Install Shoulder Rumble Strips and Widen Shoulder



Installing shoulder rumble strips and widening the shoulder can improve the visibility and longevity of the pavement under adverse conditions.

Implementation Strategy

How and Where to Apply

- Install shoulder rumble strips on rural roads, especially in areas prone to run-off-road crashes and with limited visibility or horizontal curves. These rumble strips alert drifting drivers through vibration and noise, reducing lane departures.
- Widen shoulders to provide a safe recovery area that allows drivers space to regain control if they veer off the travel lane.
- Combining shoulder widening with rumble strips amplifies safety benefits by providing both immediate warning and physical recovery space.

Use in a Safe System Approach

By alerting drivers of unintentional lane departures and providing a forgiving roadside environment, shoulder rumble strips paired with widened shoulders align with the SSA's goal of mitigating human error and reducing crash severity.

Key Stakeholders

State DOTs, Local Road Maintenance Agencies

Proactive Implementation

Prioritize installation in rural corridors with high incidences of run-off-road and head-on crashes, particularly on segments with horizontal curves or poor visibility. Integrate these measures during resurfacing or shoulder improvement projects for cost efficiency. Use crash data and roadway characteristics to target locations with the greatest safety needs.

Countermeasure Overview

Objective: Keep vehicles from encroaching on the roadside

Strategy: Provide improved highway geometry for horizontal curves

Cost: \$\$\$ (high)

Service Life: 20 years

Benefit-Cost Ratio: 100:1

Targeted Solution



- Reduced visibility
- **Driver** inattention



Run-off Road



Not specified



Rural

Safety Linkage



Run-off Road



Safer Infrastructure



Safe Roads



Tier 1

Selected Related Countermeasures



Clear zone improvements



Enhanced pavement markings



Guardrails and barriers

These improvements help reduce crash severities in all crash types in rural areas1

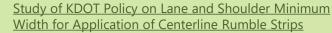


Reduces fatal, serious, minor, and possible crash severity in rural areas2

¹ CMF ID: 6667

² CMF ID: 6665

Resources



Studies to Determine the Operational Effects of Shoulder and Centerline Rumble Strips on Two-Lane Undivided Roadways

