INDOT Rumble Stripe Implementation Update

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So what’s a rumble stripe?

Rumble strip
So what’s a rumble stripe?

Edgeline Rumble Stripe (ELRS)
So what’s a rumble stripe?

Centerline Rumble Stripe (CLRS)
INDOT implementation

- INDOT approved new specification for contracts beginning in September 2013

- After 2 construction seasons
  - XXX miles of rumble stripes installed
Safety Benefits

- **NCHRP Report 641**
  - Crash Reduction Factors (CRF) on 2-lane rural roads
    - 38-50% in head-on and opposite-direction-sideswipe injury crashes (CLRS)
    - 26-46% in run-off-road injury crashes (ELRS)

- **We’re saving lives! Everyone is happy, right?**
Public complaints

- **Noise** – external noise that is
  - US 6 in DeKalb County
  - SR 46 in Bartholomew County
  - Public Meeting at Seymour District in June 2015 to solicit public input

- **Pavement marking deterioration and elimination of raised pavement markers (RPM’s)**
Potential Solution

Sinusoidal rumble stripes
Sinusoidal Rumble Stripes
Sinusoidal Rumble Stripes
In-Vehicle Sound Profile

Sound Level (dB)

Time Elapsed During Run (1/10 sec)

Sinusoidal Centerline

Traditional Centerline
Roadside Sound Profile

- **Sound Level (dB)** vs. **Time Elapsed During Run (1/10 sec)**

- **Sinusoidal Centerline**
- **Traditional Centerline**
JTRP Project

- SPR-4016 – “Assessment of Alternative Rumble Stripe Construction”
  - 10 locations in Fort Wayne, Seymour and Crawfordsville District to evaluate sinusoidal corrugations in 2016 construction season
  - How will varying the wavelength of the sine curve affect the internal/external noise and vehicle vibration characteristics?
Pavement Marking Quality