NCHRP 17-113 COUNTERMEASURES

SPEEDING

Decrease Lane Width

Reducing lane widths is a geometric design strategy used to moderate vehicle speeds, reallocate road space for other users, and improve overall street safety.

Implementation Strategy

How and Where to Apply

- Implement during resurfacing projects to restripe lanes and reallocate space without costly full-depth reconstruction
- Ideal for urban arterials, school zones, and transit corridors with high pedestrian, cyclist, and vehicle interaction. Not suitable on high-speed roads or where narrow lanes raise crash risk without other measures.
- The NACTO states "Narrower lanes can reduce speeds, enhance safety for all users, and are acceptable in low-speed environments"

Use in a Safe System Approach (SSA)

Reducing lane width supports Safe Roads and Safe Speeds by moderating vehicle speeds, creating space for vulnerable users, and lowering crash likelihood and severity. It reinforces the SSA principle that roads should be forgiving of human error and limit crash forces to survivable levels.

Key Stakeholders

State DOTs, MPOs, engineering consultants, freight/trucking associations, safety advocacy groups, transit agencies.

Proactive Implementation

Integrate 10-foot lanes during resurfacing or redesign projects, prioritizing areas with high pedestrian and cyclist activity. Coordinate with transit and emergency services for compatibility. Use pilot programs or quick-build methods to test reductions before permanent adoption, supported by community input and context-sensitive design.

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

Speeding-Related Crashes

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 Road Diets
- CM2 Curb Extensions
- CM3 Raised Crosswalks

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

Safety Benefits

59%

Decrease lane width from 11 feet to 9 feet Reduces all crash types across severity levels K, A, B, and C on all urban roads (CMF ID: 8173)

54%

Decrease lane width from 11 feet to 9 feet reduces all crash types across severity levels K, A, B, and C on all urban roads (CMF ID: 8178)

Resources

- National Association of City Transportation Officials (NACTO).
- FHWA. Roadway Widths and Lane Configurations on Urban Streets

Lane Width from 11 Feet to 10 Feet. Source: State Smart Transportation.