Goal: to answer…

1. What should the development process be?
2. What should the new curriculum look like?

Considerations:

1. Instructionally effective and administratively efficient
2. Participant friendly and instructor friendly
3. Universally accepted and stakeholder accepted
4. Utilize “best thinking” and appropriate expertise
• Results of MSF CDT (12-page Report)
  – 3 Strands of Thought
    • Start with blank page
    • Use a 70/30 paradigm (“Edit” MRC:RSS)
    • Build from best of MRC:RSS

Results of MSF/SMSA Committee: Spokesperson announces that they are not in agreement with the assumptions, and the MRC:RSS doesn’t need revised.

Parallel development process ended.
RETS DOT Established

- Initial meeting in June 1998
- 11 initial members
- Invested and divested
- Expertise in
  - Policy
  - Program Administration
  - MSF Oversight
  - Instructional Systems Design
  - Evaluation and Performance Measurement
  - Traffic Safety Education
  - MSF curriculum and certification operations
  - Research and Evaluation
  - Organizational Communication
  - Communication and Facilitation
Curriculum Underpinnings

1. Research and Experience
2. Safety and Risk Management Principles
3. Adult Learning and Development Principles
4. Motor Skills Development Principles
1. Research and Experience

- Review of Curriculum Specifications
- Review of Research
  - Task Analysis
  - Photographic Analysis
  - Hurt Study
  - Colorado Feasibility Study
- Review of MSF Curricula
  - BRC (original)
  - MRC
  - MRC:RSS
  - BBP
  - ERC
- Curriculum Development Team (‘96)
- Joint SMSA / MSF MRC:RSS Enrollment Questionnaire (‘98)
- SMSA Curriculum Advisory Committee (‘98)
- MSF / ASU Study (‘98)
- RETSDOT Facilitation
- MSF Stakeholder Focus Group Research (‘98)
- MSF Student Focus Group Research (‘99)

Yielded 147 Recommendations for an Improved Curriculum
MRC:RSS – Curriculum Recommendations

1. Developmental Considerations = 10
2. Administrative Considerations = 15
3. Curriculum in General = 27
4. Classroom = 42
5. Range = 53

Total = 147
2. Safety and Risk Management

Traffic Safety

– Human Factors
  • Ability
  • Judgment
  • Perception
  • Personality
  • Motivation

– Operator Tasks
  • Mental: Process information and make decisions
  • Physical: Skilled and properly timed actions
  • Social: Interaction with others in a traffic mix

– Haddon Matrix
## Haddon Matrix

<table>
<thead>
<tr>
<th></th>
<th>Human</th>
<th>Vehicle</th>
<th>Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pre-Crash</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Crash</strong></td>
<td></td>
<td></td>
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<tr>
<td><strong>Post-Crash</strong></td>
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</tr>
</tbody>
</table>
# NHTSA Motorcycle Safety Program

<table>
<thead>
<tr>
<th></th>
<th>Human Factors</th>
<th>Vehicle Role</th>
<th>Environmental Conditions</th>
</tr>
</thead>
</table>
| **Crash Prevention**  | • Rider education/licensing  
                        | • Impaired riding  
                        | • Motorist awareness  
                        | • State safety programs | • Brakes, tires, and controls  
                        | • Lighting and visibility  
                        | • Compliance testing and investigations | • Roadway design, construction, operations, and preservation  
                        | • Roadway maintenance |
| **Injury Mitigation** | • Use of protective gear | • Occupant protection | • Roadway design, construction, operations, and preservation |
| **Emergency Response** | | • Automatic crash notification | • Education and assistance to EMS  
                        | • Bystander care  
                        | • Training for law enforcement  
                        | • Data collection and analysis |
Curriculum Exists in a System

- Federal Legislation, Policies, Priorities & Funding
- State Legislation, Policies, Priorities & Funding
- Industry & Technology
- Highway Engineering
- Traffic Engineering
- Enforcement Practices
- Emergency Medical Care
- Licensing & Testing
- Public Information & Education
- Rider Education & Training
  - ERC Suite
  - BRC

Motorcycle Safety Foundation

(Soon to add advanced course, on-road course other training modules)
2. Safety and Risk Management

• Traffic Safety
  – Human Factors
  – Haddon Matrix

• Motorcycle Safety
  – Crash Causation Data
  – Hurt Study
  – Motorcycle Task Analysis

• Risk Taking Principles
  – General Risk vs. Moment-to-Moment Risk
  – Risk Homeostasis
3. Adult Learning & Development

- Pedagogy vs. Andragogy
- Factory Model vs. Facilitation
- Instructor-Centered vs. Learner-Centered
- Context of Meaningfulness
- Accelerated Learning
“For some time now I have been aware of the fact that the products of our educational system don’t know how to learn, they only know how to be taught.”
(Malcolm Knowles, 1980)

“We know more about how animals (especially rodents and pigeons) learn than we know about how children learn; and we know much more about how children learn than about how adults learn.”
(Malcolm Knowles, 1980)

“The worst mistake my generation has made is to treat people as if they were rats.”
(B.F. Skinner, 1990)
3. Adult Learning & Development

- Pedagogy vs. Andragogy
- Factory Model vs. Facilitation
- Instructor-Centered vs. Learner-Centered
- Context of Meaningfulness
- Accelerated Learning & Brain-Based Learning
Education History

- **Behaviorism**
  - Scientific Method, Imitation, Observation, Repetition

- **Cognitivism**
  - Information Processing, Modeling, Gestalt

- **Constructivism**
  - Experience, Collaboration, Andragogy

- **Humanism**
  - Emotion, Meaningfulness
From Traditional Learning
- Rigid
- Somber and Serious
- Competitive
- Verbal
- Controlling
- Time-Based

To Accelerated Learning
- Flexible
- Joyful
- Collaborative
- Multi-Sensory
- Nurturing
- Results-Based
4. Motor Skills Development

- **Instructing vs. Coaching**
  - Instruct more in early range exercises and early in each exercise

- **Whole vs. Part Instruction**
  - Learn whole motor skill with parts learned in context

- **Gross vs. Fine Motor Skills**
  - Major muscles vs. smaller muscles

- **Speed vs. Accuracy**
  - Basic skills first, speed develops naturally with practice

- **Feedback**
  - Proprioceptive
  - Kinesthetic
  - Augmented
Motor Skills Development

• Mental Practice Principles
• Over-Coaching and Over-Verbalization
• Being Directed vs. Practice on Own with Feedback
• Skill Development as Natural vs. Forced
  – Natural:
    • Development is subtle, progressive, and contextual
    • Improvement occurs with practice
Curriculum Development

Objectives + Content + Terminology

Macro = Structure

Micro = RC + Rider Interactions

Core Prerequisite = How Do People Learn?
## MSF Rider Education & Training System

### PRELIMINARY PROGRAMS
- Web-Based Safety Awareness & Training
  - (P '06) Self Assessment
- Spokesperson
- (A) Motorcyclist Awareness: Pre-Permit
- Product Familiarization
- Introduction to Motorcycling

### HANDS-ON PROGRAMS
- (A) Basic Course
- (A) ERC Suite:
  - (A) Skills Practice
  - (A) License Waiver
  - (A) Skills Plus
- (P '05) Advanced Braking & Traction Mgt. RiderCourse
- (P '05) On-Road RiderCourse
- (A) ScooterSchool 1 Dual Sport
- (A) MILMO Military
- (A) DirtBike School - Youth/Adult - CRE/OTS - DBS:Street Riders

### CLASSROOM PROGRAMS
- (A) Motorist Awareness
- M/C Maintenance
  - Basic
  - Advanced
- (A) Group Riding
- (P '05) Seasoned Rider
- Touring
- Driver Education
- Rider Improvement Violator School
- Mental Preparation
- (A) Riding Straight
- (P '05) Perceptual Training

### OTHER PROGRAMS
- Special Needs
  - General
  - By Course
- Referrals
  - Trailers
  - Sidecars
- Non-Rider Awareness
- Do Motorcycling Right
- Peer Mentoring
- Enforcement Training
- First Responder
  - Pro
  - Buddy
- Competition
  - Adult
  - Youth
  - MX
  - Road Racing
  - Drag Racing
- (A) AAMVA Licensing Assistance
- (A) = Available Now
- (P) = Priority

###特別需要
- 特別需要
- 非騎士意識
- 做正確的機車
- 同伴指導
- 賽事
  - 成人
  - 青少年
  - MX
  - 道路賽車
  - 拖曳賽
- (A) AAMVA 警示協助
- (A) = 現在可用
- (P) = 優先

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**Macro:** The System Perspective
System Characteristics

- Comprehensive model
- Custom-tailored for riders
- New opportunities for RiderCoaches™
- Flexibility for jurisdictions
Curriculum Development

Objectives + Content + Terminology

Macro = Structure

Micro = RC + Rider Interactions

Core Prerequisite = How Do People Learn?
Instructor-Participant Interactions

**Instructor**
- From Authoritarian
- To Learner-Centered

**Content**
- From Simple
- To Complex

**Context**
- From Formal
- To Informal

**Learner**
- From Dependent
- To Self-Directed
Curriculum Development

- Instructional Systems Design (ISD)
- **ADDIE & DACUM** (Developing a Curriculum)
  - Analyze
  - Design
  - Develop
  - Implement
  - Evaluate

Pilot Test
Field Test
Curriculum Development

• Instructional Systems Design (ISD)
• ADDIE & DACUM (Developing a Curriculum)
  – Analyze
  – Design
  – Develop
  – Implement
  – Evaluate

* Repeated and complete iterations with focus on average novice motorcyclists
“Human learning is one of the most complex subjects of the scientific and scholarly world.” (The Adult Learner, 1998)

“Teaching-learning transactions are, after all, dynamic interactions—psychosocial dramas in which unforeseen eventualities, serendipitous circumstances, and individual idiosyncrasies constantly distort our neatly planned visions of how our learning groups should function.” (Brookfield, 1986)
Field Testing / Component Feasibility Testing

The Cycle

Pilot / Straw

RETSDOT Review

Test

RETSDOT Report & Review

Debrief Summary & Recommendations
Pilot Testing and Field Testing

1. Pilots in Kentucky and New Mexico
   • MSF staff and contractors

2. Field testing in New Mexico, Kentucky, and Pennsylvania
   • MSF Staff, Contractors and Instructors

3. Began October 9, 1998

4. Range and classroom content developed interdependently

5. Formally completed Fall, 2000

6. Rolled out March, 2001
Decision Making in Classroom Field Testing

1. Appropriate, targeted content
2. Driven by objectives and intentions
   • Basic motorcycle safety knowledge
   • Strategy to see and be seen
   • Stress risk management and personal responsibility
3. Validation of content and sequence
4. Provide a basic template allowing for flexibility and creativity
5. Honor principles of learning
   1. Adult learning
   2. Learning styles
   3. Brain-based learning
6. Results oriented stakeholder feedback

Bloom’s Taxonomy
1. Cognitive
2. Affective
3. Psychomotor
Bloom’s Taxonomy of Cognitive Development: Categories from Simple to Complex

- Knowledge
- Comprehension
- Application
- Analysis
- Synthesis
- Evaluation
Bloom’s Taxonomy of Affective Development: Categories from Simple to Complex

- Receive
- Respond
- Value
- Organize / Prioritize
- Internalize
Progression of Classroom Development

1. Use MRC:RSS Classroom and Field Test Range Exercises

2. Use Learner-Centered Style MRC:RSS Classroom and Field Test Range

3. Develop Topical Areas and Content Based On:
   - What Is Basic? How Does It Fit System?
   - From Encyclopedia to Basic Rider Handbook
Classroom Steps (EZ-3)

1) Setup

2) Activity / Discussion
   - Learner-Centered
   - Creative (FEEL: Fun, Effective, Efficient, Learner-Centered)
   - Why? (Why do you think this is important?)
   - So What? (In what way does this help you?)

3) Capstone (Training Aid)
How “basic” is the Basic Rider Course?
Lecture
Better

Q & A
Best

Group Facilitation
1. What is the primary cause of motorcycle crashes? (Interaction of factors)

2. What is a good rider? (One who reduces factors s/he contributes)

3. How does a good rider reduce risk? (Applies a strategy—S.E.E.)

4. How long does it take to reduce risk? (It’s a decision away!)

5. What is the primary challenge in safe, responsible riding? (Control personal behavior to ride within personal and situational limits)
Decision Making in Range Exercise Field Testing

1. Rider Safety
2. Rider Learning
   • Knowledge, Skill, Attitude, Habits
3. Range Management (Instructor work, line markings, cone setups and transitions)
4. Opportunities for Effectively Observing, Analyzing and Reinforcing
5. Exercise Transitions
6. RiderCoach Satisfaction and Expediency
Bloom’s Taxonomy of Motor Skill Development: Categories from Simple to Complex

- Perception
- **Set:** Mental + Physical + Emotional
- Guided Response
- Mechanism
- Complex Overt Response
- Adaptation
- Origination
Range Evaluation and Coaching

**Range Management**

<table>
<thead>
<tr>
<th>Overall Range Safety</th>
<th>Rider Safety Margins</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lesson Sequential Steps</td>
<td>Smooth, Controlled Skill by Riders</td>
</tr>
</tbody>
</table>

**Coaching Actions**

<table>
<thead>
<tr>
<th>Major Skills</th>
<th>Evaluations</th>
<th>Rider Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clutch/Throttle</td>
<td>New and Continuing Evaluation Points</td>
<td>Head/Eyes Shoulders</td>
</tr>
<tr>
<td>Braking</td>
<td></td>
<td>Hands</td>
</tr>
<tr>
<td>Straight-line Turning Shifting</td>
<td></td>
<td>Knees</td>
</tr>
<tr>
<td>Smooth/Coordinated On Range Cards</td>
<td>Smooth/Coordinated</td>
<td></td>
</tr>
</tbody>
</table>

**Factors That Could Interact**

Entire Range
Surrounding Areas
Time & Space for Individual Riders

**Rider-Specific Core Error**
(Prioritize Root Cause)

1. Perception
2. Decisions
3. Motor Skill

**EXECUTE**

Non-Verbal & Verbal Coaching for Overall Safety (Safety Margins)

Motivating Feedback for Development & Reinforcement of Procedures & Techniques
Rider-Specific Coaching

Motivated
Able
Developing
Self-directed

Uninterested
Low Aptitude
Struggling
Reliant

Safe & Positive Learning Environment

INSTRUCT
FACILITATE
COACH
Formal Field Testing Events

1. RETSDOT
2. ResLabs and Component Feasibility Testing
3. Advisory Pool
4. Core development team
5. Open process with Instructor observation and input (and other stakeholders)
6. Alternate curriculum trials and experimentation
7. Demonstration at SMSA (Indianapolis)
8. Demonstration for State Coordinators & 1st person video
9. Demonstration for Rider’s Edge
10. Continuous fine tuning of materials until release
BRC Skill Test Parameters

1. Motor vehicle administration interface – license waiver
2. Recognize distinctions between courses and DMV
3. Consider current motorcycle tests
   - MRC:RSS (equally stringent)
   - Motorcycle Operators Skill Test (MOST and MOST II)
   - Alternate Motorcycle Operators Skill Test (Alt-MOST)
   - Motorcycle Licensing Skill Test (MLST)
4. Results to have similar exit requirements as MRC:RSS
5. Safe, effective, efficient
6. Consider basic and collision avoidance skill sets
7. Consider rider fatigue
8. Consider real world exercise configurations
9. Consider RiderCoach ease of administration
10. Use exercises setups from curriculum