

Provide 2-ft Paved Shoulders (Both Sides)



2-ft paved shoulders add narrow recovery space along rural roads to reduce run-off-road crashes and improve edge safety.

Implementation Strategy

How and Where to Apply

- 2-ft paved shoulders are commonly used on rural two-lane roads with narrow or no shoulders.
- They are especially effective on segments with high run-off-road crash rates or roadside hazards.
- Not recommended on constrained corridors where widening reduces lane widths or significantly impacts adjacent land without strong safety benefits.

Use in a Safe System Approach

Providing 2-ft paved shoulders enhances safe roads, reduces run-off-road crashes, supports shared responsibility, addresses human mistakes, and ensures proactive, redundant safety by offering recovery space, improving stability, and protecting all road users effectively.

Key Stakeholders

State DOTs, MPOs, county highway departments, engineering consultants, safety advocacy groups.

Proactive Implementation

2-ft paved shoulders can be proactively added during resurfacing or preservation projects on rural roads with run-off-road or edge-related crash histories. A systemic approach can help identify segments with narrow lanes, steep edge drop-offs, or limited clear zones. Where full-width shoulders are not feasible, this treatment offers cost-effective safety benefits. Including it in maintenance programs allows agencies to improve safety incrementally across the network.

Countermeasure Overview

Objective: Keep vehicles from encroaching on the roadside.
Strategy: Apply shoulder treatments (Widen and/or pave shoulders).

Selected Related Countermeasures

- CM1** Safety edge paving
- CM2** Rumble strips along shoulder edge
- CM3** Widening full-width shoulders where feasible

Cost: \$\$ (Moderate)
Service Life: 20 years
Benefit-Cost Ratio: 0.08:1 to 2.2:1

Targeted Solution



CONTRIBUTING FACTORS

- Reduced visibility
- Driver inattention/distraction



TARGET CRASH TYPE

- Run-off-road



ROAD FACILITY TYPE

- N/A



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 1

2-ft Paved Shoulders. Source: VHB.

16%

Reduces run-off-road crashes of K, A, B, and C severities on rural undivided roads ([CMF ID: 10416](#))

06%

Reduces run-off-road crashes of K, A, B, and C severities on rural undivided roads ([CMF ID: 10400](#))

Resources

- [FHWA. Low-Cost Safety Improvements for Rural Roads](#)
- [FHWA Proven Safety Countermeasures \(28 No. page\)](#)

