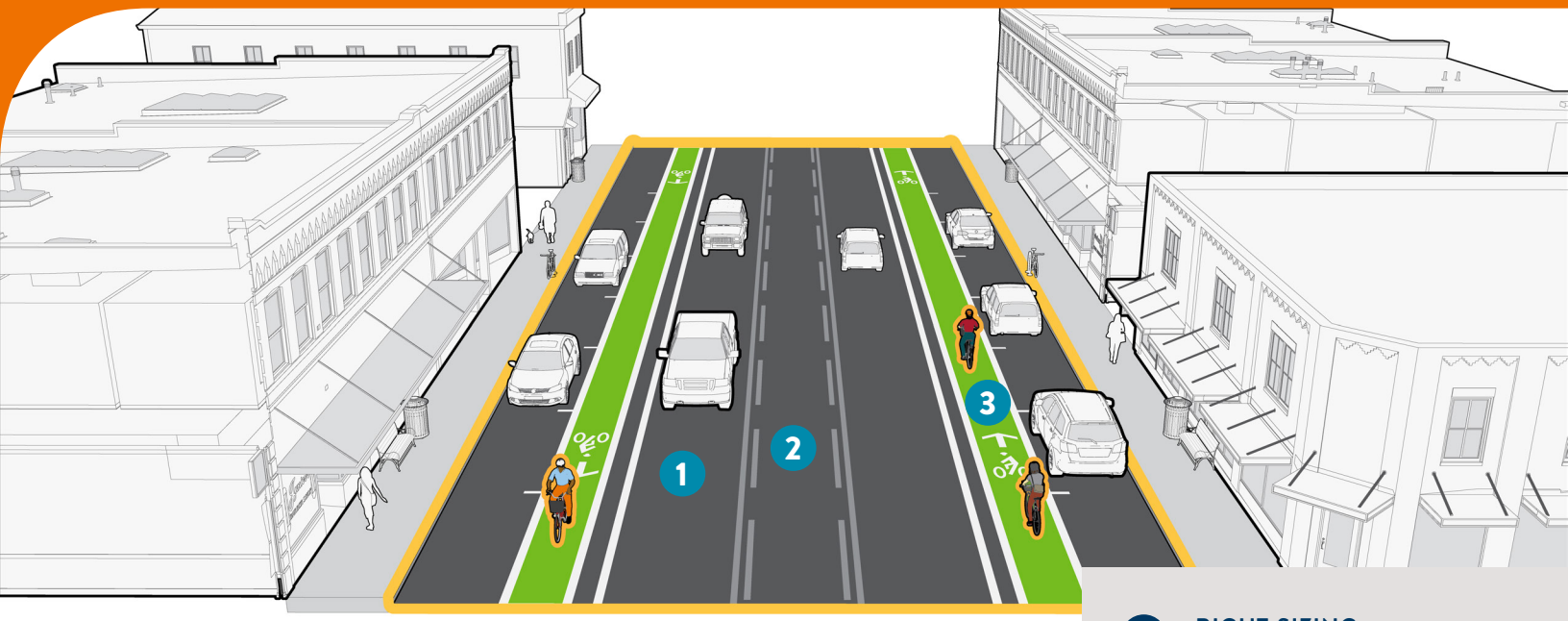

1 RIGHT-SIZING THE TRAVEL LANE
Narrowing travel lanes can moderate traffic speeds and free up extra roadway space for bikeways or on-street parking.

2 REDUCING THE NUMBER OF LANES
Reducing the number of travel lanes can create a more efficient use of the roadway.

3 ADDING BIKEWAYS
Reallocating roadway space to create bikeways is a cost-effective way to complete the bike network and provide separated facilities that feel comfortable for people of all ages and abilities.

Roadway Reallocation

Leveraging resurfacing projects to make roads more comfortable for people walking and bicycling

Rebalancing the roadway cross section can free up roadway space for bikeways, address existing speeding problems, and create more comfortable crossings for pedestrians, all within the existing curb lines.

> **On arterial roadways and at intersection approaches, a Minnesota study found NO increase in crash frequency as lane widths decrease.[1]**

Mill and overlay projects create inexpensive opportunities to provide missing walking and bicycling facilities. The following approaches can allocate more space for people walking and bicycling without widening the roadway and provide traffic calming:

- Lane diet
- Road diet
- Parking removal
- Paving existing shoulders

Converting a four-lane undivided roadway to a three-lane roadway with two through lanes and a center two-way left-turn lane has safety benefits for motorists, in addition to creating space for bicycling and walking facilities. Adding a left turn lane reduces rear-end and left-turn crashes. Right-angle crashes are also reduced as side street motorists have fewer lanes to cross.[2]

Four-to-three lane road diets are an FHWA-proven safety countermeasure, reducing total crashes by

19-47%[2]

1 Potts, I.B., Harwood, D.W., and Richard, K.R. 2007. Relationship of Lane Width to Safety on Urban and Suburban Arterials. *Transportation Research Record*, 2023: 63-82. DOI: 10.3141/2023-082

2 Federal Highway Administration. Proven Safety Countermeasures: Road Diets (Roadway Reconfiguration). FHWA-SA-17-066. https://safety.fhwa.dot.gov/provencountermeasures/road_diets/

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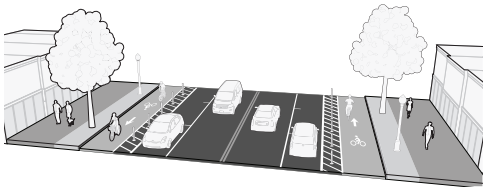
Lane Diet

Rural and suburban roadways often have extra lane width, which lane diets repurpose for other uses.

- The FHWA recommends 10 to 11 foot lanes on roadways with speeds less than 45 mph, a practice that has been adopted in cities across the country. Eleven foot outside lanes are recommended where there is significant transit or truck use.
- Narrowing a lane from 12 feet to 10 feet has almost no impact on roadway capacity.[3]

Before image of a 4-lane to 3-lane road diet.



After image of a 4-lane to 3-lane road diet.

Road Diet

A road diet reduces the number of travel lanes, most often changing a 4-lane roadway to a 3-lane roadway with a center turn lane. Roads that have lots of driveways or a high left-turn crash rate may be good candidates for a road diet.

Four-to-three-lane road diets:

- Don't typically reduce capacity on roads with moderate traffic volumes, especially if there are a lot of turning movements.
- Provide spaces for crossing islands at intersections.
- Tend to have a traffic calming effect, increasing safety for everyone on the road.
- Reduce the risk of multiple threat crashes for people walking.

Keys to Success

- For projects that change parking or remove a travel lane, allow sufficient time for a public process. Plan ahead and involve key multimodal staff early.
- Scope the project for restriping requirements, such as traffic studies and pavement marking plans.
- Review bike plans and policies for the roadway to identify bike facility projects to include.
- Plan for how the new bikeway will connect to the existing bike network.

3 Transportation Research Board, NCHRP Project 3-72, Lane Widths, Channelized Right Turns, and Right-turn Deceleration Lanes in Urban and Suburban Areas, The National Academy of Sciences, Washington D.C., 2006.

DESIGN RESOURCES

FHWA-HEP-16-025: Incorporating On-Road Bicycle Networks into Resurfacing Projects

FHWA-HEP-16-005: Achieving Multimodal Networks: Applying Design Flexibility and Reducing Conflicts

FHWA Safety Program: Road Diet Informational Guide

FHWA-SA-17-072: Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations

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