

Summary of 2006 Asset Management  
Peer Exchange

**Asset Management Systems –  
Laying the Groundwork For Cutting  
Edge Safety Analysis Tools**

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# Objectives

- To bring the data and highway safety professionals together to share experiences and identify key issues related to integrating data sources used to support safety management and introducing asset management concepts into the highway safety management arena
  - Better understand **requirements** and **current practices**
  - Illustrate **practical examples**
  - Develop **research problem statements**

# Background

- Title: Integrating Roadway, Traffic and Crash Data
- Organizers:
  - TRB
    - Geographic Information Science and Application Committee
    - Statewide Transportation Data and Information Systems Committee
    - Transportation Asset Management Committee
  - FHWA
    - Office of Asset Management
    - Office of Safety
- Participants
  - Alaska DOT
  - District DOT
  - Iowa DOT
  - Michigan DOT
  - Mississippi DOT
  - Ohio DOT
  - Oregon DOT
  - Pennsylvania DOT
  - Wisconsin DOT

# Organization

- Advance Questions

- Value
- Current Situation
- Data
- Analysis
- Characteristics of Data Quality

- Presentations

- MMIRE
- Asset Management links
- Summary of Questions
- State Presentations

- Breakouts

- Plans and Decisions to Improve Data Systems for Performance Measurement
- Integrated Systems for Accessing, Analyzing, Displaying and Reporting Data for Measures
- Advanced Technologies for Data Collection in Operations

# Observations

- Progress is being made to formalize the data integration
- Some decision support tools are common between asset management and safety management
- Issues
  - Access and integration of local agency data
  - Lack of resources
  - Difficulty managing historical data files
  - Difficulty spatially integrating disparate systems

Data Category	State System			Nonstate System		
	Full	Partial	None	Full	Partial	None
<b>Roadway Data</b>						
Lane/shoulder widths	6	3		3	4	2
Pavement/shoulder type	7	2		3	4	2
Capacity	3	3	3		3	6
Geometrics	4	3	2		4	4
Intersection—lanes, signalization	4	4	1	1	6	2
Lighting inventory	1	4	4		1	8
Guardrail inventory	3	4	2			9
Pavement striping	1	3	4		1	8
Signage inventory	2	5	1		1	8
Rail crossing information	7	2		4	2	3
Pavement friction	3	3	2		1	8
Pavement distress indicators—e.g., rutting, shoulder drop-offs, roughness	6	1	2		4	5
Construction zones	2	4	2			8
Ramp geometrics/characteristics	3	3	3			9
Videologging	6		3		1	8
<b>Traffic Data</b>						
AADT	9			2	7	
AADT trucks	8	1		1	7	1
Congestion	2	4	3		3	6
Average speed	3	5	1		3	5
Travel characteristics—hour, day, holiday, month, annual	5	2	2	1	5	3
Intersection turning movements	1	6	1		4	4
<b>Crash Data</b>						
Spatial location	4	3	2	2	2	3
Crash Record Information	9			9		

# Outcomes

- Seven Research Problem Statements
- Proposed Synthesis Topic
- Peer Exchange

# Research Statements

1. Highway Safety as an Asset: Incorporating Safety Performance Metrics in State-Level Planning and Programming
2. Guidelines for Conducting Business Process Reviews for Successful Data Integration Projects to Support Asset Management and Safety Management Systems
3. Open Architectures to Support Data Integration Projects

# Research Statements

4. Synthesis for Visualizing Roadway, Traffic and Crash Data Integration
5. How Do We Convince the Locals to Participate in Statewide Highway Safety Data Programs?
6. Incorporating Traffic Safety Risk Management Into the Asset Management Process
7. Life Cycle Analysis of Designing Highways for Safety
8. Viable Options and Design Choices for Data Integration Strategies to Support Asset Management and Safety Management Systems

# Other

- Synthesis
  - Viable Options and Design Choices for Data Integration Strategies to Support Asset Management and Safety Management Systems
- Peer Exchange
  - Best Practices on Migration from Mainframe Systems