



# SHRP2 Safety Implementation Assistance Program

AASHTO Subcommittee on Safety Management

Dean Kanitz, Michigan DOT

September 12, 2014



U.S. Department of Transportation  
Federal Highway Administration



TRANSPORTATION RESEARCH BOARD  
OF THE NATIONAL ACADEMIES

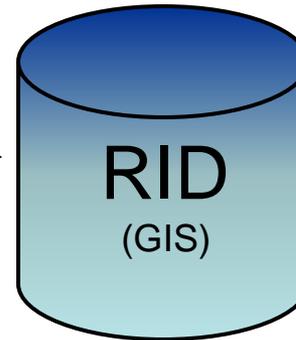
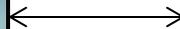
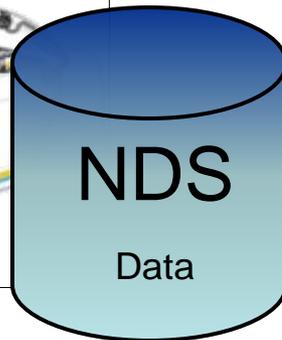
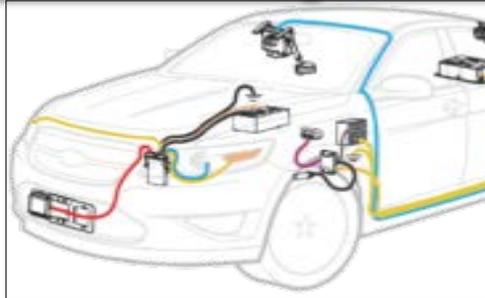


# Today's Presentation



- Implementation Assistance:  
*Concept to Countermeasure, Research to Deployment Using the SHRP2 Safety Databases*
  - Three-phased approach
  - Timeline and expectations
  - Participants
- Other **research** activities

# Naturalistic Driving Study & Roadway Information Databases



Data from **3,147 volunteer drivers in six sites: 5 million trips and 50 million miles**

**New data** collected  
12,500 centerline miles  
consistent across six sites  
**Acquired data** (DOTs, others) on  
200,000 centerline miles with  
varying conditions - roadway,  
weather, traffic ..

# AASHTO SHRP2 Safety Task Force

- **Multi-disciplinary team** designed to assist FHWA/AASHTO in safety implementation
- Representatives from **AASHTO-related safety committees**
  - Rudy Malfabon, chair
  - Sandra Larson, vice chair
- Assisted in designing the **FHWA/AASHTO three-phased approach** used in the Round 4 solicitation
- Reviewed proposals and **made recommendations** for Phase 1
- Will review research findings and make **recommendations for Phase 2**

# Objectives of SHRP2 Safety Implementation

- Demonstrate **use** of the SHRP2 Safety data
- **Increase states' understanding** of the potential uses of the data
- Identify countermeasures
- **Reduce crashes!**



# Safety Implementation Process

Phase I - Proof of Concept with a sample reduced data set: January – September 2015

Decision

Phase II full data set and in-depth analysis & countermeasure identification: To begin Fall 2015

Decision

Possible Phase III to adopt or implement countermeasure nationally: 2016

# Research Topics

- Driver **speed**
- **Roadway features** and driver performance
- Preceding **contributory events**
- **Vulnerable** road users
- Intersections



# Phase I

- 11 projects funded \$100,000 for Phase I (DOTs can augment the budget with matching funds if they wish)
- Participants use small pilot data set of NDS and RID data
- Participants must present findings within nine months of the “proof of concept”
- As part of final Phase 1 presentation, participants must show that a full analysis with larger data set will be effective; a detailed cost estimate for completing Phase 2 will also be needed

# Safety – 10 DOTs Selected in Round 4

- *11 Proof of Concept projects in 10 states*

## **Pedestrian**

Florida DOT  
Nevada DOT  
New York State DOT

## **Roadway Departure**

Iowa DOT

## **Speeding**

Michigan DOT  
Washington DOT

## **Work Zones**

Minnesota DOT

## **Horizontal & Vertical Curves**

North Carolina DOT

## **Interchange Ramps**

Utah DOT

## **Adverse Conditions**

Wyoming DOT

## **Roadway Lighting**

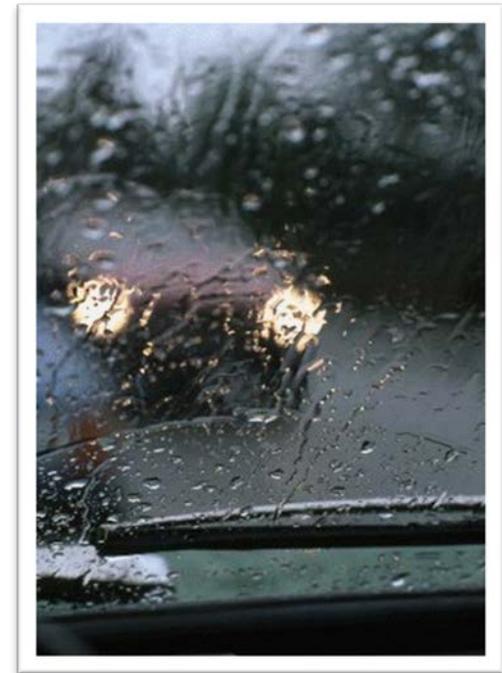
Washington DOT

# Safety Topics – Round 4 IAP selections

- Florida: *How do drivers interact with pedestrian features at signalized intersections when pedestrians are or are not present?*
- Iowa: *Which driver and roadway characteristics play the most significant role in road departure crashes and safety critical events*
- Michigan: *The interrelationship between speed limits geometry and driver behavior*
- Minnesota: *What role do speed and distraction play in work zone crashes or near crashes?*
- North Carolina: *Evaluation of the interaction between horizontal and vertical alignment on rural two lane roads*
- Nevada: *Assessing the influence of driver, vehicle, roadway and environmental factors on pedestrians - turning - traffic crashes at intersections*
- New York: *Pedestrian safety and high-visibility markings*
- Utah: *How is driver behavior and performance impacted while in the vicinity of closely spaced interchange ramps?*
- Washington: *Examination of episodic speeding on Washington State roads*
- Washington: *Illumination safety research*
- Wyoming: *Role of adverse conditions on speed behavior and drivers*

# Phase II: Actionable Research

- Only occurs with successful completion of Phase I and authorization by FHWA and Safety Task Force
- Efforts will consist of in-depth and detailed analysis of the proposed research question using SHRP2 Safety data
- Results should be findings and recommendations leading to potential new insights and/or countermeasures
- Deliverables should include:
  - Detailed plan for Phase III
  - Cost estimate for Phase III



# Phase III: Deployment



- May be authorized by FHWA and Safety Task Force
- Will be subject to findings in Phase II research
- Will NOT include additional research
- Activities may include:
  - Integration of findings into manuals, guidelines, policies
  - Countermeasure development, public service programs, new outreach to drivers
  - Pilot testing
- Countermeasures may be included in future rounds of the Implementation Assistance Program

# Michigan's Project

- Assessing how speed limits on certain types of roadways affect driver behavior
- Emphasis on limited access facilities
- Potential outcomes:
  - Modifications to maximum speed limits
  - Use of advisory sign location and designs
  - How different drivers relate to speed



# Related SHRP2 Safety Research



- SHRP2 S08 Projects:
  - Phased approach used as model for IAP projects
  - Final research reports available soon
  - Topics:
    - Horizontal curves
    - Offset left turn lanes
    - Driver glance patterns
- NCHRP 20-7 (368): Development of a Roadmap for Use of SHRP2 Safety Data to Enhance Existing Publications:
  - Green Book, Roadside Design Guide, HSM
  - MUTCD, Human Factors Guide

# Where to Find More Information

- AASHTO SHRP2 web site Safety page:  
<http://shrp2.transportation.org/Pages/Safety.aspx>
- FHWA: [www.fhwa.dot.gov/goSHRP2](http://www.fhwa.dot.gov/goSHRP2)
- About the NDS:
  - InSight website <https://insight.shrp2nds.us/>
  - Recorded NDS webinar  
<http://www.trb.org/StrategicHighwayResearchProgram2SHRP2/SafetyWebinars.aspx>
- About the RID:
  - Recorded RID webinar  
<http://www.trb.org/StrategicHighwayResearchProgram2SHRP2/SafetyWebinars.aspx>

# Questions

**Implementation Assistance:**

[www.fhwa.dot.gov/goSHRP2](http://www.fhwa.dot.gov/goSHRP2)

**For more information:**

**Aladdin Barkawi**

**FHWA Safety Implementation Lead**

**Aladdin.Barkawi@dot.gov**

**Kelly Hardy**

**AASHTO Safety Implementation Lead**

**KHardy@aaashto.org**