Small Town and Rural Multimodal Networks

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Funding Partners

BlueCross BlueShield
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U.S. Department of Transportation
Federal Highway Administration

Project Team

alta
MONTANA STATE UNIVERSITY
Western Transportation Institute
NACO National Association of Counties
What is Rural?

• Community Identity?
• Density?
• Demographics?
• Quality of Infrastructure?
• Population?
Rural Needs

ONE SIZE DOES NOT FIT ALL.

LONGER NON-LOCAL TRIP DISTANCES

HEALTH DISPARITIES

HIGHER CRASH RATES

INCOME DISPARITIES
Small Town Opportunities

- Average US walking trip: 1.2 mi
  - (50% are < 0.5 mi)
- Average US bicycling trip: 4.0 mi
  - (50% are < 2.0 mi)
Small Town and Rural Multimodal Networks (2016)

The multimodal design guidelines for the rest of us.
Guide Content
Treatments and Design Topics
Guide Structure

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

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6. Planning and Project Development

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Facility Categories

Mixed Traffic
Visually Separated
Physically Separated
Multimodal Facilities

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

Multimodal Facilities

[Image of a multimodal facility with a sidewalk, bike lane, and road signs]
Speed and Volume

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

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

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**MOTOR VEHICLE VOLUME (ADT)**

- **PREFERRED**
- **POTENTIAL**

**MOTOR VEHICLE OPERATING SPEED (MI/H)**

- Local
- Collector
- Highway

**OUTSIDE OF BUILT-UP AREAS**

**WITHIN BUILT-UP AREAS**
Case Studies

Real world examples for all facilities:

- Project background
- Design elements
- Role in the network
- Project funding
Mixed Traffic

- Yield Roadway
- Bicycle Boulevard
- Advisory Shoulder
Yield Roadway
Yield Roadway

- Narrow Two-way Travel Area
- Shared Space
- Unpaved Roadside
- Residential Context
- Narrow Two-way Travel Area
Yield Roadway

• Designed to serve pedestrians, bicyclists, and motorists in a shared, slow-speed traveled way.

• Bi-directional, no lane markings.
Bicycle Boulevard

- Combine pavement markings, traffic calming measures, and crossing improvements to enhance bicyclist comfort
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.”
Advisory Shoulder

- Establishes a shoulder on an otherwise too narrow road
- Delineated by pavement markings
- Contrasting pavement optional
- Must exit shoulder to overtake bicyclists
- Must enter shoulder when yielding to oncoming traffic
Hanover, NH
Population: 11,000
Hailey, ID
Population: 8,500
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
- Contrasting Paving Material
- Bicycle Tolerable Rumble Strips

Diagram showing a road with a paved shoulder, additional width, robust edge striping, contrasting paving material, and bicycle tolerable rumble strips.
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.
Capay, CA
Population: 300
D'Iberville, MS
Population: 10,300
Montpelier VT
Population: 7,700
Bike Lane

Bike Lane Marking/Striping

Intersection Crossing Markings
Bike Lane

Bike lanes designate an exclusive space for bicyclists through the use of pavement markings and optional signs. A bike lane is located directly adjacent to motor vehicle travel lanes and follows the same direction as motor vehicle traffic.
Bike Lane

Design strategies for bike lanes at intersections emphasize reducing speeds, minimizing exposure, raising awareness, and communicating right-of-way priority.
Old Rt 66 in Wildwood, MO
Population: 35,000
Lyndonville, VT
Population: 1,200
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.*
As part of the planning process, agencies should explore issues and the potential challenges a pedestrian lane may face, including:

• Detectability by people with vision disabilities
• Undesired use by bicyclists
• Accessible cross-slope requirements
• Maintenance strategies, such as sweeping and snow removal
**Pedestrian Lane**

A *pedestrian lane* is an interim or temporary pedestrian facility that may be appropriate on roads with low to moderate speeds and volumes. The lane may be on one or both sides of the roadway and can fill gaps between important destinations in a community.
Detroit, OR
Population: 200
Teton Village, WY
Population: 330
Aspen, CO
Population: 7,400
Physically Separated

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

- Unpaved Separation
- Wide Separation at Intersection
- High Visibility Crosswalk
- Minimized exposure
Sidepath

A sidepath is a bidirectional shared use path located immediately adjacent and parallel to a roadway. Sidepaths can offer a high-quality experience for users of all ages and abilities as compared to on-roadway facilities in heavy traffic environments, allow for reduced roadway crossing distances, and maintain rural and small town community character.
South Lake Tahoe, CA
Population: 20,100
Photo by Tahoe Regional Planning Association (TRPA)
Shared Use Path
Shared Use Path

A shared use path provides a travel area separate from motorized traffic for bicyclists, pedestrians, skaters, wheelchair users, joggers, and other users. Shared use paths can provide a low-stress experience for a variety of users using the network for transportation or recreation.
Bentonville, AR
Population: 40,000
Jackson, WY
Population: 9,600
Bentonville, AR
Population: 40,000
Sidewalk
Sidewalk

Sidewalks provide dedicated space intended for use by pedestrians that is safe, comfortable, and accessible to all. Sidewalks are physically separated from the roadway by a curb or unpaved buffer space.
Red Lodge, MT
Population: 2,200
Separated Bike Lane
Separated Bike Lane

Clear Sight Distance

Pedestrian/Bicyclist Separation
A separated bike lane is a facility for exclusive use by bicyclists that is located within or directly adjacent to the roadway and is physically separated from motor vehicle traffic with a vertical element.
Russelville, AR
Population: 28,500
Hailey, ID
Population: 8,500
Key Network Opportunities

- Speed Management
- Pedestrian Lane
- School Connections
- Multimodal Main Street
- Bridges
- Access to Public Lands
Pedestrian Lanes

- Interim or temporary pedestrian accommodation on roadways lacking sidewalks.
- Not intended to be an alternative to sidewalks and often will fill short gaps between other higher quality facilities.
- Explore issues and the potential challenges a pedestrian lane may face.
School Connections

• Schools are key destinations in communities of all sizes.
• This is particularly true in small and rural places, where they often play a prominent role in the community as centers of activity for people of all ages and abilities.
• It is essential to provide separation from motorized traffic, controlled crossings, and wayfinding.
Multimodal Main Streets

- Flexible Design
- Multimodal Design
- Placemaking
- Incrementalism
- Environmental Sustainability
- Compactness
Bridges

- Separation
- Prioritize
- Awareness
- Continuity
- Future Proof
- Flexibility
Access to Public Lands

• Scenic places, sometimes unique need for wayfinding

• Opportunities for more diverse funding sources:
  • Federal Lands Transportation Program (FLTP)
  • Federal Lands Access Program (FLAP)

Colorado Riverway Path near Moab, UT
Population: 5,046
Guide Availability
For printing and online reference
Unofficial Website Edition

http://www.ruraldesignguide.com

A bicycle boulevard is a low-stress shared roadway bicycle facility, designed to offer priority for bicyclists operating within a roadway shared with motor vehicle traffic.
Thank You

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Alta Planning + Design