

Install Centerline Rumble Strips



Centerline rumble strips on straight sections of undivided highways alert drivers who unintentionally drift due to distraction or drowsiness.

Implementation Strategy

How and Where to Apply

- Install centerline rumble strips on straight, undivided rural highways to reduce head-on, sideswipe, and run-off-road crashes from inattention. Not suitable for multilane divided roads, or noise-sensitive segments.
- Centerline rumble strips are milled into pavement to warn drifting drivers through tactile vibration and audible noise.
- FHWA identifies centerline rumble strips as a proven countermeasure to reduce head-on and opposite-direction sideswipe crashes on two-lane rural roads

Use in a Safe System Approach

Centerline rumble strips support Safe Roads and Safe Road Users by providing tactile and audible cues that help drivers correct lane departures early, reducing head-on and sideswipe crashes and reinforcing the Safe System Approach principle that mistakes should not cause serious injury.

Key Stakeholders

State DOTs, MPOs, engineering consultants, construction contractors, advocacy groups.

Proactive Implementation

For center line applications, milled rumble strips are preferred for their effectiveness and ease of installation. The recommended dimensions (7" wide, 16" long, 0.5" deep) provide optimal noise and vibration. Since center line strips produce more in-vehicle noise than shoulder strips, they can be effective at shallower depths.

Countermeasure Overview

Objective: Keep vehicles from encroaching on the roadside.

Strategy: Install centerline rumble strips.

Selected Related Countermeasures

- CM1 Shoulder Rumble Strips
- CM2 Install Rectangular Shaped Rumble Strips
- CM3 Install Football-Shaped Rumble Strips

Cost: \$ (Low)

Service Life: 10 years

Benefit-Cost Ratio: 75.0:1

Targeted Solution



CONTRIBUTING FACTORS

- Reduced visibility
- Driver inattention/distraction



TARGET CRASH TYPE

- Single Vehicle
- Sideswipe
- Head-on



ROAD FACILITY TYPE

- All



AREA TYPE

- All

Safety Linkage



NCHRP 500 Series

Run-off Road



AASHTO'S TOWARD ZERO DEATHS

Safer Infrastructure



SAFE SYSTEM APPROACH

Safe Roads

SAFE SYSTEM ROADWAY DESIGN

TIER 1

TIER 2

TIER 3

TIER 4

Tier 4

64%

Reduces head-on and sideswipe crashes across severity levels K, A, B, and C on urban undivided two-lane roads (CMF ID: 3356)

44%

Reduces angle, head-on, rear-end, sideswipe, and single-vehicle crashes, along with K-type severity, on rural undivided two-lane roads (CMF ID: 7249)



Resources

- FHWA Longitudinal Rumble Strips
- Centerline rumble strips on secondary highways
- Traffic safety bulletin 20-07: rumble strip guidelines

Centerline Rumble Strips Source: FHWA.

