

Pedestrian and Bicycle Improvements in Indian Country

Rural Bike Design

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September, 2016

WSDOT Policy Changes

- New Strategic Plan
- Practical Solutions Reform
- Design Manual Update
 - Performance- and Context-Based Procedural Policy
 - Geometric Cross-Section Technical Policy
 - Roadway Bike Facilities Technical Policy



Image from <http://www.pedbikeimages.org/> - Bob Boyce

WSDOT Policy Changes

2006 Mission Statement:

The mission of WSDOT is to keep people and business moving by operating and improving the state's transportation systems vital to our taxpayers and communities.

Current Mission Statement:

Washington State Department of Transportation provides and supports safe, reliable and cost effective transportation options to improve livable communities and economic viability for people and businesses.

Design Evolution

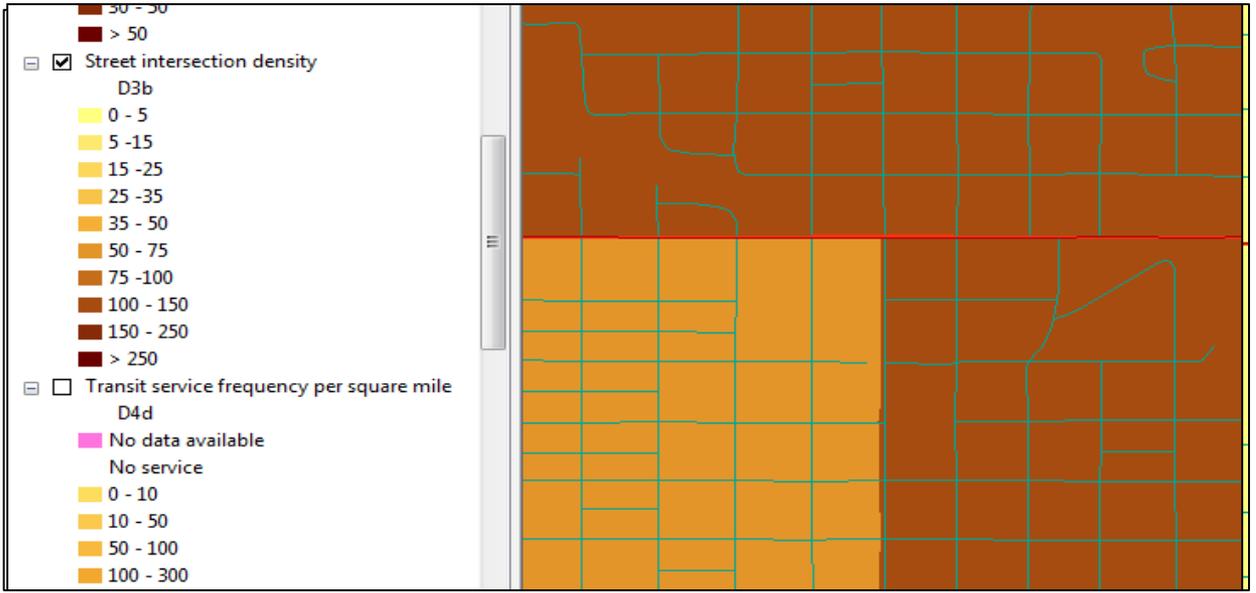
Context Complexity – What's Rural?



State Route 155



Nespelem, WA and State Route 155

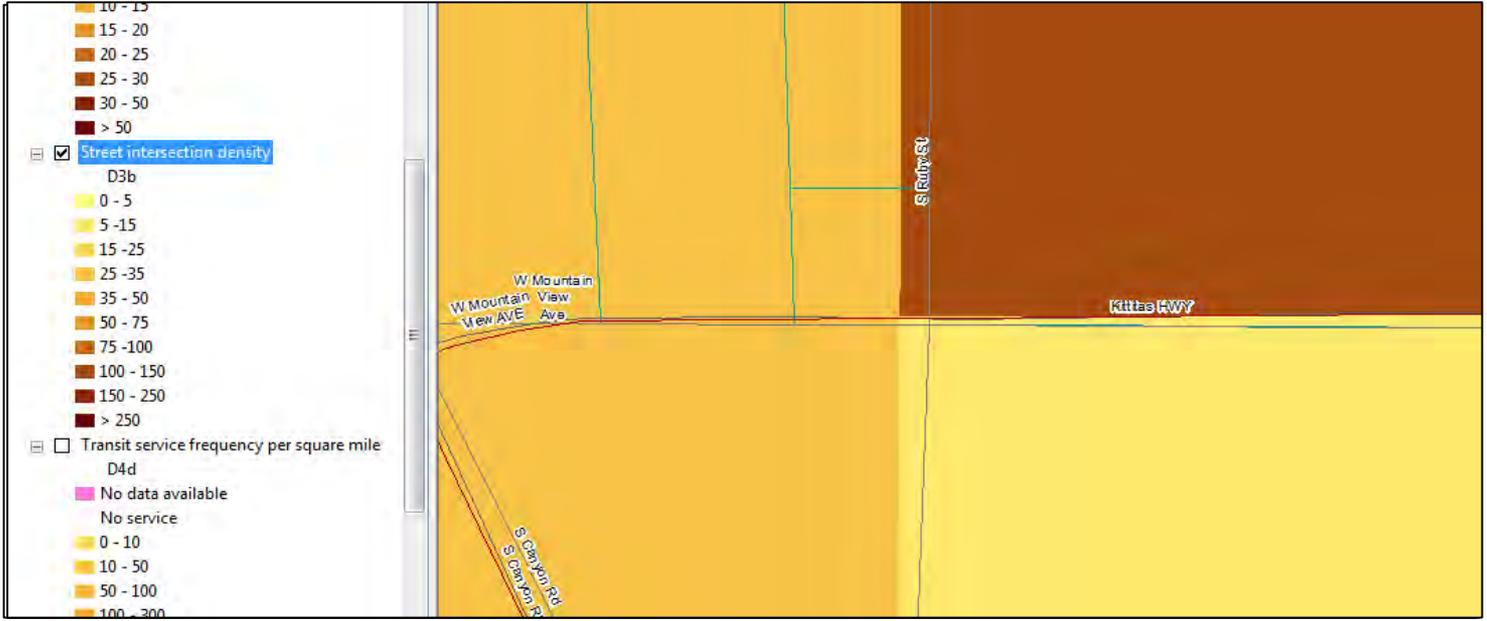


Top Photo:

- US 2
- Davenport, WA
- Incorporated City
- Rural Principle Arterial

Bottom Photo:

- Mountain View Ave.
- Ellensburg, WA
- Incorporated City
- Urban Minor Arterial



Design Evolution

Main Street State Highways

Washington's Complete Streets &
Main Street Highways Program

Case Studies & Practice Resource

WA-RD 780.1

Jim Nicholls
Stacy Cannon
Sara Duffy
Rory Stevens

November 2011



Washington State
Department of Transportation
Office of Research & Library Services

WSDOT Research Report

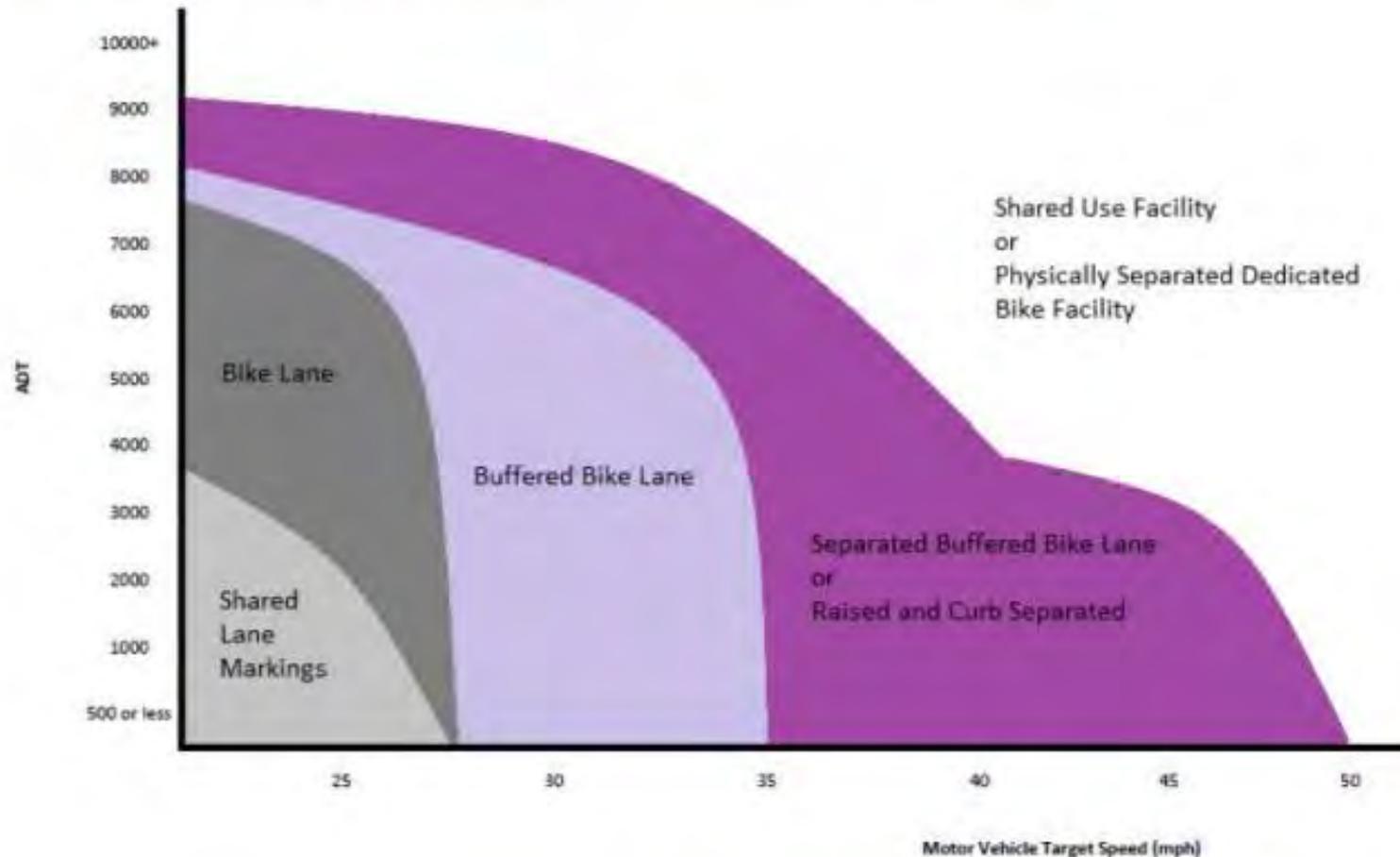


Toppenish, WA – State Route 22

Design Evolution

User Context

Exhibit 1520-6a Bicycle Facility Selection Chart – Interested, but Concerned Cyclists

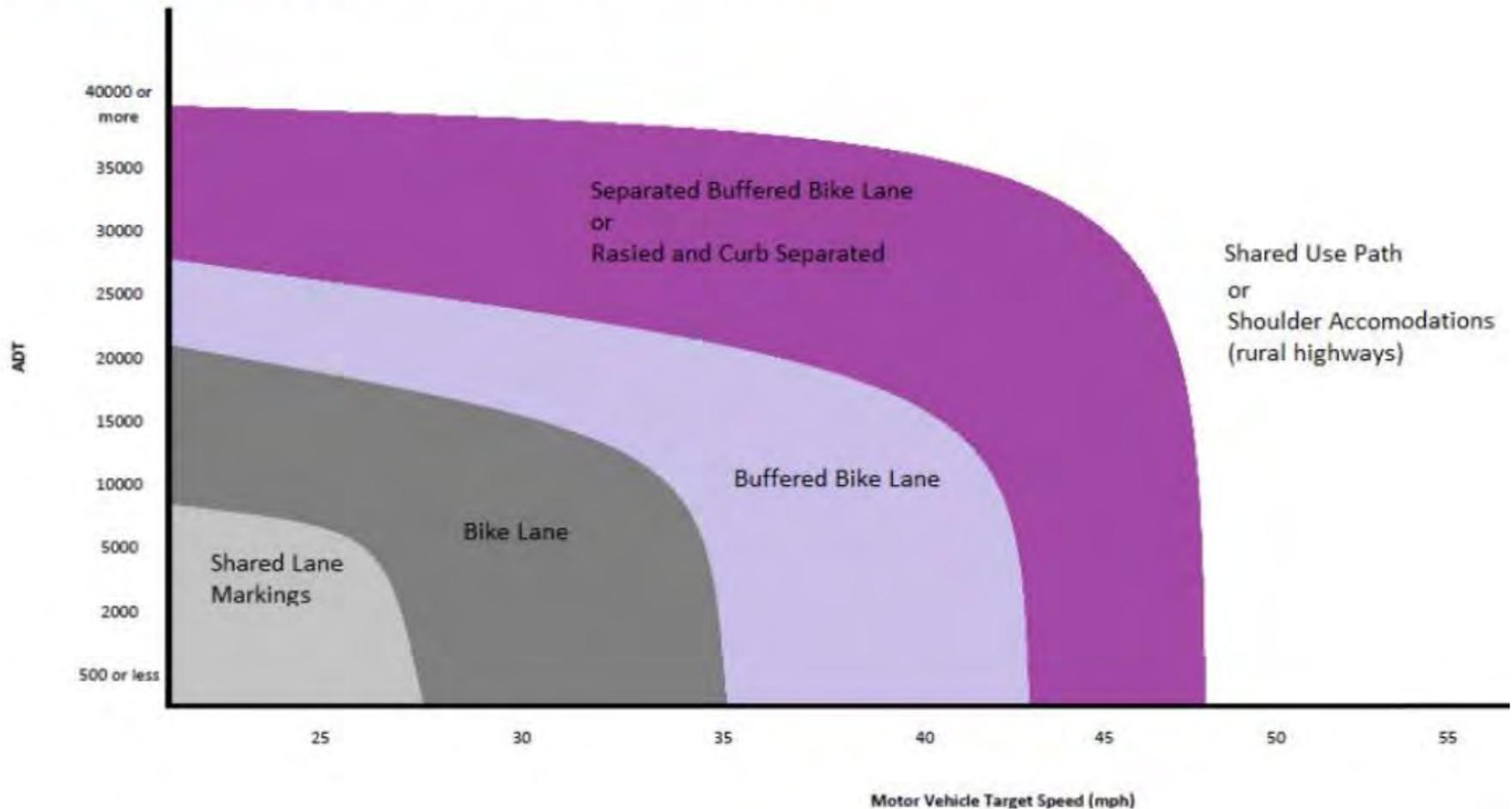


From WSDOT *Design Manual* Chapter 1520 – Bike Facility Selection

Design Evolution

User Context

Exhibit 1520-6b Bicycle Facility Selection Chart – Confident Cyclists



From WSDOT *Design Manual* Chapter 1520 – Bike Facility Selection

Design Evolution

Setting the Conditions for Success



~3 mph



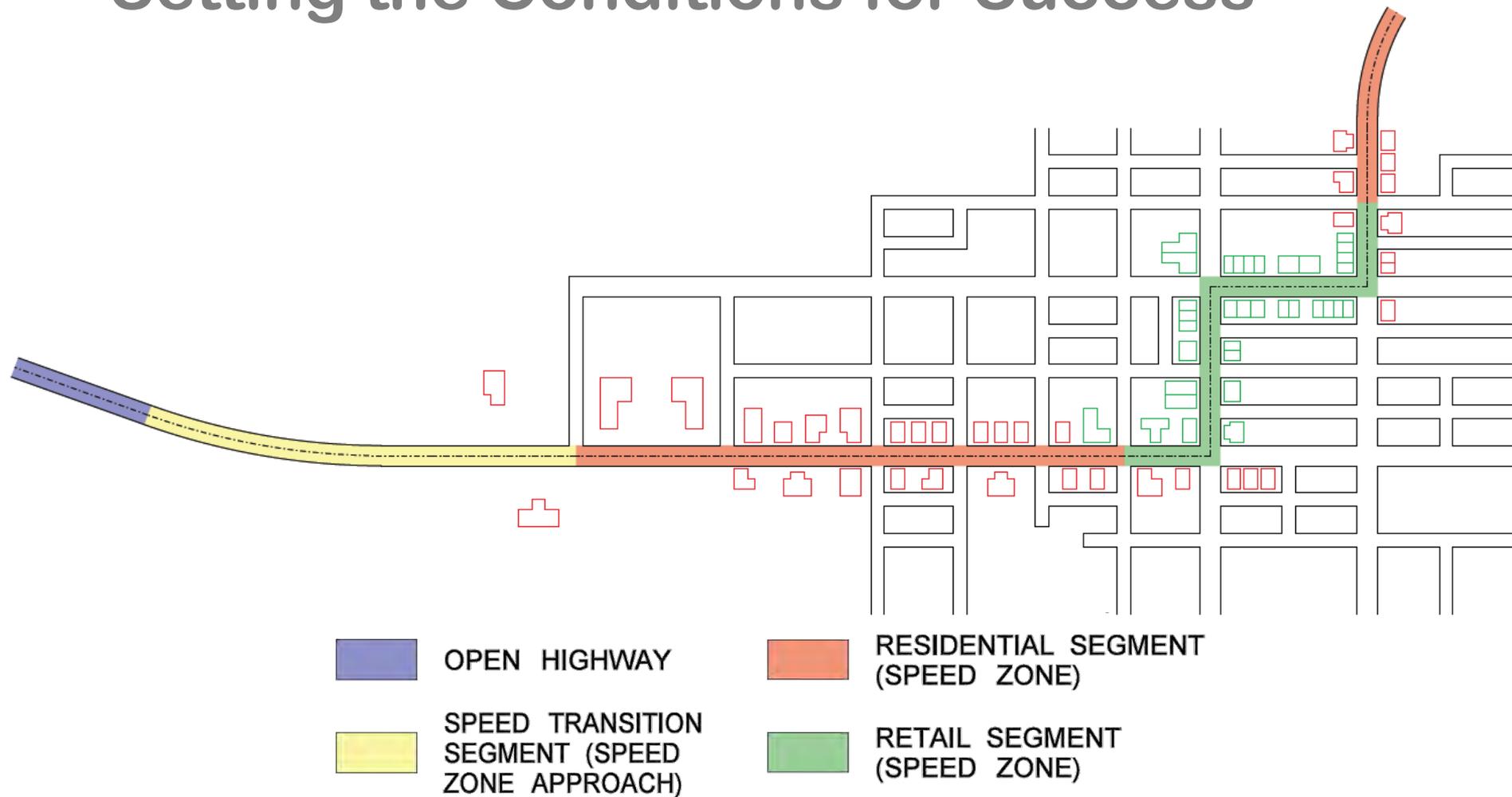
~10-20 mph*

Target a compatible motor vehicle speed and manage it by design

*grade, bike tech, fitness level and rider type dependent

Design Evolution

Setting the Conditions for Success



Design Evolution

Setting the Conditions for Success



Source: www.contextsensitivesolutions.org



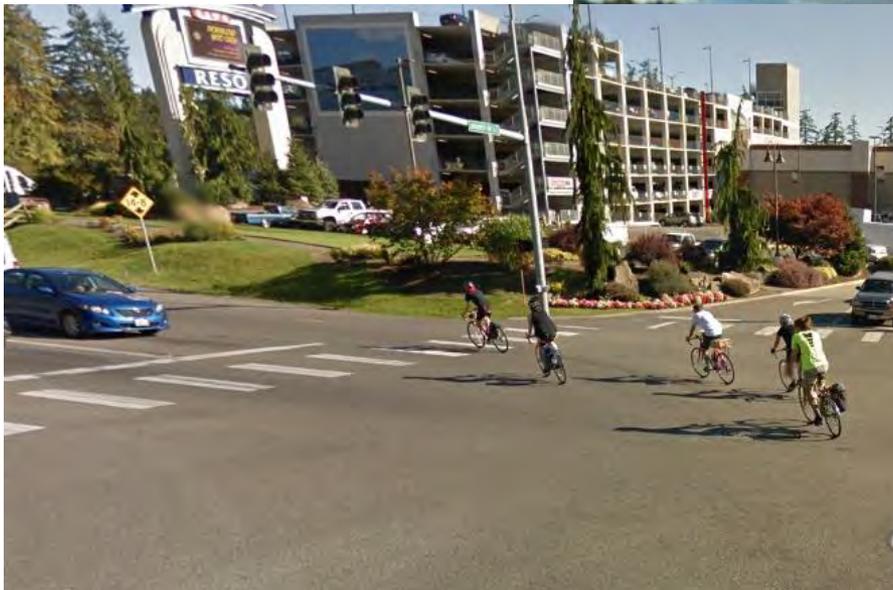
If you need a sign to tell people to slow down,
you designed the street wrong.

#slowthecars

**STRONG
TOWNS**

Design Evolution

Balancing Modal Performance

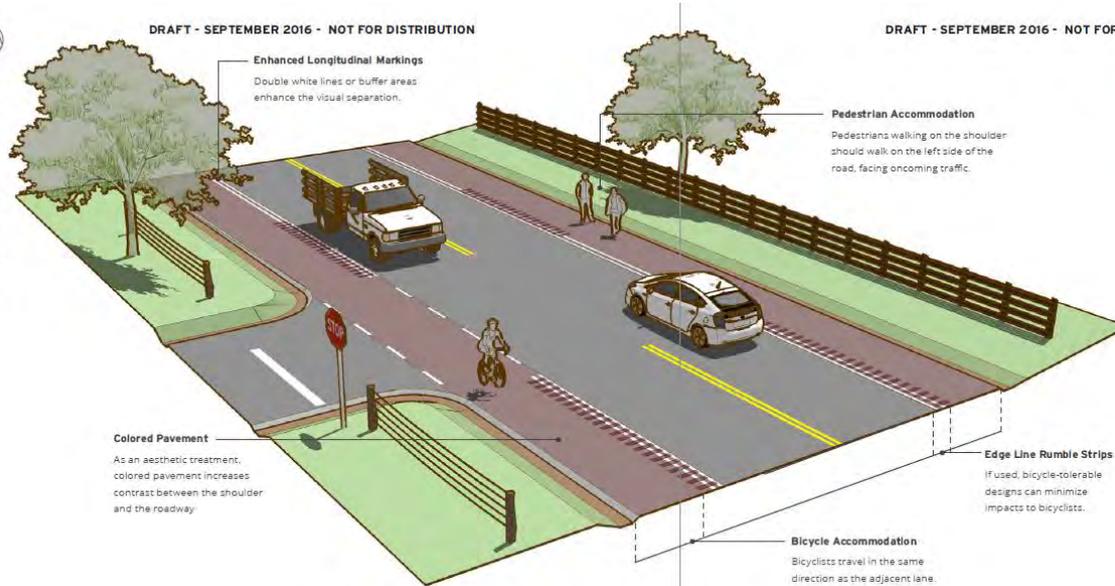


Design Evolution

Balancing Modal Performance



New Guidance



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Enhanced Longitudinal Markings
Double white lines or buffer areas enhance the visual separation.

Pedestrian Accommodation
Pedestrians walking on the shoulder should walk on the left side of the road, facing oncoming traffic.

Colored Pavement
As an aesthetic treatment, colored pavement increases contrast between the shoulder and the roadway.

Edge Line Rumble Strips
If used, bicycle-tolerable designs can minimize impacts to bicyclists.

Bicycle Accommodation
Bicyclists travel in the same direction as the adjacent lane.

Paved Shoulder

Paved shoulders on the edge of roadways can be enhanced to serve as a functional space for bicyclists and pedestrians to travel in the absence of other facilities with more separation.

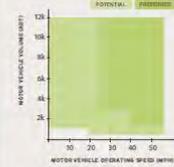
BENEFITS

- Improves bicyclist experiences on roadways with higher speeds or traffic volumes.
- Provides a stable surface off the roadway for pedestrians and bicyclists to use when sidewalks are not provided.
- Reduces pedestrian "walking along roadway" crashes.
- Can reduce "bicyclist struck from behind" crashes, which represent a significant portion of rural road crashes.
- Provides advantages for all roadway users, by providing space for bicyclists and pedestrians, as well as a benefit to drivers of motor vehicles.

APPLICATION

Speed and Volume

Appropriate on roads with moderate to high volumes and speeds and on roadways with a large amount of truck traffic. May function on multi-lane roads with heavy traffic, but fails to provide a low-stress experience in this condition.



Network

Serves long-distance and regional travel.



Land Use

Appropriate outside and between built-up areas. Near school zones and transit locations, and where there is expected pedestrian and bicycle activity. Walkable shoulders should be provided along both sides of county roads and highways routinely used by pedestrians.



Visual

Enhancements with increased levels of striping and signs may interfere with the low-clutter character of a rural environment.



Natural

Requires a wider roadway to provide an accessible shoulder space.



SMALL TOWN & RURAL MULTIMODAL NETWORKS

CREATING GREAT WALKING AND BICYCLING NETWORKS OUTSIDE OF URBAN AREAS

Draft Images provided courtesy of Alta Planning and Design

Questions?

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Resources

- [WSDOT Design Manual](#)
- [Guide for the Development of Bicycle Facilities, 4th Ed.](#)
- [Separated Bike Lane Planning and Design Guide](#)
- [Incorporating On-Road Bicycle Networks into Resurfacing Projects](#)
- [Pedestrian & Bike Info Center](#)
- [Urban Bikeway Design Guide](#)
- [BIKESAFE](#)

Coming Soon:

Small Towns and Rural (STAR)
Multimodal Networks Guide