Minnesota: Are You Ready to Mumble?

Adapted from the Crossroads Article, "Minnesota, Are you Ready to Mumble?"

Although they serve as an effective warning to drivers, rumble strips can cause unwanted noise for nearby landowners when a vehicle drifts over a centerline or edgeline. Luckily, Minnesota may have found a quieter rumble strip in California.

A comparison study along a rural highway near Crookston, Minnesota shows that California's standard wave-shaped rumble strip design outperforms Minnesota's and Pennsylvania's by producing less external noise and generating tones that are less abrupt in a rural environment while still adequately alerting drivers inside the vehicle.

A California-style sinusoidal rumble strip, installed along a Polk County Highway.

"California's rumble strip still gave significant feedback to drivers, but it was significantly less noticeable outside the vehicle," said engineering consultant Ed Terhaar, who performed a noise analysis with acoustical engineer David Braslau on behalf of the Minnesota Local Road Research Board.

Both the LRRB and the Minnesota Department of Transportation, which is sponsoring a companion study, are interested in finding a new design that still captures the driver's attention, but minimizes the sound heard by neighboring residents. The next step for researchers is to test variations of the California rumble strip design at MnDOT's Road Research Facility (MnROAD).

Related Resources
For more information, please visit the following related resources:

- Original Crossroads Article, "Minnesota, Are you Ready to Mumble?":
  http://mntransportationresearch.org/2015/03/16/minnesota-are-you-ready-to-mumble/

- YouTube Video: https://www.youtube.com/watch?v=W3-uPGb1nmM

- Rumble Strip Noise Evaluation Study:
  http://dotapp7.dot.state.mn.us/projectPages/pages/projectDetails.jsf?id=11877&type=CONTRACT

- Crossroads Article, "MnDOT Looks for Solution to Noisy Highway Rumble Strips":
  http://mntransportationresearch.org/2014/05/05/mndot-hopes-to-find-solution-to-noisy-highway-rumble-strips/