Safety Edge:
Minimizing The Effects of Pavement Edge Drop-off

Chris Wagner, P.E.
FHWA Resource Center
36,700 Fatal Crashes per Year

2006-2008 Average – Source: FARS

Average 40,409 Annual Fatalities
2008 Fatal Crashes (Based on FARS)

34,017 U.S. Fatal Crashes

17,818 U.S. Roadway Departures

ROADWAY DEPARTURE CRASHES 53%

RUN OFF ROAD RIGHT 24%

RUN OFF ROAD LEFT 10%

CROSSOVERS 17%

NON ROADWAY DEPARTURES 47%

UNKNOWN ROADWAY DEPARTURES 2%
59 people will die in a roadway departure crash in the United States today.

1 Fatality Every 24 minutes
13,242 Roadway Departure Fatalities on Two Lane Undivided

Source: 2008 FARS Data

Focused Solution:
- Low cost
- Two Lane roadways
- Roadway Departure
Are Drop-offs a Problem?
Was the drop-off the cause?
- Head-on
- Roll Over
- Opposite Side
- Roadside Hazard
Horizontal Curves
Mail Boxes
Shaded Areas

Sunlight = Vegetation
Asphalt Overlay

Existing 5” Drop-off = 2” Asphalt Overlay + Extreme Unsafe Condition
The Safety Edge: A Practical Solution
The Hardware

Trans Tech Shoulder Wedge Maker™
www.transtechsys.com

Advant-Edge™
www.advantedgepaving.com
Key Features

- Self Adjusting Spring
- ½” Radius Leading Edge
- 30° Forming Edge
- 45° Compound Angle
Line Depicts extension of Pavement Surface

30° - 35°

Line depicts a plane parallel to Pavement Surface from the toe of the wedge surface
Construction

- Clip Shoulders
- Construct Overlay
- Pull Shoulders Flush
- No Effect on Production
- Minimal Monitoring
- 12.5 mm or 9.5 mm SP
Iowa PCCP Safety Edge
Increased Edge Compaction?

Without Safety Edge

With Safety Edge
Edge Compaction

Safety Edge

No Safety Edge

Condition After Six Years In-Service
Durability
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
Challenge

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

- Low Cost
- Focused
- Proven