NCHRP 17-113 COUNTERMEASURES

Reduce Lane Width from 12 ft to 9 ft

SPEEDING

Reducing lane widths can lower vehicle speeds by encouraging cautious driving and increases driver attentiveness due to perceived narrower space.

Implementation Strategy

How and Where to Apply

- Reduce lane widths from standard 12 feet to 9 feet on urban streets with low to moderate speed limits (≤35 mph), particularly in areas with high pedestrian or bicycle activity.
- Can be implemented as part of a road diet, striping changes, or full roadway redesign.
- Narrower lanes visually and psychologically cue drivers to reduce speed, improving reaction time and safety margins in dense traffic settings.

Use in a Safe System Approach

This countermeasure encourages safer operating behavior by changing the physical design of the road to support lower speeds and minimize the potential for severe crashes. Narrower lanes naturally discourage speeding and aggressive maneuvers, creating a self-enforcing environment aligned with SSA goals.

Key Stakeholders

City Transportation Departments, Urban Planners

Proactive Implementation

Target locations with documented speeding issues or crash clusters involving vulnerable road users. Consider lane narrowing during resurfacing, restriping, or corridor redesign projects. Streets serving schools, transit stops, and commercial corridors are prime candidates. Engage community stakeholders to align with broader multimodal and safety goals.

Countermeasure Overview

Objective: Ensure that roadway design and traffic control elements support appropriate and safe speeds

Strategy: Use combinations of geometric elements to control speeds

Targeted Solution

CONTRIBUTING FACTORS	▪ Unsafe speed ▪ Aggressive Driving Behaviors
TARGET CRASH TYPE	▪ Speeding
ROAD FACILITY TYPE	▪ All
AREA TYPE	▪ Urban

Safety Linkage

NCHRP 500 Series	SAFE SYSTEM APPROACH
Speeding	Safer Speeds
AASHTO'S TOWARD ZERO DEATHS	SAFE SYSTEM ROADWAY DESIGN
Safer Infrastructure	Tier 2

TIER 1
TIER 2
TIER 3
TIER 4

Selected Related Countermeasures

- CM1 Pedestrian refuge islands
- CM2 Road diets
- CM3 Buffered bike lanes

Cost: $ (Moderate)

Service Life: 20 years

Benefit-Cost Ratio: 2:1

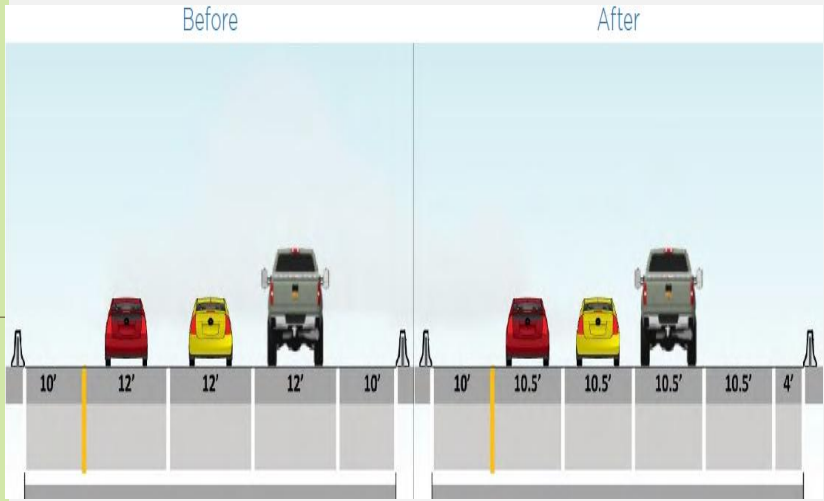
Reduced lane width. Source: fhwa.dot.gov.

Safety Benefits

43%

Reduced risk of all crash types involving fatal, serious, minor, or possible injuries in urban areas[1]

[1] CMF ID: 8163



Resources

- Transportation Benefits and Costs of Reducing Lane Widths on Urban and Rural Arterials
- Reducing Lane and Shoulder Width to Permit an Additional Lane on a Freeway