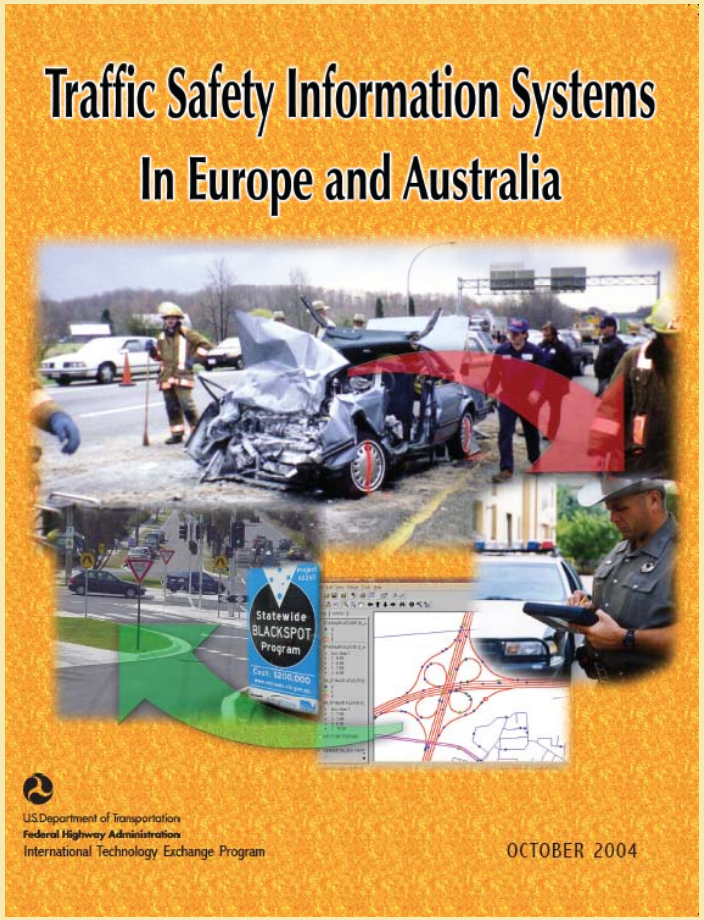
MIRE

MODEL INVENTORY OF ROADWAY ELEMENTS

History of Development and Current Relevance

History

- 2003 – FHWA and AASHTO sponsored International Safety Data Scan
  - Team visited Europe and Australia
  - Final report and implementation plan developed



History

- 2004 – FHWA funded first steps of implementation plan - "White Paper"
  - Build upon the recommendations from the International Safety Scan
  - Expanded the strategies for improving safety data and information systems
  - Provide specific action items to implement these strategies

Traffic Safety Information Systems International Scan: Strategy Implementation White Paper

PUBLICATION NO. FHWA-HRT-06-099

SEPTEMBER 2006

U.S. Department of Transportation
Federal Highway Administration

Research, Development, and Technology
Turner-Fairbank Highway Research Center
6300 Georgetown Pike
McLean, VA 22101-2296

MIRE
MODEL INVENTORY OF ROADWAY ELEMENTS

Overview of Broad Strategies

- Increase support for safety programs and safety information systems
- ***Define "good inventory data"*** and move toward the use of performance measures
- Make it easier to collect, store, and use all types of safety data.
- Increase the use of safety analysis tools.
- Link safety data to non-safety data.

Inventory Data

- Develop definitions of "good safety inventory data"
  - Need a companion to Model Minimum Uniform Crash Criteria (MMUCC)
  - We suggested "MMIRE" – Model Minimum Inventory of Roadway Elements
  - Starting points – Current and expected safety inventory databases and safety analysis tools
  - Scope should include both existing and desired data elements (e.g., ped/bike volumes)

MIRE Concept

- MIRE Concept
  - Need for inventory data to advance safety for all public highways
  - Standardized definitions
  - Guideline – NOT a requirement
- Applications related
  - New safety tools – SafetyAnalyst, Interactive Highway Safety Design Model, Highway Safety Manual
  - Enhanced problem identification
  - Support Highway Safety Improvement Program and Strategic Highway Safety Program

MIRE
MODEL INVENTORY OF ROADWAY ELEMENTS

Process for Development

- Compared the proposed MIRE elements to several State databases
- Compared the proposed MIRE elements to other databases and safety analysis tools to look for common elements and to ensure as much overlap as possible between MIRE and the other datasets.
- Hosted webconferences
- Developed a website for communicating with end users
- Coordinated with an Executive Steering Committee designed to provide technical input
- Compiled all input into refined attributes and codings for the MIRE elements.

Format

- 202 elements in proposed MIRE Version 1.0
- For each element
  - Definition
  - Attributes
  - Priority
  - If sketches are needed

MIRE
MODEL INVENTORY OF ROADWAY ELEMENTS

Major Categories of Data

#1 – Segment Descriptors

- Segment Location/Linkage Elements
- Segment Roadway Classification
- Segment Cross Section
- Surface Descriptors
- Lane Descriptors
- Shoulder Descriptors
- Median Descriptors
- Roadside Descriptors
- Other Segment Descriptors
- Segment Traffic Flow Data
- Segment Traffic Operations/Control Data
- Other Supplemental Segment Descriptors

Major Categories of Data (Continued)

#2 Segment Alignment

- Horizontal Curve Data
- Vertical Grade Data

MIRE
MODEL INVENTORY OF ROADWAY ELEMENTS

Continued

#3 Road Junctions

At-Grade Intersection/Junctions

- At-Grade Intersection/Junction General Descriptors
- At-Grade Intersection/Junction Descriptors (Each Approach)

Interchange and Ramp Descriptors

- General Interchange Descriptors
- Interchange Ramp Descriptors

Government Accountability Report

November 2008, Highway Safety Improvement Program (HSIP) Recommendations for Executive Action:

(1) Define which roadway inventory data elements a state needs to meet federal requirements for HSIP

(2) (2) Set a deadline for states to finalize development of the required roadway inventory data

(3) Require states to submit schedules to FHWA for achieving compliance with this requirement

MIRE
MODEL INVENTORY OF ROADWAY ELEMENTS

Draft surface transportation reauthorization bill introduced

- Not later than 18 months after the date of enactment of this Act, the Secretary shall –

(1) Define the roadway inventory data elements that a State will need to comply with section 148

(2) Set a deadline for States to develop such roadway inventory data elements; and

(3) Require each State to submit to the Secretary a schedule for achieving compliance with such section

Next Steps

Publication

- Publish Version 1.0

MIRE
MODEL INVENTORY OF ROADWAY ELEMENTS

Lead Agency Program

- Test data collection methods and costs
- Test data structures for storage and retrieval

MIRE
MODEL INVENTORY OF ROADWAY ELEMENTS

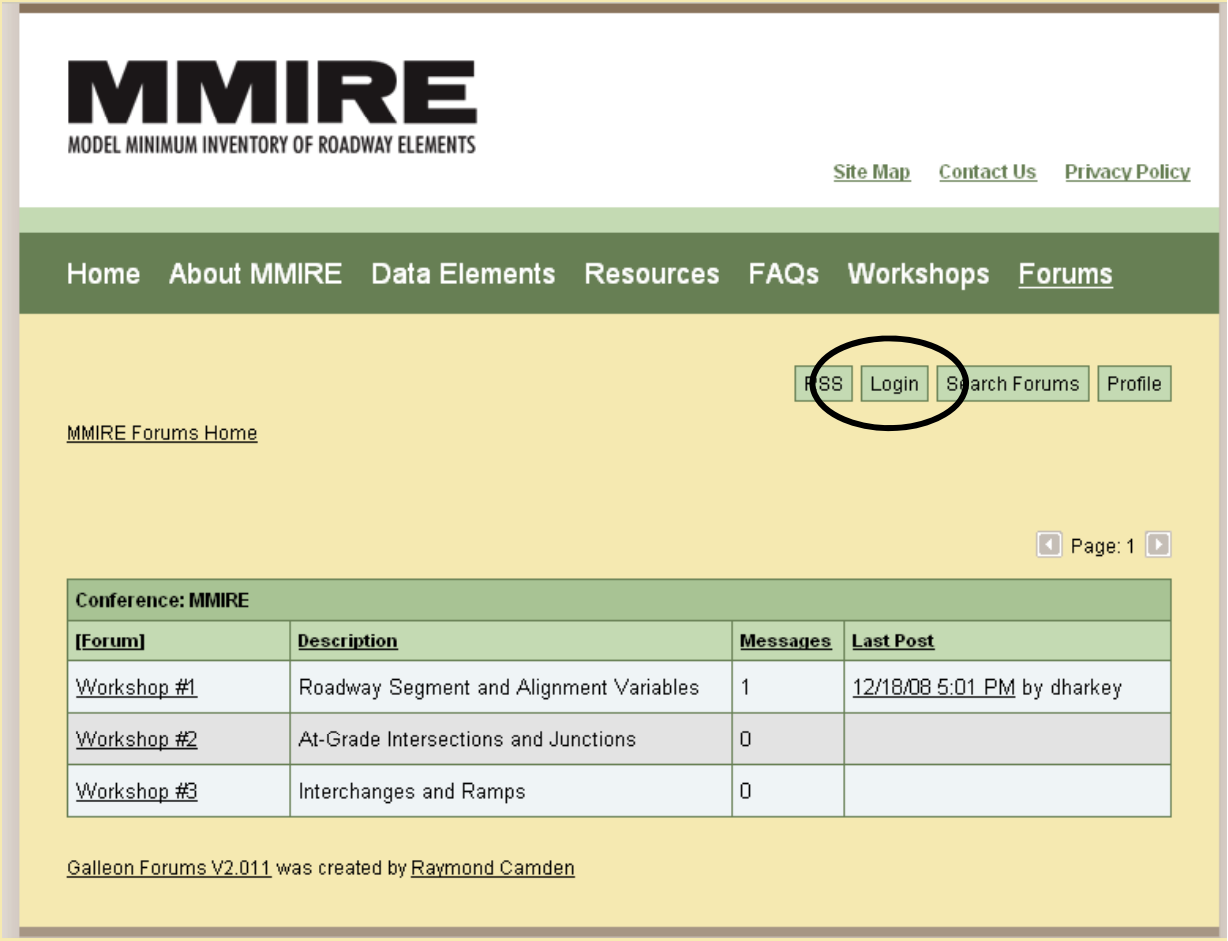
MIRE MIS

- Data collected by lead agencies will be used to test potential data structures
- Data will be housed and maintained by collecting agencies
- Determine optimal storage and retrieval mechanisms for MIRE data

MIRE
MODEL INVENTORY OF ROADWAY ELEMENTS

www.mmire.org

- Discussion Forum
- Webconference Presentations
- FAQs
- Resources



MIRE
MODEL INVENTORY OF ROADWAY ELEMENTS