

# Install Rectangular Shaped Centerline Rumble Strips



Installing mid-lane rumble strips helps keep vehicles from encroaching on the roadside.

## Implementation Strategy

### How and Where to Apply

- Install rectangular-shaped centerline rumble strips (CLRS) on undivided two-lane rural highways, particularly in areas with a history or risk of head-on and sideswipe crashes due to lane departure.
- This shape is typically installed during resurfacing or rehabilitation projects and provides a balance between effective driver alerting and noise control.
- Studies indicate that rectangular CLRS can reduce crash rates comparably to traditional designs while producing less external noise.

### Use in a Safe System Approach

Rectangular CLRS contribute to the SSA by reducing the risk of severe lane departure crashes. They maintain effective tactile and audible warnings while mitigating community concerns about roadway noise, allowing for broader deployment across rural networks.

### Key Stakeholders

State DOTs, Highway Safety Engineers, Pavement Designers

### Proactive Implementation

Agencies should prioritize rectangular CLRS on corridors with crash trends involving centerline encroachment or in areas with public opposition to traditional (louder) rumble strips. The Minnesota Department of Transportation found that rectangular designs performed favorably in crash reduction and were more acceptable to nearby residents.

## Countermeasure Overview

**Objective:** Keep vehicles from encroaching on the roadside

**Strategy:** Install mid-lane rumble strips

## Selected Related Countermeasures

- CM1** Enhanced centerline markings
- CM2** Centerline buffers or channelization treatment
- CM3** Roadside hazard removal

**Cost:** \$ (low)

**Service Life:** 10 years

**Benefit-Cost Ratio:** 21.3:1

## Targeted Solution



### CONTRIBUTING FACTORS

- Reduced visibility
- Driver inattention



### TARGET CRASH TYPE

- Single Vehicle
- Head-on
- Opposite Direction Sideswipe



### ROAD FACILITY TYPE

- All



### AREA TYPE

- Rural

## Safety Linkage



### NCHRP 500 Series

Run-off Road



### 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

## Safety Benefits

60%

Helps prevent cross median crashes of all severity types<sup>1</sup>

31%

Reduces crash severities on all crash types<sup>2</sup>

<sup>1</sup> CMF ID: 5395

<sup>2</sup> CMF ID: 5397

### Resources

- [Rectangular Rumble Strip Safety Evaluation](#)
- [Comparison of Football Shaped Rumble Strips versus Rectangular Rumble Strips](#)



Install Centerline Rumble Strips Source: [Iohud](#).

