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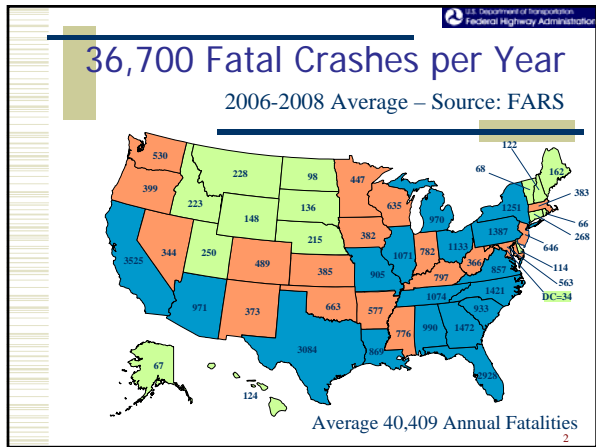
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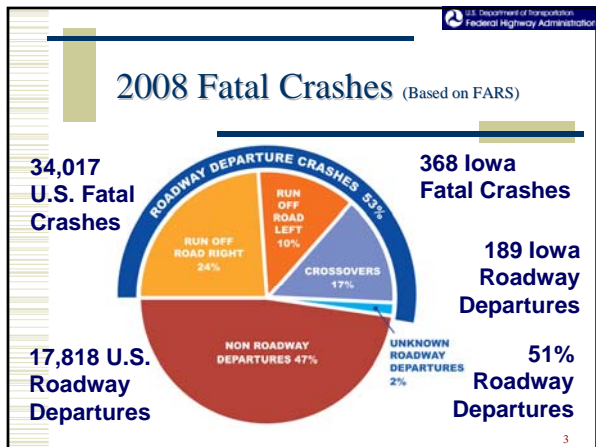
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59 people will die in a roadway departure crash in the United States today.

**1 Fatality Every 24 minutes**

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## 13,242 Roadway Departure Fatalities on Two Lane Undivided

Source: 2008 FARS Data

### Focused Solution:

- Low cost
- Two Lane roadways
- Roadway Departure



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## Are Drop-offs a Problem?



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Federal Highway Administration

## Was the drop-off the cause?

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- ◆ Head-on
- ◆ Roll Over
- ◆ Opposite Side
- ◆ Roadside Hazard

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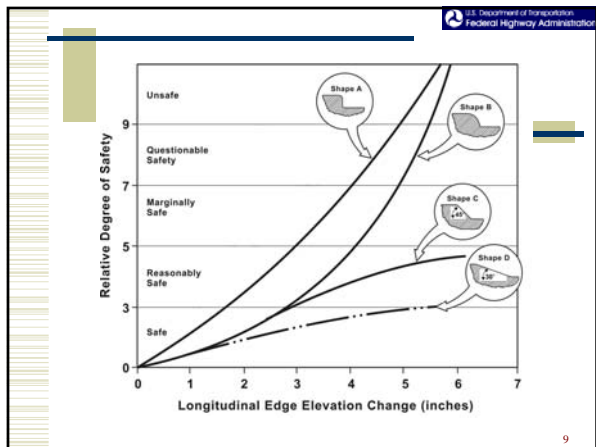
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## Location of Drop-offs

1. Horizontal Curves
2. Near Mailboxes
3. Turnarounds
4. Shaded Areas
5. Eroded Areas (Drainage)
6. Asphalt Pavement Overlay

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## Horizontal Curves



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## Mail Boxes



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## Shaded Areas



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## Asphalt Overlay



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## The Safety Edge: A Practical Solution



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## FHWA Memo: Implementation of Proven Safety Countermeasures

1. Road Safety Audits
2. Rumble Strips and Rumble Stripes
3. Median Barriers
- 4. Safety Edge**
5. Roundabouts
6. Left and Right Turn Lanes at Stop-Controlled Intersections
7. Yellow Change Intervals
8. Medians and Pedestrian Refuge Areas in Urban and Suburban Areas
9. Walkways

<http://safety.fhwa.dot.gov/policy/memo071008/>

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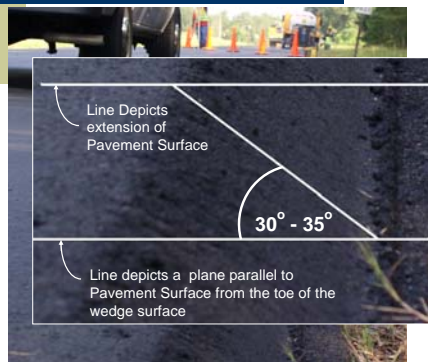
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## The Hardware



Trans Tech Shoulder Wedge Maker™

[www.transtechsys.com](http://www.transtechsys.com)



Advant-Edger™

[www.advantedgeping.com](http://www.advantedgeping.com)

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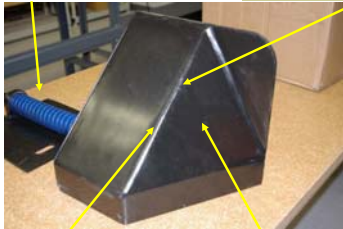
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## Key Features

Self Adjusting Spring

1/2" Radius Leading Edge



30° Forming Edge

45° Compound Angle

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## Construction

- ◆ Clip Shoulders
- ◆ Construct Overlay
- ◆ **Pull Shoulders Flush**
- ◆ No Effect on Production
- ◆ Minimal Monitoring
- ◆ 12.5 mm or 9.5 mm SP



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## Fillets

- ◆ Intersections
- ◆ Driveways
- ◆ Mailboxes
- ◆ Louisa County Fillet

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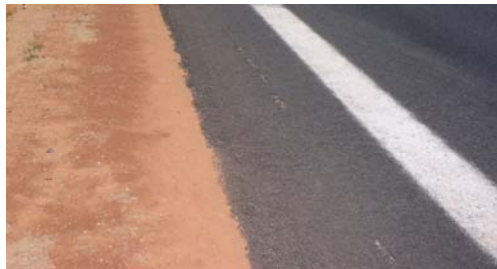
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## Finished Surface



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## Increased Edge Compaction ?



Without Safety Edge



With Safety Edge

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## Edge Compaction

Safety Edge



No Safety Edge



Condition After Six Year In-Service

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## Durability



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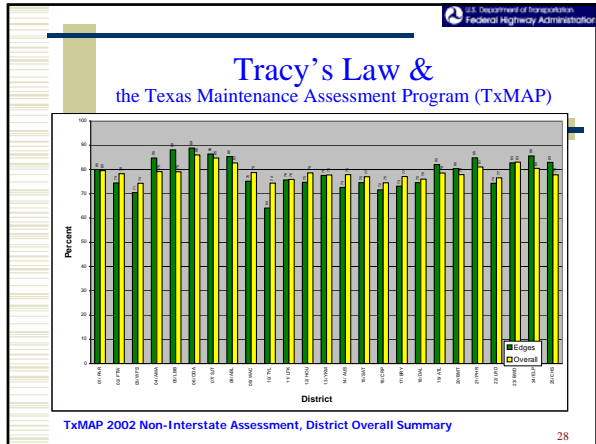
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### Tracy's Law:

“If you lose the edge,  
you lose the road.”

Tracy Cumby  
TxDOT Project Director

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## Tort Liability

### Are Lawyers Familiar with pavement edge tort liability?

#### IV. Edge Drop Off in Excess of (3) Three Inches is Dangerous.

The "Scrubbing Effect" was "considered to occur at edge height levels from one to five inches. Scrubbing is not a safety concern at one inch edge height but is possible. Scrubbing loses safety significance for automobiles as edges exceed five inches, since automobiles are rarely able to mount edges this high. For trucks, however, scrubbing will be important at greater edge heights."

**If you or a family member has been injured as a result of a highway defect or if you are an attorney that would like to discuss your clients case for co-counsel or referral opportunities, please feel free to contact Attorney Dan Chamberlain at 1.800.269.XXXX.**

Taken from [www.tortslaw.com](http://www.tortslaw.com).

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## Benefits of A Safe Edge

- ♦ Temporary safety benefit during construction
- ♦ Increase production - shoulder work after overlay complete
- ♦ Permanent Solution for future drop-off re-emergence
- ♦ Reduce tort liability – Providing "Due Care"
- ♦ Aid vehicle re-entry
- ♦ Minimal hardware, labor, or material costs
- ♦ Increased Pavement Edge durability

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## Low cost actions to reduce probability of leaving the road

- ♦ Pavement Markings
- ♦ Pavement Rumble Strips/  
Stripes
- ♦ Delineators
- ♦ Signs



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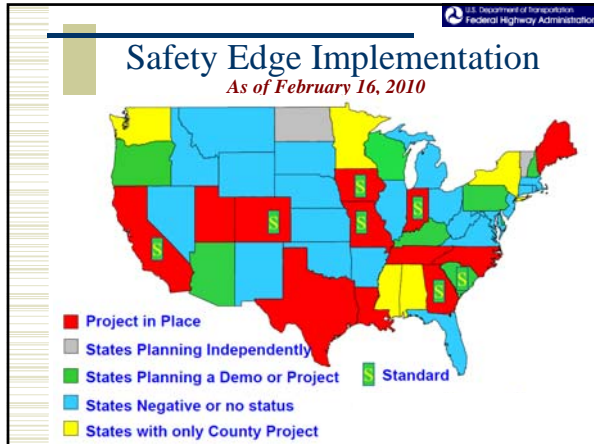
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## Iowa Safety Edge Implementation

- ♦ Clinton County Z-36
- ♦ Louisa County X-99 – Before
- ♦ Iowa DOT IA 143 – Before
- ♦ Safety Edge Deployment and Demonstration Project
  - Diverse Advisory Committee
  - At least 7 additional demos
  - Free Loaner Shoes

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## What can FHWA offer ?

- ♦ 10-12 demo projects for 2010-2011:
  - Free loaner equipment
  - Technical assistance
  - Project documentation
  - Promotional Material
  - Specifications
  - Tech Drawings

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## What we will know 1 year from now:

- ◆ Best way to write this into a contract
- ◆ How to quantify durability
  - Density measurement, permeability
- ◆ Safety Edge acceptance measures
  - Method Specification
  - To the satisfaction of the engineer
- ◆ Better ways to construct the edge
  - Integral part of the screed
- ◆ Best Practices
- ◆ Crash Reduction Factor

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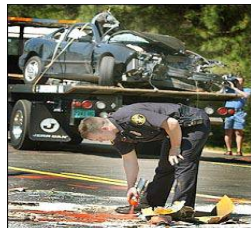
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## Challenge

What will you do this year to make our highways safer ?

- ◆ Low Cost
- ◆ Focused
- ◆ Proven



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## More Information

- ◆ [http://safety.fhwa.dot.gov/roadway\\_dept](http://safety.fhwa.dot.gov/roadway_dept)
- ◆ [www.pooledfund.org](http://www.pooledfund.org)
  - TPF-5(097) Evaluation of the Safety Edge
  - Specifications and Drawings
- ◆ Safety Impacts of Pavement Edge Drop-offs: [www.aaafoundation.org](http://www.aaafoundation.org), September 2006



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## Any Questions??

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christopher.wagner@dot.gov



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