

**How Can We Provide
Safer Roadways?**

What's My Role?

What will be My Legacy?

November 29, 2007

Working Together We Can Make A Difference



The Safety Problem Is Global
**The Safety Solution is
Local and Personal !!!**



The Problem – Tomorrow

Of every 100 children born this year...

One will die violently
in a highway crash
during his/her
lifetime.

77 will be injured in a
crash during their
lifetimes...some more
than once.



Ideas into Action



Your Contribution

Your Legacy

A Strategic Highway Safety Plan ...

- Starts with the Planning Process.
- Provides a comprehensive, coordinated, continuing, communicative, focused, and unified approach.



Integrated

- Integrates the 4 E's
 - Education
 - Engineering
 - Enforcement
 - Emergency Services



Team work



Why

- Leverage resources.
- Additional funding sources.
- Powerful funding request tool.
- Make safety efforts more effective and efficient.
- Make the task easier.
- Support legislative initiatives.
- Reduce fatalities and injuries.



Rodeo

In Consultation with

- Regional planning and MPO's
- Major Modes of Transportation
- Governor's Highway Safety Office
- State and Local Law Enforcement
- Highway/Grade-Crossing Safety
- Operation Lifesaver
- Motor Carrier Safety
- Department of Motor Vehicles

Other Stakeholders and Interested Parties

- Medical Community
- Emergency Response
- Highway Industry
- Railroad Industry
- Insurance Industry
- Hospitality Industry
- Motorcycle Community
- Media
- Trucking Industry
- Judiciary
- Legislature
- Governor's Office
- Tribal Governments
- Academia
- Civic Organizations
- Safety Advocates
- State and Local Agencies
- Dick and Jane Citizen

SHSP Characteristics

- Data driven
- Strategic
- Comprehensive
- Integrated
- Mission statement
- Vision statement
- Goals
- Prioritization of emphasis areas
- Targets
- Measurable success indicators
- Living document
- **ACCOUNTABILITY**

EVALUATION

Data Driven

- Where?
- When?
- Who?
- How?
- What?



The What Contributing Factors

- Roadway Departure **60 %**
- BAC Related **39 %**
- Non- Belt Use **18%**
- Unrestrained Deaths **52%**
- Intersections **21 %**
- Pedestrian **11 %**
- Speed Related **30%**
- Young Drivers (16-24) **24 %**
- Older Drivers (65+) **15%**

Typical Emphasis Areas

- Alcohol/Drug Impairment
- Driver Behavior and Awareness
- Hwy-Rail Crossings
- Information Systems
- Intersections
- Motor Carriers
- Motorcyclists Driver
- Legislation
- Occupant Protection
- Older Drivers
- Pedestrians
- Roadway Departure
- Training Programs
- Younger Driver
- Work Zone

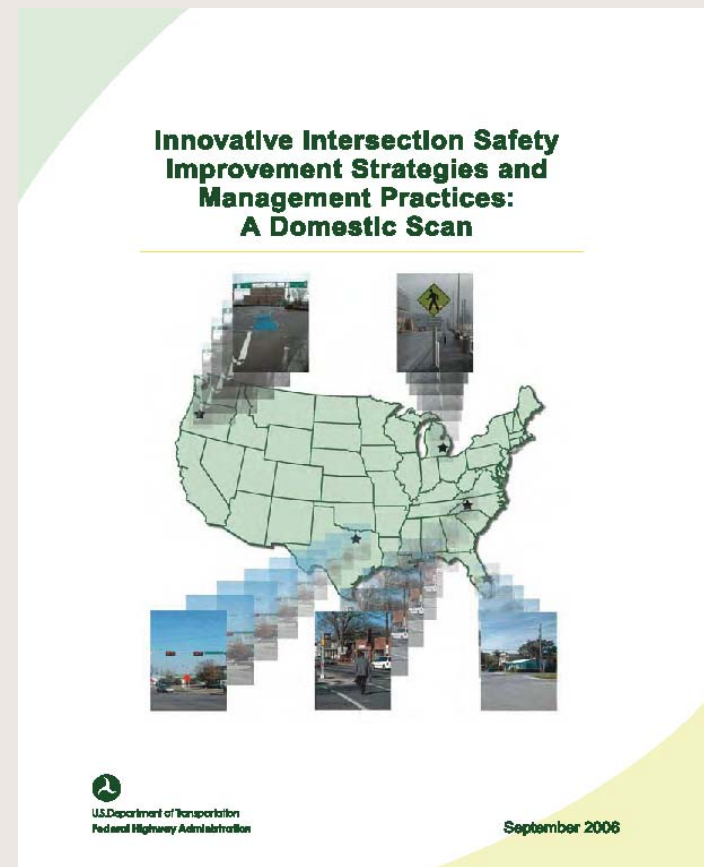
The Latest Safety Technologies

- **Innovative Intersection Safety Scan**
- **Inspecting Signalized Intersection to Reduce Red-Light Running**
- **Incorporating Safety into Resurface & Restoration Projects**
- **Low Cost Treatments for Curves**
- **Law Enforcement in Work Zones**
- **What's Brand New Rundown**

<http://safety.fhwa.dot.gov/index.htm>

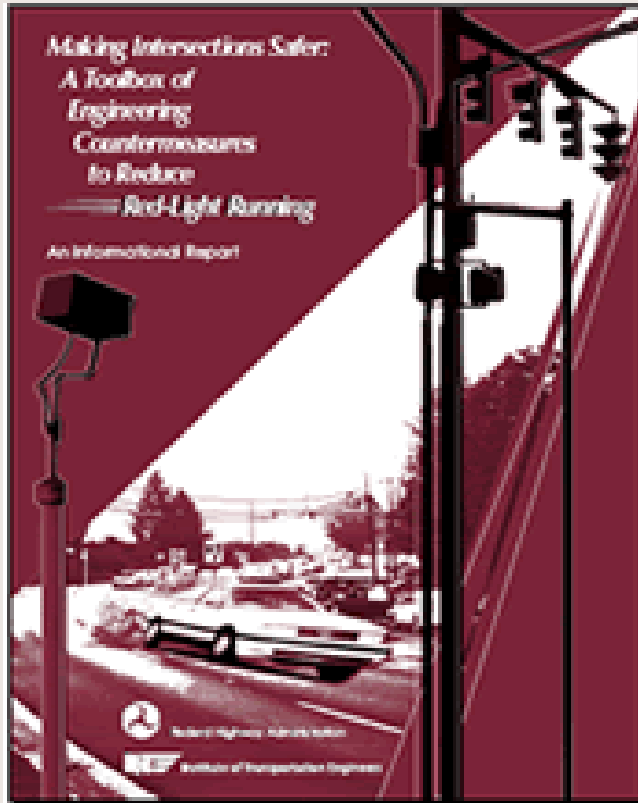
Innovative Intersection Safety Domestic Scan

- To gain knowledge about the processes and procedures to gain agency management's approval.
- To gain knowledge about the safety effects of these treatments and comprehensive approaches to intersection safety.



PDF and Hard Copies Available
ed.rice@dot.gov

Reduce Red-Light Running



- **The Problem**
- **Understanding RLR**
- **Engineering Countermeasures**
- **Problem ID and Resolution Process**
- **Future Needs**

http://safety.fhwa.dot.gov/intersections/rlr_report/index.htm


What Else Is Happening!

- *Identifying and documenting 10-12 Success stories (countermeasure implementation with actual crash reductions).*
- *Training courses – Intersection Safety Workshop*
- *Older Driver – Report and Workshop*
- *International Scan Signalized Intersection Safety*
- *NCHRP 500 Volume 5 and 12*
 - *Repackaging'' the 77 countermeasures to single page guide sheets*
 - *A glove-box sized brochure with the 77 countermeasures*

<http://safety.fhwa.dot.gov/intersections/index.htm>


77 Countermeasures Single Page Guides

UNSIGNALIZED INTERSECTION SAFETY STRATEGIES



Provide Supplementary Stop Signs Mounted Over the Roadway

WHERE TO USE
Unsignalized intersections with patterns of right-angle crashes related to lack of driver awareness of the presence of the intersection. In particular, it might be appropriate to use this strategy at the first stop-controlled approach (possibly of a series) located on a long stretch of highway without any required stops, or at an intersection located after a sharp horizontal curve.



DETAILS
Many stop signs at stop-controlled intersections are not readily visible to approaching drivers due to geometric conditions, presence of vegetation, or other objects (such as tall vehicles) that can limit the view of the regular stop signs. Thus, intersection crashes may occur because approaching drivers may be unaware of the presence of the stop sign at the intersection. The visibility of stop signs and, thus, the ability of approaching drivers to perceive them can be enhanced by providing supplementary stop signs suspended over the roadway.
The target for this strategy should be stop signs at intersections that are not clearly visible to approaching motorists, particularly approaching motorists on the minor road. The strategy is particularly appropriate for intersections with patterns of rear-end, right-angle, or turning collisions related to lack of driver awareness of the presence of the intersection or stop sign.

KEY TO SUCCESS
Locating the supplementary overhead sign (or signs) in the direct line of sight of approaching drivers.

NCHRP Report 900 / Volume 5: A Guide for Addressing Unsignalized Intersection Collisions **STRATEGY E8**

Tool Box of Countermeasures and their Potential Effectiveness

Desktop Reference for Crash Reduction Factors



Report No. FHWA-SA-07-015
U.S. Department of Transportation
Federal Highway Administration

September 2007



Toolbox of Countermeasures and Their Potential Effectiveness for Roadway Departure Crashes

Introduction

This issue brief documents estimates of the crash reduction that might be expected if a specific countermeasure or group of countermeasures is implemented with respect to roadway departure crashes and other non-intersection crashes. The crash reduction estimates are presented as Crash Reduction Factors (CRFs).

Traffic engineers and other transportation professionals can use the information contained in this issue brief when asking the following types of question: Which countermeasures might be considered along a particular section of a highway that is experiencing a high number of roadway departure crashes? What changes in the number of roadway departure crashes can be expected with the implementation of the various countermeasures?

When selecting countermeasures to reduce roadway departure crashes, the practitioner should first consider the types of roadway departure crashes that are most prevalent on the roadway. Next, the practitioner should consider the types of countermeasures that are most likely to be effective for those types of crashes.



Toolbox of Countermeasures and Their Potential Effectiveness for Pedestrian Crashes

Introduction

This issue brief documents estimates of the crash reduction that might be expected if a specific countermeasure or group of countermeasures is implemented with respect to pedestrian crashes. The crash reduction estimates are presented as Crash Reduction Factors (CRFs). As some studies reviewed included bicycle crashes in their analysis, some of the crash reduction estimates include bicyclists.

Traffic engineers and other transportation professionals can use the information contained in this issue brief when asking the following types of question: Which countermeasures might be considered at the signalized intersection of Maple and Elm streets, an intersection experiencing a high number of pedestrian crashes? What change in the number of pedestrian crashes can be expected with the implementation of the various countermeasures?

Crash Reduction Factors

A CRF is the percentage crash reduction that might be expected after implementing a countermeasure or group of countermeasures.



Toolbox of Countermeasures and Their Potential Effectiveness for Intersection Crashes

Introduction

This issue brief documents estimates of the crash reduction that might be expected if a specific countermeasure or group of countermeasures is implemented with respect to intersection crashes. The crash reduction estimates are presented as Crash Reduction Factors (CRFs).

Traffic engineers and other transportation professionals can use the information contained in this issue brief when asking the following types of question: Which countermeasures might be considered at the signalized intersection of Maple and Elm streets, an intersection experiencing a high number of total crashes and left-turn crashes? What change in the number of total crashes and left-turn crashes can be expected with the implementation of the various countermeasures?

Crash Reduction Factors

Incorporating Safety into Resurfacing and Restoration Projects

- Resurfacing program is considered to be an element of its overall safety strategy.**
- Leadership supports an integrated resurfacing safety strategy.**
- Funding of integrated safety improvements is recognized as an appropriate expenditure.**
- Safety improvements are targeted and cost-effective.**
- "Scope creep" does not interfere with timely resurfacing.**

http://safety.fhwa.dot.gov/roadway_dept/pubs/sa07001/fhwasa07001.pdf

INSTITUTIONAL PRACTICES

- **Integrate Safety into Preservation Projects**
- **Establish Multi-fund Project Tracking**
- **Provide for Flexible Project Development Cycles**
- **Strengthen State-Local Relationships**
- **Develop an Expedient Procedure for Minor Right-of-way Acquisition**
- **Engage Safety Experts in Project Development**



TECHNICAL PRACTICES

- **Identify Targeted Safety Improvements**
- **Selectively Improve Geometry**
- **Install Traffic Control Devices and Guidance**
- **Improve Roadsides**
- **Improve Private and Public Access Points**

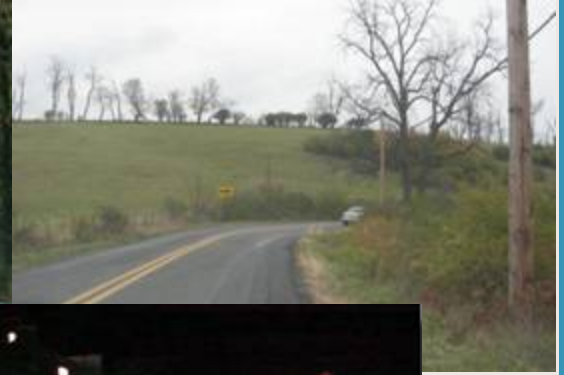


Low-Cost Treatment for Horizontal Curve Safety

- Basic traffic signs and markings found in the MUTCD
- Enhanced traffic control devices
- Additional traffic control devices not found in the MUTCD
- Rumble strips
- Minor roadway improvements
- Innovative and experimental treatments

http://safety.fhwa.dot.gov/roadway_dept/pubs/sa07002/horizontalcurves.pdf

Low Cost Treatments



Guide for Law Enforcement Personnel in Work Zones

- **Roles and Responsibilities**
- **Most Common Law Enforcement Services in Work Zones**
- **Understanding Work Zone Traffic Control**
 1. **The Advance Warning Area**
 2. **The Transition Area**
 3. **Activity Area**
 4. **Termination Area**
- **Recommended Practices**
- **Typical Applications**

<http://safety.fhwa.dot.gov/wz/training/>

Brand New Stuff !!!

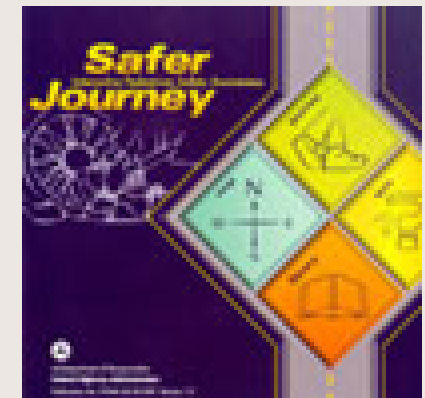
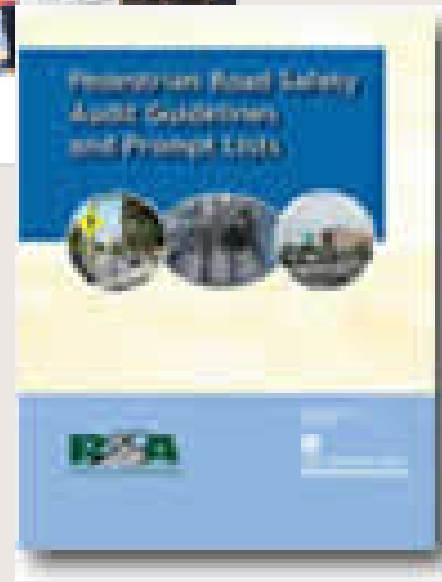
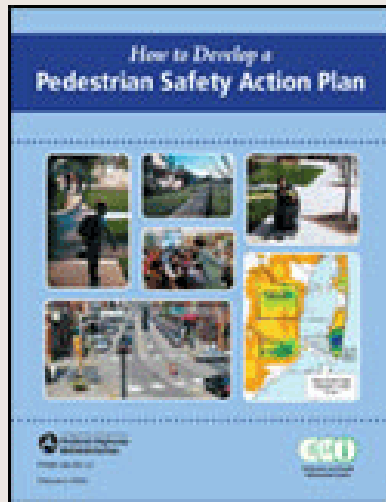
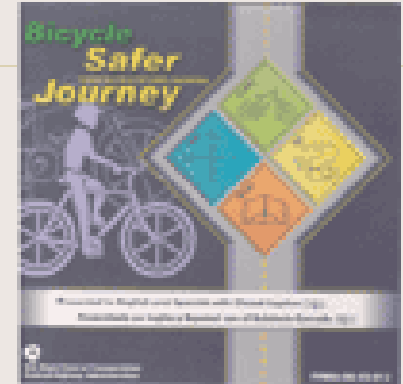
- *Maintaining Traffic Sign Retroreflectivity: Impacts on State and Local Agencies,*
- **Maintaining Traffic Sign Retroreflectivity” [12/07].**
- *Railroad-Highway Grade Crossing Handbook*
- **Highway Safety and Trees - The Delicate Balance: [DVD/Brochure]**
- **Selection of W-Beam Guardrail Terminals: [Guidelines on CD/DVD]**

Sign Retroreflectivity



http://safety.fhwa.dot.gov/roadway_dept/retro/index.htm

Pedestrian Safety

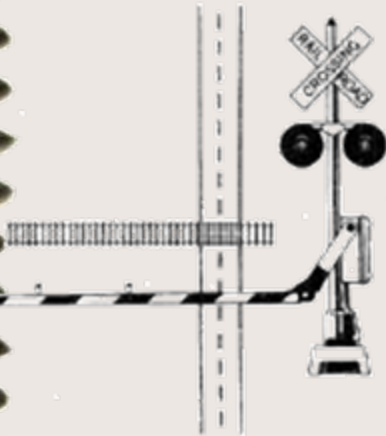


<http://safety.fhwa.dot.gov/>

Rail-Highway Grade Crossing Handbook

RAILROAD-HIGHWAY GRADE CROSSING HANDBOOK

— SECOND EDITION FHWA TS 85 215
MAY 1987



<http://safety.fhwa.dot.gov/xings/index.htm>

Highway Safety and Trees



http://safety.fhwa.dot.gov/roadway_dept/trees.htm

Selection of W-Beam Barrier Terminals

- **Types: Energy absorbing, non-energy absorbing, or buried-in-backslope.**
- **Making Better Choices: Different performance characteristics**
- **To provide information to select and properly install.**
- **To show the crash performance of each terminal type.**
- **To provide guidance on proper site grading**
- **To presents examples of both appropriate and inappropriate installations.**

FHWA Resource Center SAFETY AND DESIGN TEAM

Courses, Seminars, and Workshops

1-day and 3-day Intersection Safety Workshop *

CSS Course and Toolbox

Designing for Pedestrian Safety

Developing a Pedestrian Safety Action Plan

Empirical Bayes Analysis for Safety

Exploring the Green Book: Basic Geometric Design

Fundamentals of Planning, Design and Approval of Interchange Improvements to the Interstate System*

Highway Geometric Design for Safety & Efficiency

Horizontal Curve Safety

Low-cost Safety Improvements

Making Highways Safer with ITS workshop

Older Driver and Pedestrian Handbook

Pavement Marking Retroreflectivity

Planning and Designing for Pedestrian Safety 3-Day workshop

Road Safety Audits

Roadside Design

Roadside Landscaping for Safety

Roundabouts: Designing Intersections for Safety

Safety Effects of Geometric Design Features on 2-Lane Rural Roads

Sign Management and Retroreflectivity Workshop

Signalized Intersection Handbook Workshop

<http://www.fhwa.dot.gov/resourcecenter/teams/safety/courses.cfm>

Websites

- <http://safety.fhwa.dot.gov>



- <http://safety.transportation.org>

NCHRP
Project 17-18



Implementing the AASHTO
Strategic Highway Safety Plan

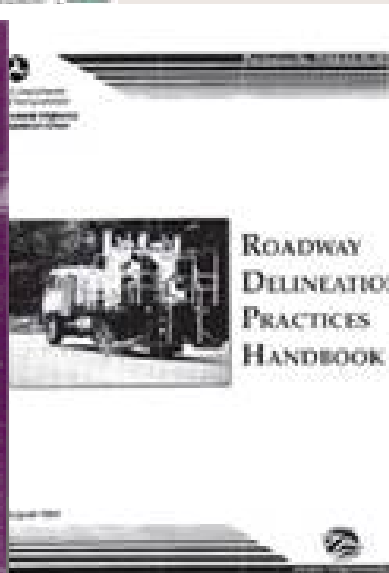
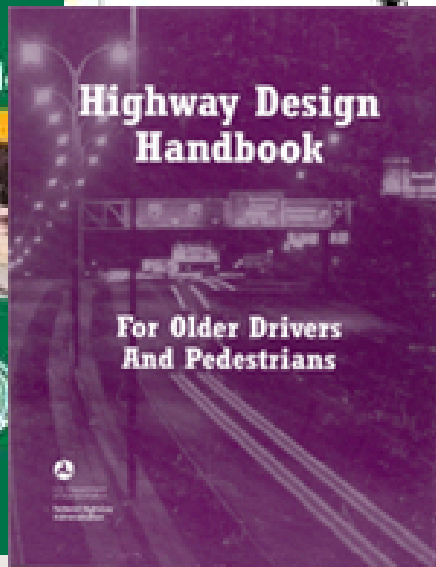
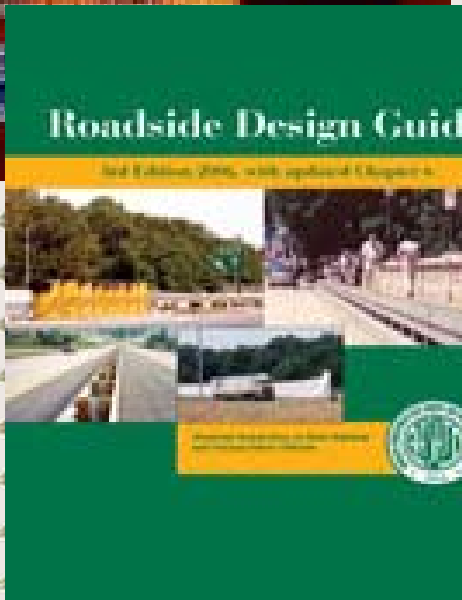
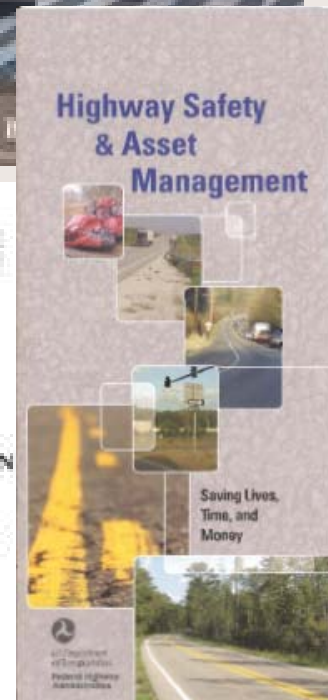
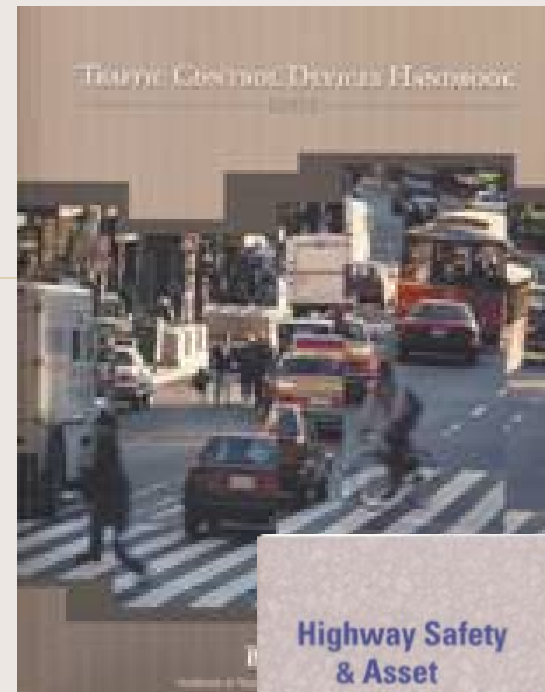
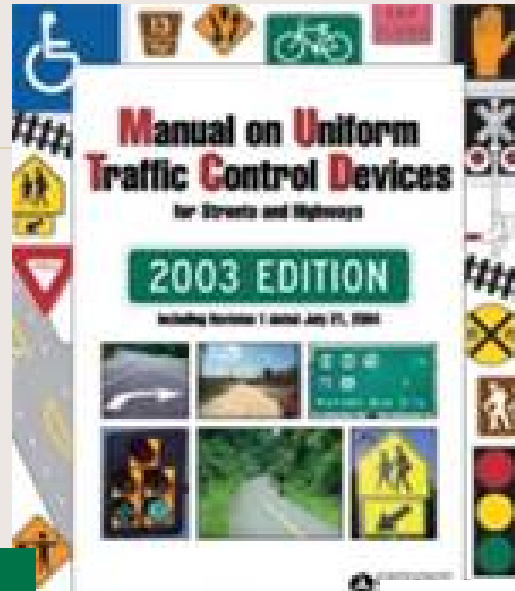
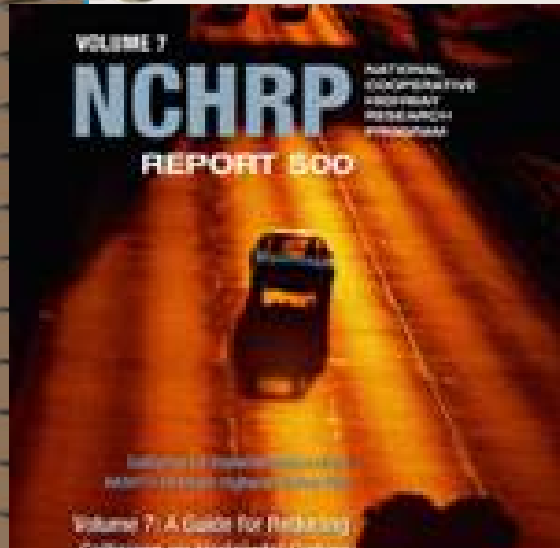
Saving 9,000 More Lives a Year

<http://www.transportation.org/>

**Standing Committee on
Highway Traffic Safety**



Other Resources



How Do We Get There?

- No “one size fits all.”
- Every State UNIQUE.
- Process to fit needs.
- Similarities between successful ventures.



Challenges

- Language and culture
- Turf and Funds
- Silos



- Organizational Structures
- Approaches to the problem
- Commitment, Determination, Perseverance

Contributions



- Serve as Champion
- Lead/support the effort
- Participate in a Emphasis Team
- Build upon existing partnerships and coalitions
- Help form and enhance coalitions
- Bring other safety partners to the table
- Keep the safety partners focused
- Provide and analyze data

Contributions

- Establish and support the 4E emphasis teams
- Hold the safety partners accountable
- Keep the momentum
- Share expertise and knowledge
 - Coalition Building
 - Data Analyses
 - Goal Setting
 - Performance Measures
 - Problem ID
 - Identifying Strategies
 - Evaluation



ACCOUNTABILITY



On the Journey to Providing Safer Roads and Saving Lives



Now Let's Discuss

- Rural ITS
- Roadway Safety Improvements
- Road Safety Audits
- High Risk Rural Road Initiatives

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