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 !!!
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.
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

<table>
<thead>
<tr>
<th>Factor</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roadway Departure</td>
<td>60%</td>
</tr>
<tr>
<td>BAC Related</td>
<td>39%</td>
</tr>
<tr>
<td>Non- Belt Use</td>
<td>18%</td>
</tr>
<tr>
<td>Unrestrained Deaths</td>
<td>52%</td>
</tr>
<tr>
<td>Intersections</td>
<td>21%</td>
</tr>
<tr>
<td>Pedestrian</td>
<td>11%</td>
</tr>
<tr>
<td>Speed Related</td>
<td>30%</td>
</tr>
<tr>
<td>Young Drivers (16-24)</td>
<td>24%</td>
</tr>
<tr>
<td>Older Drivers (65+)</td>
<td>15%</td>
</tr>
</tbody>
</table>
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

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
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/intersection of a series located on a long stretch of highway, without any required stop, 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 block 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 ends; 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 at intersections on the minor road. This strategy is particularly appropriate for intersections with patterns of minor 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 for signal in the direct line of sight of approaching drivers.

Unsignalized Intersection Safety Strategies

77 Countermeasures
Single Page Guides
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 questions: What 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?

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 questions: 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
A CRF is the percentage crash reduction that might be expected after implementing a
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.

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

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]

http://safety.fhwa.dot.gov/index.htm
Sign Retroreflectivity

Pedestrian Safety

http://safety.fhwa.dot.gov/
Rail-Highway Grade Crossing Handbook

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-SA-06-19
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.transportation.org

http://www.transportation.org/
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
Contact Information

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