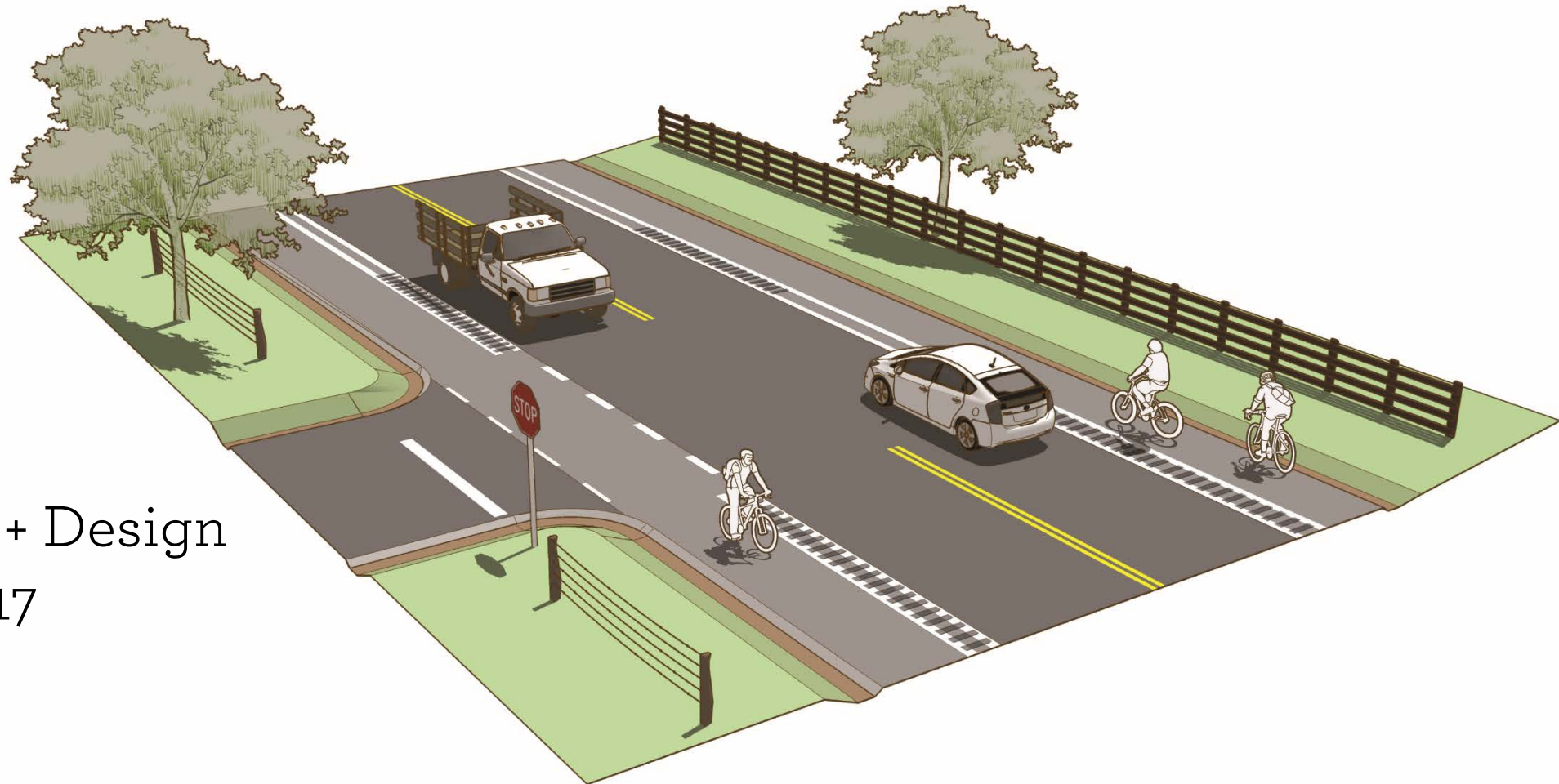


Small Town *and* Rural Multimodal Networks

Nick Falbo
Alta Planning + Design
APBP PDS 2017



USDOT Policy Statement (2010)

“... DOT encourages transportation agencies to *go beyond the minimum requirements*, and proactively provide convenient, safe, and context-sensitive facilities that foster increased use by bicyclists and pedestrians of *all ages and abilities...*”

FHWA. *United States Department of Transportation Policy Statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations*. 2010.

United States Department of Transportation Policy Statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations

Signed on March 11, 2010 and announced March 15, 2010

Purpose

The United States Department of Transportation (DOT) is providing this Policy Statement to reflect the Department's support for the development of fully integrated active transportation networks. The establishment of well-connected walking and bicycling networks is an important component for livable communities, and their design should be a part of Federal-aid project developments. Walking and bicycling foster safer, more livable, family-friendly communities; promote physical activity and health; and reduce vehicle emissions and fuel use. Legislation and regulations exist that require inclusion of bicycle and pedestrian policies and projects into transportation plans and project development. Accordingly, transportation agencies should plan, fund, and implement improvements to their walking and bicycling networks, including linkages to transit. In addition, DOT encourages transportation agencies to go beyond the minimum requirements, and proactively provide convenient, safe, and context-sensitive facilities that foster increased use by bicyclists and pedestrians of all ages and abilities, and utilize universal design characteristics when appropriate. Transportation programs and facilities should accommodate people of all ages and abilities, including people too young to drive, people who cannot drive, and people who choose not to drive.

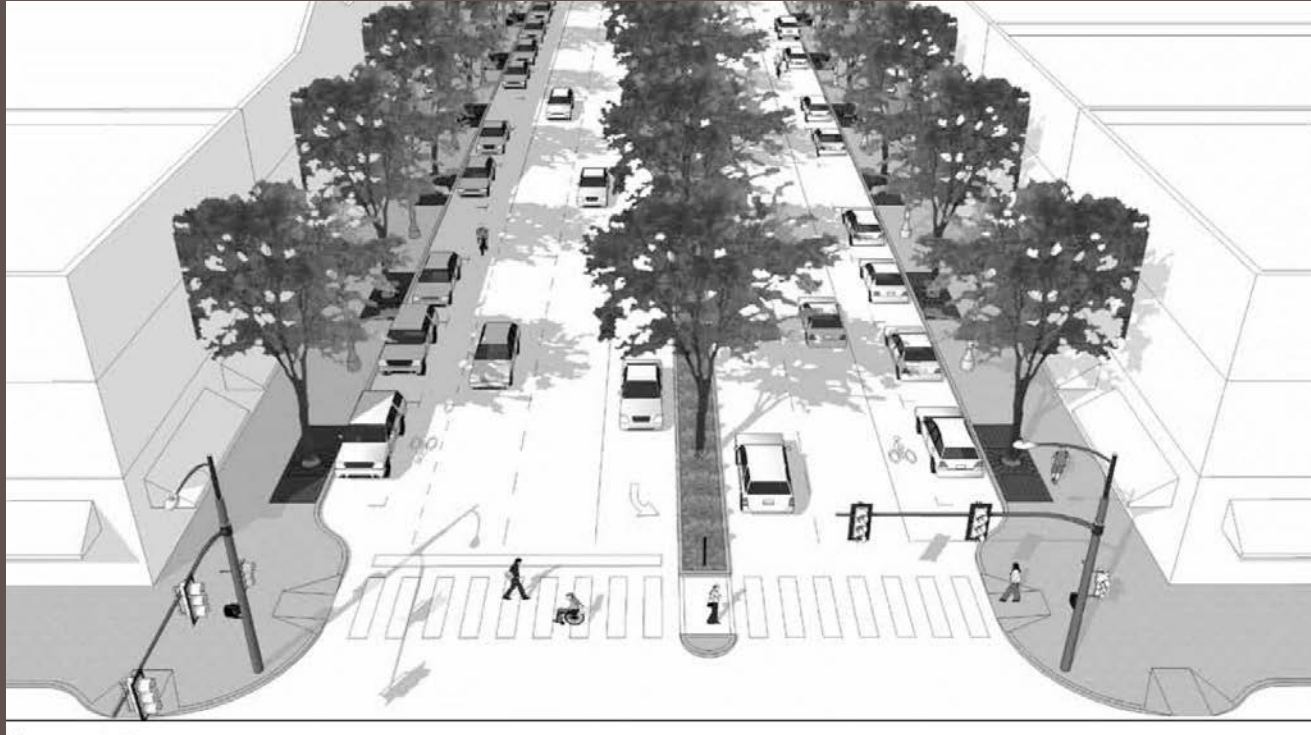
Policy Statement

The DOT policy is to incorporate safe and convenient walking and bicycling facilities into transportation projects. Every transportation agency, including DOT, has the responsibility to improve conditions and opportunities for walking and bicycling and to integrate walking and bicycling into their transportation systems. Because of the numerous individual and community benefits that walking and bicycling provide — including health, safety, environmental, transportation, and quality of life — transportation agencies are encouraged to go beyond minimum standards to provide safe and convenient facilities for these modes.

Authority

This policy is based on various sections in the United States Code (U.S.C.) and the Code of Federal Regulations (CFR) in Title 23—Highways, Title 49—Transportation, and Title 42—The Public Health and Welfare. These sections, provided in the Appendix, describe how bicyclists and pedestrians of all abilities should be involved throughout the planning process, should not be adversely affected by other transportation projects, and should be able to track annual obligations and expenditures on nonmotorized transportation facilities.

ITE Walkable Thoroughfares (2010)



ITE. *Designing Walkable Urban Thoroughfares: A context Sensitive Approach*. 2010. p. 62



An ITE Recommended Practice

Designing Walkable Urban Thoroughfares:
A Context Sensitive Approach



Institute of Transportation Engineers

CONGRESS
FOR THE
NEW
URBANISM

NACTO Urban Bikeway Design Guide (2011/2012)



Intersections
Bike Box at a Signalized Intersection with a Bike Lane Approach

NACTO. *Urban Bikeway Design Guide, 2nd Edition*. 2014.

Urban Bikeway Design Guide

National Association of
City Transportation Officials



Second Edition

NACTO Urban Street Design Guide (2013)



NACTO. *Urban Street Design Guide*. 2013.

Urban



Street



Design




Guide



National Association of City Transportation Officials

FHWA Design Flexibility Memo (2013)

FHWA "FHWA supports the use of these resources to further develop nonmotorized transportation networks, particularly in urban areas."

 **Memorandum**
SENT BY ELECTRONIC MAIL

Subject: **GUIDANCE:** Bicycle and Pedestrian Facility Design Flexibility Date: August 20, 2013

From: Gloria M. Shepherd *Gloria M. Shepherd*
Associate Administrator for Planning,
Environment and Realty

In Reply Refer To:
HEPH-10

Walter C. (Butch) Waidelich, Jr. *Walter C. Waidelich, Jr.*
Associate Administrator for Infrastructure

Jeffrey A. Lindley *Jeffrey A. Lindley*
Associate Administrator for Operations

Tony T. Furst *Tony T. Furst*
Associate Administrator for Safety

To: Division Administrators
cc: Directors of Field Services

This memorandum expresses the Federal Highway Administration's (FHWA) support for taking a flexible approach to bicycle and pedestrian facility design. The American Association of State Highway and Transportation Officials (AASHTO) bicycle and pedestrian design guides are the primary national resources for planning, designing, and operating bicycle and pedestrian facilities. The National Association of City Transportation Officials (NACTO) [Urban Bikeway Design Guide](#) and the Institute of Transportation Engineers (ITE) [Designing Urban Walkable Thoroughfares](#) guide builds upon the flexibilities provided in the AASHTO guides, which can help communities plan and design safe and convenient facilities for pedestrian and bicyclists. FHWA supports the use of these resources to further develop nonmotorized transportation networks, particularly in urban areas.

Small Town and Rural Multimodal Networks (2016)

The multimodal design
guidelines for the rest of us.



DECEMBER 2016

Small Town *and* Rural Multimodal Networks



U.S. Department of Transportation
Federal Highway Administration

Guide Structure

1. Introduction
2. Mixed Transportation Facilities
3. Visually Separated Facilities
4. Physically Separated Facilities
5. Key Network Opportunities
6. Planning and Project Development

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- 5-9 *School Connections*
- 5-15 *Multimodal Main Streets*
- 5-21 *Bridges*
- 5-27 *Access to Public Lands*

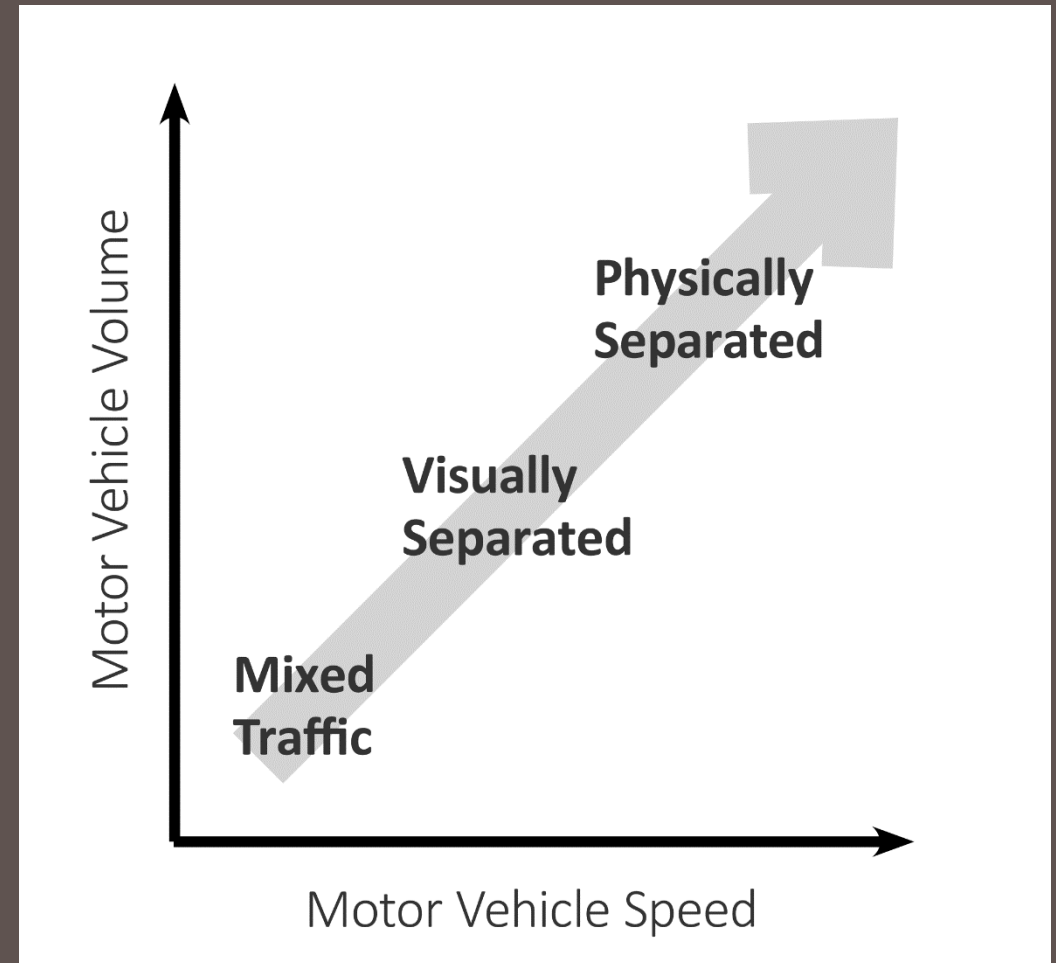
Chapter 6–Planning and Project Development

- 6-3 *The Transportation Planning Process*
- 6-4 *Steps in the Transportation Planning Process*
- 6-5 *Key Products in the Transportation Planning Process*
- 6-6 *What are the Key Products of the Transportation Planning Process?*

Focus on Complete Networks of Facilities

Facility Categories:

- Mixed Traffic
- Visually Separated
- Physically Separated




Multimodal Facilities

- Application
- Benefits
- Case Studies
- Guidance
 - Geometric Design
 - Markings
 - Signs
 - Intersection treatment
 - Implementation
 - Accessibility

CHAPTER 2 | MIXED TRAFFIC FACILITIES

CASE STUDY | YIELD ROADWAY
Manzanita, Oregon

PROJECT DESCRIPTION



The residents of Manzanita cherish their small town and have outlined ways to maintain this character. One of the goals identified in the town's Comprehensive Plan is to maintain and create residential living areas which are safe and convenient, which make a positive contribution to the quality of life, and which are harmonious with the coastal environment. Toward this end they have a network of local streets that create peaceful conditions for people walking, bicycling, and driving.

In addition, there is a recognition that even on collector streets bicycle and pedestrian travel should be safe. The plan states that "sufficient pavement width should be included on all major streets or roads to accommodate bicycle traffic."

Where a visually or physically separated facility is not provided, speeds will be slowed to create bicycle-friendly conditions. The plan states, "Efforts to reduce speeding on Larada Avenue should be carried out by the city. This should take the form of maintaining a low speed (20 MPH), requesting that the City police and Tillamook County Sheriff's Department maintain a high level of enforcement and installing appropriate warning signs." Efforts such as these enable Manzanita's local streets to be shared roadways where people driving, walking, and biking can all safely share the street.

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CHAPTER 2 | MIXED TRAFFIC FACILITIES

Shared Space
Pedestrians, bicyclists, and motorists all share a slow-speed, low-volume roadway space.

Parking/Pull-Out/Furnishings
Multipurpose roadside visually and physically constrains the roadway.

Narrow Two-Way Street
A limited-width paved roadway surface with no center line markings.

Gravel/Turf/Earth Roadside
Limiting paved surfacing encourages natural stormwater management.

DETAILS

COMMUNITY CONTEXT
Manzanita is a quiet, peaceful village surrounded by the natural beauty of the Pacific Ocean, Neah-Kah-Nee Mountain, and State and private forests. The Manzanita area is home to 725 full-time residents. In the summer the population swells to 2,500 to 3,000.

KEY DESIGN ELEMENTS
The standard City residential street is 20 ft wide paved with asphalt and with a concrete gutter along one side.

ROLE IN THE NETWORK
Manzanita's local streets connect residences with the ocean, parks, and downtown. The ability to use these shared local streets allows people walking or on bikes to access all parts of the community.

FUNDING
The key aspect of this treatment is that it requires funding beyond what is currently used to maintain the local streets. The City maintains the streets that have been brought up to city standards. Graveled streets that have not been brought up to City standards are maintained by the adjacent property owners. There are some roads within the City that are County roads maintained by Tillamook County.

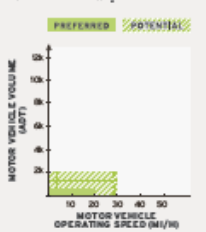
For more information refer to the City of Manzanita website:
<http://ci.manzanita.or.us/>

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APPLICATION

Speed and Volume
Appropriate on roads with very low volumes^a and low speed.


PREFERRED 90% MINIMUM



Network
Local residential roadways. Not for through motor vehicle travel.



Land Use
Within built-up areas, particularly near residential land uses where most traffic is familiar with prevailing road conditions.



BENEFITS

- Less costly to build and/or maintain than fully paved cross sections.
- Encourages slow travel speed when narrower than 20 ft (6.0 m).
- Connects local residential areas to destinations on the network.
- Can support a larger tree canopy when located within wide unpaved roadside areas.
- Limits impermeable surface area and minimizes stormwater runoff.
- Supports on-street or shoulder parking for property access.
- Maintains aesthetic of narrow roads and uncurbed road edges.
- Low maintenance needs over time.

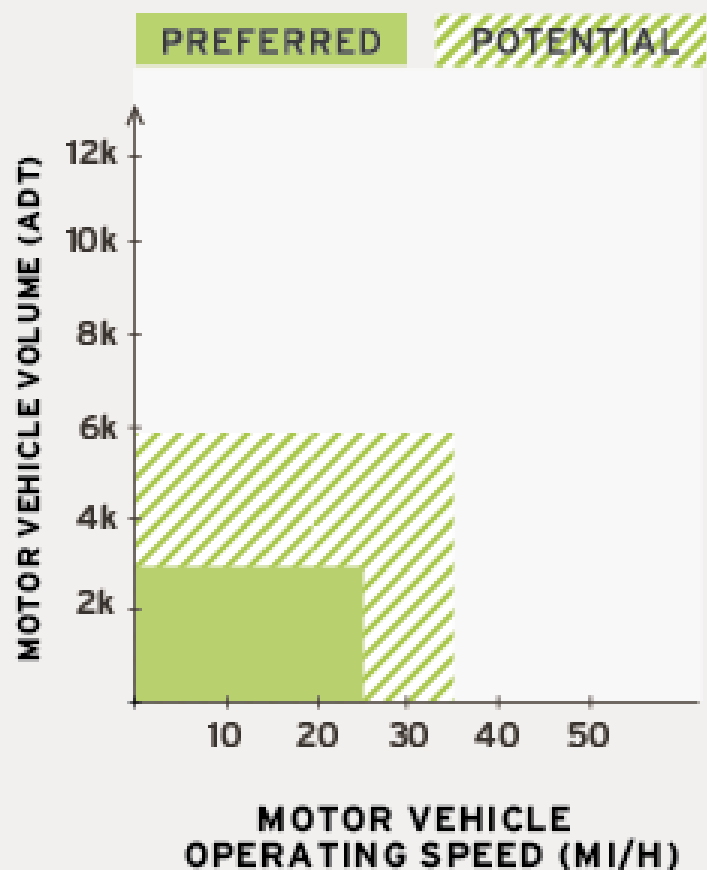
SMALL TOWN AND RURAL MULTIMODAL NETWORKS

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EXAMPLE APPLICATION

Speed and Volume

Most appropriate on streets with low to moderate volumes and moderate speed motor vehicles.



Network

Applies to constrained connections between built-up areas.



- LOCAL
- COLLECTOR
- HIGHWAY

Land Use

For use outside, between and within built-up areas with bicycle and pedestrian demand and limited available paved roadway surface.



OUTSIDE OF
BUILT-UP
AREAS

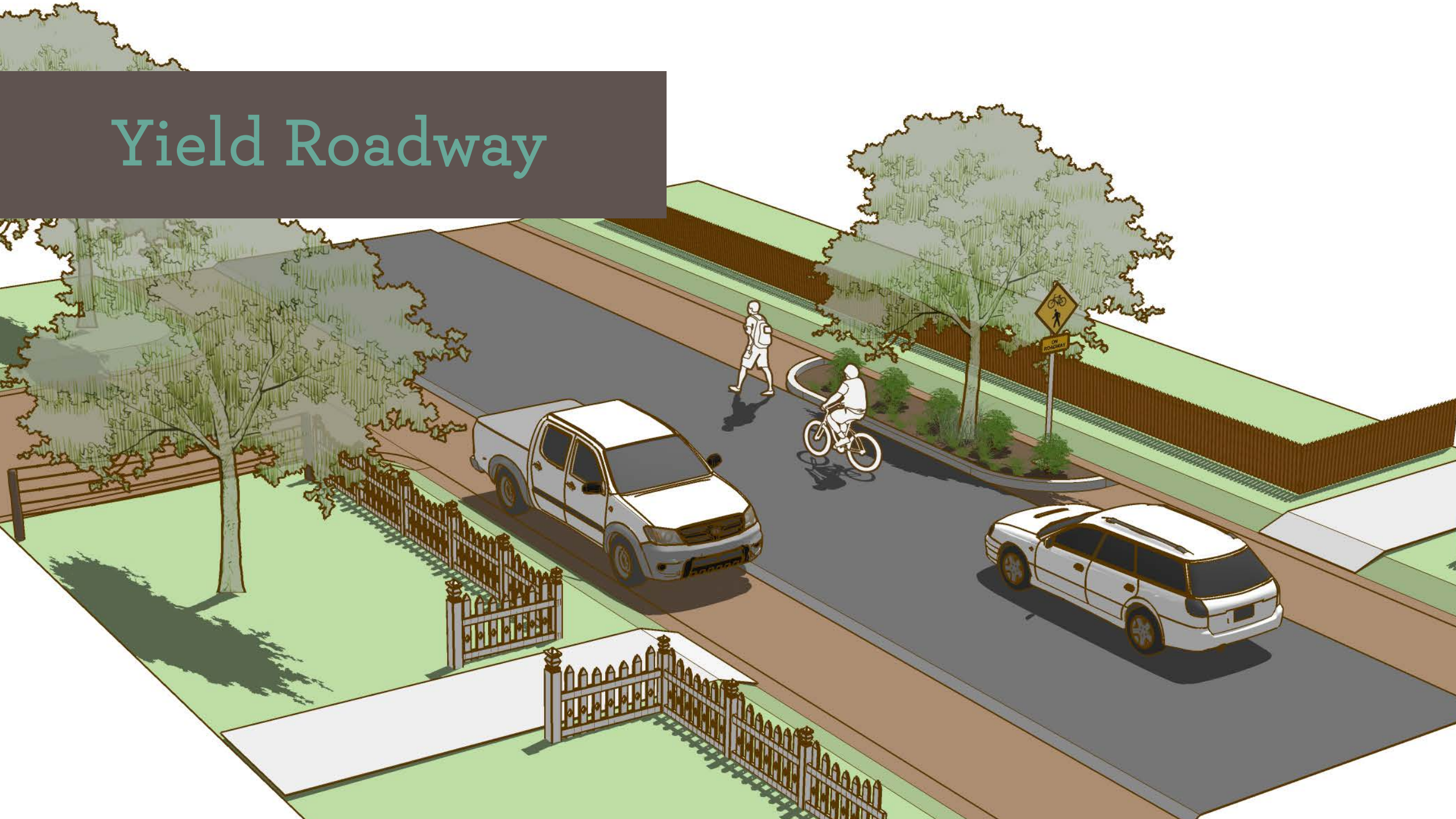
WITHIN
BUILT-UP
AREAS

Mixed Traffic

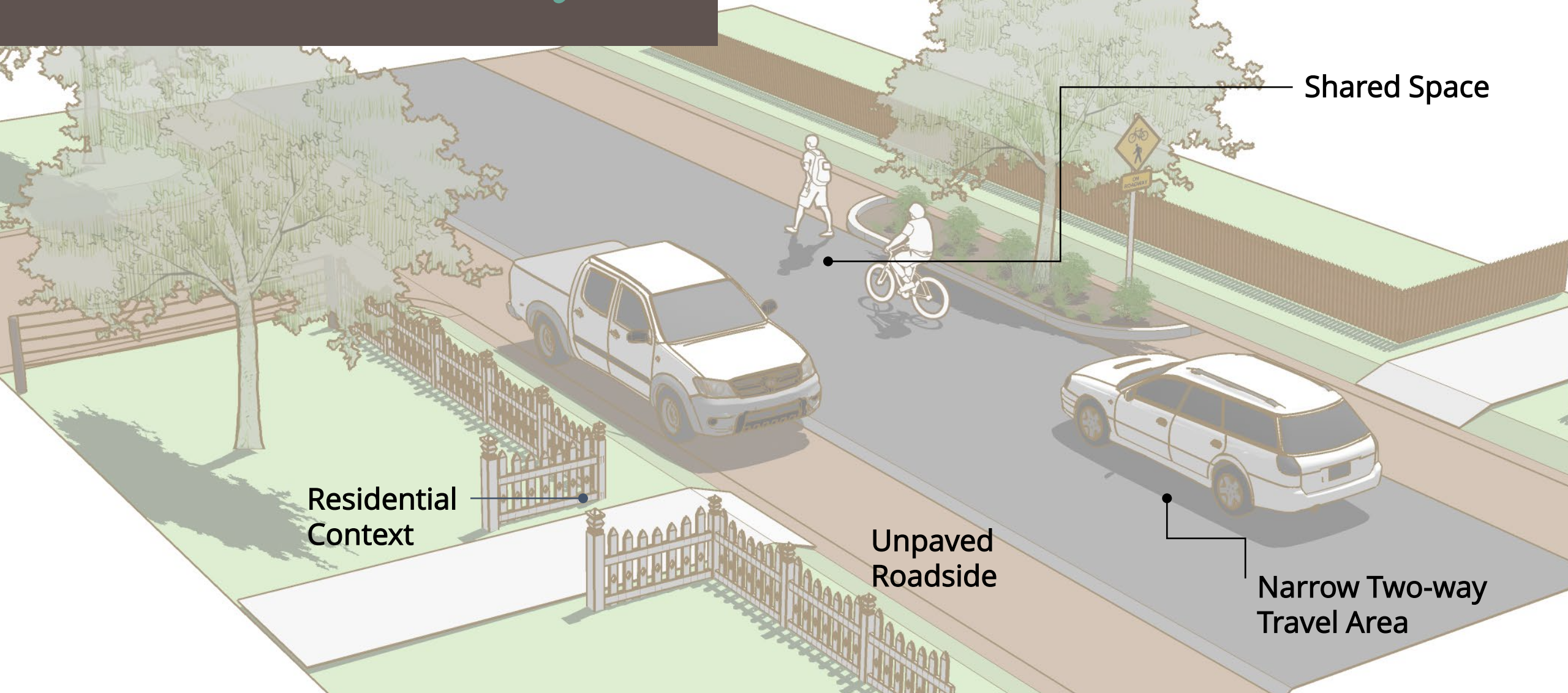
- Yield Roadway
- Bicycle Boulevard
- Advisory Shoulder



Yield Roadway



Yield Roadway



Residential
Context

Unpaved
Roadside

Narrow Two-way
Travel Area

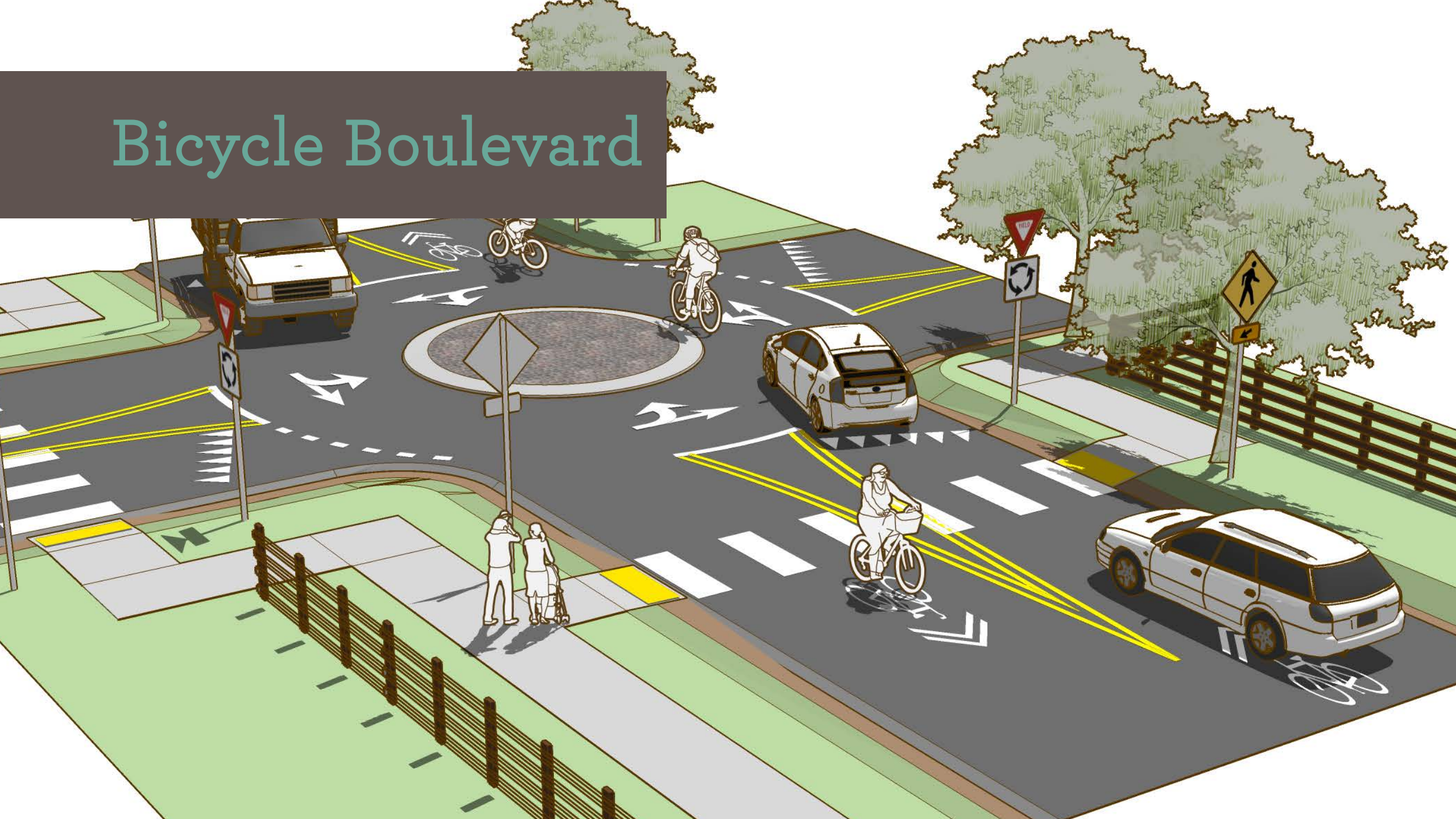
Shared Space



Manzanita, OR

Population: 3,000 (Seasonal)

Bicycle Boulevard

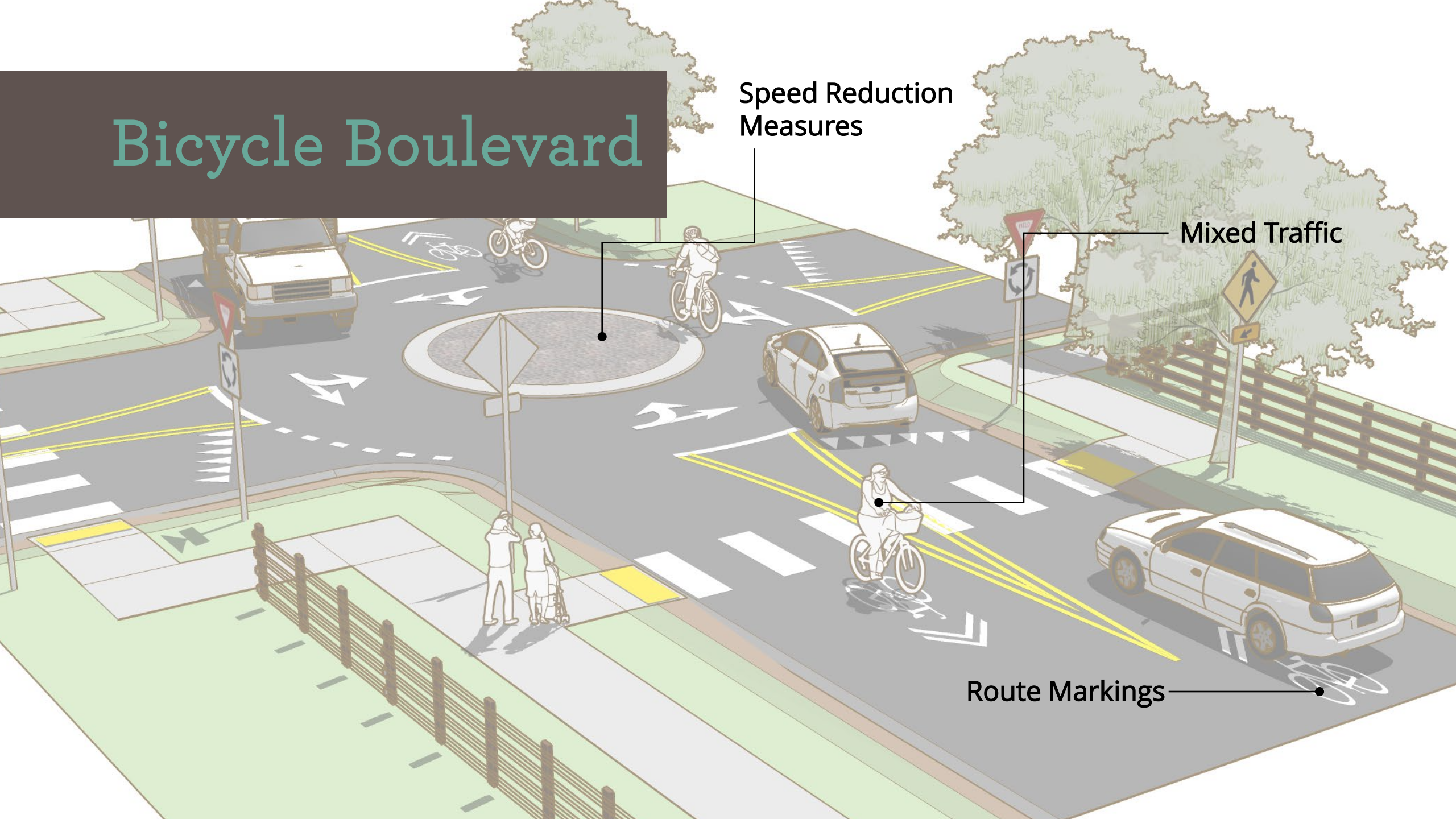


Bicycle Boulevard

Speed Reduction Measures

Mixed Traffic

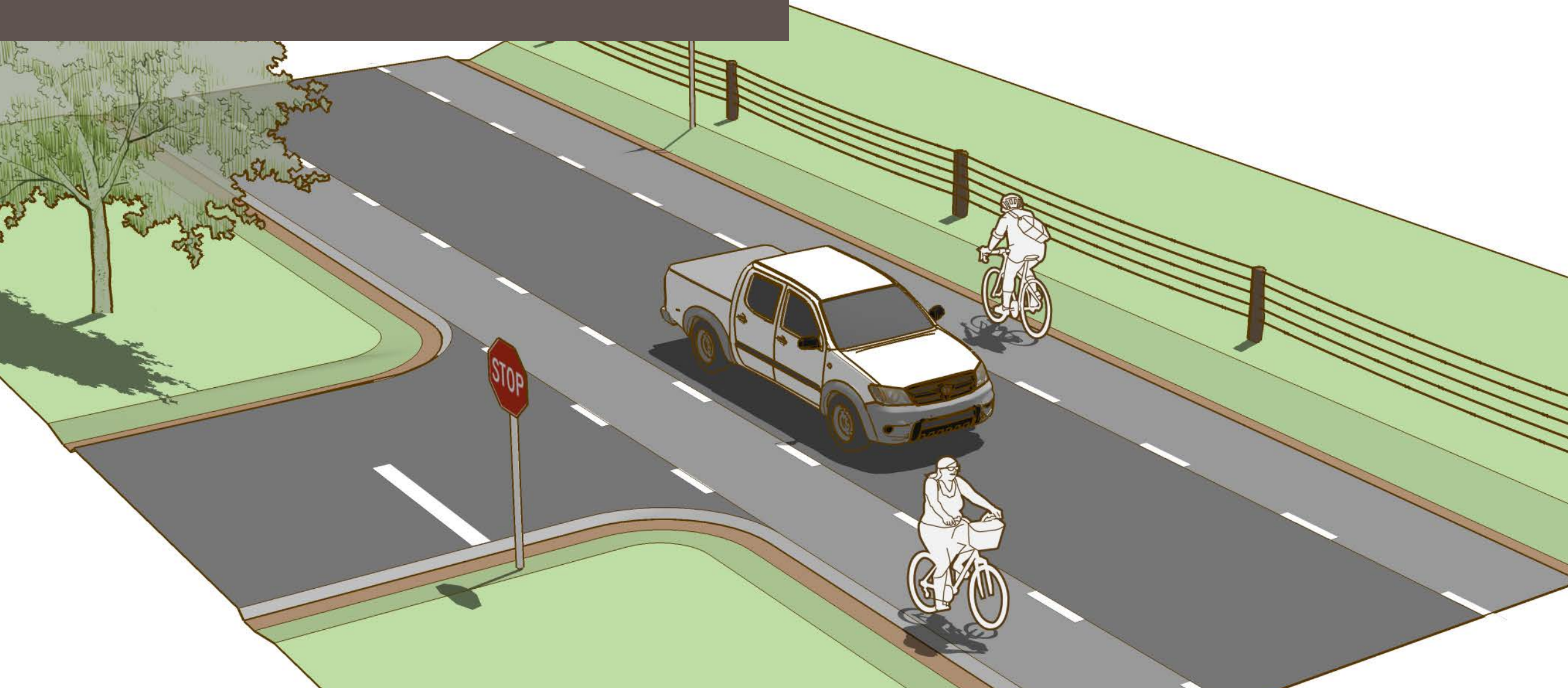
Route Markings



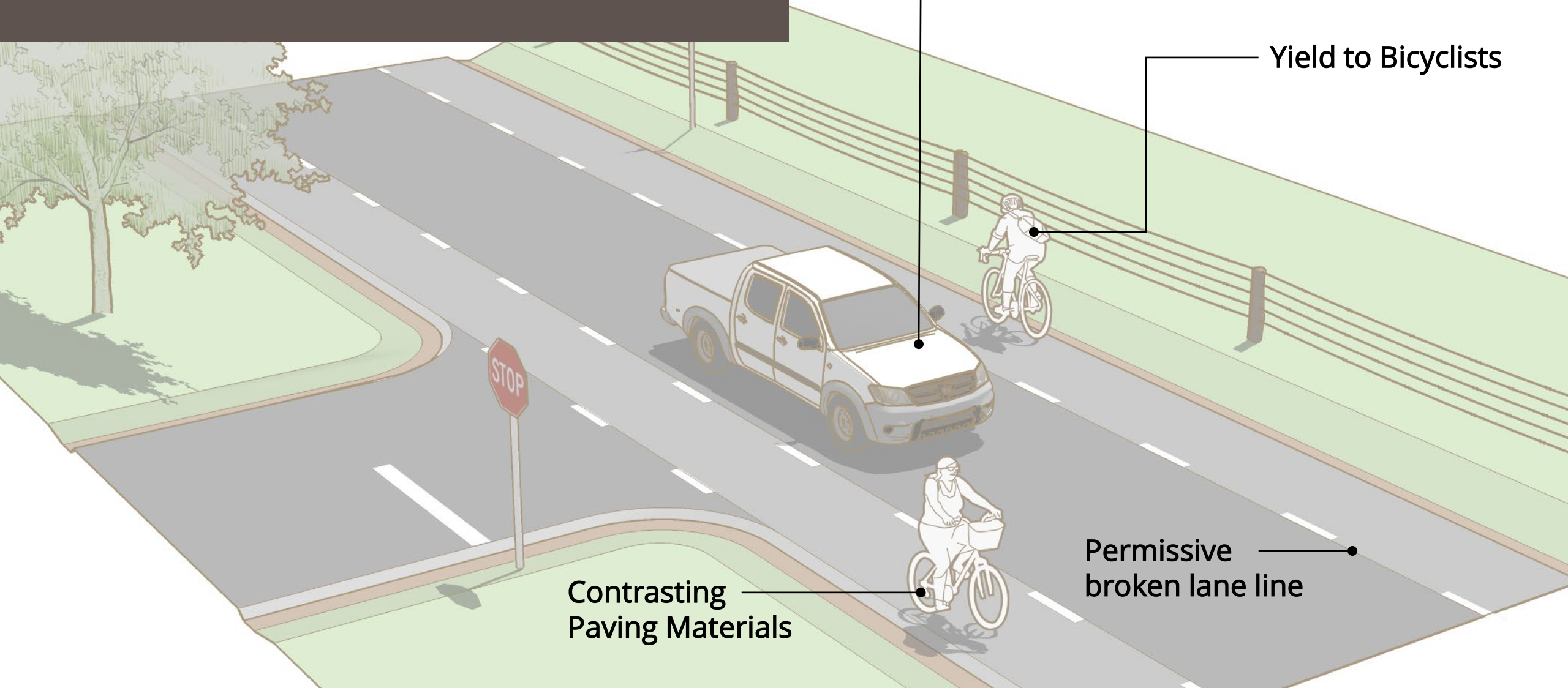


Ocean City, NJ
Population: 11,400

Advisory Shoulder



Advisory Shoulder



Two-way Center
Travel Lane

Yield to Bicyclists

Contrasting
Paving Materials

Permissive
broken lane line

Advisory Shoulder

*Note: Advisory shoulders are a new treatment type in the United States and no performance data has yet been collected to compare to a substantial body of international experience. In order to install advisory shoulders, **an approved Request to Experiment** is required as detailed in **Section 1A.10** of the **MUTCD**. FHWA is also accepting requests for experimentation with a similar treatment called “dashed bicycle lanes.”*



Hanover, NH
Population: 11,000



Bloomington, IN
Population 82,575



Edina, MN
Population: 49,300

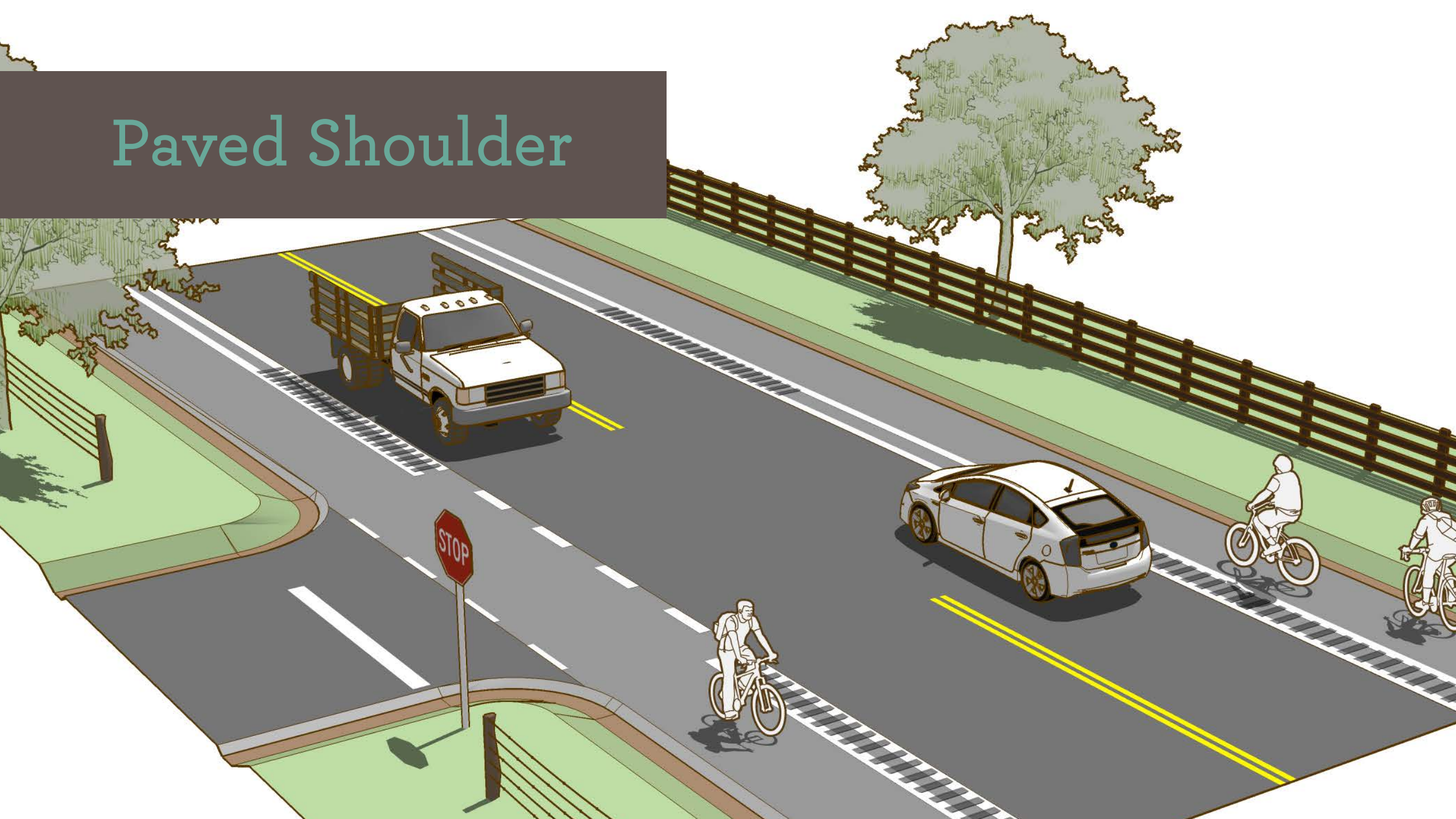
Visually Separated

- Paved Shoulder
- Bike Lane
- Pedestrian Lane*

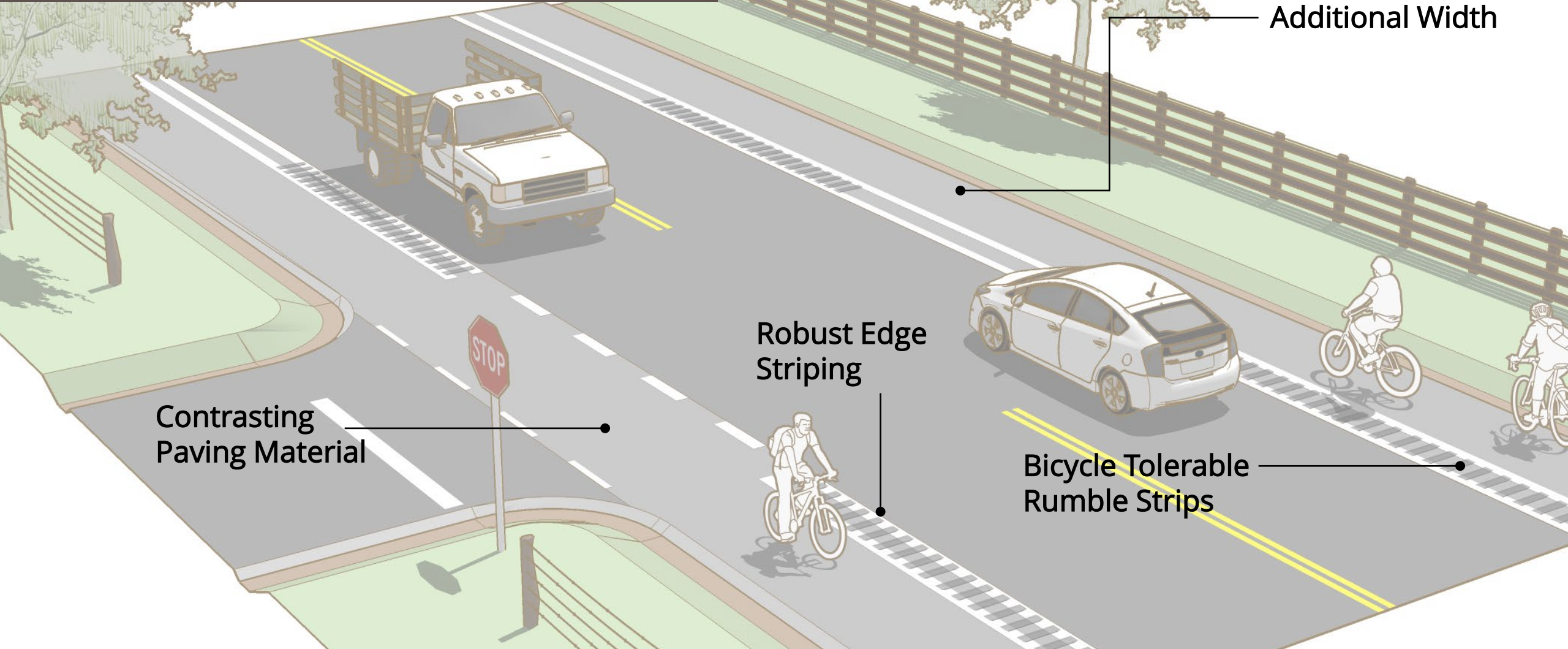


*The Pedestrian Lane treatment is located in chapter 5 of the Small Town and Rural Multimodal Networks document, but is included in this category for informational purposes.

Paved Shoulder



Paved Shoulder



Additional Width

Robust Edge Striping

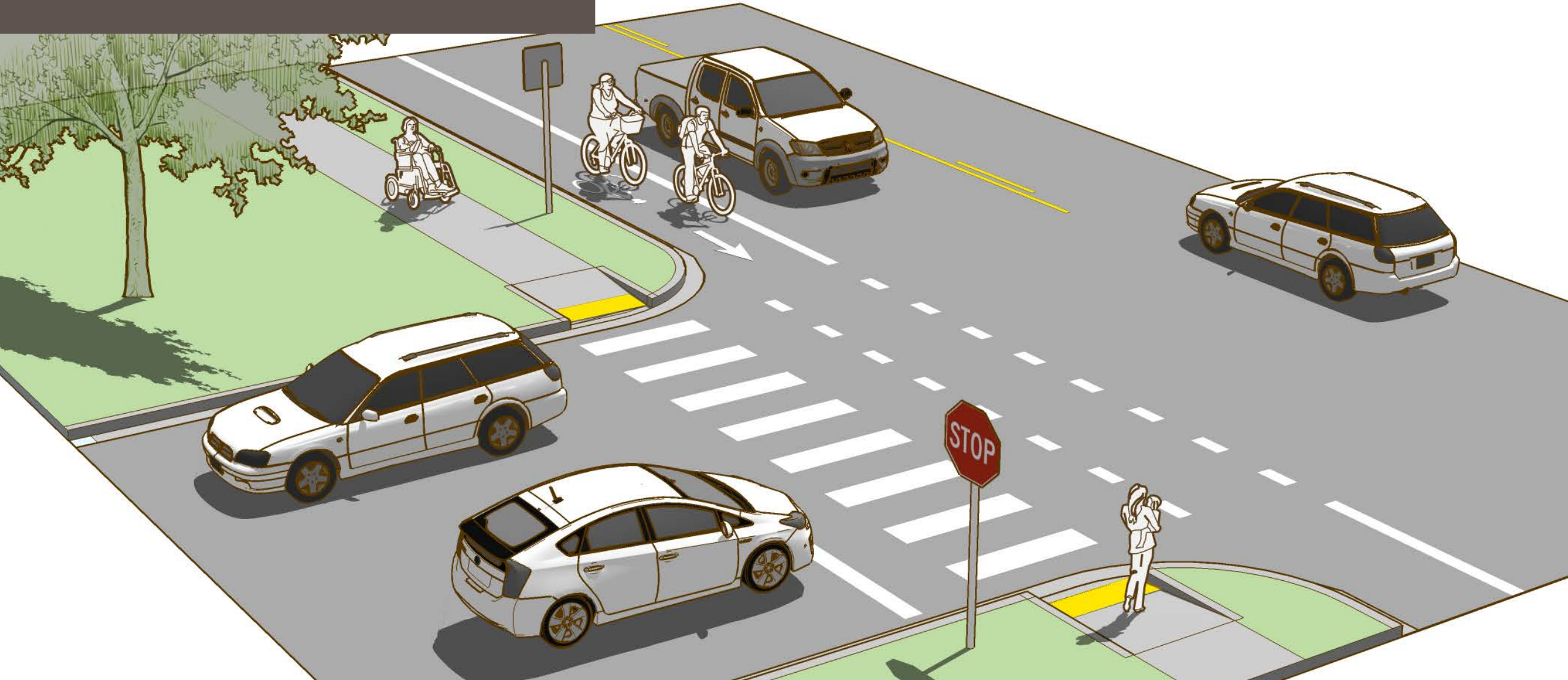
Bicycle Tolerable Rumble Strips

Contrasting Paving Material

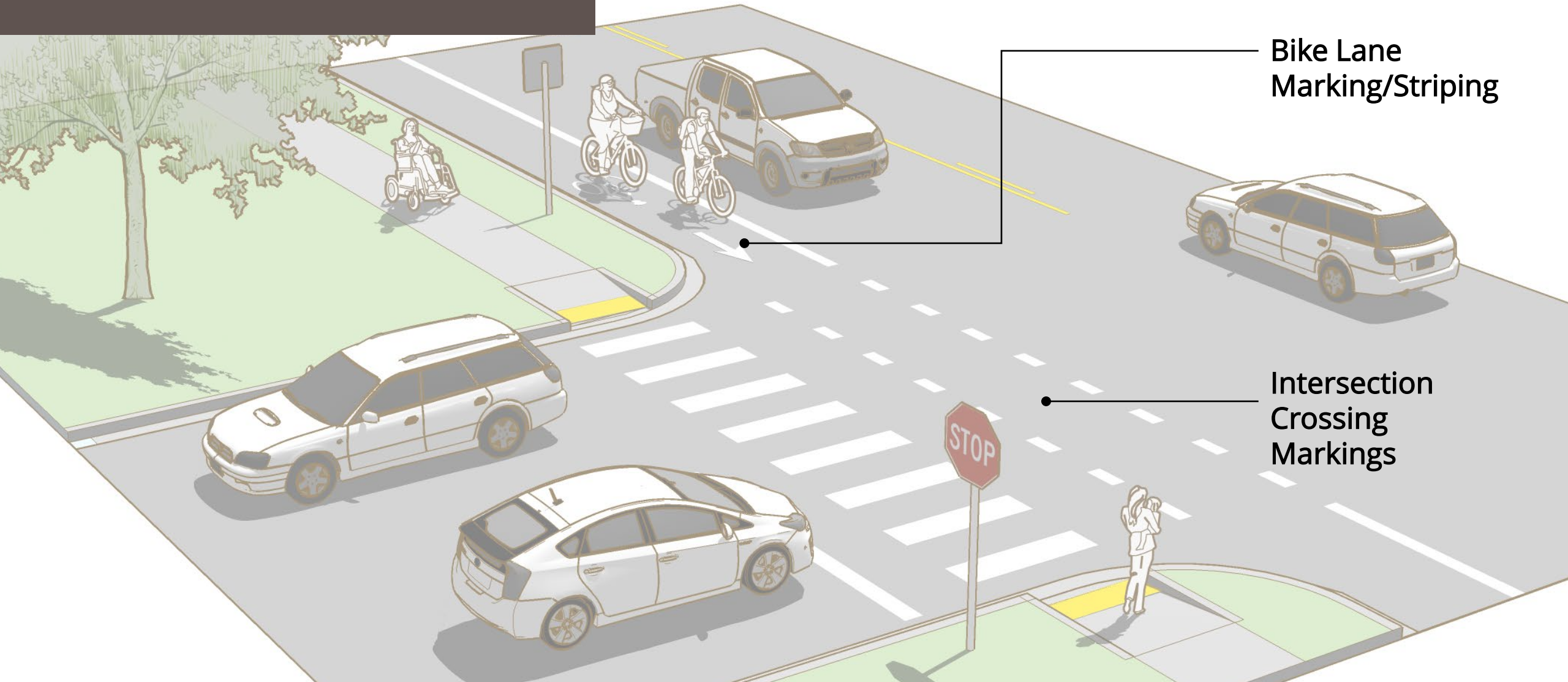


Townsend, MT
Population: 7,700

Bike Lane



Bike Lane



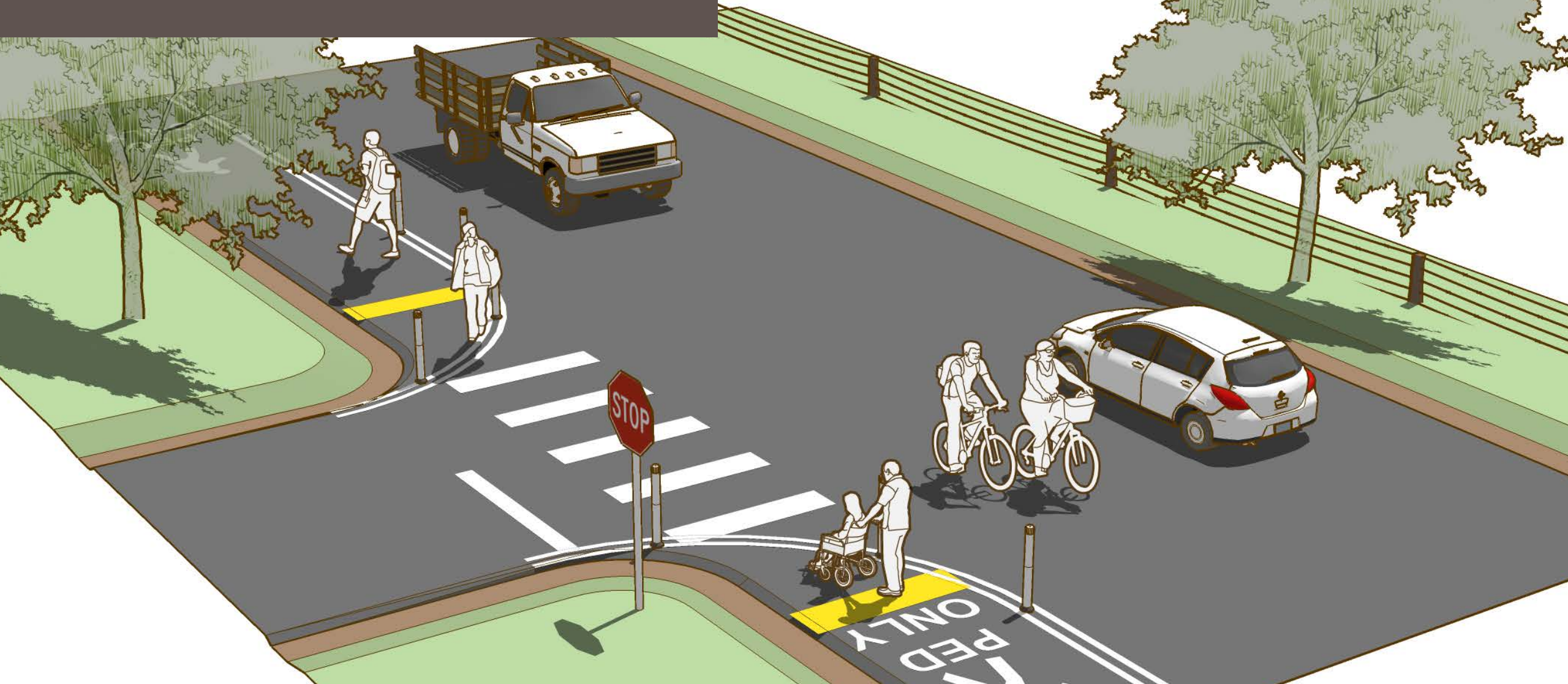
Bike Lane
Marking/Striping

Intersection
Crossing
Markings



Lyndonville, VT
Population: 1,200

Pedestrian Lane



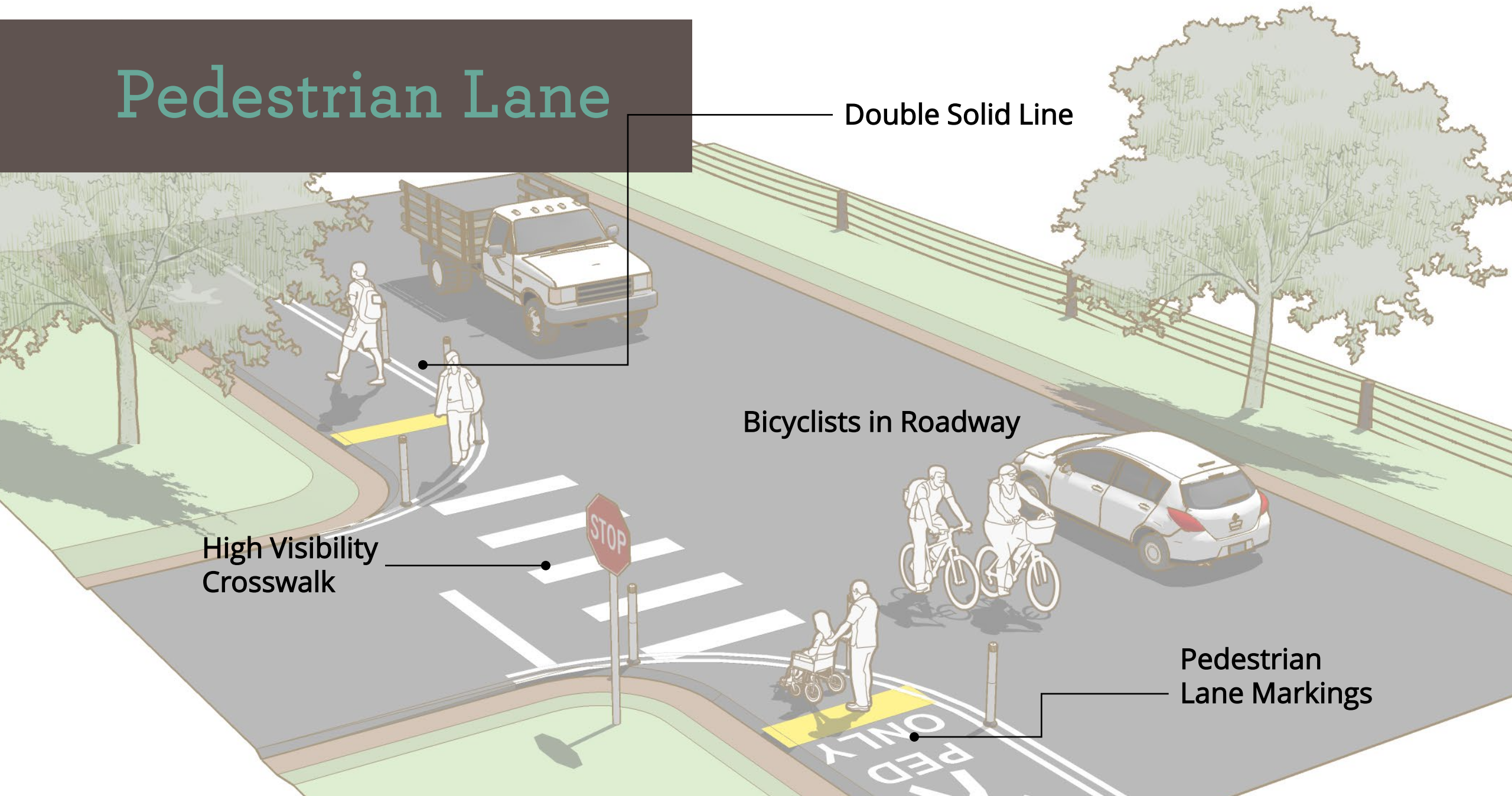
Pedestrian Lane

Double Solid Line

Bicyclists in Roadway

High Visibility Crosswalk

Pedestrian Lane Markings





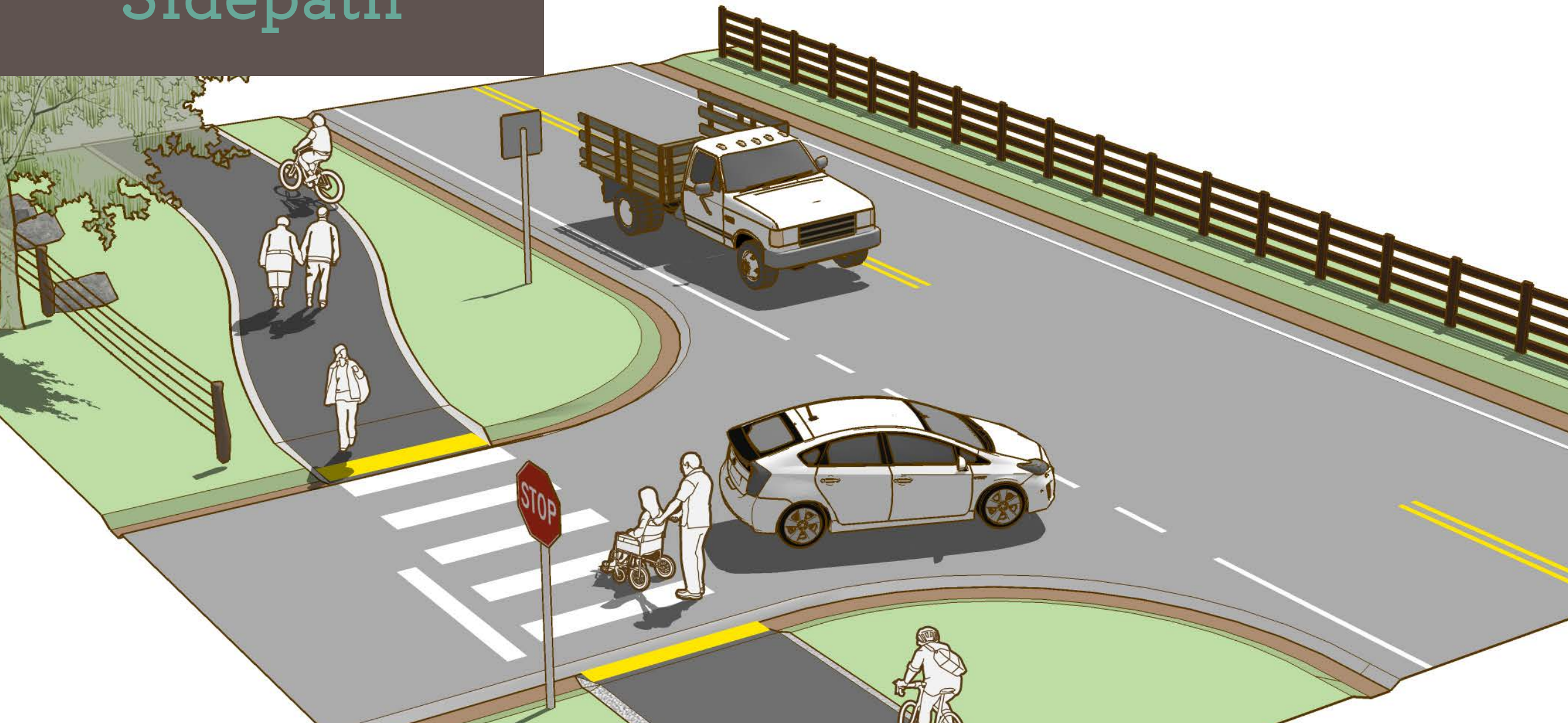
Detroit, OR
Population: 200

Physically Separated

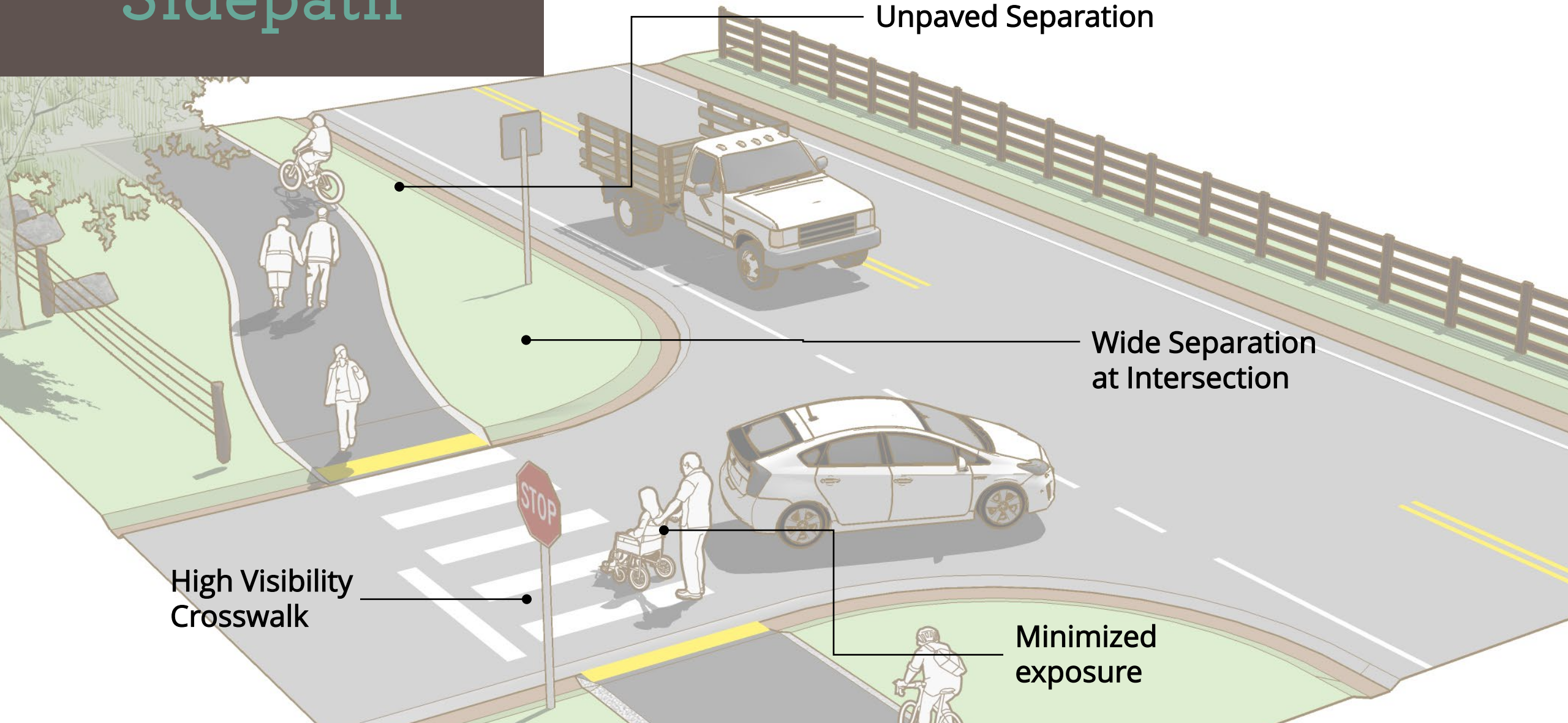
- Shared Use Path
- Sidepath
- Sidewalks
- Separated Bike Lanes



Sidepath



Sidepath



Unpaved Separation

Wide Separation
at Intersection

High Visibility
Crosswalk

Minimized
exposure

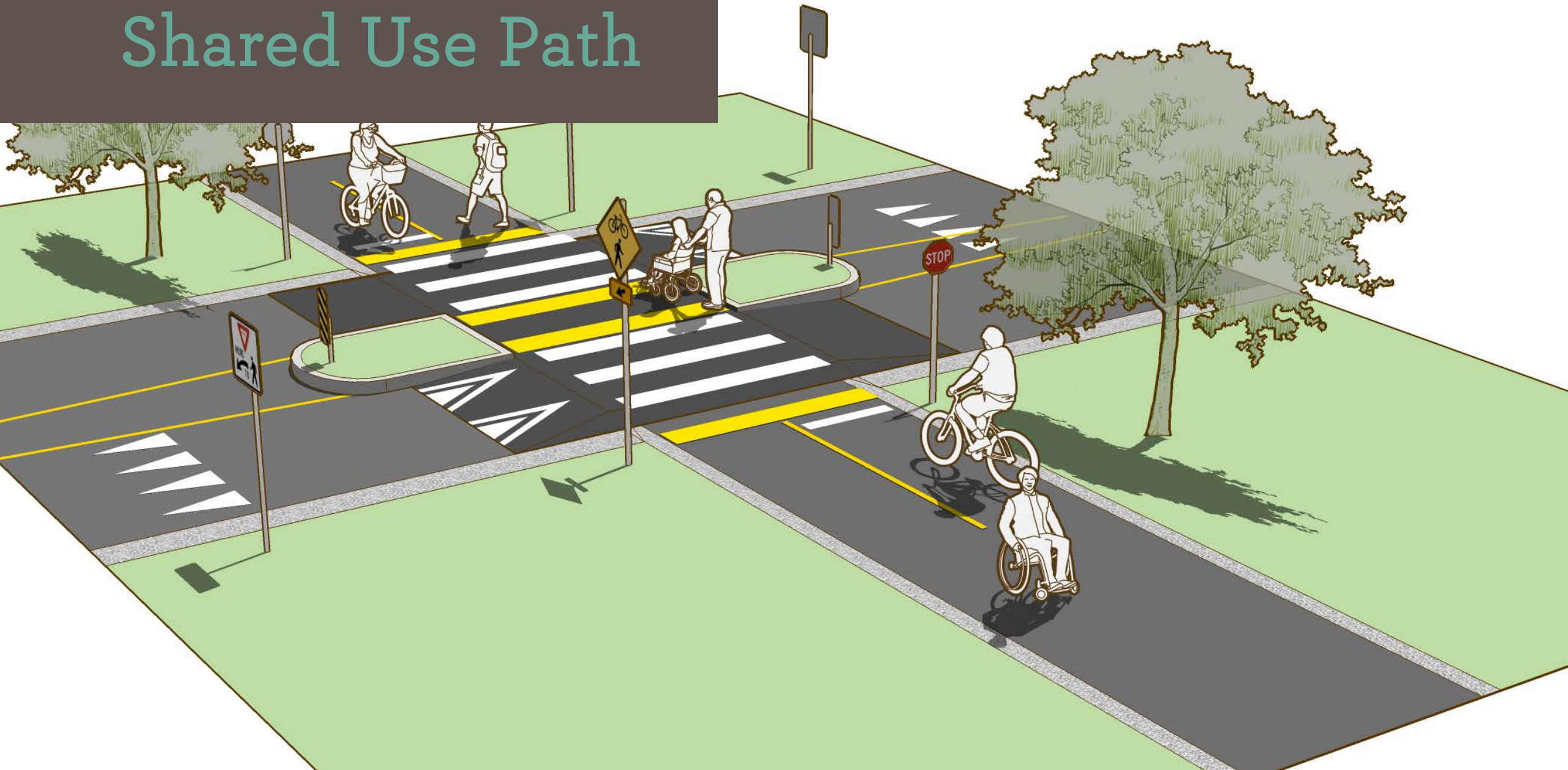
A photograph showing a paved bike path with a yellow line on the left side. A cyclist wearing a dark jacket with a yellow stripe and a helmet is riding away from the camera. To the right of the path is a road with several cars and a white SUV. The scene is surrounded by trees and dry brush. A sign with a bicycle symbol is visible near the path. The word "Sidewalk" is overlaid in teal text on the right side of the image.

Sidewalk

South Lake Tahoe, CA
Population: 20,100

Photo by Tahoe Regional Planning Association (TRPA)

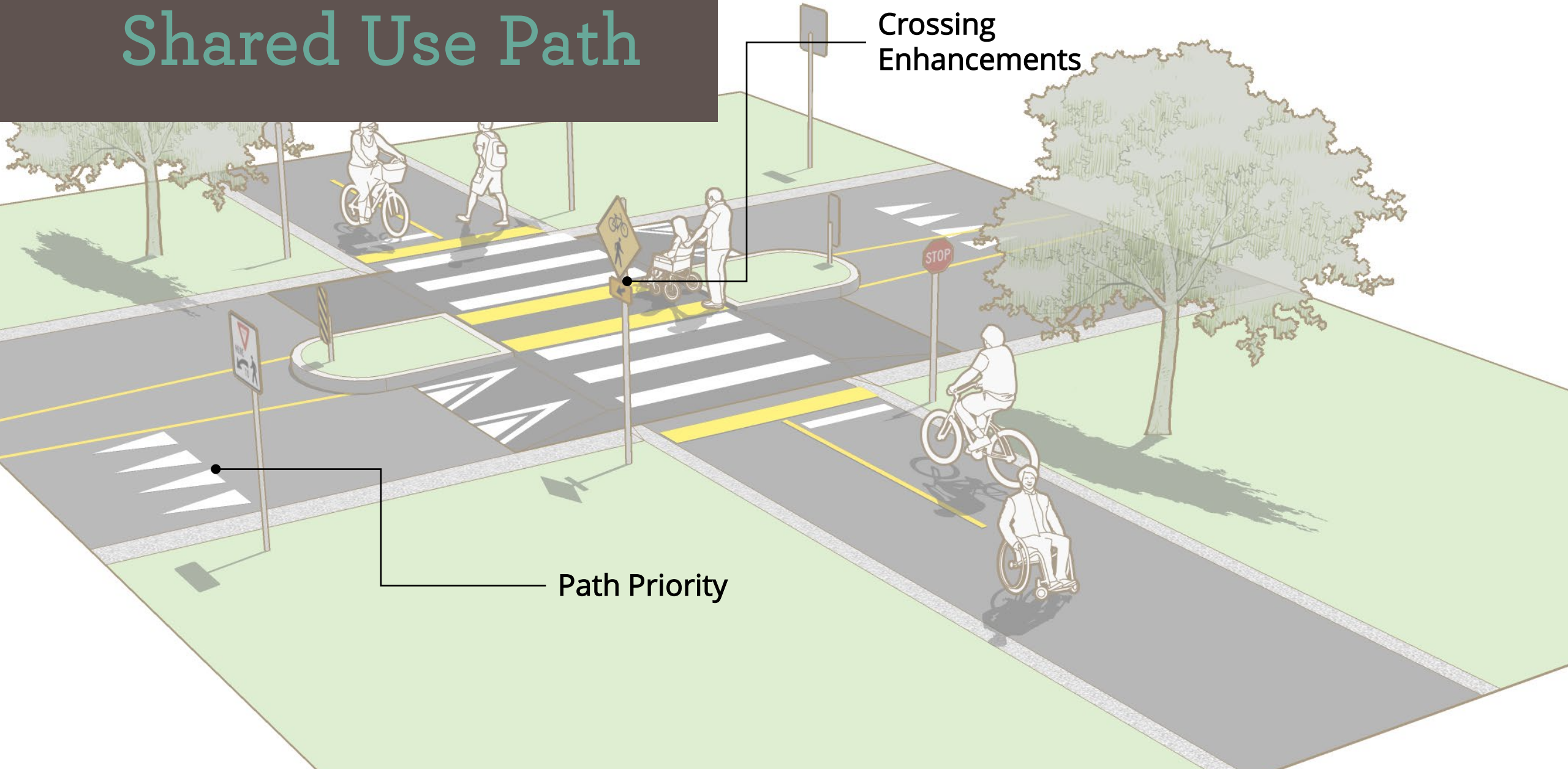
Shared Use Path



Shared Use Path

Crossing Enhancements

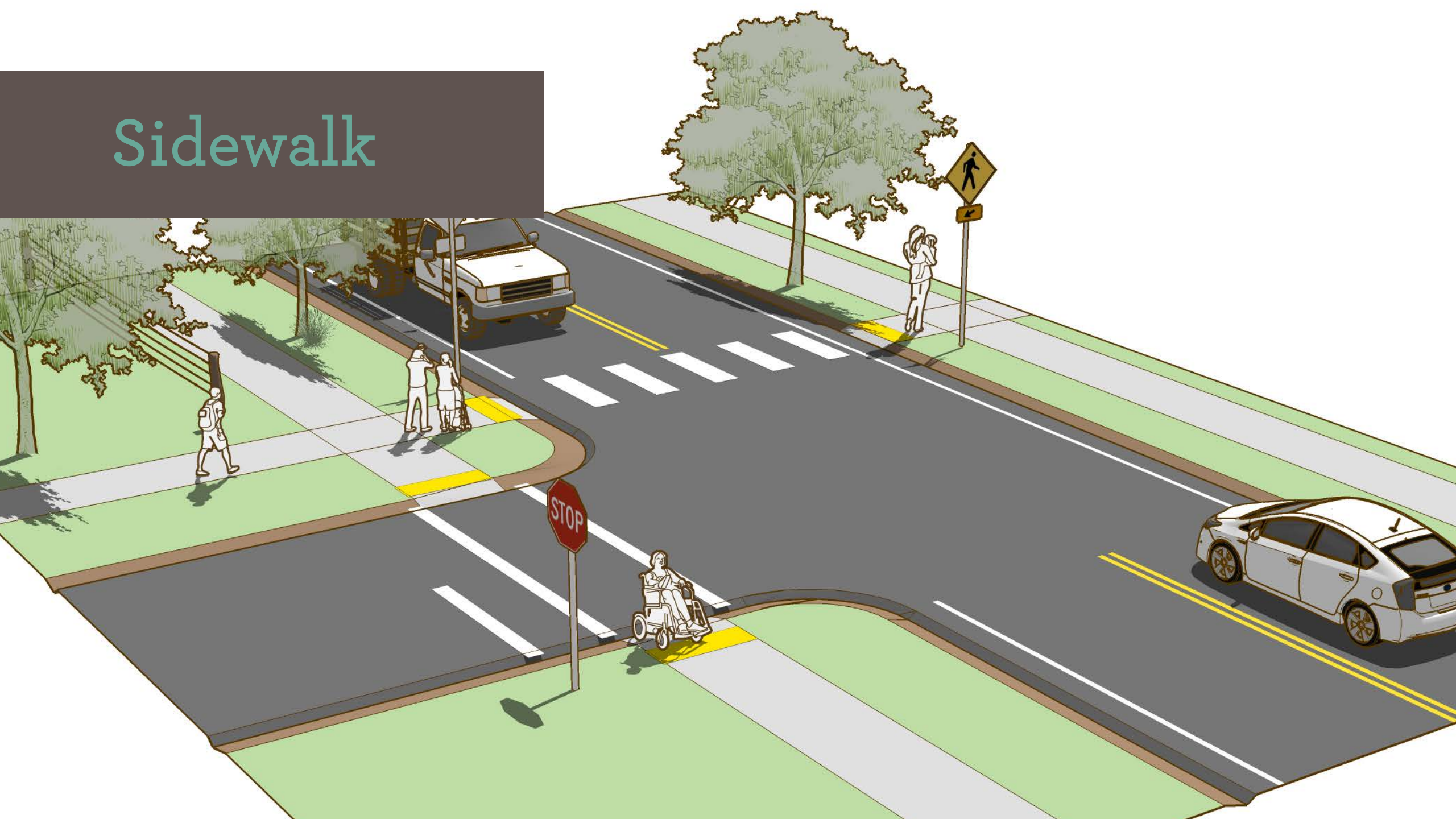
Path Priority



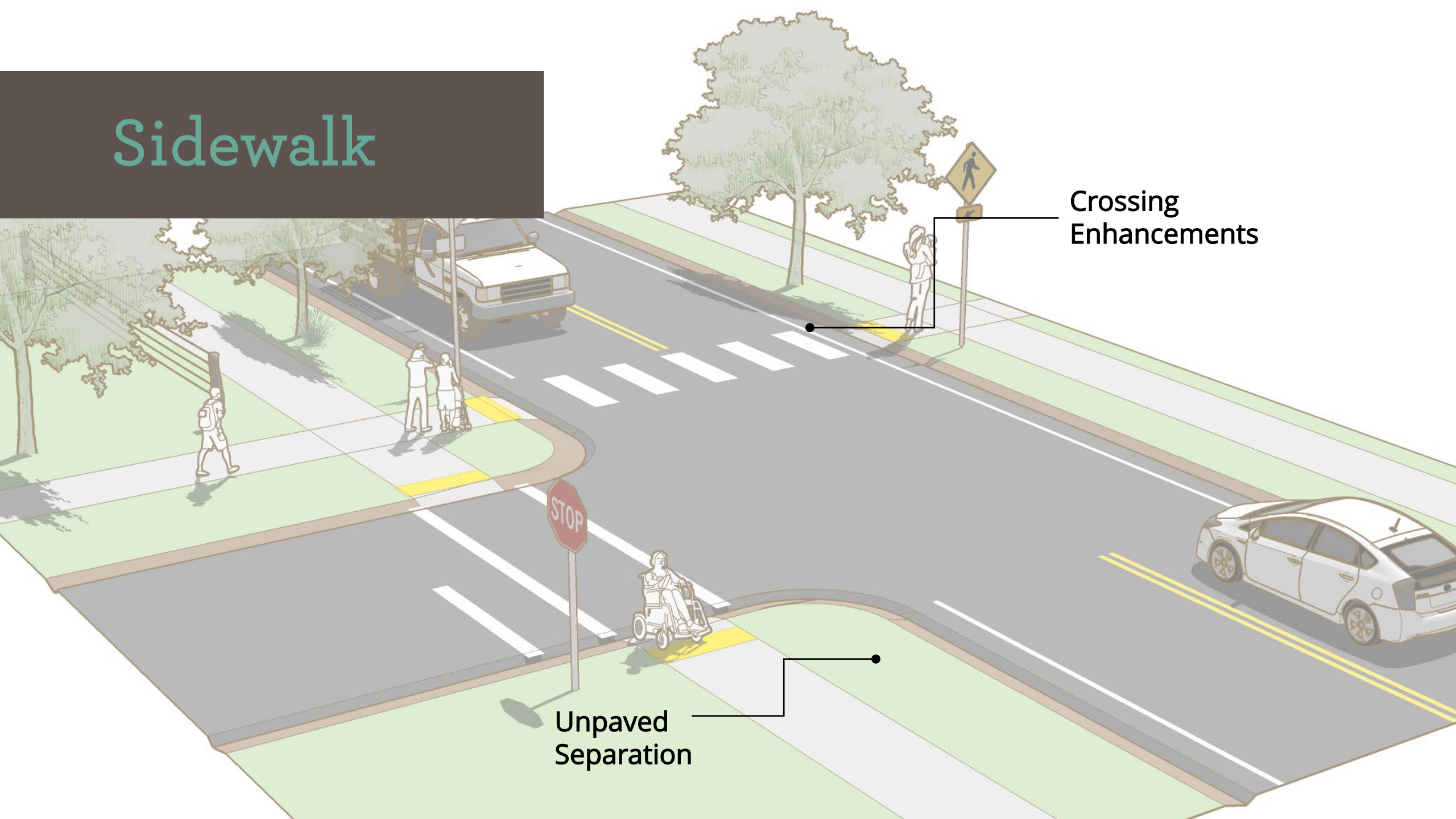


Bentonville, AR
Population: 40,000

Sidewalk



Sidewalk



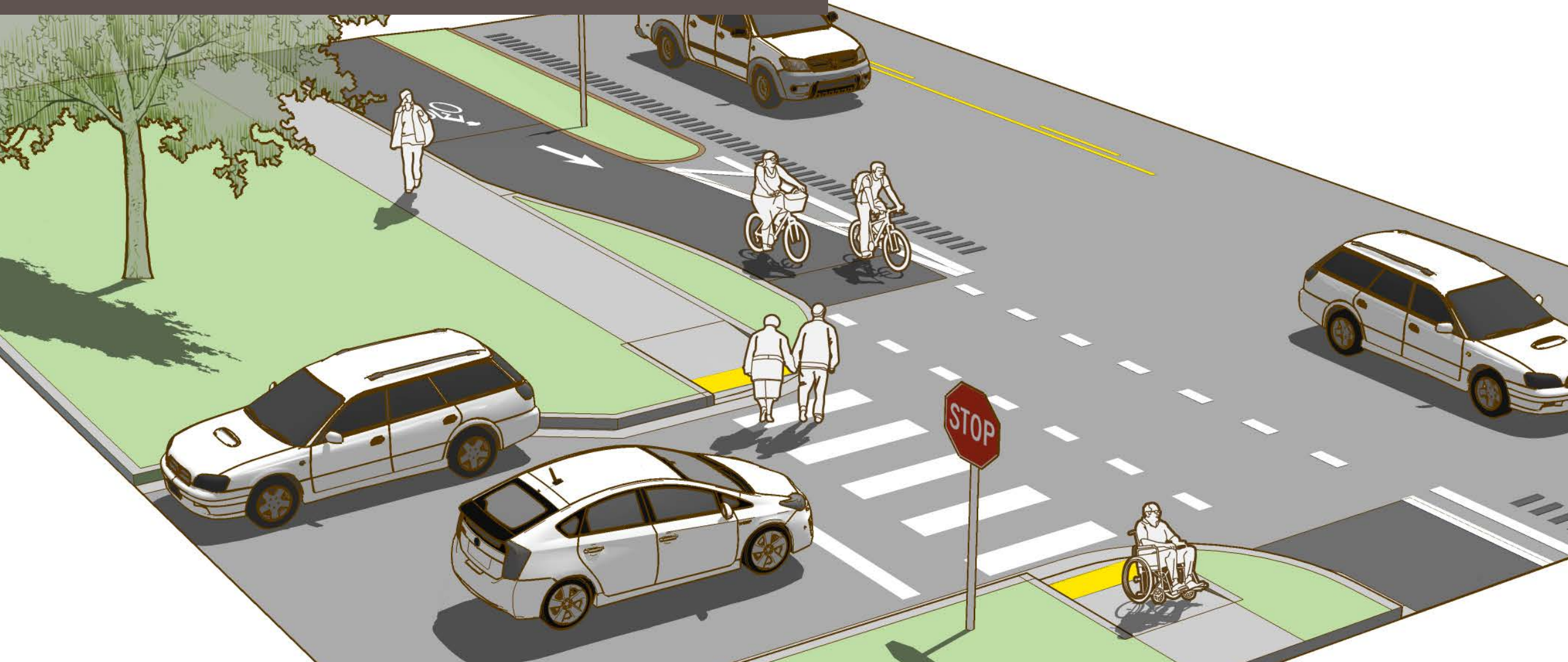
Crossing Enhancements

Unpaved Separation



Denmark, SC
Population: 3,400

Separated Bike Lane

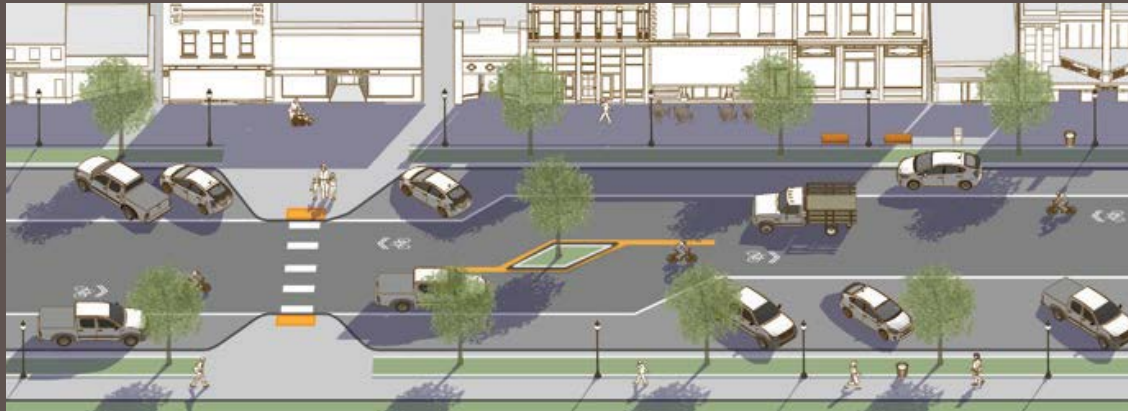




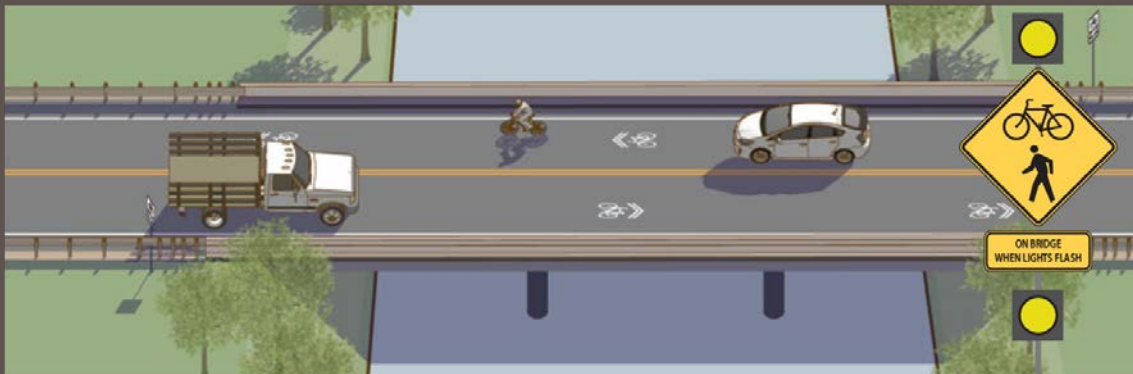
Jackson Hole, WY
Population: 9,600

Additional Topics

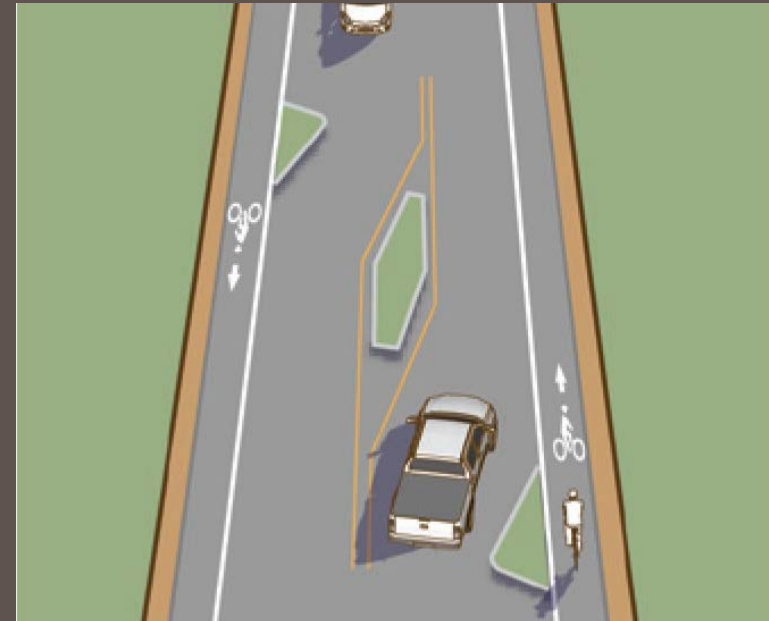
Main Streets



Bridges



Traffic Calming



School Connections

Questions & Comments