SHRP 2 Safety
Making a Significant Improvement in Highway Safety

Louisiana Transportation Conference
January 12, 2011

Ken Campbell
SHRP2 Chief Program Officer
SHRP 2

- Authorized in SAFETEA-LU
- $170 million, 7 years
- Administered by TRB under MOU with FHWA and AASHTO signed March 2006
- First research contracts signed Feb. 2007
- MOU modified to extend the end date 2 years to March 2015 and add $60M for pre-implementation activities
- 3-tiered stakeholder governance: 400-500 volunteers serving on 40-50 committees/panels
Four Research Focus Areas

- **Safety**: safer driving through knowledge of driver, roadway, vehicle factors in crashes, near crashes, ordinary driving
- **Renewal**: rapid, minimum disruption highway renewal producing long-lasted facilities
- **Reliability**: more reliability travel times through management of non-recurring events
- **Capacity**: new highways that meet environmental, community, economic needs
Why a Naturalistic Driving Study?

- Strategic focus on the driver
- Collect more and better data:
  - Objective pre-crash data
  - More accurate crash data
  - Near crash/incident data
  - “Exposure” (ordinary driving) data
- Determine relative crash risk for different factors
- Develop crash surrogates
Safety Program Status

Projects Completed (8)
- S01: Development of Analysis Methods (4 projects)
- S02: Analysis Integration/Workplan, University of Iowa
- S03: Roadway Measurement System Evaluation (Rodeo), ARA
- S05: Naturalistic Driving Study Design, VTTI
- S09: Site-Based Video System Development, UMTRI

Active Projects (9 contracts)
- S12A: Data Acquisition System (DAS) Procurement
- S06: NDS Technical Coordination and Quality Control
- S07: Naturalistic Driving Study Site Contractors (6 projects)
- S04A: Roadway GIS Database and S04B Quality Control

Remaining
- S04B: Mobile Roadway Data Collection—contractor selection
- S08: Naturalistic Driving Study Analysis—RFP released Dec 7 (multiple projects)
SHRP 2 Safety Projects Timeline

S05: Naturalistic Driving Study Design
S06: Technical Coordination and Quality Control
S12A: DAS Procurement
S07 NDS Sites
S03: Roadway Measurement System Evaluation
S04A: Roadway Database and S04B Quality Control
S04B: Mobile Data Collection
S08: NDS Analysis (multiple awards)
S01: Develop NDS Analysis Methods (4 projects)
S02: Develop NDS Analysis Plan
S09: Site-Based Video System Design and Development
Extension (approved September 2008)
S10: Site-Based Field Study (contingent project)
SHRP 2 NDS

• 1950 instrumentation packages
• 3100 participants: some 1-year, some 2-year
• Two-year data collection
• 3900 vehicle-years of data
• Passenger cars, vans, SUVs, pick ups
• Other data:
  – Driver assessment
  – Roadway/roadside data
  – Detailed crash investigations
## Participant Sample Design

<table>
<thead>
<tr>
<th>Gender and Age Range</th>
<th>Age Range Description</th>
<th>One Year</th>
<th>Two Years</th>
<th>DAS units</th>
<th>Primary Participants</th>
<th>Data-Years</th>
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Data Acquisition System
Camera Views
Sources of data being collected:
1. Instrumented vehicles: continuous recording of video and sensor/parametric data
2. Driver assessment tests for primary drivers
3. Detailed crash investigations for selected crashes
4. Roadway/roadside characteristics and features from mobile data collection vans and external sources

800 TB of video + 100 TB of vehicle sensor data + roadway data = ~1 petabyte of data
SHRP 2 NDS Privacy Procedures

Department of Health and Human Services policy for the Protection of Human Subjects (45 CFR 46)

- Consent Form for volunteer drivers
- VTTI Institutional Review Board (IRB) (Technical Coordination and Quality Control, Project S06)
- National Academies IRB approval
- S07 site contractors IRB approval
- National Institutes of Health Certificate of Confidentiality
SHRP 2 NDS Data Access Goal

Maximize availability & use of SHRP 2 NDS data

- Protecting the rights and privacy of study participants
- Maintaining data security
- Providing data access for qualified researchers
SHRP 2 NDS Analysis (S08) RFP

- Multiple awards
- December 7, 2010 RFP release
- Pre-bid webinar December 13, 2010
- First NDS data retrieval complete ~July 2011
- First NDS Analysis Projects start June/July 2011
- Additional RFP releases in March and/or July 2011
Sixth SHRP 2 Safety Symposium
July 14-15, 2011

SHRP 2 Naturalistic Driving Study
www.shrp2nds.us
THANK YOU

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www.trb.org/SHRP2/safety