

Install Shoulder Rumble Strips



Shoulder 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 shoulder rumble strips on straight, undivided rural highways where there's a higher risk of head-on, sideswipe, or run-off-road crashes due to driver inattention.
- Shoulder rumble strips are milled into the pavement during resurfacing or as a retrofit to warn drifting drivers through tactile vibration and audible noise signals.
- The **FHWA** states that this marking can be used: "Shoulder line rumble strips are a proven safety countermeasure shown to reduce head-on and opposite-direction sideswipe crashes on two-lane rural roads."

Use in a Safe System Approach

Shoulder rumble strips support the SSA by providing tactile and audible warnings to drifting drivers, enabling early corrective action and reducing head-on and run-off-road crashes on undivided highways.

Key Stakeholders

State DOTs, local law enforcement agencies

Proactive Implementation

For shoulder 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 shoulder 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 shoulder rumble strips

Selected Related Countermeasures

- CM1** Centerline Rumble Strips
- CM2** High-Visibility Pavement Markings
- CM3** Enhanced Curve Delineation

Cost: \$ (low)

Service Life: 10 years

Benefit-Cost Ratio: 58.6:1

Targeted Solution



CONTRIBUTING FACTORS

- Reduced visibility
- Driver inattention



TARGET CRASH TYPE

- Run-off-road



ROAD FACILITY TYPE

- Principal Arterial Other
- Freeways and Expressways



AREA TYPE

- All

Safety Linkage



NCHRP 500 Series

Run-off Road



Safe Roads

SAFE SYSTEM ROADWAY DESIGN

TIER 1

TIER 2

TIER 3

TIER 4

Tier 4



AASHTO'S TOWARD ZERO DEATHS

Safer Infrastructure

Safety Benefits

47%

An effective safety device on undivided high-speed roads, reducing frontal and opposite-direction crashes¹

16%

Helps prevent head-on, sideswipe, and opposite-direction run-off-the-road collisions

¹ CMF ID: 3561

² CMF ID: 3442

Resources

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

Install Shoulder Rumble Strips Source: SAIN

