NCHRP 17-113 COUNTERMEASURES

Convert 4-lane Undivided Road to 2-lanes plus Turning Lane

INTERSECTIONS

A Road Diet enhances safety by reducing conflict points and vehicle speeds and is commonly implemented on urban or suburban roads with moderate traffic volumes.

Implementation Strategy

How and Where to Apply

- It can be installed on urban or suburban roads with moderate traffic volumes, typically under 20,000 vehicles per day
- It is ideal for corridors with a history of crashes, excessive speeding, or inadequate pedestrian and bicycle infrastructure. Road Diets are also effective in areas seeking to improve multimodal access and enhance streetscape livability.
- **MUTCD** supports Road Diet components through guidance on turn lanes, bike lanes, and lane reductions

Use in a Safe System Approach

Supports the Safe System Approach by reducing speeds and sideswipe crash, aligning with "Safer People" by addressing risky lane changes. As a Tier 2 measure, the road diet manages flow and discourages aggressive driving on arterials without removing conflict points.

Key Stakeholders

State DOT, Local enforcement, active road users

Proactive Implementation

Proactive implementation of a Road Diet targets urban or suburban roads with moderate traffic and crash history, ideally during resurfacing projects. Key considerations include traffic flow, emergency access, transit coordination, and community engagement to ensure safe, multimodal use.

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

Targeted Solution

CONTRIBUTING FACTORS	▪ High speed ▪ Frequent lane changes
TARGET CRASH TYPE	▪ Left turn
ROAD FACILITY TYPE	▪ Minor Arterial
AREA TYPE	▪ Urban

Safety Linkage

NCHRP 500 Series

Unsignalized Intersection

AASHTO'S TOWARD ZERO DEATHS

Safer Infrastructure

SAFE SYSTEM APPROACH

Safe Roads

SAFE SYSTEM ROADWAY DESIGN

TIER 1
TIER 2
TIER 3
TIER 4

Tier 1

Selected Related Countermeasures

- CM1 Curb Extensions (Bulb-outs)
- CM2 Improve Intersection Design
- CM3 Enhanced Left-Turn Channelization

Cost: $ (High)

Service Life: 20 years

Benefit-Cost Ratio: XX

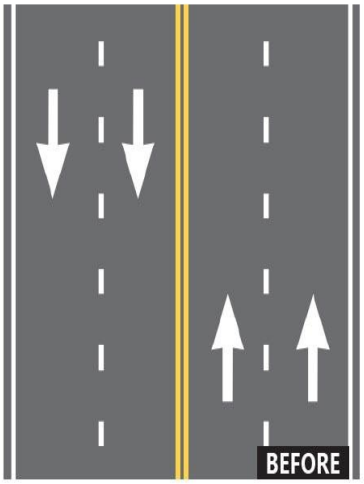
Road Diet Basic Design. Source: fhwa

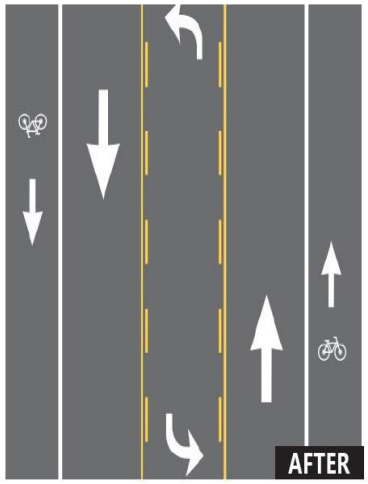
Safety Benefits

38% Reduce crashes of all types and severities[1]

47% Reduce fatal and severe crashes [1]

[1] CMF ID: 11128
[2] CMF ID: 11135





Resources

- Road Diets (Roadway Reconfiguration), FHWA (2022)
- Road Diet Summary Report, FHWA
- Road Diet Informational Guide, FHWA (2014)