



Transverse Rumble Strip

Raised or grooved patterns placed perpendicular across a lane to alert drivers through noise and vibration of upcoming hazards and encourage speed reduction.

Implementation Strategy

How and Where to Apply

- Installed perpendicular across the full lane width at locations such as rural stop-controlled intersections, curves, pedestrian crossings, and work zones.
- Installed during road resurfacing or as retrofits using materials like thermoplastic, milled asphalt, or epoxy, transverse rumble strips help reduce approach speeds and improve driver reaction times at critical decision points.
- The **FHWA** states that this marking can be useful in work-zones, "Temporary transverse rumble strips can alert drivers approaching a work zone to the need to slow down or stop."

Key Stakeholders

State DOTs, local law enforcement agencies

Proactive Implementation

Transverse rumble strips should be installed at high-risk locations during resurfacing or new construction before crashes occur. This includes using materials optimized for durability and visibility, strategically spacing strips to create effective deceleration cues, and combining them with enhanced signage and pavement markings. Implementation is guided by traffic data and integrated within broader safety programs like the SSA.

Use in a Safe System Approach

Centerline rumble strips support the SSA by providing sensory feedback through noise and vibration, they help accommodate human limitations such as inattention and fatigue, reducing the likelihood and severity of crashes.

Countermeasure Overview

Objective: Keep vehicles from encroaching on the roadside

Strategy: Install mid-lane rumble strips

Selected Related Countermeasures

- CM1** Shoulder Rumble Strips
- CM2** Centerline Rumble Strips
- CM3** Edgeline Rumble Strips

Cost: \$ (low)

Service Life: <1 years

Benefit-Cost Ratio: 3.7 to 66.7

Targeted Solution



CONTRIBUTING FACTORS

- Lane departure
- Driver inattention



TARGET CRASH TYPE

- Head-on



ROAD FACILITY TYPE

- Two-lane or multilane roads



AREA TYPE

- Rural

Safety Linkage



NCHRP 500 Series

Head-on Crashes



SAFE SYSTEM APPROACH

Safe Roads



AASHTO'S TOWARD ZERO DEATHS

Safer Infrastructure

SAFE SYSTEM ROADWAY DESIGN

TIER 1
TIER 2
TIER 3
TIER 4

Tier 4

Source: Transverse Rumble Strips



Alerts drivers to hazards and encourages speed reduction through vibration and noise.

Resources

- [FHWA Longitudinal Rumble Strips](#)
- [Centerline rumble strips on secondary highways](#)
- [Traffic safety bulletin 20-07: rumble strip guidelines](#)
- [Benefit-cost Ratio](#)
- [FHWA-SA-24-033](#)

