

# Four to Five Lane Conversion



A Road Diet reconfigures a 4-lane road into 5 lanes, freeing space for bike lanes, transit stops, or pedestrian features to improve safety and accessibility.

## Implementation Strategy

### How and Where to Apply

- Road Diets are suitable for urban or suburban corridors with moderate traffic volumes (typically under 20,000 AADT), high crash rates, or multimodal needs like biking and walking.
- Re-stripe the roadway to convert four undivided lanes into two through lanes and a center turn lane, reallocating excess width for bike lanes, sidewalks, or parking, following FHWA design guidance and local context.

### Use in a Safe System Approach

This treatment supports the SSA by promoting safer speeds and minimizing the severity of sideswipe crashes. It aligns with "Safer People" by addressing risky lane-change behavior in urban high-speed corridors.

### Key Stakeholders

Agency maintenance personnel, DOT, Active road users

### Proactive Implementation

Proactive implementation of Road Diets involves identifying corridors with moderate traffic volumes, crash patterns, and unmet multimodal needs before severe issues arise. Agencies should conduct traffic studies and public outreach to assess feasibility and community support. Implementing a Road Diet early can improve safety, calm traffic, and create space for bikes, pedestrians, and transit users.

## Countermeasure Overview

**Objective:** Keep vehicles from encroaching into opposite lane

**Strategy:** Provide center two-way left-turn lanes for four- and two-lane roads

## Selected Related Countermeasures

- CM1** Curb extensions (bulb-outs)
- CM2** Raised medians with pedestrian refuges
- CM3** Lane narrowing with bike lanes

**Cost:** \$ (Moderate to High)

**Service Life:** 20 years

**Benefit-Cost Ratio:** xx

## Targeted Solution



### CONTRIBUTING FACTORS

- Limited passing opportunities



### TARGET CRASH TYPE

- Sideswipe



### ROAD FACILITY TYPE

- Principal Arterial
- Freeways
- Expressways



### AREA TYPE

- Urban

## Safety Linkage



### NCHRP 500 Series

Signalized Intersection



### AASHTO'S TOWARD ZERO DEATHS

Safer Infrastructure

### SAFE SYSTEM APPROACH

Safe Speeds

### SAFE SYSTEM ROADWAY DESIGN

- TIER 1
- TIER 2
- TIER 3
- TIER 4

Tier 1

Road diet basic design. Source: FHWA

## Safety Benefits

- Converting a four-lane to a five-lane road (adding a through lane) increases the number of crashes.
- To improve safety, pair lane additions with raised medians, dedicated turn lanes, and access management to better control vehicle movements and reduce conflicts.

<sup>1</sup> CMF ID: 5

<sup>2</sup> CMF ID: 4

### Resources

- FHWA Road Diet

