Connecting Communities: Integrating Transportation and Recreation Networks

U.S. Department of Transportation
Federal Highway Administration
GOALS

Safety
• Reduce Transportation-Related Fatalities and Serious Injuries Across the Transportation System.

Infrastructure
• Invest in Infrastructure to Ensure Mobility and Accessibility and to Stimulate Economic Growth, Productivity, and Competitiveness for American Workers and Businesses.

Innovation
• Lead in the Development and Deployment of Innovative Practices and Technologies that Improve the Safety and Performance of the Nation's Transportation System.

Accountability
• Serve the Nation with Reduced Regulatory Burden and Greater Efficiency, Effectiveness, and Accountability.
Source: Fatality Analysis Reporting System (FARS)
National Context

FHWA Programs Support:

• An integrated, safe, accessible, and convenient transportation system for all
• Connected pedestrian and bicycle networks
• Design flexibility
• Economic development
• Efficient project development
• Equity, quality of life, and livability
• Multimodal data
• Sustainable transportation policies and practices
Pedestrian and Bicycle Funding Opportunities
U.S. Department of Transportation Transit, Highway, and Safety Funds
Revised August 12, 2016

This table indicates potential eligibility for pedestrian and bicycle projects under U.S. Department of Transportation surface transportation funding programs. Additional restrictions may apply. See notes and basic program requirements below, and see program guidance for detailed requirements. Project sponsors should fully integrate nonmotorized accommodation into surface transportation projects. Section 1404 of the Fixing America’s Surface Transportation (FAST) Act modified 23 U.S.C. 109 to require federally-funded projects on the National Highway System to consider access for other modes of transportation, and provides greater design flexibility to do so.

Key: $ = Funds may be used for this activity (restrictions may apply). *$ = See program-specific notes for restrictions. ~$ = Eligible, but not competitive unless part of a larger project.

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Available at www.fhwa.dot.gov/environment/bicycle_pedestrian
Connecting Communities: Integrating Transportation and Recreation

- We can connect and integrate transportation and recreation infrastructure.
- Trails: spines for transportation networks.
- Transportation and Recreation isn’t either/or!
Bridges and Tunnels: Essential Links for Networks

• Long life spans: Plan for future demand, use, and reuse.
• Bridges connect communities.
Bridges and Tunnels: Essential Links for Networks

• Reconnect communities.
• Tunnels and underpasses.
Recreational trails used for transportation

- Rail-trails and other shared use paths.
- No Federal law or regulation requires pavement, (accessibility requires “firm and stable”).
- No Federal law or regulation prohibits equestrian use.
Recent FHWA Pedestrian and Bicycle Resources
See www.fhwa.dot.gov/environment/bicycle_pedestrian
Small Town and Rural Multimodal Networks

- Bicycle and pedestrian design in a rural context.
- Encourages innovation in development of safe and appealing networks for bicycling and walking.
- Examples of peer communities and project implementation.
Connected Networks

Local connections to schools (low speed and short distances)

Connections between communities (high speed corridors and long distances)

Main Street or commercial area with high demand for all modes

Need for connections from residential areas to main street
Achieving Multimodal Networks: Applying Design Flexibility and Reducing Conflicts

• Provide design flexibility, while reducing multimodal conflicts and achieving connected networks
• Help practitioners address topics such as:
  – Intersection design
  – Road diets
  – Pedestrian crossing treatments
  – Transit and school access
  – Freight
  – Accessibility
FIGURE 1: Typical approach to identifying and preparing projects for resurfacing

Inventory road conditions
- Process data from conditions inventory
- Produce preliminary resurfacing list
  - Jurisdictional and agency review
- Produce final resurfacing list
- Implementation preparation
  - Prepare roadway & pavement marking plans; allocate budget
- Consideration of adding bike facilities and expanding bikeway networks
- Actual resurfacing and marking completed

FIGURE 2: The recommended resurfacing process identifies opportunities to add bicycle facilities early in the process

Inventory road conditions (ongoing)
- Process data from conditions inventory
- Produce preliminary resurfacing list (two years or longer)
- Overlay list with existing & proposed bicycle and complete streets projects
  - Compare to bike plan
  - Identify opportunities to add bikeways
- Coordination with Transportation, Planning, and other divisions
- Produce final resurfacing list
  - Review final list for additions/edits
  - Suggest schedule adjustments
  - Review bike plan again for any additions
- Implementation preparation
  - Conduct fieldwork and public engagement
  - Prepare roadway & pavement marking plans
- Actual resurfacing completed

FIGURE 3: Example two-year resurfacing process timeline

YEAR ONE
- Summer: Update pavement conditions assessment
- Fall: Produce draft resurfacing list
- Winter: Compare selected projects to bike plan; identify opportunities to add bike facilities
- Spring: Reshuffle projects (as needed); produce final resurfacing list

YEAR TWO
- Summer: Conduct project fieldwork; begin public engagement
- Fall: Prepare marking and construction plans
- Winter: Finalize paving plans; bid and let projects
- Spring: Resurfacing projects begin
MAP BASICS

Common approaches for bicycle infrastructure planning maps are highlighted below. The maps that follow demonstrate these general approaches to varying degrees.

(1) COMMON INFORMATION LAYERS

BIKE NETWORK LAYERS

Specific Facility Types
- Bike path, bike lane, buffered bike lane, bike boulevard, separated bike lane, greenway, etc.

OR

Flexible Facility Types
- On-street vs. off-street bikeway systems

LOCAL CONTEXT LAYERS

- Transit lines & stations
- Bikeshare stations
- Community amenities: Schools, universities, libraries, community centers, hospitals, etc.
- Building footprints
- Specific land use functions, such as commercial use
- Study areas or corridors

BASE LAYERS

- Parks & open space
- Streets
- Waterbodies
- City boundaries
- Labels

(2) REPRESENTING DIFFERENT TYPES OF INFORMATION

PROPOSED VS. EXISTING NETWORK

- Identify ways to clearly denote what is existing and what is being proposed.

COLOR SCHEME

- Consider how color will play a role in highlighting the bicycle network. Bright, saturated colors stand out against softer and more subdued

LEVEL OF INFORMATION

- Carefully consider the amount of information used to tell the story. More information can help, but it can also be overwhelming if not

HENNEPIN COUNTY, MN

KEY MAP FEATURES

- Simple symbology: Two colors and two line types
- Map focuses on county and state roads, local roads, and streets
- Downtown area is shown in more detail for closer inspection

MEASURING MULTIMODAL NETWORK CONNECTIVITY POSITIONS A TRANSPORTATION AGENCY TO:

- Enhance access to jobs, training, schools, and economic centers
- Accelerate project delivery by capturing efficiencies in economies of scale, project sequencing, construction phasing, financing, and community involvement
- Increase accountability of efforts to increase mobility options and system efficiency
- Prioritize infrastructure investments that fill gaps and address barriers in the transportation network, and that increase safety for all users
- Partner with the private sector to provide innovative multimodal transportation services and capture opportunities relating to shared-use mobility and automated and connected technology
Top Strategies for Accelerating Multimodal Infrastructure Delivery
Proven Safety Countermeasures

safety.fhwa.dot.gov/provencountermeasures

- Roadside Design Improvement at Curves
- Reduced Left-Turn Conflict Intersections
- Systemic Application of Multiple Low Cost Countermeasures at Stop-Controlled Intersections
- Leading Pedestrian Interval
- Local Road Safety Plan
- USLIMITS2
- Enhanced Delineation and Friction for Horizontal Curves
- Longitudinal Rumble Strips and Stripes on Two-Lane Roads
- Median Barrier
- Safety Edges M
- Backplates with Retroreflective Borders
- Corridor Access Management
- Dedicated Left- and Right-Turn Lanes at Intersections
- Roundabouts
- Yellow Change Intervals
- Medians and Pedestrian Crossing Islands in Urban and Suburban Areas
- Pedestrian Hybrid Beacon
- Road Diet
- Walkways
- Road Safety Audit
Ongoing Research Projects

FHWA has the following research projects underway:

• Every Day Counts /Community Connections Initiative
  • Safe Transportation for Every Pedestrian (STEP)
• MySidewalk mobile app
• Rails-with-Trails Effective Practices
• Top Strategies for Accelerating Multimodal Infrastructure Delivery
• Bicycle and Pedestrian Case Studies on project streamlining
Integrating Transportation and Recreation: Resources

Shared Use Path presentation:  
www.fhwa.dot.gov/environment/bicycle_pedestrian/guidance/design_guidance/design_nonmotor/shared/

Recreational Trail presentation:  
www.fhwa.dot.gov/environment/bicycle_pedestrian/guidance/design_guidance/design_nonmotor/recreation/
Youth Corps and Workforce Development

- DOT encourages States to have contracts and cooperative agreements with qualified Youth Service and Conservation Corps.
- Corps work on recreational trails, pedestrian and bicycle projects, safe routes to school.
- Corps provide workforce development training.
- Agencies can sole source to qualified Corps.
- https://www.fhwa.dot.gov/environment/transportation_alternatives/guidance/youth_workforcedev.cfm
Useful FHWA Websites

• USDOT Bicycle/Pedestrian Website
  • [https://www.transportation.gov/bicycles-pedestrians](https://www.transportation.gov/bicycles-pedestrians)
• Pedestrian and Bicycle Information Center
  • [http://www.pedbikeinfo.org/](http://www.pedbikeinfo.org/)
• FHWA Office of Safety Website
  • [https://safety.fhwa.dot.gov/ped_bike/](https://safety.fhwa.dot.gov/ped_bike/)
• FHWA Office of Planning Website
  • [https://www.fhwa.dot.gov/environment/bicycle_pedestrian/](https://www.fhwa.dot.gov/environment/bicycle_pedestrian/)
• FHWA Accessibility Website
  • [https://www.fhwa.dot.gov/accessibility/](https://www.fhwa.dot.gov/accessibility/)
• FHWA Federal-aid Essentials for Local Public Agencies
# FHWA Contacts

**Divisions:** https://www.fhwa.dot.gov/about/field.cfm

## Local contacts:

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Email</th>
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<tbody>
<tr>
<td>Chandra Inglis-Smith</td>
<td>WV Division Planner</td>
<td><a href="mailto:Chandra.Inglis-Smith@dot.gov">Chandra.Inglis-Smith@dot.gov</a></td>
</tr>
<tr>
<td>Shaneka Owens</td>
<td>WV Division Safety Engineer</td>
<td><a href="mailto:Shaneka.Owens@dot.gov">Shaneka.Owens@dot.gov</a></td>
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<tr>
<td>Matt Daly</td>
<td>WV Division Area Engineer</td>
<td><a href="mailto:Matt.Daly@dot.gov">Matt.Daly@dot.gov</a></td>
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## National contacts:

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<thead>
<tr>
<th>Name</th>
<th>Office</th>
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<tbody>
<tr>
<td>Christopher Douwes</td>
<td>Office of Planning, Environment, and Realty</td>
<td><a href="mailto:Christopher.Douwes@dot.gov">Christopher.Douwes@dot.gov</a></td>
</tr>
<tr>
<td>Cathy Satterfield, P.E.</td>
<td>Office of Safety</td>
<td><a href="mailto:Cathy.Satterfield@dot.gov">Cathy.Satterfield@dot.gov</a> or</td>
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<tr>
<td>Gabriel Rousseau</td>
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<td><a href="mailto:Gabe.Rousseau@dot.gov">Gabe.Rousseau@dot.gov</a></td>
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<tr>
<td>Dave Kirschner</td>
<td>Office of Operations (MUTCD)</td>
<td><a href="mailto:David.Kirschner@dot.gov">David.Kirschner@dot.gov</a></td>
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<tr>
<td>Elizabeth Hilton</td>
<td>Office of Infrastructure</td>
<td><a href="mailto:Elizabeth.Hilton@dot.gov">Elizabeth.Hilton@dot.gov</a></td>
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