

Install Edgeline or Shoulder Rumble Strips



Rumble strips are grooved or raised patterns along lane edges that produce sound and vibration to alert drivers unintentionally leaving the roadway .

Implementation Strategy

How and Where to Apply

- Install on rural highways or freeways with documented run-off-road crashes and shoulders at least 4 feet wide for effective implementation.
- Apply during resurfacing projects using FHWA/AASHTO specifications, including gaps or bypasses to accommodate bicycle traffic and minimize user conflicts.
- The **FHWA** states that "Shoulder and Center Line Rumble Strips are a proven safety countermeasure that reduces roadway departure crashes by alerting distracted, drowsy, or inattentive driver."

Use in a Safe System Approach

Supports the Safe System Approach by improving Safer Roads and Safer People. Rumble strips provide early intervention before a crash occurs and reduce crash severity by encouraging vehicle re-entry onto the roadway..

Key Stakeholders

State and local transportation agencies, Metropolitan Planning Organizations (MPOs), Pedestrian Advocacy Groups and Community Organizations

Proactive Implementation

Proactive implementation involves installing rumble strips during resurfacing projects and targeting roads with risk factors like curves, high speeds, or night driving. Using systemic analysis, agencies can prioritize locations even without a crash history. Early stakeholder engagement ensures bicycle accommodation and consistent application of FHWA or AASHTO design standards.

Countermeasure Overview

Objective: Keep vehicles from encroaching on the roadside

Strategy: Install edgeline profile marking, edgeline rumble strips or modified shoulder rumble strips on section with narrow or no paved shoulders.

Targeted Solution



CONTRIBUTING FACTORS

- Reduced visibility
- Driver inattention



TARGET CRASH TYPE

- Run-off-road



ROAD FACILITY TYPE

- Rural two-lane divided / undivided



AREA TYPE

- All

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

Selected Related Countermeasures

- CM1** High Friction Surface Treatments (HFST)
- CM2** Clear Zone Improvements
- CM3** Lane Departure Warning Systems

Cost: \$ (Low)

Service Life: 10 years

Benefit-Cost Ratio: 36:1

Source: Driven2Drive

16%

Reduce Run off road crashes Rural road¹

¹ CMF ID: 9763

Resources

- [FHWA Proven Safety Countermeasures](#)
- [FHWA Rumble Strip Implementation Guide](#)

