Sharing Strategies for Rural Road Safety

Local Rural Road Issues and Opportunities

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Presentation Overview

- SD LTAP safety efforts
- Local rural road safety - What does crash data tell us?
  - Crash numbers, locations, types
- Issues/opportunities of rural local roads
- Road Safety Audits
- Observations/challenges
SDLTAP Safety Initiatives

- Promote safety thru newsletter, presentations, visits
- FHWA funding assistance
  - Road Safety Audits
  - Safety Handbook
SDLTAP Safety Handbook

- Safety basics – References, issues
- Run off the Road crashes and countermeasures
- Prioritizing – (risk)
- Road Safety Audits (the process)
- Implementing Guidance
Local Rural Road Safety

What do the numbers tell us?
National Highway Fatalities
Total and Local Rural

Year
2000 2001 2002 2003 2004 2005 2006 2007

Fatalities
0 10000 20000 30000 40000 50000
Rural Roads – U.S.

- 40% of Travel and 60% of Fatalities
- Fatality Rate is 2.5 times that for Urban Roads.
- Local Rural Roads (+/-20% of total)
Total Fatalities – Surrounding States

- SD
- ND
- MT
- WY
- NE
Rural Fatality Rate in Surrounding States

Total Rural Fatality Rate

- mn
- mt
- ne
- nd
- sd
- wy
- natl
Local Road Fatality Rate

rural local fatality rate

5 year avg - FARS

mn | mt | ne | nd | sd | wy | natl

5.326
Local Rural Road Fatalities

% rollover

Surrounding States - 2005

% Local rural rollover fatalities

% local rural

State

Total  SD  ND  NE  WY  MT  MN
SD Local Rural Road All Crashes
Top 4 FHE Categories

Total crashes

Source: DPS ’04-’06
SD local rural road crashes
top 4 FHE categories

Injuries and Fatalities

- Other vehicle: 832
- Fixed Object: 955
- Animal: 104
- Rollover: 1387

Source: DPS ’04-’06
Local Rural Road Challenges

- What the data tells me (2 priority crash types)
  - Rollovers
  - Fixed Objects
Crashes on rural roads
Looking at the numbers

What we know

_odd Can’t Predict Location (random)_

_odd Can Predict Type (predictable)_

Credit: Brian Chandler - MO
Improving Local Rural Road Safety Challenges

1. Keep ‘em on the road

2. Make roadsides more forgiving

(And a word about Intersections)
Keep ‘em on the road
Keep ‘em on the Road

1. Surface Type
   - Gravel
   - Paved

2. Communicating with motorists
   - Signing
   - Delineation
   - Pavement marking

3. Horizontal curves
1. Surface – Gravel

- Shape
- Material
- Washboarding
- Roadway “Intimidators”
  - narrow width, shoulders?, loose gravel
Crown?
Keep ‘em on the Road

1. Surface – Paved
   - Surface Condition – potholes, ruts
   - Skid resistance
   - Edge drop off
LANE DEPARTURE

Edge Vertical Drop-Off

NCHRP 500 Volume 6 “Guide for Addressing Run-Off-Road Collisions”
LANE DEPARTURE

The “Safety Edge”

NCHRP 500 Volume 6 “Guide for Addressing Run-Off-Road Collisions”
Keep ‘em on the Road

2. Communicating with the motorist

- Signs
- Delineation
- Pavement Marking
Communicating with the Motorists Begins with a User’s Perspective (my daughter’s)
Communicating with Signs
Improving Safety with Signs

1st Step

2nd Step

Advance Warning Sign + Advisory Speed + Chevrons = “Safer”
HORIZONTAL CURVES

CRF 35% Chevron Signs (All Crashes)

NCHRP 500 Volume 7 “Guide for Collisions on Horizontal Curves”
HORIZONTAL CURVES

Widened/Stabilized Lane or Shoulder on Inside of Curve
Delineation
Make Roadsides Safer
Common Roadside Hazards

- Ditches – field entrances
- Utility poles
- Trees
- Sign posts
- Mailboxes
- Site Distance - vegetation
- Encroachments
SLOPES, EMBANKMENTS AND DITCHES

- Vertical Drop-off
- Non- traversable Fore slope
- Utility pole in ditch

NCHRP 500 Volume 6 “Guide for Addressing Run-Off-Road Collisions”
Mailboxes
Encroachments
A word about Intersections
Poor Intersection Sight Distance Contributes to Safety Problems
Adequate Intersection Sight Distance Reduces Crashes

AFTER
Example
RR xing - vegetation
Road Safety Audits (RSAs)

- Formal safety performance examination
- Existing or Future Road Segment or Intersection
- Independent, multidisciplinary team
Road Safety Audits

Benefits

- Reduce the number and severity of crashes
- Promote awareness of safe practices
- Process to identify and address problems
- Considers human factors and multimodal issues
- Low cost
Road Safety Audits
SD LTAP experience

- Difficult to promote
- Interdisciplinary team best
- Need 1 MUTCD “expert” on the team
- Prioritize recommendations
- Emphasize low cost, easy to implement
Making Local Roads Safer – Observations

Local Road Management:
- Recognize budget constraints
- SQQ = Safety, Quality, Quantity
  Make safety a top priority
- Safety begins with good maintenance

A word about maintenance
- Good Surface Maintenance
- Mow clear areas
- Prevent tree and brush growth
- Ditch cleaning
- Encroachments
Making Local Roads Safer

- **Need for More Crash Data Analysis (Statewide, Regional)**
  - understand the types and causes to apply countermeasures
  - address needs in State Strategic Safety Plans

- **Take a Safety Perspective**
  - View through the eyes of a motorist

- **MUTCD - It's good business**
  - Be knowledgeable and apply MUTCD principles to improve communication with motorists

- **Identify Safety Issues and opportunities**
  - Look at crash reports, review crash sites
  - Discuss issues, causes, solutions, priorities
  - Have a Road Safety Audit
Challenges (continued)

- **Look for solutions**
  - Priorities - Consider risk
  - Participate and take home ideas from others
  - Develop, use, and share innovative solutions and strategies

- **Form partnerships**
  - Discuss safety - local road managers, LTAP, State DOT, DPS, Consultant Engineers, law enforcement, EMS, judiciary, Driver’s Ed, media

- **Commit to Safety Leadership**
  - Think, Talk, Act safety
  - Provide incentives to improve safety at local level

- **Insanity (defn)?**
  - Insanity is when you continue to do what you’ve always done the way you’ve always done it, and expect difference results
  - Or “wishin’ don’t make it so!”
Safer Roads !

Goal: Improve safety

Reduce the number and severity of crashes

And...

Save lives
Questions/comments

Share your successes
What works – what doesn’t ??

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