Safety Performance Management
achieved through Predictive Methods

Today's Presenters

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Highway Safety Manual: A Tool for Managing Performance

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TPM Exchange Webinar
Office of Transportation Performance Management

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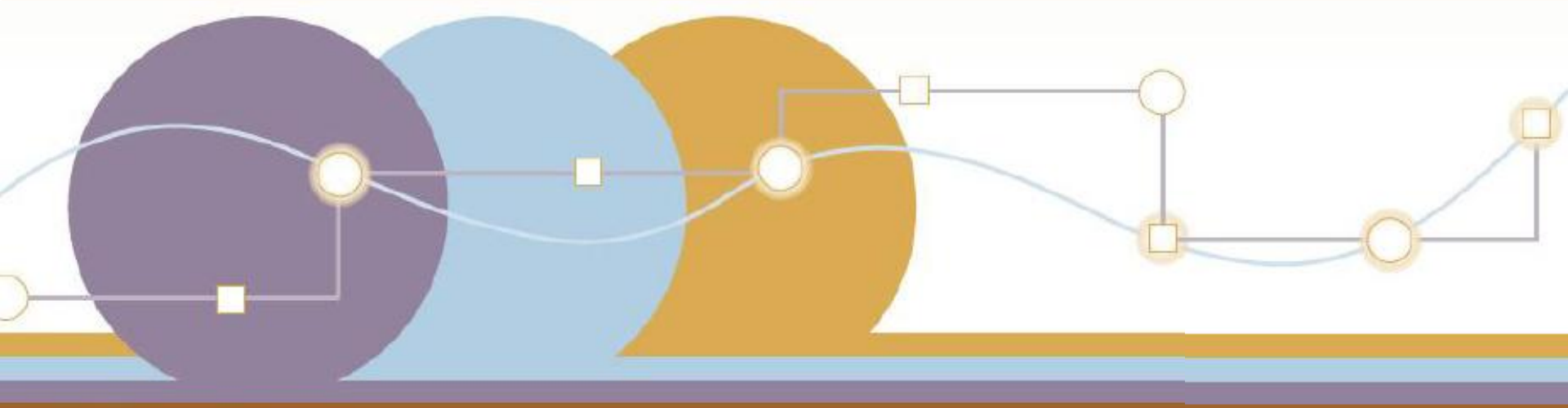
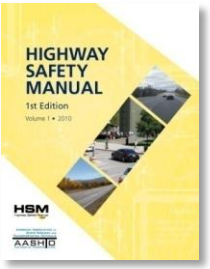


Transportation Performance Management and the HSM



TPM benefits:

- Provides a means to **more efficient investment** of Federal transportation funds
- Focuses on **national transportation goals, increasing the accountability** and transparency of the Federal highway programs
- Improves transportation **investment decision-making** through **performance-based planning and programming**

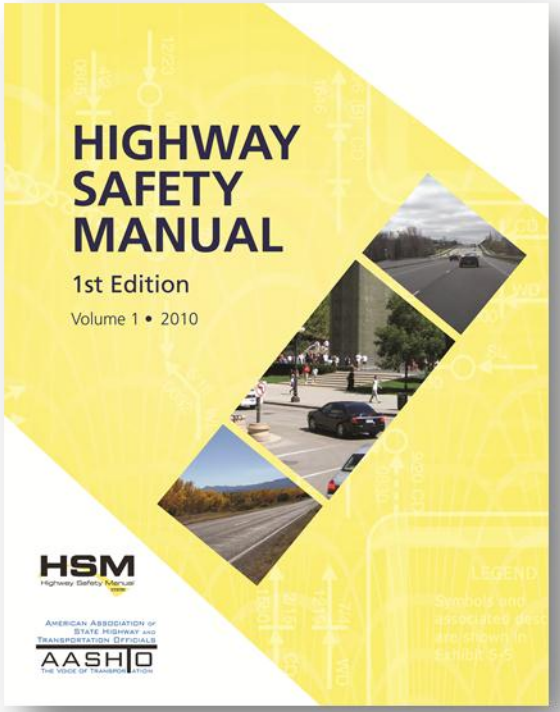
HSM benefits :

- Enables better targeted **safety investment** and more informed **decision making**
- Supports **improved safety outcomes** i.e. reduction in fatal and serious injury crashes
- Applies to all phases of the project development process including **planning and programming**

Highway Safety Manual

What can the HSM do for you?

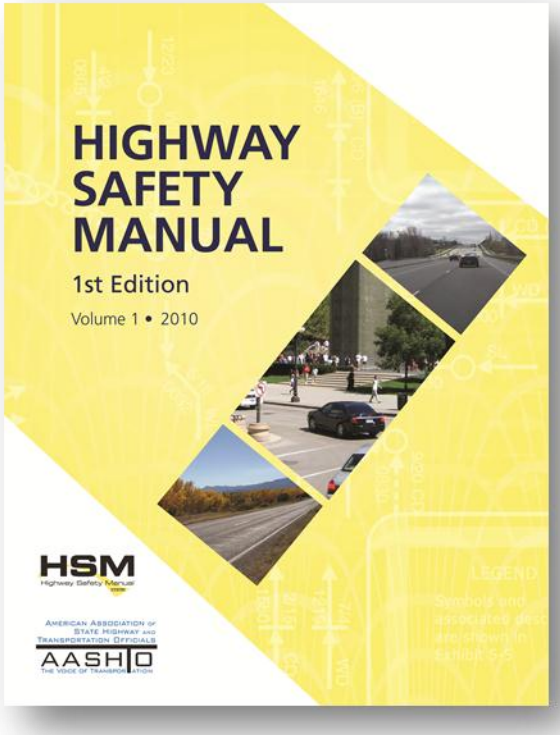
- Provides practitioners with the best factual information and scientific methods for safety analysis
- Enables user to quantify safety performance
- Introduces analysis and evaluation methods that lead to more reliable selection of projects



Highway Safety Manual

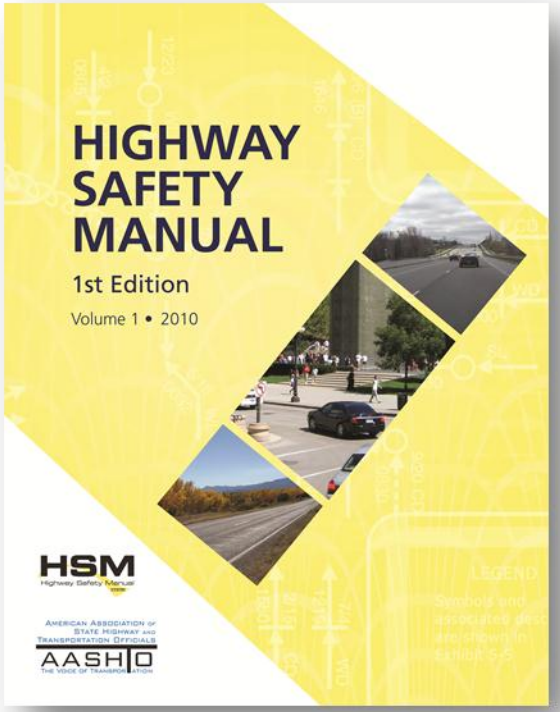
How does the HSM help manage performance?

- Presents alternative performance measures to quantify safety
- Identifies strengths and limitations of traditional and new alternative performance measures
- Shows users how to predict a project's safety performance



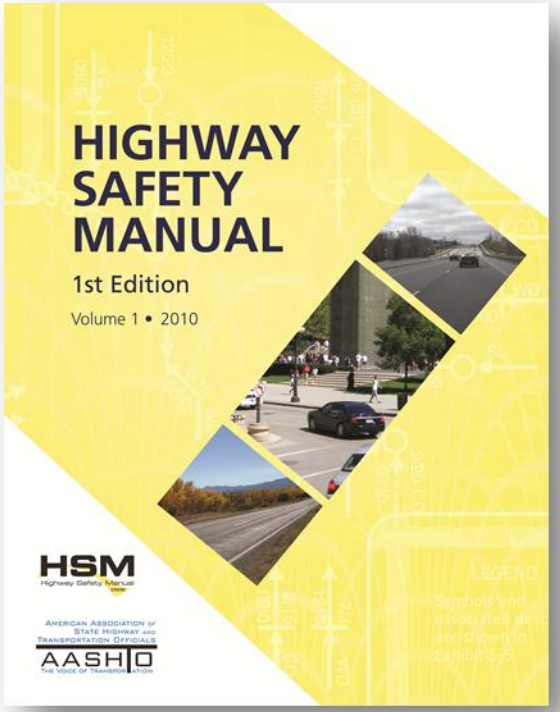
Highway Safety Manual

- Roadway Safety Management Process
  - Network Screening
  - Diagnosis
  - Select Countermeasures
  - Economic Appraisal
  - Prioritize Projects
  - Safety Effectiveness Evaluation



Highway Safety Manual

- Predictive Methods – Estimates expected average crash frequencies by facility type:
  - Rural 2-lane, 2 way
  - Rural multi-lane highways
  - Urban and suburban Arterials
- Safety Performance Functions (SPFs) equations that estimate expected crash frequency based on data
- Crash Modification Factors (CMFs) factor that estimates the potential changes in crash frequency for selected countermeasures

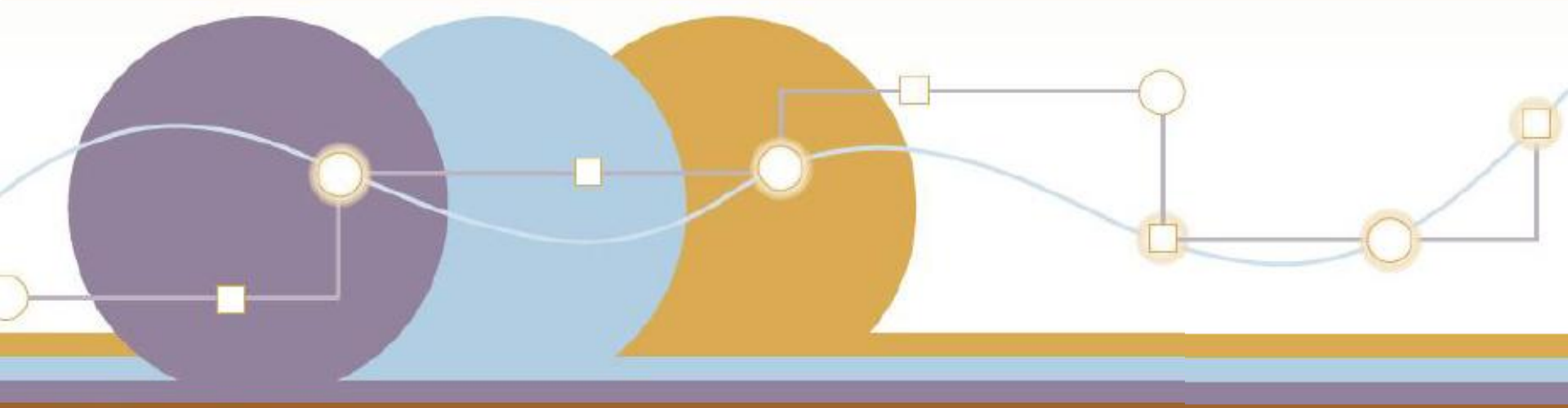


HSM-related Analysis Tools

Network–level Analysis

- ***SafetyAnalyst*** (AASHTOWare)–network-level safety management software (www.safetyanalyst.org)
- ***Systemic Safety Project Selection Tool*** (FHWA): Step-by-step process to conduct systemic safety analysis and planning (http://safety.fhwa.dot.gov/systemic)

Project-level Analysis

- ***Interactive Highway Safety Design Model (IHSDM)*** –Faithful implementation of Predictive Methods (Part C) for project-level analyses (www.ihsdm.org)
- ***CMF Clearinghouse*** (FHWA)–searchable database of 4,000+ CMFs, including, but not limited to, HSM Part D CMFs (cmfclearinghouse.org)
- **HSM Part C Spreadsheets** (Various)—Facilitate Predictive Methods calculations

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