David P. Brand, P.E.,P.S.
County Engineer
Madison County, Ohio

Chair - NACE Roadway Safety Working Group
NACE Representative - Center for Excellence in Rural Safety (CERS) Advisory Committee
Vice Chair – NACo Transportation Committee
Member – FHWA Every Day Counts Safety Edge Team
Roadway Departure Focus: Rural Two Lane Roads

Safety Edge Solution:
- Safety Benefit
- Pavement Benefit
- Low Cost
Construction

- Clip Shoulders
- Construct Overlay
- **Pull Shoulders Flush**
- Business as Usual
  - No Effect on Production
  - Minimal Monitoring
2009
CR 7 – Plain City Georgesville Rd.

• 3800 ADT
• 9.1 miles long
• Numerous curves and hills
• 3 Fatalities and 45 injuries (3 years)
• 77 Total Crashes over 3 year period
  – 2.82 crashes/mile/year
It starts with the Contract and / or Contractor

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Quantity/Type</th>
<th>Price per Unit</th>
<th>Sub-Total</th>
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<tbody>
<tr>
<td>1</td>
<td>5,553 CU YDS. ITEM 404</td>
<td></td>
<td>$117.00</td>
<td>$661,600.00</td>
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<tr>
<td>2</td>
<td>2,720 TONS BERM AGGREGATE – ITEM 617</td>
<td></td>
<td>$19.50</td>
<td>$53,040.00</td>
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<tr>
<td>3</td>
<td>ITEM 740.03 - PERMANENT YELLOW CENTER &amp; WHITE EDGE LINES</td>
<td>3 pieces</td>
<td></td>
<td>$16,000.00</td>
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<td>4</td>
<td>ALTERNATE BID: (Only if Authorized) SAFETY EDGE – ITEM SPECIAL (as per note)</td>
<td>LUMP SUM INCLUDING ALL INCIDENTALS</td>
<td></td>
<td>$1,600.00</td>
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<tr>
<td>5</td>
<td>ITEM 253 - PAVEMENT PLANING (10&quot;X 22 1/2&quot;X 1 1/4&quot; Depth Topped Out @ 8 Locations / 25 X 22 1/2&quot;X 1 1/4&quot; Depth Topped Out @ 2 Locations)</td>
<td></td>
<td></td>
<td>$30,000.00</td>
</tr>
</tbody>
</table>

**GRAND TOTAL PLAIN CITY GEORGESVILLE**: $691,291.00

**GRAND TOTAL AMOUNT**: $1,002,933.50
Recognize This?
24° Edge Bevel not 30°
Slight snow plow scuffing (no damage)
The Good

• Achieved sufficient interlock with existing
  – We exposed the edge with grader (Clip)
• Edge is now beveled
• Compaction is good at top of bevel (2”)
• Roadway is much safer in terms of roadway departure
The Not so Good

- Edge bevel is not consistent
  - Varies from 20° to 45°
- Compaction may be less at bottom of bevel
- Bevel Portion is not smooth
  - May not be a bad thing, time will tell.
2010
CR25 - Rosedale Road

• 400 ADT
• 3.05 miles long
• Some curves and hills (for Madison County)
• 0 Fatalities and limited injuries
It starts with the Contract and/or Contractor.
Rolling is a critical piece with Safety Edge
The Good

- Achieved sufficient interlock with existing
  - We exposed the edge with grader (Clip)
- Results were more consistent
- All Edges are now beveled at 30 degrees
- Roadway is much safer in terms of roadway departure
The Not so Good

• Compaction is just O.K.
  – Universal Shoe has no slope as material is pulled against it.
• Bevel Portion still is not smooth
  – Mix Design?
  – May not be a bad thing, time will tell.
• Still requires knowledge to set-up and adjust to achieve optimum results
• I wish I was elected in a slightly larger County that had a PR person on staff
What does it take to achieve a Safety Edge Success Story?

• Specify an “Tried & True” attachment
  – Advent Edge, Transtech Systems or industry accepted equal.
• Make sure the existing edge is exposed (clipped)
• Inspect to make sure the set-up is providing the desired results
• Install berm up to the top of the edge bevel
• It’s not “ROCKET SCIENCE”
Where is a Safety Edge not appropriate?

• ???
• Wherever you know someone will never try to “re-enter” the roadway
• I can’t think on a location where it can’t be installed
Why do we care about Safety?

What happened here?
TUESDAY, JULY 31, 2007

The Madison Press

20 PAGES SERVING GREATER MADISON COUNTY, OHIO, SINCE 1842 NEWSTAND 50¢ - HOME DELIVERY 33¢

WEST JEFFERSON

Woman killed in rollover accident

WEST JEFFERSON — Jennifer Zimmerman, 28, of Galloway, was killed Monday afternoon when she lost control of the vehicle she was driving on Plain City-Georgetown road just north of I-70.

An Ohio Highway Patrolman at the scene said Zimmerman, who was driving a Saturn SUV, was traveling south at a high rate of speed when she lost control of the vehicle on a sharp curve.

The vehicle ran off the roadway and traveled along a ditch for some distance.

Zimmerman apparently over-correction while trying to regain control of the SUV, came out of the ditch, crossed the roadway and hit another ditch, the officer said.

The car then flipped and rolled several times before coming to rest in a field of yellow daisies.

Zimmerman, who was not wearing a seat belt, was thrown from the vehicle. Her body was found about 40 yards from the car.

Squad from the West Jefferson Fire Department responded to the crash.

According to the Patrol, the accident is still under investigation.

Funeral arrangements are pending.

An Ohio State Highway Patrolman investigates the crash that killed a Galloway woman.
How did it happen?
I hope I never see that again!
Safety Edge is an “Insurance Policy”
I hope we never need it,
but I’m glad it’s there!
Questions?

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