“Safety is a good thing.”

Updated!!!!

Safety Countermeasures

- Proven Safety Countermeasures
- Other Countermeasures

Final Thoughts
Safety Countermeasures

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Updated!!!!

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Final Thoughts
“Highway Safety is a good thing.”

- Rick O. Drumm, P.E.
Indiana Highway Fatalities

![Graph showing Indiana Highway Fatalities from 1996 to 2011. The red line represents the number of fatalities, and the yellow line represents the 5-year average. The graph shows a general downward trend in fatalities over the years.]
Highway Fatality Rate
National vs. Indiana
(fatalities per 100 MVMT)
Motor Vehicle Crashes is the leading cause of death for the following age groups:

- 4-7
- 8-15
- 16-20
- 21-24
- 25-34
Indiana: 2009

**Injury Crashes**
- Local/City: 48%
- County: 14%
- Interstate: 6%
- State: 17%
- US Route: 11%
- Unknown: 4%

**Fatality Crashes**
- Local/City: 24%
- County: 25%
- Interstate: 9%
- State: 24%
- US Route: 17%
- Unknown: 1%
Systems Approach: Contributing Factors to Crashes

- Roadway: 34%
  - 3% (Intersection)
  - 6% (Other)

- Driver: 93%
  - 27% (Drowsy/Distraction)
  - 57% (Errors)

- Vehicle: 12%
  - 2% (Vehicle Condition)
  - 3% (Others)
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Safety Countermeasures

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Final Thoughts
9 Proven Safety Countermeasures

1. Safety Edge
2. Roundabouts
3. Corridor Access Management
4. Backplates with Retroreflective Borders
5. Longitudinal Rumble Strip(e)s on 2-Lane Roads
6. Enhanced Delineation and Friction for H-Curves
7. Medians and Ped Xing Islands in Urban/Suburban
8. Pedetrian Hybrid Beacon
9. Road Diets
1. Safety Edge
2. Roundabouts
4. Backplates with Retroreflective Borders
Westfield
5. Longitudinal Rumble Strips and Stripes on 2-Lane Roads

- Centerline Rumble Strips
- Edgeline Rumble Strips (Rumble Stripes)
CLRS in Indiana

- SR 38, from SR 39 to US 421, Clinton County
- US 35, from US 24 to SR 16, Cass County
- SR 120, from SR 13 to SR 5, Elkhart and LaGrange Counties
- US 231, from I-65 to US 24, White County (let, not built)
1. Place Milled Centerline Corrugations in accordance with the table below:

<table>
<thead>
<tr>
<th>Roadway Description</th>
<th>Typical Drawing Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roadway with 11 feet or greater lane width and minimum of 3 feet of paved shoulder.</td>
<td>Detail #1</td>
</tr>
<tr>
<td>Roadway with 11 feet lane width and less than 3 feet of paved shoulder.</td>
<td>Detail #2</td>
</tr>
</tbody>
</table>

2. See Sheet 2 of 2 for corrugation placement at intersections and driveways.

**INDIANA DEPARTMENT OF TRANSPORTATION**

**MILLED CENTERLINE CORRUGATIONS, MCC**
Clinton County
Elhart-LaGrange Counties
Cass County
6. Enhanced Delineation and Friction for Horizontal Curves
8. Pedestrian Hybrid Beacon

HAWK - High intensity Activated crossWalk

2009 MUTCD Chapter 4F.
Pedestrian Hybrid Beacons
9. “Road Diets” (Roadway Reconfiguration)
Safety Countermeasures

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- Other Countermeasures

Final Thoughts
Cable Guardrail for Interstate Medians
Alternative Intersections
Four Intersection Concepts

DISPLACED LEFT-TURN

MEDIAN U-TURN

RESTRICTED CROSSING U-TURN

QUADRANT ROADWAY
RRFB

Rectangular Rapid Flash Beacon
Lake County
Para cruzar la calle, por favor presione el botón rojo por dos segundos

1. Push Button To Alert Motorist
2. Wait For Vehicles To Stop
3. Cross Carefully
4. Thank The Driver
Safety Countermeasures

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Final Thoughts
Let me explain. No, there is too much. Let me sum up...

- “Safety is a good thing.”
Let me explain. No, there is too much. Let me sum up...

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  “Highway Safety is a good thing.”

- Consider Proven Safety Countermeasures

- Consider Other Safety Countermeasures
Cause Safety