CERS Research and Outreach Activities

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Center for Excellence in Rural Safety
Annual Transportation Research Research Conference
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PRESENTATION CONTENT

• Review Some Rural Crash Statistics

• CERS Activities
  – Origin & Mission
  – Research
  – Outreach/Training

• Related or Affiliated Activities

• Thoughts on Improving Rural Safety
RURAL CRASH STATISTICS

• 23% of US Population is Rural, but 57% of Fatalities are Rural

• Rural Fatality Rate > 2 x Urban Fatality Rate

• About 50% of Fatalities Occur on Two-Lane Rural Roadways (2006)

• About 66% of Rural Drivers Die at the Scene vs. 51% of Urban Drivers (2006)
RURAL CRASH COMPONENTS

- Seat Belt Use – 78% (R) vs 84% (U)
- Alcohol-Impaired – 57% Rural
- Speed-Related – 58% Rural
- Roadway Departure – 50+% of Total
- Intersection Conflict – 21% of Total
- Rollover PVOs Killed – 40% (R) vs. 27% (U) (2/3 Unrestrained)
- Drivers Died en Route – 60% (R) vs. 37% (U)
CERS ORIGIN & MISSION

• National Center Funded in SAFETEA-LU

• Located at Humphrey Institute of Public Affairs – State and Local Policy Program (U. of Minnesota)

• Mission: Facilitate and Focus on Research, Training, and Outreach related to Rural Transportation Safety
CERS ACTIVITIES

• **Research**: Behavior, Technology, and Policy

• **Outreach**: Better Safety Decision-Making

• **Training**: Researcher, Practitioner, and Citizen Activities

• **Contribute/Coordinate**: Existing/Proposed National Rural Safety Programs/Projects
BEHAVIOR RESEARCH

• Understand Human Behaviors that Impact Rural Travel (Safety Culture)
  – Driving Patterns of Specific Groups
  – Attitudes/Predispositions toward Safety, Transportation, & Health Issues

• Account for Intentions & Characteristics of Drivers within Rural Communities

• Recent Activities: Sign Interpretation Project, Safety Measure Survey, & “Culture” Training
EMS RESEARCH

• Analysis of Rural EMS
  – Review Rural EMS Architecture
  – Identify Tech/Inst. Factors that Impact End-to-End Data Provision Enhancements

• Develop Models that Help Rural Communities Deploy/Assess/Improve EMS Systems

• Recent Activities: Pilot Application of Assistance Software (Mayo) and State/National Impact Analysis
PLANNING/POLICY RESEARCH

- Rural Safety Policy Improvement Index (RSPII) Project

- Objective: Investigate, Identify, and Quantify the Direct Rural Safety Impacts of Changes in Policy-Based Safety Improvement Measures

- Phase I – Feasibility (Complete)

- Phase II – Implementation (Complete)
RSPII PROJECT – PHASE I

• Problem Addressed
  – Behavior & Choice Impacts on Rural Safety
  – Several Related Policy-Based Measures with Known Impact
  – Some Indicated in SHSPs
  – Require Action outside DOTs

• Tasks: Determined Feasibility, Selected Measures, and Developed Application Framework
INITIAL “23” & FINAL “6”

• Voluntary
  – School Pedestrian Training for Children
  – Booster Seat Promotions

• Laws, Regulation, & Policy
  – Bike helmet laws for children
  – GDL Programs
    • Extended learner permit
    • Night restrictions
    • Passenger restrictions
  – ALR law
  – Primary Seat Belt Law
  – Motorcycle Helmet Law
  – Reduced Speed Limits for Pedestrians

• Laws + Enhancements
  – Sobriety Checkpoints
  – Short Term/High Visibility Belt Law Enforcement
  – Automated Enforcement for Speeding
  – Automated Enforcement for RLR
  – Mass Media to Support Alcohol Program, etc.
  – Comm. Programs w/ age Underage Driving Comp.

• Sanctions/Treatments
  – Aggressive Driving
    • License Suspension
    • Individual Meetings
    • Group Meetings
    • Warning Letters
  – Mandatory Attendance at Alcohol Treatment
  – Ignition Interlocks
APPLICATION FRAMEWORK

1. Define Potential Safety Impact
2. Determine Applicable Target Group
3. Identify States with Applicable “Before” Status
4. Calculate Rural Portion of Target Group within Selected “Before” States
5. Apply Potential Safety Impact to Rural Portion of Target Group
6. Present Individual and/or Combined Results
SUMMARY RESULTS

• Total Rural Fatalities: 18,732

• Potential Reduction Impacts:
  – PBL Upgrade: 209
  – Helmet Law Upgrade: 299
  – Sobriety Checkpoints Use: 322
  – GDL Program Upgrade: 120
  – Ignition Interlock Use: 268
  – Automated Speed Enforcement Use: 699
Introducing Version 2.0: Now with Heat Map capabilities!

Mouse-over the buttons above to learn more.

www.saferoadmaps.org
SAFEROADMAPS

• Fatality Location Visualization Information System

• Objective: Raise Public and Policy Maker Awareness to Increase Action

• Integrates the Following Data
  – Crash Characteristics
  – Driver/Occupant Behaviors
  – Existing Transportation Legislation
VERSION 2 COMPLETE

- More Years of Data (2003 to 2007)
- Interface Refinement and More Search Possibilities
- Fatality Hot Spots or Heat Maps
VERSION 3 COMING

• Approaching 10 Million Hits
• More Years of Data (2001 to 2008)
• More Analysis Capabilities
CERS OUTREACH/TRAINING

• Annual Summer Institute (MN, 2010)
• Training & Webinar Material
• Information Dissemination
  – Website (www.ruralsafety.umn.edu/)
  – Newsletter, Annual Report, etc.
• Newsletter Articles
• Rural Highway Safety Clearinghouse (http://www.ruralhighwaysafety.org)
The Rural Highway Safety Clearinghouse is intended to be an easy-to-use starting point for information about safety on our nation's rural roads.

Have a resource to suggest? Please fill out this submission form.

Find resources about safety on rural roads by topic

- The "Four Rs"
  - Education
  - Emergency Medical Services (EMS)
  - Enforcement
  - Engineering
- Other Topics
  - General Rural Transportation Safety
  - Data & Statistics
  - Driver Behavior/Human Factors
  - Impaired Driving
  - Older Drivers
  - Young Drivers
  - Seat Belts
  - Motorcycle Safety
  - Intelligent Transportation Systems (ITS)
  - Laws & Regulations
  - Panning
  - Work-Zone Safety

View Organizations

View a listing of organizations related to rural transportation safety:
- Federal
- State
- Academic
- Non-profit

Additional information

- TRIS Online, a bibliographic database produced by the Transportation Research Board
- The National Transportation Library's digital collection of Rural Safety publications
- Subscribe to news from FHWA's Local and Rural Road Safety Program

FEATURED

Check out Rural Safety News, a quarterly electronic newsletter from the Center for Excellence in Rural Safety

Read Rural Safety News

Subscribe

The U.S. Department of Transportation (USDOT) Rural Safety Initiative will help states and communities develop ways to eliminate the risks drivers face on America's rural roads and highlight available solutions and resources.

FHWA Safety Program
USDOT Rural Safety Initiative
Rural Safety Innovation Program

FHWA has created a new CD that provides quick and easy access to the latest information on local roads safety.

Local Road Safety Resources CD

www.ruralhighwaysafety.org
RELATED RURAL RESEARCH & OUTREACH

• SafeCab (Isanti County) and SafeRide Resource Guide
• Itasca County Activities
• Dynamic Horizontal Curve Signs
• Speed Reduction, HSM, and General Rural Safety Presentations
• TRB Rural Safety Policy, Programming, and Implementation Joint Subcommittee (RSPIJSC)
RURAL SAFETY THOUGHTS

• Large Part of the Safety Issue
• Proactive and Systematic Approach
• Local System Improvements Needed
• Different Approach, Procedures, Policies, and Systems Needed
• Possibly a New Federal Funding Mechanism
• Cultural Shift in Thinking – Giving them What they Want
This phenomenon is known as “Simpson’s Paradox”

<table>
<thead>
<tr>
<th>State</th>
<th>Fatality Rates (per 100 Mil VMT)</th>
<th>Distribution Of VMT</th>
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<tbody>
<tr>
<td></td>
<td>Rural</td>
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<tr>
<td>California</td>
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QUESTIONS?

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