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.
- Implemented through road diets, striping changes, or full redesigns, narrower lanes cue drivers to slow down, improving reaction time and safety margins in dense traffic.
- Best used in urban settings with high pedestrian and cyclist activity to calm speeds, but not ideal on high-speed rural highways or freight-heavy corridors where wider lanes are necessary.

Use in a Safe System Approach

This countermeasure promotes safer behavior by redesigning the road to lower speeds and reduce severe crash risk. Narrower lanes discourage speeding and aggressive maneuvers, creating a self-enforcing environment aligned with SSA goals.

Key Stakeholders

State DOTs, traffic safety engineers, urban planners, law enforcement agencies.

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 (horizontal and vertical curves, cross section) to control speeds, including providing design consistency along an alignment.

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

Speeding

AASHTO'S TOWARD ZERO DEATHS

Safer Infrastructure

SAFE SYSTEM APPROACH

Safer Speeds

SAFE SYSTEM ROADWAY DESIGN

TIER 1
TIER 2
TIER 3
TIER 4

Tier 2

Selected Related Countermeasures

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

Cost: $$ (Moderate)
Service Life: 20 years

Safety Benefits

43% Reduces all crash types and severity levels K, A, B, and C on all urban road types (CMF ID: 8163)

28% Reduces rear end crashes and severity for all types on urban in all road types (CMF ID: 8166)

Resources

- Narrowing Freeway Lanes and Shoulders to Create Additional Travel Lanes
- Achieving Multimodal Networks

Reduced Lane Width.