

Sharing Strategies for Rural Road Safety



Local Rural Road Issues and Opportunities

Ron Marshall, SD LTAP

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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

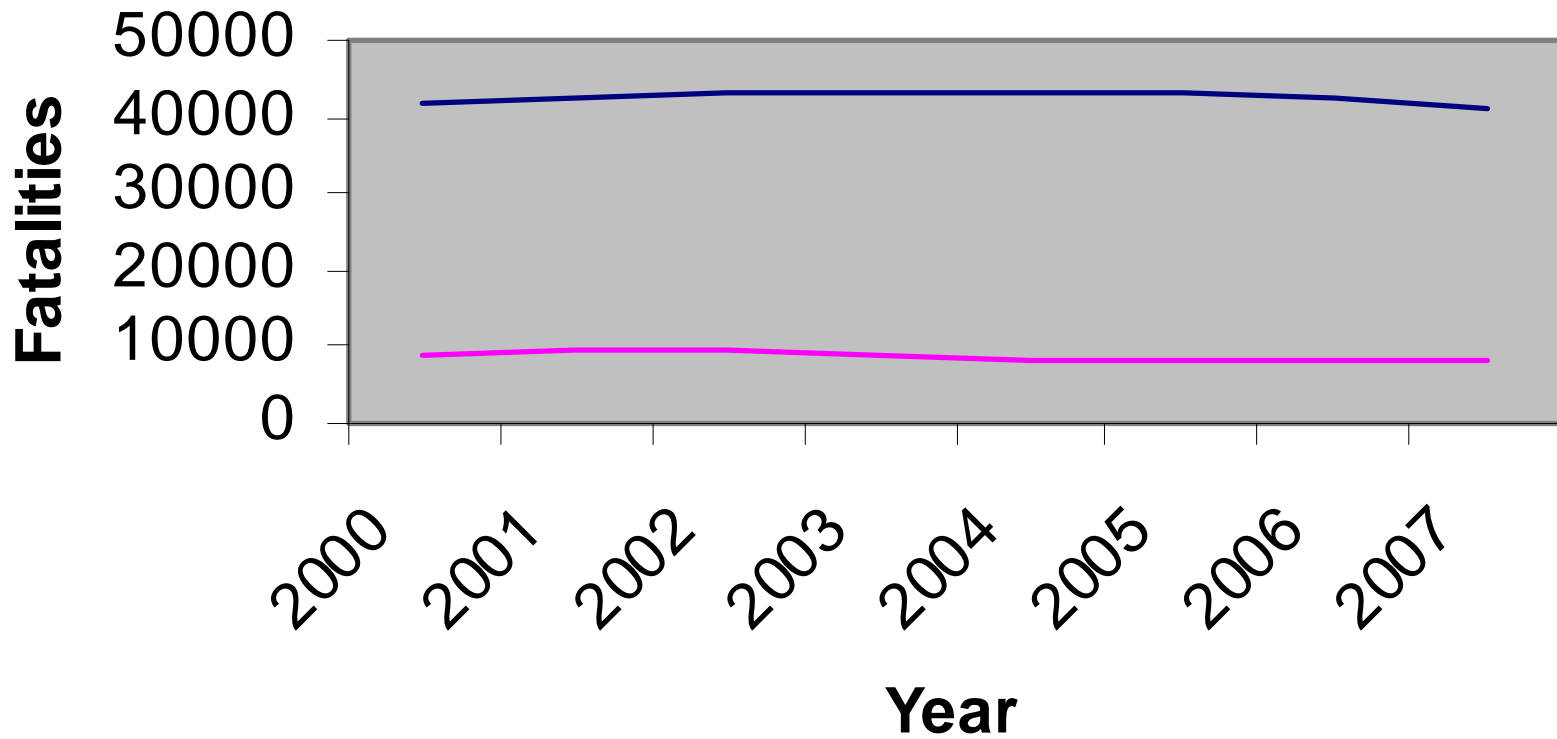
- Safety basics – References, issues
- Run off the Road crashes and countermeasures
- Prioritizing – (risk)
- Road Safety Audits (the process)
- Implementing Guidance

Local Rural Road Safety



⌘ What do the numbers tell us?

National Highway Fatalities Total and Local Rural

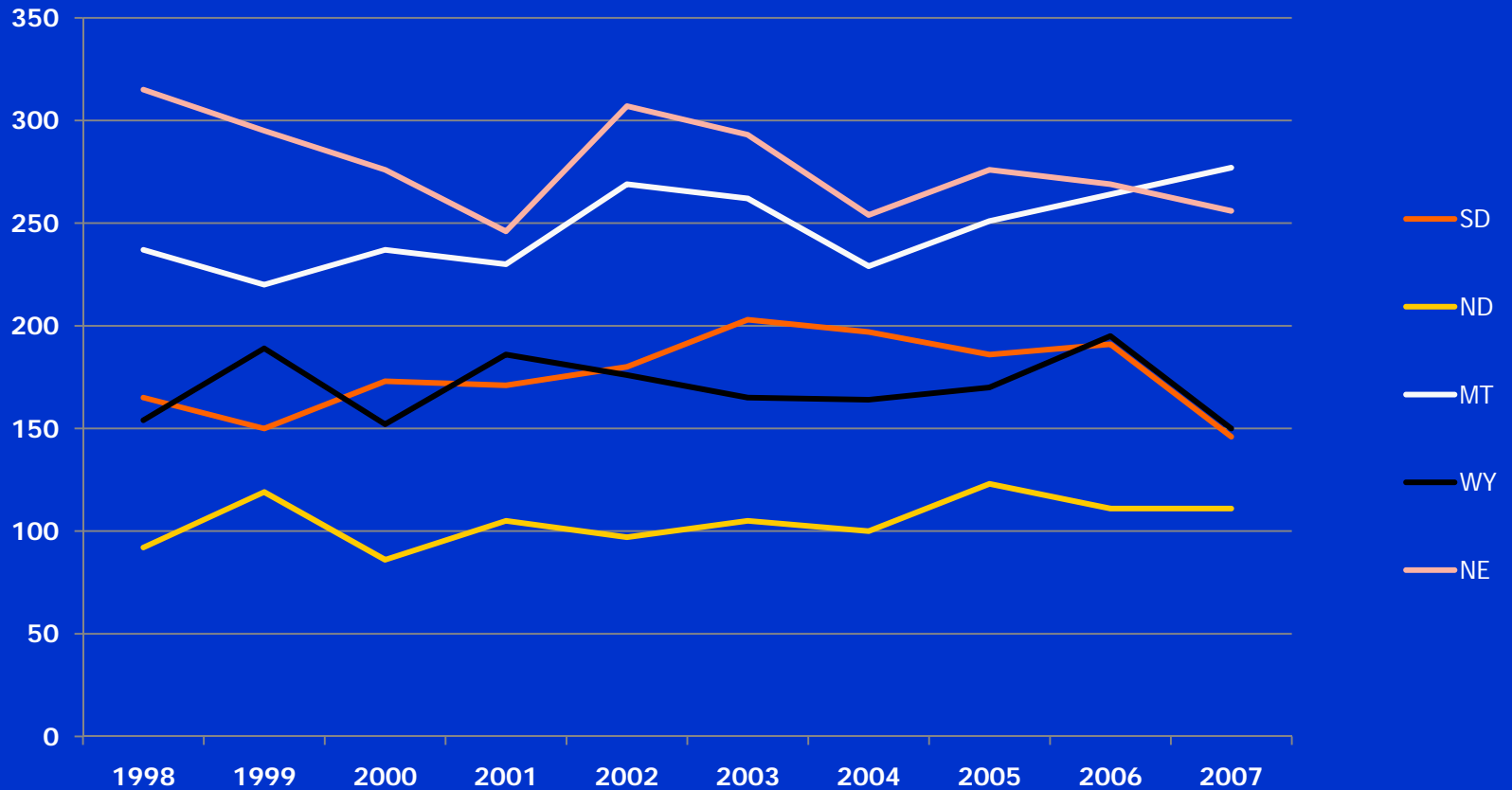


Rural Roads – U.S.



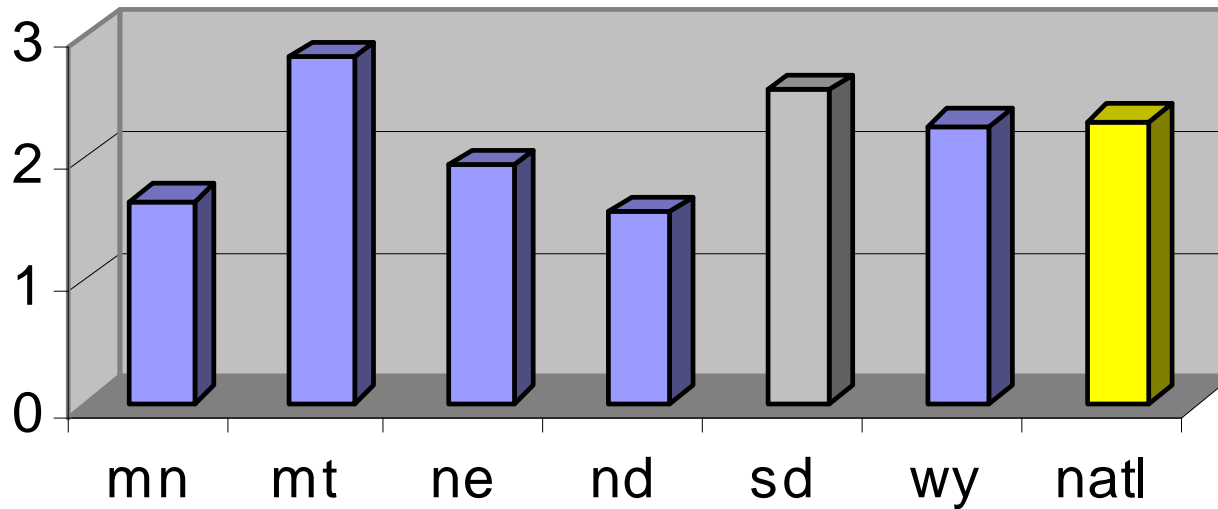
- ⌘ 40 % of Travel and 60% of Fatalities
- ⌘ Fatality Rate is 2.5 times that for Urban Roads.
- ⌘ **Local Rural Roads** (+/-20% of total)

Total Fatalities – Surrounding States



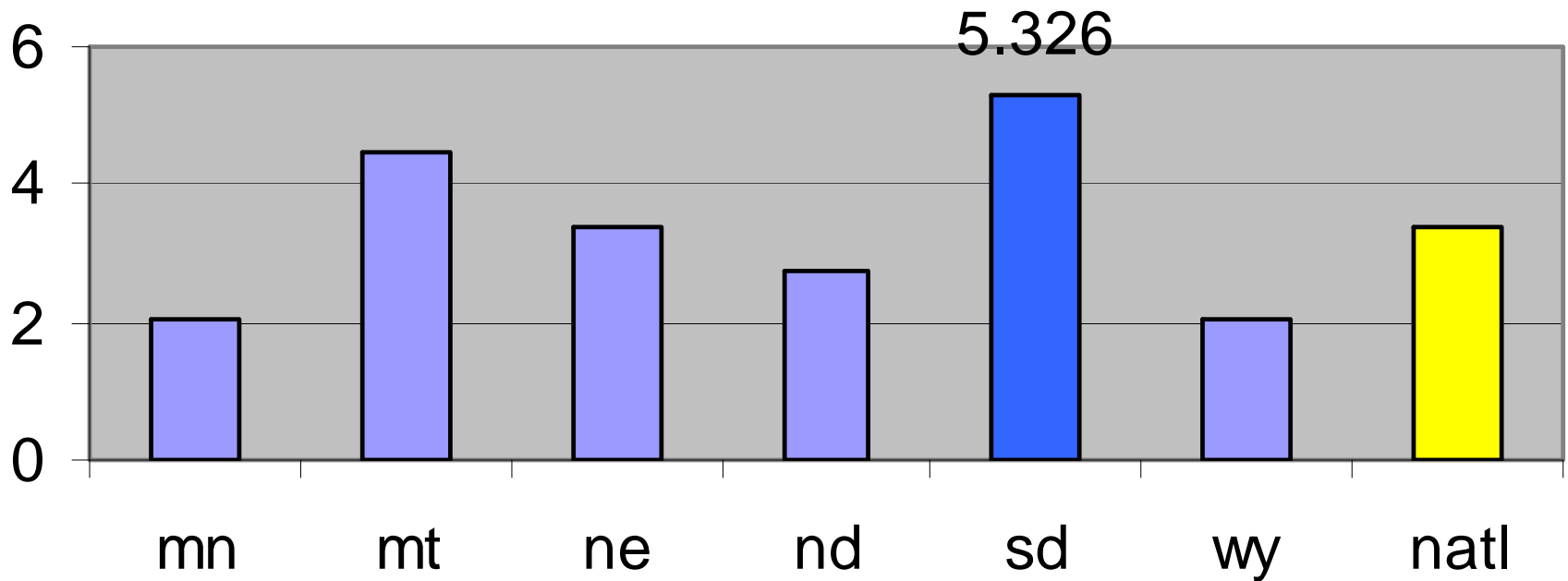
Rural Fatality Rate in Surrounding States

Total Rural Fatality Rate



Local Road Fatality Rate

rural local fatality rate



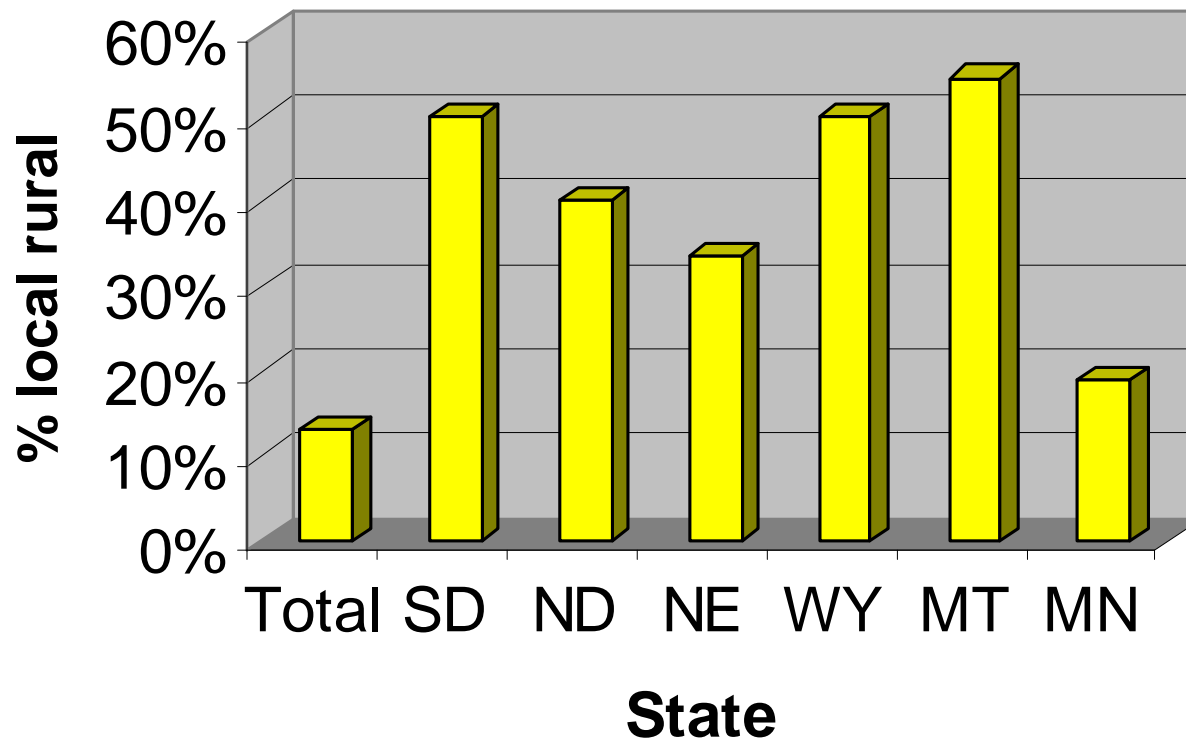
5 year avg - FARS

Local Rural Road Fatalities

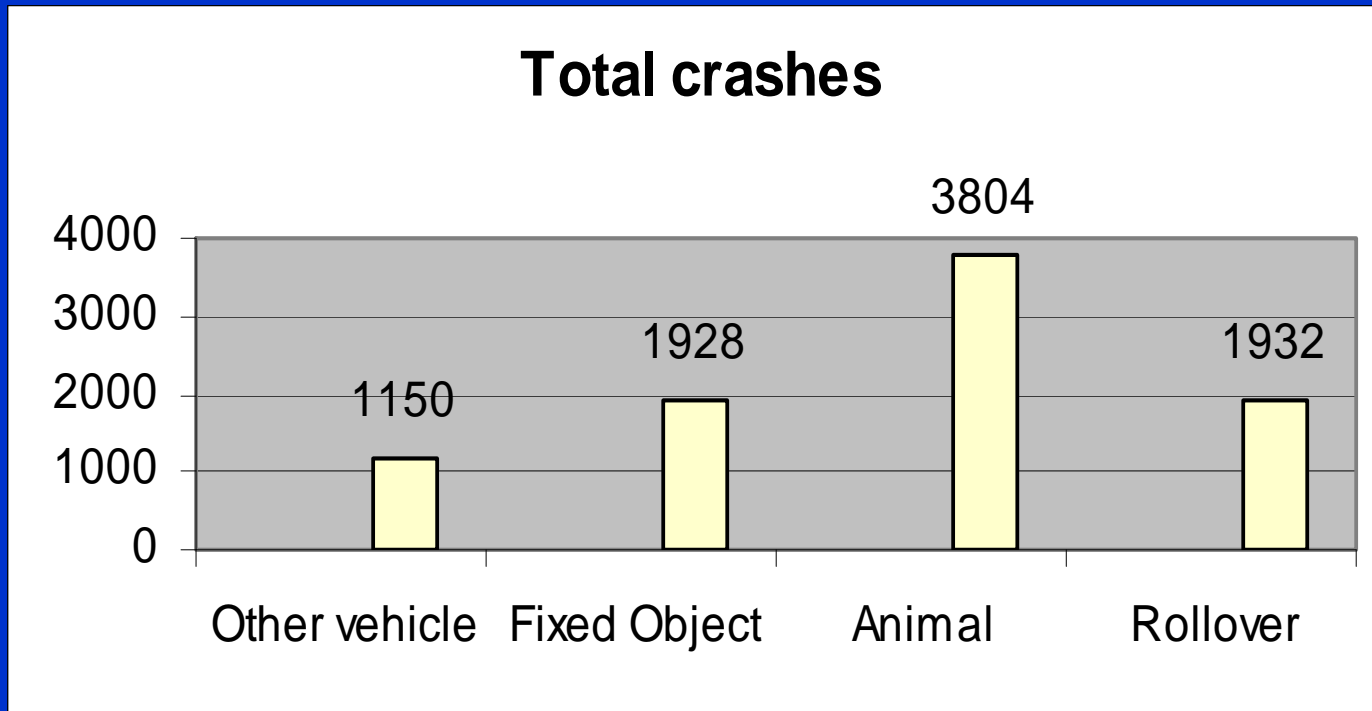
% rollover

Surrounding States -2005

% Local rural rollover fatalities



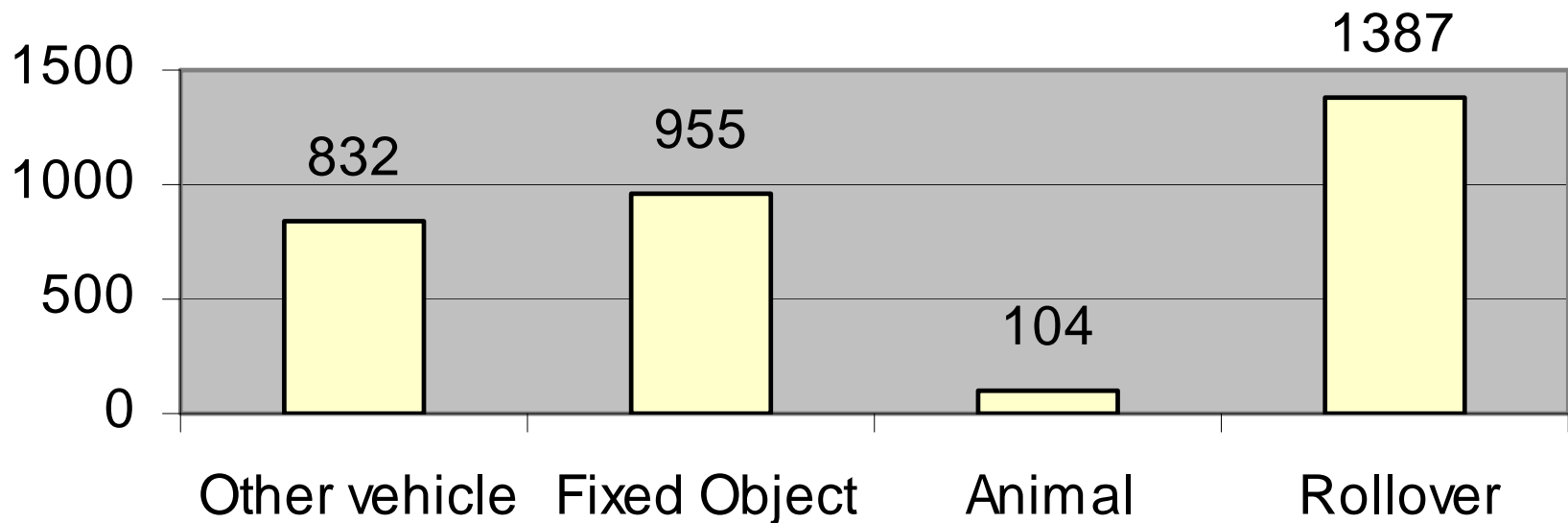
SD Local Rural Road All Crashes Top 4 FHE Categories



Source: DPS '04-'06

SD local rural road crashes top 4 FHE categories

Injuries and Fatalities



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

⌘ Can't Predict **Location** (random)

⌘ 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

Keep 'em on the Road



1. Surface – Gravel

- Shape
- Material
- Washboarding
- Roadway “Intimidators”
 - narrow width, shoulders?, loose gravel



Crown?



Good Gravel



15/11/2006

Keep 'em on the Road



1. Surface – Paved

- Surface Condition – potholes, ruts
- Skid resistance
- Edge drop off



LANE DEPARTURE



Edge Vertical Drop-Off

2003.3.25.12:13

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**

**UTILITY POLE
IN DITCH**

**NON-TRAVERSABLE
FORESLOPE**

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
- ☒ SQO = 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 ??

Ron Marshall

SD LTAP

Email *ronald.marshall@sdsmt.edu*